

# **THE DEAD TEACHING THE LIVING<sup>1</sup> – BODY WORLDS**

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## **SUMMARY**

The Body Worlds exhibition takes the visitor through a journey of more than 200 specimens. These various skinless full body plastinates are posed in different positions to display how the human body works; they vary from the chess player with his brain split open to display the brain “in action”, the runner with his muscles falling off the bones to display the working of the muscles in athletics and the controversial pregnant woman with her womb cut open to show her eight month old foetus. Von Hagens the creator of Body Worlds believes his exhibition is educational – educating the masses. Since the first exhibition of Body Worlds there has been rigorous debate on whether the display is a violation of human dignity or not. This aspect is discussed in the article. In conclusion the process regarding donating a complete dead body in South Africa is highlighted and the question is answered whether a South African citizen could legally donate his or her body to a Body Worlds display.

*... there is nothing, once you are dead, that can be done to you or for you or with you or about you that will do you any good or any harm. Why then do most people care so much about their postmortem treatment?*<sup>3</sup>

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<sup>1</sup> The basic assumption of anatomy is that “the dead shall teach the living”. This is also a motto that in one form or another adorns the entrances to many anatomy laboratories in medical schools, see Moore and Brown “Gunther von Hagens and Body Worlds Part 1: The Anatomist as Prosektor and Proplastiker” 2004 *The Anatomical Record (Part B: New Anat.)* 276B; 8-14 10.

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<sup>3</sup> Quoted in Cantor *After We Die* (2010) 28.

## 1 INTRODUCTION

The dead human body and its anatomy have in the past mainly been used by artists as “models” for their drawings or by anatomists for educational purposes. In recent times a new use of cadavers surfaced and was labelled “edutainment” or “anatomy art”.<sup>4</sup> Thus it seems as if in the past art represented the body but a reversal took place in *Body Worlds* in that the body is now representing art.<sup>5</sup>

Gunther von Hagens, an anatomist, invented the plastination technique in 1977 and it was patented in 1978. He is also the founder of the Institute of Plastination in Heidelberg and the person responsible for the exhibition of *Body Worlds*.<sup>6</sup> Plastination is a rather simple process designed to preserve the body for educational and instructional purposes. The process involves replacing the water and fat of the body with certain plastics that can be touched, have no smell, will not decay and even preserve most of the original sample.<sup>7</sup> *Body Worlds* was first exhibited in Tokyo in 1995. Since then the exhibition has been hosted by more than 50 museums and venues in North America, Europe and Asia and it has been voted as the world’s most popular touring attraction.<sup>8</sup>

The *Body Worlds* exhibition<sup>9</sup> takes its visitor through a journey of more than 200 specimens including 20 full body plastinates as well as individual organs (displaying the difference between healthy lungs and lungs affected by cancer), organ configurations and transparent body slices. The various skinless full body plastinates are posed in different positions to display how the human body works; they vary from the chess player with his brain split open to display the brain “in action”, the runner with his muscles falling off the bones to display the working of the muscles in athletics and the controversial pregnant woman with her womb cut open to show her eight-month old foetus.<sup>10</sup> Von Hagens himself believes his exhibition has educational value, referring to it as “the democratization of anatomy: anatomy for the masses as opposed to anatomy for the academic elite”.<sup>11</sup> The dead should not just teach those who by academic or professional

<sup>4</sup> Moore and Brown 2004 *The Anatomical Record (Part B: New Anat.)* 276B 11.

<sup>5</sup> Moore and Brown 2004 *The Anatomical Record (Part B: New Anat.)* 276B 12. See also <http://www.bodyworlds.com> (accessed on 2013-06-15).

<sup>6</sup> See <http://www.bodyworlds.co.za> (accessed on 2013-02-08).

<sup>7</sup> Moore and Brown 2004 *The Anatomical Record (Part B: New Anat.)* 276B 11.

<sup>8</sup> Von Hagens “Donating your Body for Plastination” Institute of Plastination 8ed (2008) 19 [http://www.bodyworlds.com/Downloads/Temp/.../KSP\\_Broshuere\\_EN.pdf](http://www.bodyworlds.com/Downloads/Temp/.../KSP_Broshuere_EN.pdf) (accessed on 2013-06-15).

<sup>9</sup> [www.bodyworlds.co.za](http://www.bodyworlds.co.za). See also Stone “Dark Tourism and the Cadaveric Carnival: Mediating Life and Death Narratives at Gunther von Hagen’s Body Worlds” 2011 14(7) *Current Issues in Tourism* 1 3. With 30 million visitors to date [2010], Body Worlds is the world’s most popular touring attraction. Cantor *After We Die* 128 “... Body Worlds has now attracted over twenty million visitors, each paying approximately \$20”.

<sup>10</sup> See Bluett “Playing with Death: Gunther von Hagens’s ‘Body Worlds’” <http://www.salvomag.com/new/articles/salvo3/3bluett.php> (accessed on 2013-06-07). She labels the pregnant woman as a double tragedy and emotionally disturbing.

<sup>11</sup> Jones “The Centrality of the Dead Human Body for Teaching and Research – Social, Cultural and Ethical Issues” 2011 4(1) *SA Journal of Bioethics and Law* 21.

qualifications are allowed to pass through the dissecting-room doors of teaching institutions, but the knowledge should also be given to the general public regardless of education or motivation.<sup>12</sup> Many others describe it as art and it has also attracted the definition of “edutainment”. This article shows the relevance of historical art work for anatomy but will argue that *Body Worlds* should not be seen purely as art and it should therefore not be evaluated as such. It should rather be seen as educating the general public. Such a view is only possible if the bodies used in the exhibition were actually donated to be used in such a way. Von Hagens has defended himself saying that only donated bodies were used in the public exhibitions, but the paper trail is not always clear and there appears to be evidence that some bodies originated as unclaimed bodies from China and Eastern Europe.<sup>13</sup>

The thought of dying is a frightful concept for everybody but the *Body Worlds* exhibition somehow provides an opportunity for the inquisitive to reflect on both life and death. Since the first exhibition of *Body Worlds* there has been rigorous debates on whether the display of the bodies is a violation of dignity or not. On the one hand people accept the need to understand our physical interior, but on the other everyone is also extremely aware of the humanistic imperative to preserve human dignity even after death. This aspect is argued in the article. In conclusion the process in South Africa when donating a whole body is highlighted and the question is asked whether a South African citizen has the right to donate his or her body for such an exhibition, taking cognizance of the right to self-determination and personal autonomy.

## 2 THE USE OF CORPSES IN THE PAST – ART AND MEDICAL TRAINING

Von Hagens frequently claims a historical precedent for his work from other artists and anatomists from the past.<sup>14</sup> Versalius<sup>15</sup> (1514–1564) was the author of the most influential book on human anatomy – *De Humani Corporis Fabrica* (On the Fabric of the Human Body) which contains a series of “flayed men” portrayed in classical poses after dissections, accompanied by vast amounts of educational material describing the functions of the human body to supplement the drawings.<sup>16</sup> His drawings peel back the skin of the body to embrace the obvious context that makes anatomical exploration possible; yet, he captures the human body mainly in a tragic manner.<sup>17</sup>

<sup>12</sup> Moore and Brown 2004 *The Anatomical Record (Part B: New Anat.)* 276B 10.

<sup>13</sup> Jones 2011 4(1) *SA Journal of Bioethics and Law* 21.

<sup>14</sup> Jones 2011 4(1) *SA Journal of Bioethics and Law* 22.

<sup>15</sup> Versalius was accused of impiety and murder and sentenced to death for performing an autopsy on a nobleman who was still alive with a beating heart. See Massengill *A Sketch of Medicine and Pharmacy* (1943) 96–97. See also Cantor *After We Die* 181. “Versalius, the fifteenth-century physician who wrote the first important anatomy textbook, stole corpses of hanged criminals as one source of material.”

<sup>16</sup> Gruber “Theatrical Bodies: Acting out Comedy and Tragedy in Two Anatomical Displays” 2011 18(2) *Visual Communication Quarterly* 102.

<sup>17</sup> Gruber 2011 18(2) *Visual Communication Quarterly* 111.

On the title page of his book is an illustration of a crowd of spectators; some are pointing, others are gazing and some seem disgusted. They are at a public autopsy with Versalius in the middle, standing over a female body sliced open at the abdomen to reveal that she was not pregnant as alleged by her, in order to avoid execution.<sup>18</sup> During Versalius's time touching a human corpse was either taboo for medical doctors or simply unaristocratic. By him touching the woman, he asserted the superiority of his own method of hands-on anatomical observations.<sup>19</sup> He therefore risked social stigma but also proclaimed himself able to explore and describe hidden places of humanity.<sup>20</sup> His book gave rise to vocal protests which prompted him to leave his post as professor at the University of Padua.<sup>21</sup> "It is important though to remember Versalius lived when the success and progress of works of art were measured by their treatment of the human figure."<sup>22</sup>

Gruber asserts that the theatrical nature of the bodies in Versalius's book could be used as an argument for the development of late Renaissance anatomy theatres. These theatre-like spectacles attracted large crowds and gained popularity some 30 to 40 years after the *Fabrica* was published.<sup>23</sup> The educational value of these messy performances was minimal to anyone except perhaps the anatomist.<sup>24</sup>

By publishing a book, Versalius not only established himself as a great anatomical researcher, he also wanted to keep with the Renaissance tradition of producing great art in conjunction with scientific exploration. Dissecting human bodies was a common, if underground, practice for aspiring artists in the 1400s.<sup>25</sup> Leonardo da Vinci (1452–1519) for example, pursued his study of human anatomy at night in tombs, often obtaining cadavers for dissection and sketching<sup>26</sup> from grave robbers or body snatchers.<sup>27</sup> Notorious grave robbers and bodysnatchers were executed for murder if caught.<sup>28</sup> Michelangelo is also known to have parsed dead human bodies.<sup>29</sup> By the end of the eighteenth century in Great Britain, body-

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<sup>18</sup> Gruber 2011 18(2) *Visual Communication Quarterly* 101.

<sup>19</sup> *Ibid.*

<sup>20</sup> *Ibid.*

<sup>21</sup> Gruber 2011 18(2) *Visual Communication Quarterly* 103.

<sup>22</sup> *Ibid.*

<sup>23</sup> Gruber 2011 18(2) *Visual Communication Quarterly* 104.

<sup>24</sup> Van Dijck "Bodyworlds: The Art of Plastinated Cadavers" 2001 9(1) *Configurations* 99 103.

<sup>25</sup> Gruber 2011 18(2) *Visual Communication Quarterly* 103.

<sup>26</sup> See examples of his anatomical drawings in the collection by O'Malley and Saunders *Leonardo da Vinci on the Human Body: The Anatomical, Physiological and Embryological Drawings* (1952).

<sup>27</sup> Olry "Body Snatchers; the Hidden Side of the History of Anatomy" 1999 *J Int Soc Plastination* 6; Frank "Body-snatching: A Grave Medical Problem" 1976 *The Yale Journal of Biology and Medicine* 399.

<sup>28</sup> Burke and his companion William Hare murdered at least 16 people in the early nineteenth century in England to supply anatomists with human bodies. Burke was executed on 28 January 1829, Olry 1999 *J Int Soc Plastination* 8; see also Moore *The Knife Man: Blood, Body Snatching and the Birth of Modern Surgery* (2005) 86; and Frank 1976 *The Yale Journal of Biology and Medicine* 400.

<sup>29</sup> Gruber 2011 18(2) *Visual Communication Quarterly* 103.

snatching and grave robbing by so-called resurrectoinists constituted a significant source of cadavers for dissection.<sup>30</sup>

Olry reports that grave robbing and the illicit medical experimentation on cadavers were the result of an inadequacy between the ever growing need for human bodies for dissection and the impossibility of legally supplying anatomists with enough bodies.<sup>31</sup> Without such bodies the work and research of anatomists would not have been possible. The result thus justified the means.<sup>32</sup> It could also be argued that anatomists and artists in these times had no other choice but to use grave robbers and body-snatchers to help them.<sup>33</sup> These acts of unethical behaviour should be seen within the context in which they happened. There was great poverty in cities, and a general disregard for life because of the frequent sights of death from diseases.<sup>34</sup>

Jeremy Bentham, the philosopher, stipulated in his will that his body was to be dissected as part of a public anatomy lecture – this duly took place after his death in 1832.<sup>35</sup> Thereafter his skeleton and head (originally the actual head, but in recent years a wax model) were preserved, and from 1850 displayed at the University College in London.<sup>36</sup> The exhibition of cadavers or the use of dead bodies is therefore nothing new, but the way in which *Body Worlds* display plastinated corpses is new and different and therefore seems to be evoking more questions than the artists and anatomists did in the past. Jones finally argues that Von Hagens identifies himself with the anatomists of the past; yet, this claim should be rejected as Von Hagens can in no way be compared with them as they lived in different times, and the plastinates are not research objects. Jones also questions the exhibition's educational claim as he strongly feels Von Hagens fails to develop a *nexus* between teaching and research and, if such a *nexus* is not clear, anatomy as education is “open to being prostituted in anatomy art, anatomy as entertainment [and] anatomy as a commercial venture”.<sup>37</sup>

### 3 BODY WORLDS

#### 3.1 “Edutainment” or “anatomy art”?

Von Hagens' exhibition also consists of “flayed men” but unlike Versalius's drawings the exhibition captures life in a vibrant, healthy manner; the bodies are mostly active figures – busy doing sports or recreational activities like chess. Everything about them appears to be “living” although they are dead.

<sup>30</sup> Cantor *After We Die* 181.

<sup>31</sup> Olry 1999 *J Int Soc Plastination* 6.

<sup>32</sup> Olry 1999 *J Int Soc Plastination* 8–9.

<sup>33</sup> Frank 1976 *The Yale Journal of Biology and Medicine* 410: “Certainly they cannot be held accountable for the practice of murder for anatomy; that refinement was Burke and Hare's own invention.”

<sup>34</sup> Frank 1976 *The Yale Journal of Biology and Medicine* 410.

<sup>35</sup> Jones 2011 4(1) *South African Journal of Bioethics and Law* 18.

<sup>36</sup> *Ibid.* See also Cantor *After We Die* 56–57.

<sup>37</sup> Jones 2011 4(1) *South African Journal of Bioethics and Law* 22.

Von Hagen shares with Versalius the desire to provide ordinary people with the opportunity to see a human body from the inside – the wondrous working of the human body.<sup>38</sup>

Burns<sup>39</sup> feels strongly that the human cadaver should never be regarded as an object of art, entertainment or education – because of its exceptional meaning. He refers to Von Hagens himself who is keen to emphasize that education is his foremost aim. He does agree though that the training of medical students through the use of cadavers is extremely valuable, because of the benefit this provides to society as a whole. By exposing the bodies to the public, he believes the cadavers are made objects and the aim is not educational any more. “If anatomical knowledge were the primary concern I do not see why that could not be conveyed through models and other means”.<sup>40</sup> He asks the question whether seeing the “real thing” makes one an expert like an anatomist. In *Body Worlds* cadavers are put on general display surrounded by fanfare and acrimonious exchange instead of being largely hidden from the public in dissecting rooms.<sup>41</sup>

Jones argues that Von Hagen’s plastinated specimens are not works of art because they have been created to provide insights into human anatomy, and by so doing make the public aware of their physical nature.<sup>42</sup> He continues by saying that the plastinate is not a person, any more than a cadaver is a person; it becomes more of an anonymous object. A plastinated specimen is not a model that can be mass produced as each one is unique. A particular body is more that of a human being than a recognizable and known individual. This is exactly what anatomists do – they dissect the human body and not that of a specific individual.<sup>43</sup>

The acceptability or unacceptability of *Body Worlds* depends mainly on the acquisition of cadavers who gave informed consent for their bodies to be used in this way. Jones alludes that sympathetic attitudes derived from gratitude toward the medical profession and an appreciation for what research has achieved make people willing to donate their whole body for teaching or research.<sup>44</sup>

Whether *Body Worlds* is art or education or anatomy art, Jones concludes that it is unethical if it amounts to little more than entertainment, if it exploits human beings (both living and dead) and if the donations lack truly informed consent.<sup>45</sup> Plastination has opened avenues not previously possible; it

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<sup>38</sup> Moore and Brown “Gunther von Hagens and *Body Worlds* Part 2: The Anatomist as Priest and Prophet” 2004 *The Anatomical Record* 227B: 15.

<sup>39</sup> Burns “Response to Open Peer Commentaries on ‘Gunther von Hagens’s *BODY WORLDS*: Selling Beautiful Education’: Signed, Sealed, Delivered” 2007 7(4) *The American Journal of Bioethics* 1–3.

<sup>40</sup> Burns 2007 7(4) *The American Journal of Bioethics* 2.

<sup>41</sup> Jones “Re-inventing Anatomy: The Impact of Plastination on How we See the Human Body” 2002 15 *Clinical Anatomy* 436.

<sup>42</sup> Jones 2002 15 *Clinical Anatomy* 437.

<sup>43</sup> *Ibid.*

<sup>44</sup> Jones 2002 15 *Clinical Anatomy* 438.

<sup>45</sup> Jones 2002 15 *Clinical Anatomy* 439.

makes the interior of the human body accessible and present a new world though filled with ethical challenges.<sup>46</sup>

The rules of the International Society for Plastination as well as the laws in Germany where Von Hagens gets many of his cadavers, stipulate that the donated bodies must be used “only for teaching, research or diagnostic purposes”. It seems as if Von Hagens accepts this as on the consent form for donating one’s body to his Institute for Plastination it is stated explicitly that the body will be used “exclusively for research and educational purposes”.<sup>47</sup> Wassersug believes that Von Hagens’s claims of educational value are inflated and have been naively accepted by the ethicists and legal experts who have reviewed the exhibition and approved its public display.<sup>48</sup> He continues by saying that citizens who have an altruistic desire to serve society after their death would be wiser to donate their bodies for the training of future surgeons.<sup>49</sup>

Von Hagens argues that his exhibitions make us understand our bodies better – if we study the cholesterol-crammed aortas, diseased lungs and booze-swollen livers in the exhibition, it may well have significant benefits in terms of public health.<sup>50</sup>

As relatively little academic research has been done to explore how visitors see and reflect on the exhibition, Von Lehm<sup>51</sup> analysed video-recordings of visitors looking at the plastinated bodies at the showing of *Body Worlds* in London 2002/03. He came to the conclusion that most visitors have not seen the inner human body in the way in which it is presented at the exhibition.<sup>52</sup> The research revealed that the visitors reflect on their own bodies which profoundly differ from the work of medical students and professionals who use the bodies of others. At the exhibit ordinary people, while examining the plastinates, may recall a bodily condition they, or someone else they know of, has been affected by and they use their discovery together with their knowledge and recollection of the illness and pain to develop an *ad-hoc* understanding of the inner human body. This kind of model can help break down barriers between the general public and the medical profession. They (the plastinates) provide people with information about the body that is normally only accessible to medical students and doctors.<sup>53</sup> This is when people discover the “fascination of the real”.<sup>54</sup>

<sup>46</sup> *Ibid.*

<sup>47</sup> See <http://www.bodyworlds.com/en/bodydonation/body-donation-program.html> (accessed on 2013-07-11). See also Wassersug “Awesome and Captivating, but is it Really Educational?” 2007 7(4) *The American Journal of Bioethics* 45.

<sup>48</sup> Wassersug 2007 7(4) *The American Journal of Bioethics* 46.

<sup>49</sup> Wassersug 2007 7(4) *The American Journal of Bioethics* 47.

<sup>50</sup> Jeffries “The Naked and the Dead” 19 March 2002 *The Guardian* [www.guardian.co.uk/education/2002/mar/19/arts.highereducation](http://www.guardian.co.uk/education/2002/mar/19/arts.highereducation) (accessed on 2012-10-30).

<sup>51</sup> Von Lehm “The Body as Interactive Display: Examining Bodies in a Public Exhibition” 2006 28(2) *Sociology of Health & Illness* 223.

<sup>52</sup> Von Lehm 2006 28(2) *Sociology of Health & Illness* 242.

<sup>53</sup> Von Lehm 2006 28(2) *Sociology of Health & Illness* 246.

<sup>54</sup> Von Lehm 2006 28(2) *Sociology of Health & Illness* 246–247.

### 3 2 A violation of dignity?

Dignity is a complex moral notion and it is difficult to describe exactly what it means. In classical Greek and Roman thought, dignity was regarded as a praiseworthy characteristic attributed to some human beings on the basis of their actions. According to Burns, referring to Kass, the notion of *dignitas* signified human excellence as if it were an aristocratic virtue.<sup>55</sup> In recent times dignity is no more a matter of excellence but more a question of self-esteem bound up with one's uniqueness as an individual.<sup>56</sup> It also denotes the intrinsic or inherent worth that human beings possess by virtue of being human, irrespective of feelings or actions.<sup>57</sup> Maybe dignity is best understood in Kantian terms as the requirement that one should never be treated as a means to an end.<sup>58</sup>

In a South African context O'Regan J held in *S v Makwanyane*<sup>59</sup> that dignity is "an acknowledgement of the intrinsic worth of human beings" and therefore that all "human beings are entitled to be treated as worthy of respect and concern". Everyone has inherent dignity and should therefore be treated as an end, and never as a means to an end.<sup>60</sup>

Burns rightly asks: "While it may be a violation of intrinsic dignity to treat human beings merely as means to an end while living, does the same hold of the bodies of human beings after death?"<sup>61</sup> It could be argued that a person's legacy should be protected but in *Body Worlds* the bodies are skinless, they are anonymous, no characteristics are left. Is it then a violation of dignity? Anonymity can, according to Burns, be viewed as the antithesis of personal dignity to the extent that anonymity conceals the uniqueness of the person – it devalues their personal identity.<sup>62</sup>

"What plastination is doing is transforming particular bodies into idealized bodies – the bodies of human beings rather than those of recognizable and known individuals. In moving in this direction, plastination is following the tradition of anatomy and anatomical dissection; in the teaching arena, anatomists are interested in *the* human body rather than in a named individual's body."<sup>63</sup>

The plastinated bodies in *Body Worlds* are used as a means to educate; at least that is the vision. The fact that the bodies were alive once is celebrated and thus the exhibition seems to be dignified.<sup>64</sup> But the

<sup>55</sup> Burns "Gunther von Hagens' BODY WORLDS: Selling Beautiful Education" 2007 7(4) *The American Journal of Bioethics* 17; and see also Kass *Life, Liberty and the Defense of Dignity* (2002).

<sup>56</sup> Burns 2007 7(4) *The American Journal of Bioethics* 17.

<sup>57</sup> *Ibid.*

<sup>58</sup> Kant "Groundwork for the Metaphysics of Morals" in Gregor (ed) *Practical Philosophy* (1996) 429.

<sup>59</sup> *S v Makwanyane* 1995 (2) SACR 1 (CC) par 328.

<sup>60</sup> *S v Dodo* 2001 (1) SACR 594 par 38; and *Government of the Republic of South Africa v Grootboom* 2000 (11) BCLR 1169 (CC) par 71.

<sup>61</sup> Burns 2007 7(4) *The American Journal of Bioethics* 17.

<sup>62</sup> Burns 2007 7(4) *The American Journal of Bioethics* 19.

<sup>63</sup> Jones 2002 15 *Clinical Anatomy* 437.

<sup>64</sup> Burns 2007 7(4) *The American Journal of Bioethics* 7(4) 18.



democratization of anatomy is making capitalists proud – a lot of money is being made from bodies donated to science by altruistic donors.<sup>65</sup> “What I certainly never use for public exhibitions are unclaimed bodies, prisoners, bodies from mental institutions and executed prisoners”, Von Hagens says.<sup>66</sup> But, there is no way to match donor forms to individual bodies because the bodies are deliberately made anonymous; no one, not even an independent ethics auditor, is to know the names of those on display.<sup>67</sup> Sometimes eyebrows, lips, noses and bellybuttons are left on the plastinates to make them less gruesome and more human but they stay unrecognisable.<sup>68</sup> In 2001 customs officers intercepted 56 bodies and hundreds of brain samples sent from Novosibirsk Medical Academy to Von Hagens’s laboratory in Heidelberg, Germany where it was presumably used for the exhibition. The cadavers were traced to a Russian medical examiner who was convicted later of illegally selling the bodies of homeless people, prisoners and indigent hospital patients.<sup>69</sup> Before the *Body Worlds* show in the United States of America, a philosophy professor with a specialty in ethics, was hired by the California Science Center to investigate *Body Worlds*. He matched over 200 donation forms to death certificates, but he did not match the paperwork to specific bodies Von Hagens had on display.<sup>70</sup>

A fundamental ethical requirement for “using” the dead, whether it is for research or any other means, is respect. And a requirement of respect for the deceased person is honoring premortem decisions they made about whether or not to allow their bodies to be used in any way.<sup>71</sup> A skeptic might question why cognizance should be taken of decisions of people who have died, because they will never know whether their wishes were honoured. Wicclair states several reasons why a dead person’s wishes should be honoured: firstly because it demonstrates respect for the living – to show respect for a person is to acknowledge his or her worth, dignity and autonomy. We would fail to show such respect if none of this is left after death. Secondly, it promotes the well-being of the living – the belief that all of one’s values will not simply be disregarded after death, is a reassurance and comfort while one is still alive. And lastly, it is an accepted practice to honour a deceased person’s wishes, for example: wills, burials and organ

<sup>65</sup> Bluett <http://www.salvomag.com/new/articles/salvo3/3bluett.php> (accessed on 2013-06-07). See also Ulaby “Origins of Exhibited Cadavers Questioned” <http://www.npr.org/templates/story/story.php?storyId=5637687> (accessed on 2013-06-07). Gunther von Hagens ... says that every whole body exhibited in North America comes from fully informed European and American donors, who gave permission, in writing, for their bodies to be displayed. The science museum that has hosted *Body Worlds* also makes this assurance.

<sup>66</sup> Ulaby <http://www.npr.org/templates/story/story.php?storyId=5637687> (accessed on 2013-06-07). See also Barboza “China Turns out Mummified Bodies for Displays” 8 August 2006 *The New York Times*.

<sup>67</sup> Bluett <http://www.salvomag.com/new/articles/salvo3/3bluett.php> (accessed on 2013-06-07).

<sup>68</sup> *Ibid.*

<sup>69</sup> Ulaby <http://www.npr.org/templates/story/story.php?storyId=5637687> (accessed on 2013-06-07).

<sup>70</sup> *Ibid.* See also Stone *Current Issues in Tourism* (2011) 4; and Cantor *After We Die* 129.

<sup>71</sup> Wicclair “Ethics and Research with Deceased Patients” 2008 17 *Cambridge Quarterly of Healthcare Ethics* 89.

donations.<sup>72</sup> Thus, a corpse should not be treated in a way he or she as a living person would have considered disrespectful. A general rule is to treat cadavers in a manner that is consistent with them once being alive.<sup>73</sup>

It should be clear then that informed consent points to the acceptability or unacceptability of the exhibition of *Body Worlds* – informed consent meaning that the use to which their bodies will be put has been explicitly outlined to the potential donors. Whether it is anatomy, art or education the exhibition is unacceptable ethically if it amounts to little more than entertainment, if the positions of the cadavers exploit human beings (both living and dead) and if the donations lack truly informed consent.<sup>74</sup> Jones says the following about cadavers:

“The treatment of cadavers is considered to be of ethical significance. One answer is that the cadaver has intrinsic value: it is an end in and of itself. Alternatively, the cadaver may have instrumental value: it can be used as a means to an end ... The closest we come to recognizing a cadaver’s intrinsic value is when we bestow a person’s intrinsic value upon their dead body at death. We do this because we consider that a person and his or her body are inseparable. We recognize each other because we recognize each other’s bodies, and while this applies supremely during life, some very important aspects of identity continue following death ... While the body retains a recognizable form, even in death, it commands the respect of identity. No longer a human presence, it still reminds us of the presence that once was utterly inseparable from it ... When we turn to a cadaver’s instrumental value we recognize that it serves as a vital source of memories and responses. This leads to the conviction that a cadaver should be respected and treated in a ‘decent’ manner. As we remember a person who has died, we respect the person who was ... Consequently, the manner in which cadavers are treated is of moral interest ... On the negative side, we show disrespect to a person-now-dead when we allow that person’s body to be dissected in the absence of any consent ...”<sup>75</sup>

Jones may be right, yet, the fundamental difference of cadavers in *Body Worlds* and other dead bodies is that the plastinates are unrecognizable and one can therefore not respect the person who once lived as there is no trace of him or her except a skinless body. In this regard Iseron argues that corpses are no longer individuals and so they cannot be the basis for either autonomy or informed consent [or dignity] – as they are merely symbols.<sup>76</sup>

Portmann sums it up: Placing the body on a pedestal *via* plastination does not threaten, but rather celebrates, human dignity. If consent to other uses of corpses must be respected, then consent to plastination exhibitions must also necessarily be acceptable.<sup>77</sup> There is a willingness of over seven thousand people to contribute their corpses for plastination. The high number tends to show that *Body Worlds* are not intrinsically humiliating or

<sup>72</sup> Wicclair 2008 17 *Cambridge Quarterly of Healthcare Ethics* 89–90.

<sup>73</sup> Wicclair 2008 17 *Cambridge Quarterly of Healthcare Ethics* 90.

<sup>74</sup> Jones 2002 15 *Clinical Anatomy* 439.

<sup>75</sup> Jones *Speaking for the Dead: Cadavers in Biology and Medicine* (2000) 57–58.

<sup>76</sup> Iseron “Life Versus Death: Exposing a Misapplication of Ethical Reasoning” 1994 5 *Journal of Clinical Ethics* 262.

<sup>77</sup> Portmann “Public Access to Anatomical Knowledge: Intrinsic Value of the Cadaver and Plastination” 2007 3(i) *Penn Bioethics Journal* 8 11.

distasteful. Cantor reports the vast majority of visitors to *Body Worlds* learned an enormous amount about the human body and its internal systems – an assessment based on the remarks made by people writing in the guest book after their visit.<sup>78</sup>

## 4 DONATING A WHOLE BODY IN SOUTH AFRICA

### 4.1 Legislation

The question may now be asked whether a South African citizen can donate his or her body to be used in something like *Body Worlds*. As previously indicated for the plastination process to be ethically acceptable the bodies should have been donated after informed consent had been given. The position in South Africa concerning the donation of whole bodies is controlled legally by the National Health Act 61 of 2003 and the Regulations in terms thereof.

Section 62 of the National Health Act “Donation of human bodies and tissue of deceased persons” stipulates that:

- “(1)(a) A person who is competent to make a will may –
- (i) In the will; or
  - (ii) In a document signed by him or her and at least two competent witnesses or
  - (iii) In an oral statement made in the presence of at least two competent witnesses,
- donate his/her body to be used after his/her death for any purpose provided for in this Act.
- (b) A person who makes a donation as contemplated in paragraph (a) must nominate an institution or a person contemplated in section 63 as a donee.
  - (c) If no donee is nominated in terms of paragraph (b) the donation is null and void.
  - (d) .....
- (2) In the absence of a donation under subsection (1)(a) or of a contrary direction given by a person whilst alive, the spouse, partner, major child, parent, guardian, major brother or major sister of that person, in the specific order mentioned may, after that person’s death, donate his body to an institution or a person contemplated in section 63.
- (3)(a) The Director-General may, after the death of a person and if none of the persons contemplated in subsection (2) can be located, donate any specific tissue of that person to an institution or a person contemplated in section 63.
- (b) The Director General may only donate the specific tissue if all the prescribed steps have been taken to locate the persons contemplated in subsection (2).”

Section 63 of the same Act which reads: “Human bodies, tissue, blood, blood products or gametes may be donated to prescribed institution or person” requires that:

<sup>78</sup> Cantor *After We Die* 130.

“A human body, tissue, blood, blood products or gametes may be donated by any person contemplated in section 55(a) [concerns living donations] or 62 to any prescribed institution or person for any purpose in section 56 [concerns living donations] or 64(1).”

And section 64 “Purpose of donation of body, tissue, blood or blood products of deceased persons” stipulates that:

- “(1) A donation in terms of section 62 may only be made for –
  - (a) the purpose of the training of students in health sciences;
  - (b) the purpose of health research;
  - (c) the purpose of the advancement of health sciences
  - (d) ...
  - (e) ...
- (2) This Act does not apply to the preparation of the body of a deceased person for the purposes of **embalming** (own emphasis) it, ...”

Thus according to section 64(2) this Act will not be relevant should bodies be plastinated in South Africa as the method of plastination includes embalming.<sup>79</sup> Plastination is a relatively simple process. The first step of the process involves halting decay by pumping formalin into the body through the arteries. Formalin kills all bacteria and chemically stops the decay of tissue. Using dissection tools, the skin, fatty and connective tissues are removed in order to prepare the individual anatomical structures. In the first step, the body water and soluble fats are dissolved from the body by placing it into a solvent bath (for example, an acetone bath). This second exchange process is the central step in plastination. During forced impregnation a reactive polymer, for example, silicone rubber, replaces the acetone. To achieve this, the specimen is immersed in a polymer solution and placed in vacuum chamber. The vacuum removes the acetone from the specimen and helps the polymer to penetrate every last cell. After vacuum impregnation, the body is positioned as desired. Every single anatomical structure is properly aligned and fixed with the help of wires, needles, clamps, and foam blocks. In the final step, the specimen is hardened. Depending on the polymer used, this is done with gas, light, or heat. Dissection and plastination of an entire body requires about 1,500 working hours and normally takes about one year to complete.<sup>80</sup>

Cognizance should also be taken of section 68 of the National Health Act “Regulations relating to tissue, cells, organs, blood, blood products and gametes” (not all sub-sections are relevant, only those that are, are listed:

- “(1) The Minister may make regulations regarding –
  - (1)(b) the preservation, use and disposal of bodies, including unclaimed bodies;
  - (g) the importation and exportation of tissue, human cells, blood, blood products or gametes (no mention is made of full bodies);

<sup>79</sup> Embalming involves replacing the blood in the body with a preservative fluid known as formalin. By law, a body flown into South Africa or from one area to another within the country must be embalmed see “You and Your Rights” <http://www.legalcity.net/Index.cfm?fuseaction=RIGHTS.article&ArticleID=7255853> (accessed on 2013-08-16).

<sup>80</sup> [http://www.bodyworlds.com/en/plastination/method\\_plastination.html](http://www.bodyworlds.com/en/plastination/method_plastination.html) (accessed on 2013-02-08).

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- (r) any other matter relating to regulating the control and the use of human bodies, tissues, organs, gametes, blood and blood products in humans.”

The only Regulations in terms of Chapter 8 of the National Health Act, that have been promulgated as yet, are the Regulations regarding the general control of human bodies, tissue, blood, blood products and gametes.<sup>81</sup> Section 5(1) and (2), as well as section 6, should be read with section 62 of the Act and stipulate that:

- “5(1) A donation that does not have a **specific institution** (own emphasis) as donee, the institution in the appropriate category which is nearest to the place where the body is kept of the person whose body or tissue has been so donated, shall be deemed to be the donee.
- 5(2) If a donation has been made to a specific donee who is not within easy reach at the time and place of the death of the person whose body was donated the institution in the appropriate category which is the nearest to that place shall be deemed to be the donee.
- (6) If a person has made conflicting donations, effect shall be given to the donation which was last made: provided that if such a person had first donated her or his entire body to one donee and thereafter donated any specific tissue thereof to another donee, the donation of his or her entire body shall be deemed to be a donation of the remainder of her or his body.

Section 4 of the Regulations lists the institutions or persons to which or to whom human tissue, blood, blood products and gametes may be donated. These are a hospital, a university, or University of Technology, an authorised institution, a medical doctor, a dentist, a tissue bank or any person who requires therapy in which the tissue concerned can be used.

Section 7 of the Regulations once again reiterates that a donation shall be of no force if it is made for any other purpose than those referred to in section 64 of the Act. Section 64, as indicated above, stipulates a donation may be made only for the training of students, research and the advancement of health sciences, therapeutic purposes and the production of certain substances. If a person wants to donate his or her body to *Body Worlds* legally *Body Worlds* and the exhibition should then fall into one of the categories and one of the institutions listed above. It could be argued as indicated earlier that the exhibition of *Body Worlds* is for the advancement of science and for training although not for students but the general public. Von Hagens is a qualified medical doctor and therefore the donation to him would be valid according to section 4 above.

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<sup>81</sup> GN R180 of GG 35099 of 2012-03-02.

## 4 2 Can a South African donate a body to *Body Worlds*?

### 4 2 1 *Autonomy*

The word “autonomy”<sup>82</sup> was first used in correlation with states that were self-governed. Philosophers adapted this term to be applicable to the rights and interests of individuals. Kant taught that a person has free will and can therefore decide what should be done in specific circumstances, and by implication, he is also responsible for his own actions. “For Kant, autonomy requires acting in accordance with one’s true self – that is, one’s rational will.”<sup>83</sup> In other words, being autonomous means doing as one ought to, as a rational being. In bioethics, the right to self-determination<sup>84</sup> and the giving of informed consent<sup>85</sup> are closely linked to the principle of autonomy. In the liberal tradition of ethical thought, respect for a person’s autonomy means respect for his or her voluntary choices and can be summarized as follows:

“I wish my life and decisions depend on myself, not on external forces of whatever kind. I wish to be the instrument of my own, not of other men’s, acts of will. I wish to be a subject, not an object; to be moved by reasons, by conscious purposes, which are my own, not by causes which affect me, as it were, from outside. I wish to be somebody, not nobody: a doer – deciding, not being decided for, self-directed and not acted upon by external nature or by other men as if I were a thing, or an animal or a slave ... I wish, above all, to be conscious of myself as a thinking, willing, active being, bearing responsibility for my choices and able to explain them by references to my own ideas and purposes.”<sup>86</sup>

In other words, in the context of donating a body to *Body Worlds*, each individual should be left to decide *premortem* what should happen with his or her body after death but to be autonomous as explained above, means to give informed consent. In order to give informed consent for a body to be used as a plastinate, every aspect of the procedure must be explained to the prospective donor. Every aspect means that the donor should know in what position his or her body may be used, as some donors might have a problem being exposed for example in a sexual position.

The Constitution of the Republic of South Africa, 1996 is the supreme law of the country. Section 12(2) refers to the right of self-determination by

<sup>82</sup> “Autos” (Greek) = “self”, “nomos” (Greek) = “rule”.

<sup>83</sup> Kass *Life, Liberty and the Defense of Dignity* 216.

<sup>84</sup> S 12(2) *Constitution of the Republic of South Africa*, 1996. S 12(2)(b) reads as follows: “Everyone has the right to bodily and psychological integrity, which includes the right to security in and control over their body.” The common law also recognizes the right to self-determination.

<sup>85</sup> Consent as ground for justification is based on the maxim *volenti non fit injuria* (to him who consents, no injury occurs). Giving informed consent as an ethical requirement is now statutorily laid down in s 6, 7 and 8 of the *National Health Act*. See also Oosthuizen and Verschoor “Ethical Principles Becoming Statutory Requirements” 2008 50(5) *SA Family Practice* 36–40.

<sup>86</sup> Isaiah Berlin as quoted by Young “Informed consent and patient autonomy” in Kuhse (ed) *A Companion to Bioethics* (1998) 441.

stating that everyone has the right to security in and control over his/her body, and not to be subjected to medical or scientific experiments without his/her informed consent. In other words, each person should autonomously decide what should happen with his or her body during their life or even thereafter. If a person thus gave informed consent *premortem* for his or her body to be plastinated and exposed at an exhibition like *Body Worlds* there should not be any lawful hindrance thereto. But despite arguing that it could be lawful for a South African citizen to donate his or her body to *Body Worlds*, it is not an easy process and it seems as if the problem of costs is bigger than just complying with the law.

#### 4 2 2 Costs

There are no examples of South Africans who have donated their bodies to exhibitions such as *Body Worlds* as yet, but according to Cantor,<sup>87</sup> regarding the position in the USA, California, over seven thousand people have agreed to donate their bodies for plastination for educational use.

*“Body Worlds* tells such potential donors to arrange to have their corpses sent to an embalming facility in Upland, California. From there the corpses will be sent for plastination either to laboratories of the Institute for Plastination in Germany (founded by Von Hagens) or to the production facility in China. Over four hundred bodies have already been delivered to *Body Worlds* in this fashion; half of them have been used in travelling exhibitions and half for teaching in universities world-wide. Plastinated teaching models are in place in several hundred universities.”<sup>88</sup>

According to the document “Donating your body for plastination”<sup>89</sup> by the Institute of Plastination,<sup>90</sup> by giving your consent to donate your body for plastination, you are not signing a contract. It is merely a declaration of intent. No fees must be paid for a body to be donated and the donor will not receive any money. The first step in the donation process is to complete the “Donating your Body for Plastination – Donor’s Consent” form in duplicate. Both copies must be signed and sent to the Institute. One should also give permission of access to one’s health records by signing a Medical History Release Authorisation form. The Institute will then countersign one of the forms and return it to you for safe keeping. The age of the body being donated does not matter and the presence of a disease is not generally detrimental to donating your body. Amputated limbs also do not represent an obstacle to becoming a body donor but the donor should have died of natural causes and the body must be largely intact. If the body is not suitable for plastination, for example, because decomposition is too advanced, it will be used for instructional specimens to whatever extent is possible, for example for producing bone or ligament specimens.

<sup>87</sup> Cantor *After We Die*.

<sup>88</sup> Cantor *After We Die* 129.

<sup>89</sup> 8ed, August 2008.

<sup>90</sup> The IfP is a private research institute that does not receive any public funding. Purchases of specimens are invoiced for “preserved work” or “plastination work” but not for the specimens themselves.

The most important aspect is that it is not clear who will pay for the transportation costs of the body. According to the document the donors or their next of kin must pay for the body to be transported to the German border or a German airport, from where it will be picked up by a member of the Institute. It thus seems nearly impossible for a South African to donate his or her body for plastination in Germany at Von Hagens's Institute unless he or she has the means to pay for it. Apart from the costs, cognizance should also be taken of the "Regulations Relating to the Management of Human Remains"<sup>91</sup> that applies *inter alia* to any natural person outside or within the Republic who undertakes the movement of, or requires the movement of any human remains to or from the Republic.<sup>92</sup> Section 14 (1)(a) of these regulations prescribe what authorization is necessary to export human remains "no person may import or export human remains unless he or she is issued with an import or export permit by the Director-General of Health, such import or export permit shall be valid for a period of 30 days after the date of issue". Furthermore section 13 of the Regulations lists the requirements for the transportation of human remains inland and across the borders of the Republic. Human remains may never be conveyed in any manner that may endanger public health. Human remains should be conveyed in a container which is free from any leakages. The Department of International Relations and Cooperation has issued a document called "Advice to South African Citizens in the Event a South African Dies Abroad". This document stipulates that a body that is moved over the borders of the country should be embalmed. The embalming should take place within 24 hours after death.<sup>93</sup> This document addresses the death of a South African citizen abroad but it can be assumed the same will apply to dead bodies leaving the country. Concerning costs, it is interesting to note that the embalming of bodies is not a service provided by state mortuaries.<sup>94</sup> A person who thus wishes to have his or her body plastinated should bear this in mind, as he or she will have to use a private funeral undertaker to prepare the body through embalming for exportation to Germany, and this might prove to be costly.

## 5 CONCLUSION

The word "cadaver" is derived from the Latin words *caro data vermibus* meaning flesh (or carrion) given to worms.<sup>95</sup> Some people prefer this way of departing from their bodies; others prefer a green burial, a seawater burial or even cremation.<sup>96</sup> The fact is a dead human body cannot hold human dignity but it leads to a dilemma; on the one hand the dead body deserves

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<sup>91</sup> Regulations to the National Health Act 61 of 2003 published under GN R363 in GG 36473 of 2013-05-22.

<sup>92</sup> Chapter 2(1)(d).

<sup>93</sup> See [http://www.dfa.gov.za/consular/death\\_abroad.htm](http://www.dfa.gov.za/consular/death_abroad.htm) (accessed on 2013-08-16).

<sup>94</sup> Schronen "Mortuary Worker Booted for 'Human Embalming'" 2003 <http://www.iol.co.za/news/south-africa/mortuary-worker-booted-for-human-embalming> (accessed on 2013-08-16).

<sup>95</sup> Cantor *After We Die* 75.

<sup>96</sup> Cantor *After We Die*; and Chapter 5 91–118.



treatment that respects its previous dignity but on the other hand human dignity is linked to human capacities. Glahn<sup>97</sup> therefore argues for a weaker form of dignity called residual or contingent dignity. This entails to respect the last will of the person who once lived. As such *Body Worlds* does not constitute a violation of dignity since the body donors have given their informed consent. If their wishes were met, their dignity could hardly have been infringed upon. The whole human body is an object of astounding complexity and overwhelming beauty. Even if there were no other reason this would be enough to endow the human body with dignity and value. It is this wholeness, complexity and beauty that *Body Worlds* exalt. The whole human body in action – to refuse to see what this exhibit can so effectively convey, or refusing to feel joy in being human is a narrowing humanism. There is no one road to education, and no singular exhibit can fully liberate the human imagination, *Body Worlds*, however, is one liberating step.<sup>98</sup>

Other anatomical-pathological museums in Europe have offered inside glimpses of the body as well, without attracting anywhere near the numbers of visitors that *Body Worlds* has.<sup>99</sup> The debate whether *Body Worlds* is science or art, or either instruction or entertainment cannot be answered as *Body Worlds* cannot be classified in clearly defined boxes because it defies the very categories on which ethical judgments are grounded.<sup>100</sup> Von Hagens's<sup>101</sup> claims he is liberating science from its ivory tower; unlike his peers, he considers the education of a broad audience an important asset to the discipline. The success of *Body Worlds* also proved according to him that ethical norms are no longer imposed from top down – by for instance church authorities – but that people themselves define what they consider ethical or not. The most practical form of censorship should be “refusal to attend”.<sup>102</sup>

Altruism may not be the only motivation for dedicating one's cadaver to science. As Cantor refers to one person making an anatomical gift to Harvard Medical School who wrote “I couldn't make it to Harvard as a youngster, but I'm coming now”.<sup>103</sup>

<sup>97</sup> Glahn “Dignity of the Dead?” in Cooley and Steffen (eds) *Re-imagining Death and Dying* (2009) 34.

<sup>98</sup> Maienschein and Creath “Body Worlds as Education and Humanism” 2007 7(4) *The American Journal of Bioethics* 27.

<sup>99</sup> Van Dijck 2001 9(1) *Configurations* 100.

<sup>100</sup> Van Dijck 2001 9(1) *Configurations* 102.

<sup>101</sup> Van Dijck 2001 9(1) *Configurations* 123.

<sup>102</sup> Lloyd-Braff “Body Worlds: An Exhibit that Really Gets Under the Skin” 2007 7 *e-Vision* <http://www.jmu.edu/evision> (accessed on 2013-07-11).

<sup>103</sup> Cantor *After We Die* 183.