

Trans-Somatic Transplant: Furthering Health Disparities in Transplant Surgery

Ashunté Hudson, Howard University

Abstract: Many of the discoveries in medicine, both benevolent and malicious, come at the price of exploiting vulnerable populations of people, incapable of defending themselves. This has led to historical abuse through experimentation in biomedical practices on the destitute, desperate, and, in the United States of America, the racially black. These abuses show that the most blatant malpractices of the philosophical ideology of medicine are those identified as health disparities. The key attribute in the definition of health disparities is that they are preventable differences, that play a significant role in the continuing oppression of vulnerable populations. The discipline of medical ethics should put them at the forefront for elimination because of their universality, yet, medical ethics seems to limit its advocacy of medical concerns that fall under health disparities due to medical biases and societal racism. Ethics has a duty to dissect medical procedures, experiments, and research to evaluate their medical feasibility, and to determine their moral permissibility. This paper will be an evaluation of this deficiency within medical ethics, through the analysis of the new medical procedure being proposed known as the Trans-Somatic Transplant; and how such an advancement would immensely affect populations already oppressed and neglected by the healthcare field.

When analyzing the history of medical advances and the effects they have had on those used as the catalyst for those advancements, progress is not achieved without growing pains. Many of the discoveries in medicine, both benevolent and malicious, come at the price of exploiting vulnerable populations of people, incapable of defending themselves due in part to a lack of knowledge needed to make informed decisions. This Western medicine perspective, defined by the ideas of utilitarianism, suggests that there is a minority that suffers at the hands of the majority that agrees on the parameters by which happiness is achieved. This has led to historical abuse through experimentation in biomedical practices on the destitute, desperate, and, in the United States of America, the racially black. These ills of medical advancements can be observed through cases such as the Tuskegee Syphilis Experiment¹, the Guatemala Syphilis Experiment², the Nazis experiments³, and the practices of James Marion Sims⁴. These abuses show the most blatant malpractices of the philosophical ideology of medicine, those identified as health

¹ Brandt, Allan M. 1978. "Racism and research: The case of the Tuskegee Syphilis study." *The Hastings Center Report* 8(6): 21-29.

² Reverby, Susan M. "'Normal Exposure' and Inoculation Syphilis: A PHS 'Tuskegee' Doctor in Guatemala, 1946-1948." *Journal of Policy History* 23, no. 1 (2011): 6-28..

³ Jakubik, Andrzej, and Zdzisław Jan Ryn. "Pseudo-Medical Experiments in Hitler's Concentration Camps." *Medical Review Auschwitz*. Accessed October 22, 2018.

⁴ Wall, L. L. "The Medical Ethics of Dr J Marion Sims: A Fresh Look at the Historical Record." *Journal of Medical Ethics*. June 2006.

disparities. The CDC defines health disparities as preventable differences in the burden of disease, injury, violence, or opportunities to achieve optimal health that is experienced by socially disadvantaged populations. These populations can be defined by factors such as race or ethnicity, gender, education, income, disability, geographical location, or sexual orientation. Health disparities are directly related to the historical and current unequal distribution of social, political, economic, and environmental resources. During the Civil Rights Movement, Dr. Martin Luther King Jr. voiced his concern pertaining to health disparities, expounding, “[o]f all of the forms of inequality, injustice in health care is the most shocking and inhumane.” Health disparities are a universal problem that are pervasive throughout the medical system of many countries, especially those that practice western medicine. The discipline of medical ethics should put health disparities at the forefront of consideration because of their universality, yet, ethics seems to limit its advocacy of medical concerns that fall under health disparities, based on medical biases and societal racism. Ethics has a duty to dissect medical procedures, experiments, and research to evaluate their medical feasibility, and to determine their moral permissibility. This paper will be an evaluation of the deficiency present within medical ethics through the analysis of the new medical procedure being proposed known as the Trans-Somatic Transplant.

Trans-Somatic Transplant

The Trans-Somatic Transplant surgery (head transplant or full body transplant surgery) was proposed by Dr. Sergio Canavero to help patients who suffer from degenerative diseases, such as cancers, progressive muscle diseases, and tetraplegia.⁵ He is supported by Chinese orthopedic surgeon Xiaoping Ren in trying to become the pioneers of such a controversial procedure.⁶ If successful, their efforts will propel transplant surgeries into a new realm, yet there are many medical, ethical, and social concerns that arise with such a complicated procedure. To better understand what the repercussions could include, the details of the procedure will be reviewed and observed through the foundational ethical principles of autonomy, beneficence, non-maleficence, and justice.

Dr. Canavero’s explanation of the medical procedure describes a series of complex surgeries being performed simultaneously by multiples doctors, of both the body of the donor (the patient giving the full body) and the body of the recipient (the patient giving the head).⁷ The procedure includes severing the spines of both donors and reattaching the head of one to the body of the other by reconnecting the spine and all of the nerves within the neck with the substance Polyethylene Glycol, or PEG; an amber like fluid that has the potential to heal nerve cells.⁸ This procedure has the potential of failure as reattaching the spine and the nerves completely is very unlikely, and includes other medical issues.

⁵ Kristof Van Assche and Assya Pascalev, “Where Are We Heading? The Legality of Human Body Transplants Examined”, *Issues in Law & Medicine*, Spring 2018, Volume 33, Issue 1, Article 1.

⁶ *Ibid*

⁷ Pascalev, Assya, et al. “Head Transplants, Personal Identity and Neuroethics.” *Neuroethics*, vol. 9, no. 1, 2015, pp. 15–22.

⁸ Kean, Sam. “The Audacious Plan to Save This Man’s Life by Transplanting His Head.” *The Atlantic*, Atlantic Media Company, 10 Aug. 2016.

The first possible medical complication is the high risk of severe pain after the surgery, that can be both physical and neurological.⁹ If the nerve pain occurs from improper reconnection or failure to reconnect the spine, there will be a dilemma of how to manage the pain. If the pain is neurological there would be no physical manifestations of pain and therefore no way to medically manage it. The subsequent pain could be a permanent result of the surgery highlighting a possible concern as to whether the mind and body will connect so that pain can be managed. If the surgical team has success in connecting both parts, there is a strong possibility that the recipient will have limited to no function of the body and minimum function left within the head.¹⁰ As with most transplant surgeries, there is also the possibility that the recipient's body will reject the donated organ.¹¹ In the case of a full body transplant, it is hard to determine which element of the new person would reject the other, or if both elements will reject each other.

Dr. Canavero addressed this problem, stating that general immunosuppressant medications would be given to the patient to lower the immune system of both elements, the head and the body, to minimize rejection.¹² Something commonly seen in regular transplant surgeries, such as kidney transplants. The medication puts the patient at a higher risk for infection which can be more life threatening or damaging than the initial illness.¹³ The factors of the immunosuppressant medications would be in direct violation of the ethical principles of beneficence and non-maleficence. The principle of beneficence “[r]equires that the procedure be provided with the intent of doing good for the patient involved.”¹⁴ The physician has a duty to “develop and maintain skills and knowledge, continually update training, consider individual circumstances of all patients, and strive for net benefit.”¹⁵ The physicians would not be acting in the best interest of the patient's wellbeing, and therefore would not be doing good for the patient but rather be causing unnecessary harm. The principle of non-maleficence “[r]equires that a procedure does not harm the patient involved or others in society.”¹⁶ Harm that was not present before the surgery would be done to the patient that would be substantially worse than the patient's initial illness, if the procedure fails and possibly terminates their life.

To defend against these worries, Dr. Canavero makes the claim that the procedure has worked in testing and was successful with his various solutions for surgical problems that conceivably could occur both before and after surgery.¹⁷ There is fault with his claim, though, as the testing mentioned was only performed on animals and produced a minimal

⁹ Pascalev, Assya, et al. “Head Transplants, Personal Identity and Neuroethics.” *Neuroethics*, vol. 9, no. 1, 2015, pp. 15–22.

¹⁰ Kristof Van Assche and Assya Pascalev, “Where Are We Heading? The Legality of Human Body Transplants Examined”, *Issues in Law & Medicine*, Spring 2018, Volume 33, Issue 1, Article 1.

¹¹ *Ibid.*

¹² *Ibid.*

¹³ “Immunosuppressants.” *The National Kidney Foundation*, 3 Feb. 2017.

¹⁴ Johnson, Amber. “What Are the Basic Principles of Medical Ethics?” *Medical Ethics* 101.

¹⁵ *Ibid.*

¹⁶ *Ibid.*

¹⁷ Pascalev, Assya, et al. “Head Transplants, Personal Identity and Neuroethics.” *Neuroethics*, vol. 9, no. 1, 2015, pp. 15–22.

success rate.¹⁸ The experiment was a reattempt by Dr. Canavero of an unsuccessful head transplant surgery performed by Dr. Robert White in 1970. Dr. White's experiment involved the transplantation of the head of a rhesus monkey onto the body of another rhesus monkey with reattachment at the spine.¹⁹ Dr. Jerry Silver, who was present during the procedure, described the operation and results as horrific, he stated:

“I remember that the head would wake up, the facial expressions looked like terrible pain and confusion and anxiety in the animal. The head will stay alive, but not very long,” the Case Western Reserve University neurologist told CBSNews.com. When doctors attempted to feed the re-connected head, the food fell to the floor. “It was just awful. I don't think it should ever be done again.”²⁰

It follows from the results that emerged from the experimental testing on animals that such a surgery would be extremely unethical and could cause extreme harm and distress to any sentient being. Would the surgery have minimal success and result in limited or no functionality or will it lead to a restoration of full mental and physical capacity of a person? For this surgery to even have a chance of being ethical, there would need to be a precise determination of the chance for success for the patient. Dr. Canavero, however, claims the experimental procedure and its possibility of success is sufficient justification for his moving forward.²¹ Limited success is unacceptable when considering conducting the procedure on human patients: the animal did not survive long enough to determine if the surgery is a lifelong solution and there is no way to assess the level of consciousness of animals to determine if the procedure was success.

In his own animal experimentation, Dr. Canavero stated that “[t]he monkey fully survived the procedure without any neurological injury of whatever kind,” ...but said it was only kept alive for 20 hours after the procedure for ethical reasons.²² The non-transparent nature of Dr. Canavero's reasoning for terminating the animal's life further raises concerns as to the legitimacy of such an experimental and invasive surgery. If the surgery was successful, what were the implications that made it unethical such that the animal's life needed to be terminated? Clearly, if a successful surgery of an animal provided unethical or inconclusive results, the human surgery would not produce more conclusive or ethical results.

Ethical Violations of the Transplant Surgery

Issues concerning head transplantation depend heavily on the fact that every aspect of the procedure, from surgery to recovery, raises alarming ethical red flags. The first ethical consideration that is apparent are autonomy and informed consent. For the

¹⁸ Ibid.

¹⁹ Elliot, Danielle. “Human Head Transplant Is ‘Bad Science,’ Says Neuroscientist.” *CBS News*, CBS Interactive, 2 July 2013.

²⁰ Ibid.

²¹ Martin, Alan. “Human Head Transplant: Controversial Procedure Successfully Carried out on Corpse; Live Procedure ‘Imminent.’” *Alphr*, 17 Nov. 2017.

²² Knapton, Sarah. “First Head Transplant Successfully Carried out on Monkey, Claims Surgeon.” *The Telegraph*, Telegraph Media Group, 21 Jan. 2016.

procedure to take place, the medical team must find a patient that voluntarily consents to such an extensive and life-threatening surgery. The patient must be diagnosed with a terminal or degenerative disease and have no other healthcare options for curing the disease. This qualification creates a paradox because it implies that the patients, because of their terminal condition, would be desperate to find a cure for their disease and willing to risk their minimal time left for the possibility of being cured. This could impede the judgment of the patient limiting the validity of the informed consent they give. If this factor is not considered by the medical team, it would be a violation of the ethical code and seen as the medical team taking advantage of a patient who is desperate. The issue of consent is also raised about the patient whose body would be donated for the surgery. Due to their medical condition, such as being brain dead or near death and unconscious, consent would have to be established before the patient loses consciousness. This request would be documented before the patient's illness reached a critical level through methods such as being an organ donor. This would raise the question, does general consent to organ donation apply to such an extensive and invasive transplant procedure? With the body transplant, it would come to review whether transplant parameters would remain the same. The definition of organ donation would have to be specified in noting the difference between organ donation and organism/body donation. Typical organ donation consent involves a person signing up to be an organ donor through their state government and they are able to specify what organs they want to donate, or if they want to donate whatever can be used at their time of death, or if they would like to make living donations as well.²³ Since the list of viable organs does not include the donation of an entire person, only parts, a new term would have to be implemented in order to denote the specific donation of a whole person. Those who consented to being typical organ donors would need to re-consent under new conditions, or it must be determined whether their prior consent in the chance of a full body transplantation would hold.

With the importance of DNA and genetic material, a full body transplant can leave much undecided on how to classify the new individual negating the identities of the two previous individuals; this could lead to many psychological or social issues.²⁴ There is the possibility that the patient will present with strong body image issues and identity issues if the surgery is successful. Questions could arise such as: which part, the head or the body, is the donation and which is considered the recipient, and how this determines the identity of the individual or if the new individual will be a new 'person' all together. These questions can be illustrated in the scenario of procreation. If the patient can procreate with the new body, there would be several concerns such as who would the child be a composition of, would the "new person" identify with the child, and who has legal obligations to the child based on genetics.

These questions raise disquieting speculations concerning the nature of the self and personal identity, and bring more questions to the forefront such as what makes a person a person and what is the connection between the brain, identity, and sense of self? In trying to piece together what entity would emerge from such a surgery, depending on the grounds for success, the question of the "part-whole" is posed.²⁵ The "part-whole"

²³ Health Resources & Services Administration. "Organ Donation FAQs." Organ Donor.

²⁴ Kristof Van Assche and Assya Pascalev, "Where Are We Heading? The Legality of Human Body Transplants Examined", *Issues in Law & Medicine*, Spring 2018, Volume 33, Issue 1, Article 1.

²⁵ *Ibid.*

tries to determine which part is being given to make the person whole. This extends into the realm of autonomy, essentially deciding which part of the body is being donated to a person in order to heal their ailment and make them a fully functioning person again.²⁶

One view of personal identity, espoused by Dr. Assya Pascalev, is comprised of a person's mental events and psychological experiences over time, the view of many western philosophers. By this view, the patient donating the head will remain that same person with a new body since mental capacity resides within the brain: mind essentialism, you go where your mind goes.²⁷ From the opposing view, animalism, one's identity is preserved as long as one's body exists.²⁸ This view says that our minds and body function as organisms and that our psychological continuity and personal identity is a part of our physical continuity: "consciousness is just another property of the organism."²⁹ This follows that we do not die from lack of consciousness, but we die from the failure of organismic functioning. A head transplant preserves parts of two distinct organisms, but no single biological unit survives the surgery.³⁰ With so many unknowns surrounding the surgery, it seems medically gratuitous and infeasible. Observing issues concerning its infeasibility, the transplant could further widen the gap of health disparities for communities who already are not sufficiently served with "normal" transplantations. The extreme cost of the surgery alone would limit the available resources for other transplants that would save more lives.

Transplantation as a Health Disparity

The key attribute in the definition of health disparities is that they are preventable differences. They play a significant role in the continuing oppression of many vulnerable populations, i.e African Americans in the United States. To give context, we can view health disparities through the comparison of treatment from the health care system towards African Americans compared to their white counterparts. Among the extensive list of medical issues that widen the gap in health care between African Americans and their white counterparts, transplantations are one of the biggest factors.³¹ An organ transplant is a surgical operation in which a failing or damaged organ in the human body is removed and replaced with a functioning one.³² The donated organ may be a cadaveric organ donation, a living organ donation, or an organ from an animal, giving the donor's organ system the ability to still be able to function after the donation.³³ African Americans suffer more from illnesses that cause organ failure than other groups and, as a result, they

²⁶ Ibid.

²⁷ Pascalev, Assya, et al. "Head Transplants, Personal Identity and Neuroethics." *Neuroethics*, vol. 9, no. 1, 2015, pp. 15–22.

²⁸ Ibid.

²⁹ Ibid.

³⁰ Ibid.

³¹ Harding K, Mersha T, B, Pham P, -T, Waterman A, D, Webb F, J, Vassalotti J, A, Nicholas S, B, Health Disparities in Kidney Transplantation for African Americans. *Am J Nephrol* 2017;46:165-175

³² "Definition: What Are Organ Transplants?"

³³ Ibid.

become the group in the most need for transplants.³⁴ This creates a paradoxical problem that lends them to also be the group most unqualified to receive needed transplants, making up thirty-four percent of needed kidney transplants and twenty-five percent of all needed heart transplants; due to the lack of proper preventative health care,³⁵ Largely caused by past abuse and bias from the medical profession, particularly that stemming from racist ideologies, there is great mistrust of doctors in the African American community, and they are unlikely to be put on a transplant list unless as a ‘reward’ for proper health practices.³⁶

The dilemma is furthered because the conditions in which African Americans suffer that causes the initial organ failure are conditions that are preventable if they were caught earlier on.³⁷ “The number of organ transplants performed on black Americans in 2015 was only 17% of the number of black Americans currently waiting for a transplant. The number of transplants performed on white Americans was 31% of the number currently waiting.”³⁸ In light of the breakthrough of the head transplant surgery, it seems that certain groups would be the last to be affected by such an egregious surgery. This is not true. The surgery would have repercussions that would affect aspects of healthcare for those not directly receiving its treatment. One of the main components of the surgery that would further the disparity between the disadvantaged and their privileged counterparts concerns the money needed to perform the elaborate operation. Including all the materials and people needed for the surgery, the price would be upwards of ten million dollars.³⁹ This suggests two major points: firstly, that if successful and implemented as a surgical norm, the procedure would only be accessible by the extremely wealthy and would have very limited resources to extend to the general population. Secondly, pulling monetary resources of this magnitude from a hospital’s transplant fund would threatened the lives of many people. It would be a choice in potentially saving the life of one person with a minimal chance of success, versus the extreme likelihood of saving multiple patients waiting to receive standard transplants. This would put those facing health disparities at an even greater disadvantage and would be a violation of the justice principle of ethics, which requires:

“that the burdens and benefits of new or experimental treatments must be distributed equally among all groups in society...procedures uphold the spirit of existing laws and are fair to all players involved. The health care provider must consider four main areas when evaluating justice: fair distribution of scarce resources, competing needs, rights and obligations, and potential conflicts with established legislation.”⁴⁰

³⁴ Harding K, Mersha T, B, Pham P, -T, Waterman A, D, Webb F, J, Vassalotti J, A, Nicholas S, B, Health Disparities in Kidney Transplantation for African Americans. *Am J Nephrol* 2017;46:165-175

³⁵ *Ibid.*

³⁶ *Ibid.*

³⁷ *Ibid.*

³⁸ Office of Minority Health. “Office of Minority Health.” Organ and Tissue Donation - The Office of Minority Health. August 17, 2016.

³⁹ “\$11mn, 36-Hour Historic Head Transplant to Be Carried out in China in 2017.” *RT International*, 12 Sept. 2015.

⁴⁰ Johnson, Amber. “What Are the Basic Principles of Medical Ethics?” *Medical Ethics* 101.

This violation would occur due to the immense threat the head transplant procedure would put on the discriminated population, pinning their lives as subsequently less valuable than that of the individual receiving experimental surgery. With the current skepticism and worry of black market organ trading being conducted today, a potential worry would be how the bodies needed for the surgery would be obtained. China, receiving past scrutiny for auctioning bodies for organ harvesting, is an example of how such medical advancements benefit the lives of some, while infringing on the ethical rights of others. China was investigated for harvesting the organs of death row inmates, after they were put to death, and selling them to wealthy people.⁴¹ This showed they were willing to “sacrifice the life of an offender in order to save the life of one wealthier.”⁴² Although this practice was outlawed after backlash in 2007, it raises concerns that a new influence could reignite the practice. This coupled with Dr. Canavero’s idea that the surgery would move to be a routine use to give people a sense of immortality, gives a sense that the surgery would be used as a luxury tool than as a tool to heal the masses.

References

- “\$11mn, 36-Hour Historic Head Transplant to Be Carried out in China in 2017.” RT International, 12 Sept. 2015.
- “Definition: What Are Organ Transplants?”
- Elliot, Danielle. “Human Head Transplant Is ‘Bad Science,’ Says Neuroscientist.” CBS News, CBS Interactive, 2 July 2013.
- “Healthy Aging.” Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, 31 Jan. 2017.
- Health Resources & Services Administration. “Organ Donation FAQs.” Organ Donor.
- “Immunosuppressants.” The National Kidney Foundation, 3 Feb. 2017.
- Jakubik, Andrzej, and Zdzisław Jan Ryn. “Pseudo-Medical Experiments in Hitler’s Concentration Camps.” *Medical Review Auschwitz*.
- Johnson, Amber. “What Are the Basic Principles of Medical Ethics?” *Medical Ethics* 101.
- Kean, Sam. “The Audacious Plan to Save This Man’s Life by Transplanting His Head.” *The Atlantic*, Atlantic Media Company, 10 Aug. 2016.
- Knapton, Sarah. “First Head Transplant Successfully Carried out on Monkey, Claims Surgeon.” *The Telegraph*, Telegraph Media Group, 21 Jan. 2016.
- Martin, Alan. “Human Head Transplant: Controversial Procedure Successfully Carried out on Corpse; Live Procedure ‘Imminent.’” *Alphr*, 17 Nov. 2017.
- Office of Minority Health. “Office of Minority Health.” *Organ and Tissue Donation - The Office of Minority Health*. August 17, 2016.
- Pascalev, Assya, et al. “Head Transplants, Personal Identity and Neuroethics.” *Neuroethics*, vol. 9, no. 1, 2015, pp. 15–22.
- Reverby, Susan M. “‘Normal Exposure’ and Inoculation Syphilis: A PHS ‘Tuskegee’ Doctor in Guatemala, 1946–1948.” *Journal of Policy History* 23, no. 1 (2011): 6–28.

⁴¹ Woan, Sunny. “Buy Me a Pound of Flesh: China’s Sale of Death Row Organs on the Black Market and What Americans Can Learn from It.” Santa Clara Law Digital Commons, 1 Jan. 2007, digitalcommons.law.scu.edu/lawreview/vol47/iss2/5/.

⁴² Ibid.

Van Assche, K. and A. Pascalev, Where are we heading? *Issues in Law and Medicine*, Spring 2018 (forthcoming).

Wall, L. L. "The Medical Ethics of Dr J Marion Sims: A Fresh Look at the Historical Record." *Journal of Medical Ethics*. June 2006.

Woan, Sunny. "Buy Me a Pound of Flesh: China's Sale of Death Row Organs on the Black Market and What Americans Can Learn from It." *Santa Clara Law Digital Commons*, 1 Jan. 2007.