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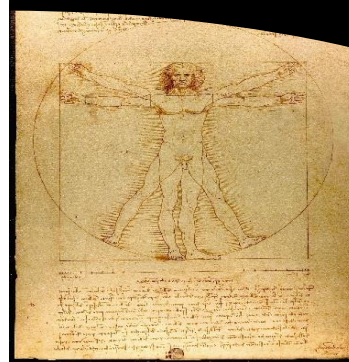


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ORGANS

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ARTIFICIAL ORGANS

GLUCOSE BIOFUELED CELLS

Since the 1960's numerous efforts have been made to develop small power-supply devices, able to operate independently over prolonged periods of time without the need of surgical replacements. One major project was the creation of glucose powered devices that could use the biochemical processes of the organism itself for such a task. Glucose, one of the most important energy sources of living organisms, can provide up to 16 kW per gram generating 12 electrons per molecule during the oxidation processes of chemical energy into electrical energy, supplying enough energy to power small electronic devices such as cardiac

pacemakers, implanted biosensors or artificial urinary sphincter [Cosnier et al.].

According to the research of Serge Cosnier, Alan Le Goff, Michael Holzinger, although such state of the art glucose biofuel cells do not have yet the required performances in terms of power output and life time, further improvements can actually represent real alternatives to lithium-ion batteries for the power supply of implanted medical devices.

References

Serge Cosnier, Alan Le Goff, Michael Holzinger. *Towards glucose biofuel cells implanted in human body for powering artificial organs: Review*. *Electrochemistry Communications* 38 (2014) 19–23.

THE MARKET OF HUMAN ORGANS

Do the poor really benefit moral and economically from the market of live donor organs? Simon Rippon has discussed the issue in an interesting paper on the *Journal of Medical Ethics*. The thesis of the purported benefit of such market is expressed in three premises.

P1. People in poverty who would choose to sell their organs if a free market existed must regard all other options open to them as worse.

P2. If we take away what some regard as their best option, we thereby make them worse off, at least from their own perspective.

P3. If a policy makes some worse off from their own perspective, it would be paternalistic for us to judge otherwise and to implement the policy on their behalf. We ought not to be paternalistic in this way. Therefore, we ought not to prohibit organ markets for the supposed good of those in poverty who would choose to sell their organs if a free market existed.

The thesis has been subscribed by Julian Savulescu [2003] and by Gerald Dworkin [1994] on the grounds of the freedom of choice of the sellers and the paternalism of any attempt to regulate the market. Janet Radcliffe Richards [Radcliffe et al., 1998], on the other hand, has subscribed the thesis on the grounds of a worse scenario if the prohibition is reinforced.

Rippon's paper refutes the claim that sometimes you may hurt people by giving them an option that they would be better off taking, in cases of the above kind:

the addition of the option makes it more difficult -or costly- to perform the necessary reasoning in order to reach the best decision. His argumentation refutes P2, but fails to address what, from my point of view, is at the center of this moral problem: hypocrisy, or put in ethical terms, the inconsistency between the moral values of society and its actions. The appeals to freedom of choice are a mockery. The sellers of their own organs do not know the full scenario but simply get into further trouble, buying themselves, in the best case, some extra-time: we are offering to the person a floating device so s/he can be saved to be properly eaten lately by the sharks.

The intervention of the organ market by society will force other solutions for poverty, more permanent and consistent with the values that we are teaching to our children, the values that can hold a community as a human social contract.

References

Dworkin G. [1994] *Markets and Morals*. In: Dworkin G, ed. *Morality, Harm and the Law*. Oxford: Westview. 1994. 155–61.

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Rippon, Simon. [2012] *Imposing options on people in poverty: the harm of a live donor organ market*. *JME*. *Med Ethics* 2014;40:145–150.

Savulescu J. [2003] *Is the sale of body parts wrong?* *JME* 2003;29:138–9.

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Events

22-24 October 2014:
Fourth International Conference on Violence in the Health Sector
Miami, Florida, USA
[Web:www.oudconsultancy.nl/MiamiSite/violence/invitation-third.html](http://www.oudconsultancy.nl/MiamiSite/violence/invitation-third.html)

"The intervention of the organ market by society will force other solutions for poverty, more permanent and consistent with the values that we are teaching to our children"



Neuro Quotations

"The vital organs are those in which the primary faculties of the body arise—i.e. the faculties necessary either to the life of the individual or to the life of the species."
(Avicenna 980–1037 AD)