Reviewer's report
Title: The Reuse of Cardiac Organs in Transplantation: An Ethical Analysis

Version: 1 Date: 20 Jun 2018

Reviewer: David Rodriguez-Arias

Reviewer's report:
I have appreciated reading the new version of the manuscript. The topic remains conceptually interesting, and I appreciate the effort made by the authors to tackle the difficult controversies they have at hand.

I believe the manuscript has improved in some respects. I also think that some key aspects remain unsatisfactorily addressed. Finally, some new paragraphs of the paper raise new questions.

Here are my comments:

163 Our hypothesis is as follows: RCOT is either ethically permissible or
164 impermissible. --> This is hardly a hypothesis, at least in a scientific meaning. The authors reduce the morality of RCOT to the problem of consent, even though they also consider other aspects.

179 are unknown, an implicit "Agree" status is assumed for the sake of convenience,
180 according to the 'opt-out' principle. --> This is not granted, and inconsistent with laws in both Japan and the US (both have opt-in systems): the authors need to clarify what they mean by
"convenience" (e.g. convenient for whom?, on what grounds?). Assuming this is problematic, for reasons considered below.

184 In the case of Pattern 1, RCOT is ethically permissible from the perspective of donor consent. --> I would suggest to treat the 4 patterns in order (1,2,3,4)

190 In addressing this problem, a philosophical argument about the aforementioned "property rights," along with a natural right theory or a philosophical/ethical theory based on self-ownership, might help establish a foothold. --> The whole analysis may be considered as flawed, as dead individuals do not usually have rights. What type of right are you talking about? Moral rights, legal rights? If legal: where stated. If moral, on what ontological, or moral grounds you claim the existence of such rights? I don't think Locke was meaning dead humans.

214 Here we use the gift concept and heritage concept as candidates for such ethical arguments. --> This is a totally new grounding framework which is inconsistent with the property rights framework used until now. The authors may need to clarify which of these arguments are just arguments that somebody could use, and which are THEIR own arguments. It is a bit confusing, and it gives the appearance of inconsistency.

219 As a token of appreciation, the receiver might consider giving that very gift they received to someone else as "a favor for favor," when put in an appropriate position. In the case of heart transplantation, appreciation can be manifested in many other ways. The argument is stretched beyond reasonableness. It can be argued that gifts must be
unconditional (otherwise they are rental, lending, or other transactions) If I accept a gift, it could be on the condition that I'm not requested to give it to another person. It could also be that if the giver knows that I don't accept conditional gifts she might not be willing to do that gift to me. This would require being explicit about what the giver would want to do if she knew that. Presuming either that she would accept or that she would not accept is arbitrary. Only with consent would that issue be solved. Here is another argument not to interpret, out of conveniency, that absence of expressed preferences regarding RCOT, means agreement.

229 However, the gift concept described here goes beyond the idea of duty, and embodies

230 the concept of virtue ethics. Therefore, while FR/SD is neither going against the law nor

231 breaching their duty by denying consent for RCOT, --> I find this distinction important and interesting.

234 Another direction to take is to regard organs as an entity that is closer to "heritage,"

235 among all sorts of public property. In fact, with respect to a certain kind of heritage --> again this is a new framework: do the authors endorse it? Please clarify

246 stating that RCOT is ethically permissible is equivalent to saying that donor intention is --> "donors" in plural, may be more accurate

247 This claim may seem intuitively incorrect. However, it

248 is possible to justify RCOT even in the case of Pattern 4, according to the nature of

249 organs as public property. For instance, a policy could be adopted to allow donated
250 hearts to be handled as a sort of public property ("public property theory"), --> this should be better phrased as an organ conscription policy. Again, It is unclear which of all these arguments the authors endorse, and which they are merely stating that reasonable people could endorse.

254 This more radical position requires FD's consent to be interpreted as "comprehensive" (i.e., to have their organs transplanted into multiple unspecified recipients). --> Disagree: the whole idea of consent is abandoned with organ conscription.

256 Moreover, this position also requires the establishment of a third-party organization (e.g., United Network for Organ Sharing (US), JOTN, etc.) for distributing FD's heart fairly and impartially. --> not more than the other positions.

301 Whether social consensus on this "organ recycle/reusing" has been established or not remains unclear. Some may perceive "recycle/reusing" negatively. --> this is not plausible to me. Human transplant is already a recycling. Second recycling do not raise qualitative distinct moral issues, in my view. It is just a matter of degree. The authors seem to think otherwise, but they do not justify this. This is crucial for this argument to hold.

303 If the image linked to RCOT is that of a heart that leaves the donor's body and wanders from one recipient to the next, does this evoke a sense of disgust? If so, is this disgust something we should overcome, as it arises simply because
306 we are unaccustomed to the concept of RCOT? -- if so, they would reject transplantation medicine altogether. Is there any evidence of people accepting OT but rejecting organ retransplantation for intrinsic or conceptual issues (rather than contingent and practical issues, related to higher risks, for example?) On the other hand, disgust is a bad type of argument and a problematic basis for ethical deliberation. Of course, people's sentiments and emotions, are to be taken into account if you are the legislator (you cannot activate a protocol that creates fear or disgust to the majority of the concerned population) However, it is not an argument. Gut feelings are usually arbitrary and often unacceptable: disgust is what nazis felt about jews, for instance.

309 However, some might feel disgust

310 when they hear the expression "recycling human organs," at least at this time. -- Any empirical evidence of this?

312 difference is likely rooted in the notion that "organs are precious." This notion stems

313 from the idea that as they are part of the human body, organs should be accorded respect

314 in a moral sense; hence, they must not be recycled. -- I would rather talk about "dignity" of human body parts. But this has three problems. First, dignity is often referred to as the property of non instrumentalizable entities (Kant). This has been rejected by Macklin and others, as a blurry and ultimately useless concept. Second, it is awkward to say that using an organ for first transplantation is not instrumentalizing the body, but reusing that organ for a second retransplantation amounts to not respecting that body. You need an argument to support this. Finally, somebody (myself, for example) could claim that the best way to respect a body would be to reuse it. It i

318 the identity of the self has been discussed previously [31]. This concern is common to

319 normal multiple cardiac retransplantation; that is, frequent exchanges of organs may
make the boundary of the self unclear. Again, it can be argued that this is a matter of degree: if RCOT compromises personal identity, then heart transplant does too. If you reject one, but not the other, you need to provide better reasons for why there is a qualitative difference—not just a quantitative one—among the two.

I hope the authors will find these comments useful to improve the strength of the claims they want to defend in this promising piece.

Kind regards

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.
No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.
Not relevant to this manuscript

Quality of written English
Please indicate the quality of language in the manuscript:
Acceptable
Declaration of competing interests

Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?
3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?
4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?
5. Do you have any other financial competing interests?
6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

none that I'm aware of.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal