

## Commentary

## Sex in heaven

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The letter above suggests that HEAVEN “opens the door for numerous quandaries pertaining to reproductive ethics.” I agree.

In a previous commentary, I offered my personal view as to the recipient-as-reproductive-being issue. I quote: “The fact that the gonads belong to the body donor is actually a facilitator for the whole enterprise. Imagine the parents of the brain dead body donor – racked by sorrow and despair for their loss – who are told that, once the new being will start reproducing, his or her offspring will actually be their (the donor’s parents) descendants! Life out of death.”<sup>[2]</sup> I offer another personal view: There is no way that I would uphold “sterilization” of the donor body. HEAVEN is about bringing life and allowing life to spread. At the same time, HEAVEN is not a cure for infertility!

As for the age difference between recipient and donor, I don’t see this as an obstacle: HEAVEN is about life extension, too! We know that exposure to young blood can rejuvenate the brain, the heart, the liver, muscles, and more.<sup>[3]</sup> Imagine what effect might ensue from a young donor body (say, in her 20’s) nourishing with her young blood 24/24, 7/7 the head of an aging body recipient! Yes, life extension on a level that simple, periodic transfusions of young blood have no way to match.

The real concern that needs to be addressed in this letter is whether one day HEAVEN is spun off as a cure for transsexualism (TS). Considering the dearth of donors for many needing new organs, this might seem like pushing the envelope. Yet, it makes sense starting the debate now.

To the casual eye, TSs come in two varieties: male-to-female (MtF) and female-to-male. In this case, common sense would suggest gender reassignment HEAVEN transplant the head of an MtF subject on a female body and vice versa. Is it so simple?

During the past 30+ years that I have planned HEAVEN; TS reared its neck at some point and I gave it due thought

and some experimental time. This gives me confidence that I can offer a personal answer to the concern at issue. The clear-cut, undisputed conclusion is that we are still groping in the dark at all levels in our understanding of the causes, evolution, and clinical profiling of TS.<sup>[5]</sup>

Data accrued since the 1990’s nonconclusively suggest that (1) the brains of TS subjects do not seem to be entirely feminized or masculinized and (2) following cross-sex hormonal treatment, the brain’s structure and function seems to adjust toward characteristics or performance of subjects sharing the desired sex in several brain areas or ability domains. If this is so, then HEAVEN could certainly and even more strongly than gender-reassignment therapies-exert a rewiring of the brain in the wished direction. On the other hand, TS remains Terra Incognita given the paltry amount of research that went into it, at least if compared to, say, neurobiological differences between female and male brains. Until we clarify what TS actually is (or is not), HEAVEN can certainly be kept out of the discussion. This concept is reinforced even more by the mounting

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evidence that cells differ according to sex, and that hormones do not provide the entire explanation for these sex differences:<sup>[4]</sup> There are clear-cut biochemical differences which are genetically inbuilt (male OR female)! Are there TS cells at a metabolic level? What happens if we transplant a MtF head on a purely female body regarding, say, drug response? This adds a completely ignored new level of complexity to the issue at hand that simply has no answer at the moment.

In January 2016, we proved to the world that HEAVEN is technically feasible.<sup>[1]</sup> Initially, head transplants will be

deployed for incurable conditions, then for life extension. TS is not yet on the agenda.

## REFERENCES

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