Technology in Society 32 (2010) 55–64

Contents lists available at ScienceDirect

Technology in Society

journal homepage: www.elsevier.com/locate/techsoc

Forging a fit between technology and morality: The Dutch debate on organ transplants

Tsjalling Swierstra [a,*], Hester van de Bovenkamp [b], Margo Trappenburg [c]

[a] University of Twente, Faculty of Behavioural Sciences, Department of Philosophy, P.O. Box 217, 7500 AE Enschede, The Netherlands
[b] Erasmus University, Institute of Health Policy and Management, P.O. Box 1738, 3000 DR Rotterdam, The Netherlands
[c] Utrecht University School of Governance, Bijlhouwerstraat 6, 3511 ZC Utrecht, The Netherlands

Keywords:
Artificial organs
Co-evolution
Consent system
Dutch
Living donors
Morality
Netherlands
No-objection system
Organ donation
Techno-moral change
Tissue engineering
Transplants
Xenotransplant

A B S T R A C T

Because technologies and morals co-evolve, modern societies have to become adept at techno-moral learning, or the art of 'reflective' co-evolution. Developing this skill requires a better understanding of the various ways technology and morality challenge each other. With this aim in mind, we analyse the history of the Dutch debates on organ donation, showing how moral considerations enabled the development and application of transplantation technology. We argue that moral principles like bodily integrity and self-determination have proved to be very robust—so much so that they contribute to the scarcity of donor organs and so frustrate the full application of the transplantation technology. This 'moral stand-still' has led to technological experiments aimed at resolving this scarcity and to the reinterpretation of aspects of morality that seem more flexible than the principles of bodily integrity and self-determination.

1. Introduction

Technologies help change the societies in which they are introduced, and in the process are changed themselves by societal pressures. What is not always appreciated, though, is that this co-evolution of technology and society [1] does not halt at the door of morality. Emerging technologies in particular often uproot established moral routines, causing techno-moral controversies over the question of how to re-establish a 'fit' between the technology and our morals [2].

Such a fit can be established in essentially two ways. On one hand, the technology can be outlawed or redesigned to fit current morals. For example, in the Netherlands many object to the creation of embryos for the purpose of producing stem cells. The ensuing moral (and legal) blockade stimulated scientists to look for technological solutions to create "stem cells without moral pain," as the Dutch Health council dubbed them [3], for example by 'deprogramming' adult somatic cells into pluripotent cells. On the other hand, a technology–morality fit can be forged through moral change. At the time of its introduction, the contraceptive pill was condemned for disrupting key elements of sexual morality, such as (female) chastity and the 'natural' gender hierarchy. By now, partly as a result of the pill, sex without reproductive purposes has become widely accepted, female chastity is no longer thought to be particularly virtuous, and an ethos (if not practice) of gender equality has replaced the natural hierarchy of the sexes.

In this article we present a case study of techno-moral change: the ethical and legal debate in the Netherlands on the issue of organ transplantations. This debate provides a particularly instructive instance of techno-moral change, because to the present day it has not produced a satisfying closure. This gives us ample opportunity to study ongoing negotiations.

* Corresponding author. Tel: +31 53 489 3314/3297; fax: +31 84 722 1617.
E-mail address: t.e.swierstra@gw.utwente.nl (T. Swierstra).

0160-791X/$ – see front matter © 2010 Elsevier Ltd. All rights reserved.
doi:10.1016/j.techsoc.2010.01.001

In Section 2 we show how the evolving technology of organ transplantation caused moral concerns that were either solved by developing new norms or through technological innovation. However, as we argue in Section 3, in one key respect the success of the technological innovation created a moral issue that it could not solve. In Section 4 we discuss the technological and moral byways that have been constructed to find a way around this moral standstill. Section 5 offers concluding remarks.

2. Early debate in the Netherlands: moral and technical issues

In the Netherlands, the organ transplant debate did not immediately start when the first successful kidney transplantation was performed in the U.S. in the 1950s. The first heart transplant in 1967 had a bigger impact on society [4,5]. It received considerable media attention, creating, in the words of Page, "a circus-like splendour" [6]. The first kidney transplant in the Netherlands was performed about the same time, in 1966, and this time the organ transplant debate in the Netherlands escalated. Thus the debate took place when organ transplants were an established medical fact and kidney transplants from living relatives were no longer considered experimental [7]. The new medical technology provoked several moral concerns.

Focusing on these concerns allows us to highlight some examples and mechanisms of techno-moral change. But we begin with a potential concern that turned out to be absent, at least in the Dutch context.

2.1. Moral beliefs

Should organ transplants be performed at all? One ethical objection centres on the integrity of the human body. In some religions, this integrity is deemed important because of the need to be intact on Resurrection Day. However, in the Netherlands no one opposed organ transplantation on religious grounds.[1] Nor did we find the well-known rhetorical question: "Does medical science go too far?" [8] playing a role in the debate.

The immediate acceptance of organ transplants exemplifies a belief in progress, typical for many ethical debates in the Netherlands at that time. At this point Prometheus, patron saint of technological progress, ruled supreme in the Netherlands. The worst thing was to be considered a conservative.[2] Historian James Kennedy points out that the Dutch political elite, confronted with a rapidly changing society in the 1960s, never attempted to stop the changes (citing examples of changing views about abortion, recreational drugs, euthanasia, and pornography) [9]. Instead the elite tried to ensure that these changes would take place in an acceptable manner—in the process creating one of the most tolerant societies in the world.

2.2. "Can" implies "ought"

Another moral issue was whether patients were morally entitled to have a transplant [11]. The issue was framed in deontological terms of a "duty to help the sick." It is one of the foundations of modern morality that *ought* implies *can*. We should not forget, however, that the reverse can be equally true. When technology enables us to do certain things, morality can start obliging us to do so; sometimes *can* implies *ought*. Organ transplantation is such an example: now that technology has created the possibility of helping, morality requires us to do so [12]. Technology thus induced moral change by helping to create new rights. As a consequence, kidney transplants were included as part of insurance coverage as early as 1971 [13].

However, for a long period, the issue did not attract much attention because transplantation was viewed as a marginal technique [14]. Indeed, by 1969 only 2347 kidney transplants were registered worldwide [15]. Because everyone expected the demand to remain modest, there was little need to discuss moral entitlement. But over time, further technological progress changed this situation.

2.3. Moral path-dependency

The next issue concerned not the receiver of the organ but the donor. One can extract kidneys from living donors, but hearts and livers may only be retrieved from dead bodies. Can doctors be allowed to cut up bodies so as to 'harvest' organs? The question was a new ethical and legal issue. Since no specific legal rules existed, in 1968 the Netherlands State Secretary of Health established a special Health Council Committee. Before the Council could publish its report, however, several lawyers suggested a pragmatic, temporary solution: why not apply the rules already in place for post-mortem examinations? Those rules held that a post-mortem examination was acceptable if:

(a) the deceased had requested this in his last will or any other document;

[1] In fact, Pope Pius XII endorsed organ donation in 1956 [10, p. 40].

[2] This does not seem to be a particularly Dutch phenomenon, however. Page notes that at the end of the 1960s the right to be sceptical about transplant operations had fallen into abeyance [6, p. 858].