



Science fiction and bioethics

Bert Gordijn¹ · Henk ten Have²

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Science fiction combines unbridled narratives of far off worlds and future civilisations with a seemingly solid grounding in science and technology, thus opening up exiting future scenarios that might just really materialise someday, or so one is led to believe as a reader. This is exactly what drew at least one of the authors of this editorial to the modern literary genre at a young age, devouring the books of his father's library as a small kid.

There seem to be certain analogies between science fiction and bioethics. Both combine science and morality in thought-provoking ways. The science fiction genre, triggered by the continually accelerating pace of research and innovation after the Industrial Revolution, offers fictional reflections on developments in science and technology and their various impacts on the human condition and society, among them effects on morality. Similarly, bioethics was prompted by technological advances in the life sciences, medicine and healthcare after WWII. It reflects on these developments and their ethical dimension by way of rational analysis.

Science fiction explores potential futures based on extrapolating developments in research and innovation. Likewise, bioethicists often reflect on the potential impacts of emerging technologies thus triggering issues around the methodological thoroughness of anticipatory ethical analysis (Gordijn and Ten Have 2014). Whilst in science fiction narrative, imagination, context and colour may be dominant, in bioethics the focus is on abstraction, argument and intellectual scrutiny. Though the methodological approaches in the literary genre and the intellectual discipline may be different, there is significant commonality in the subject matter. Indeed, even the methods may not always be so different. After all, science fiction can be very rational and scientific whilst bioethics can be quite colourful, full of narratives and geared towards social activism.

The issue at hand highlights the similarities of science fiction and bioethics. Last year was the 20th anniversary of the science fiction movie *Gattaca* (1997), a film featuring a future society where eugenics rules almighty. The movie goes into a plethora of ethical issues to do with privacy, enhancement, marginalisation and justice. New Zealand-born Andrew Niccol was the movie's screenwriter and director. Anticipating the occasion of the movie's anniversary, the Center for Medical Humanities of the University of Zurich organised an international workshop focused on 'Enhancement & Ethics in the Movies of Andrew Niccol' on June 1st, 2016. The event aimed to investigate some of the ethical issues around human enhancement against the backdrop of four of Andrew Niccol's science fiction movies [*Gattaca* (1997), *SlmOne* (2002), *In Time* (2011), and *The Host* (2013)]. The issue at hand features two papers from this workshop focusing on *Gattaca* and *In Time* respectively (Agar 2018; Roduit et al. 2018).

The focus of the Zurich workshop was particularly topical given the development of new genome editing techniques. On 20–21 August 2017, directly after last year's ESPMH conference in Belgrade, the Center for the Study of Bioethics, the Division of Medical Ethics in NYU School of Medicine's Department of Population Health and the Hastings Center jointly organized an international workshop on "Genome editing: biomedical and ethical perspectives". At this occasion Bjørn Hofmann presented his paper on 'The gene-editing of super-ego' (Hofmann 2018).

Another similarity between science fiction and bioethics is their affinity with speculation and thought experiments. It goes without saying that science fiction is full of these. As a relatively young philosophical subdiscipline bioethics has inherited philosophy's predilection for thought experiments (e.g. Plato's Ring of Gyges, John Rawls's original position, Robert Nozick's Experience Machine and John Searle's Chinese room) and has created its own canon ranging from Philippa Foot's Trolley Problem and Judith Jarvis Thomson's Violinist to Peter Singer's Drowning Child. Lately, bioethicists have embarked on a discussion of yet another grand thought experiment: 'moral bioenhancement'. What

✉ Bert Gordijn
bert.gordijn@dcu.ie

¹ Dublin City University, Dublin, Ireland

² Duquesne University, Pittsburgh, USA

if it were possible to improve our morality through medical interventions? In that very scenario we would have a rational self-interest to undergo moral bioenhancement, or so Vojin Rakić claims (Rakić 2018).

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