



Science, Ethics and Society: Introduction

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IMBS Symposium Science, Ethics and Society

Albert-Ludwigs-University Freiburg (ALU) – University of Buenos Aires (UBA)

Introduction

Friday, August 14, 2015

Prof. em. Dr. Drs. h.c. Roland Mertelsmann
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Freiburg University Medical Center

www.biomedmaster.org



The **International Master Program in Biomedical Sciences** is a joint program of the Albert-Ludwigs-University of Freiburg (Germany) and the University of Buenos Aires (Argentina).

It is a 2-year Master course for Bachelor or Postgraduate students of related fields.

The aim of this program is to provide

- scientific knowledge as background to current applications in medicine as well as substantial training in biomedical research,
- and an international perspective.

The official language of the IMSB is English. In addition to this, students attend Spanish and German language courses.



2001 - 2007 Development of the IMBS Program

2008 **Class 2010**, 15 students start in October 2008, in Freiburg 2009

2009 - 2014 Annual Nobel Lectures

Harald zur Hausen (2008)

Robert Huber (1988)

Rolf M. Zinkernagel (1996)

Françoise Barré-Sinoussi (2008)

2014/5 **Class 2016** starts studies in BA, 2015 in Freiburg

new Bioethic Module

2015 **69 Graduates, 2/3 PhD, 1/3 Industry, Academia, Hospitals**

Nobel Lecture **Kurt Wütherich** (2002)



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Thesis 1

We cannot stop advances in science and technology.

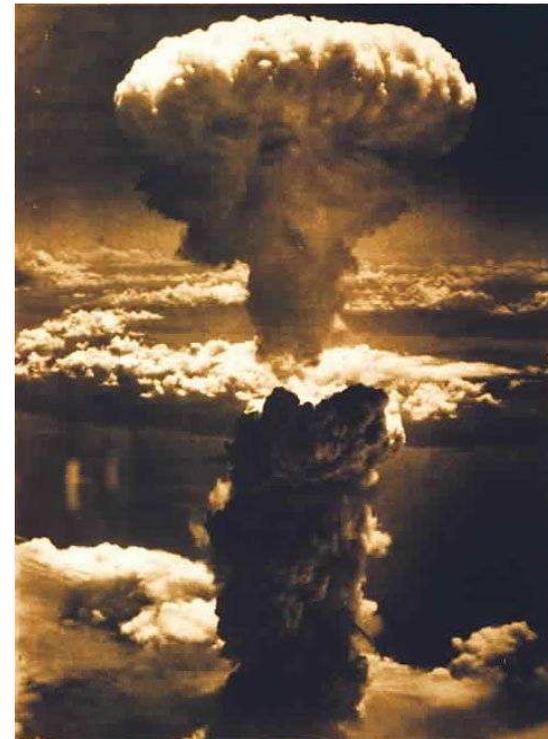


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Thesis 1

We cannot stop advances in science and technology.

J. Robert Oppenheimer 1904 - 1967
Theoretical Physicist



angelfire.com



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Thesis 2

Genomics will dramatically alter our lives.



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Thesis 2

Genomics will dramatically alter our lives.

“Tonight, I’m launching a new Precision Medicine Initiative to bring us closer to curing diseases like cancer and diabetes — and to give all of us access to the personalized information we need to keep ourselves and our families healthier.”

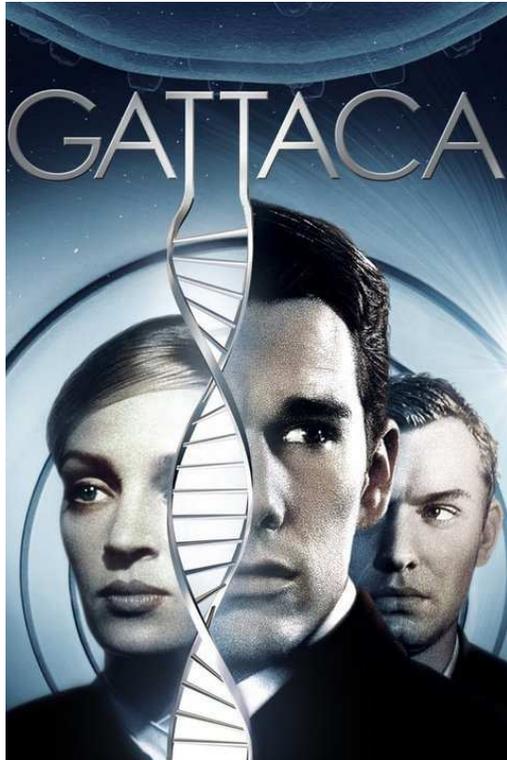
— President Barack Obama, State of the Union Address,
January 20, 2015



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Thesis 2: Genomics will dramatically alter our lives

Gattaca Movie 1997



Science Fiction

THE CONVERSATION

The ethics of 'gifted' genes: the road to Gattaca?

July 25, 2015 9:54pm BST

Julian Savulescu

Uclero Professor of Practical Ethics at the University of Oxford and Louis Malhezen Distinguished Visiting Professor at Monash University



How far we know there's a gene for intelligence, are we going to start breeding like Ewens? from www.studentstock.com.au

Recent research out of the UK has identified a genetic "general academic achievement factor". Using identical twin studies, they found achievement across a wide range of academic subjects was influenced by many of the same genes:

<http://theconversation.com/the-ethics-of-gifted-genes-the-road-to-gattaca-45153>

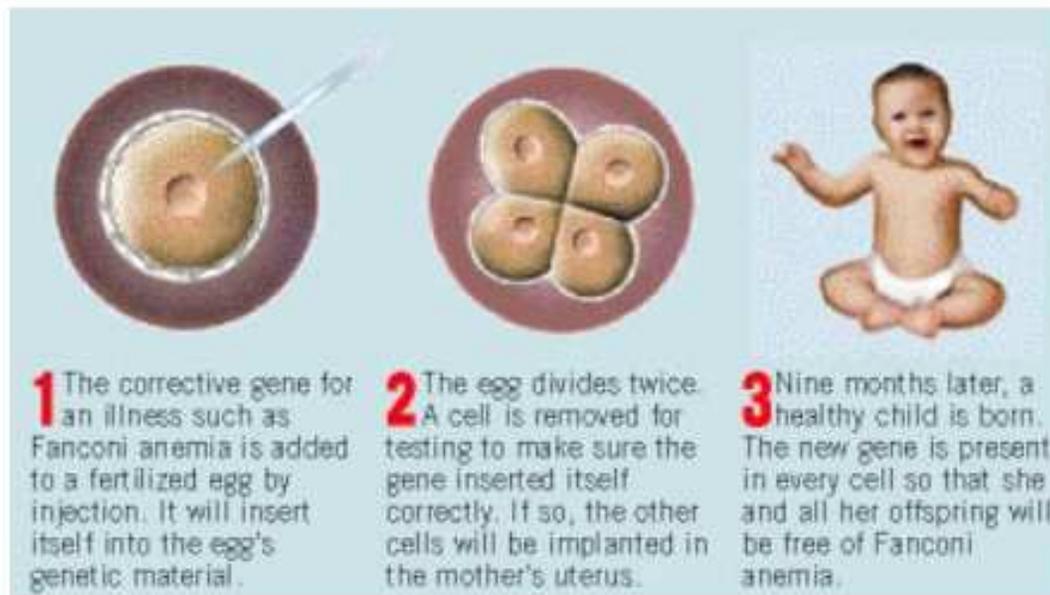
Reality



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Thesis 2: Genomics will dramatically alter our lives.

Germ Line Gene Therapy Alters the Human Species



A visualization of germ line gene therapy. In germ line gene therapy, note that the healthy child will also pass on the corrective genes to his or her children. At the same time of added benefit, germ line gene therapy is also highly controversial and therefore not as rigorously ([Image Citation 57](#))



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Thesis 3

We have to consider the implications of our work for society and alert society to potential dangers.

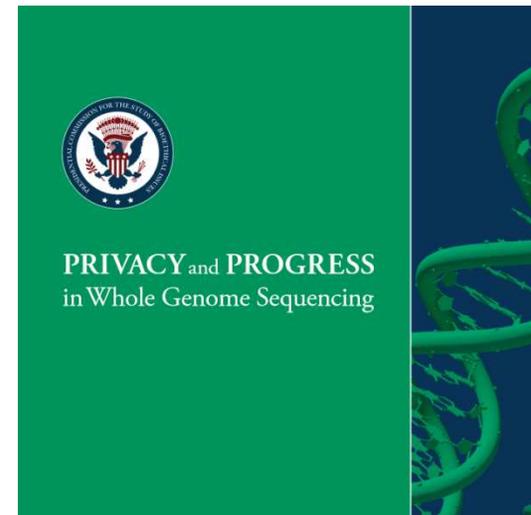


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October 11, 2012

WASHINGTON, D.C. – The Presidential Commission for the Study of Bioethical Issues today released its report concerning genomics and privacy. The report, *Privacy and Progress in Whole Genome Sequencing*, concludes that to realize the enormous promise that whole genome sequencing holds for advancing clinical care and the greater public good, individual interests in privacy must be respected and secured.

http://bioethics.gov/sites/default/files/PrivacyProgress508_1.pdf



„Intellectual Freedom and Social Responsibility“