

Human Enhancement and Transhumanism: Are we changing/should we change our being?



Final Session of Weekend #1

Seminar flow

ACTIVITY	TIME
Orientation to Seminar 4 & Transhumanism	1.30-1.50 (20 mins)
Lecture (Part 1): Biomedical Intervention & Biomedical Futures	1.50-2.35 (45 mins)
Q&A	2.35-2.50 (15 mins)
Lecture (Part 2): Revelatory Insight into Enhancing our Beings & Human Features	2.50-3.15 (25 mins)
Asr & Coffee break	3.15-3.40 (25 mins)
Group Exercise 1	3.40-4.05 (25 mins)
Group Exercise 2	4.05-4.30 (25 mins)
Modeling dialogue	4.30-4.45 (15 mins)



Instructors



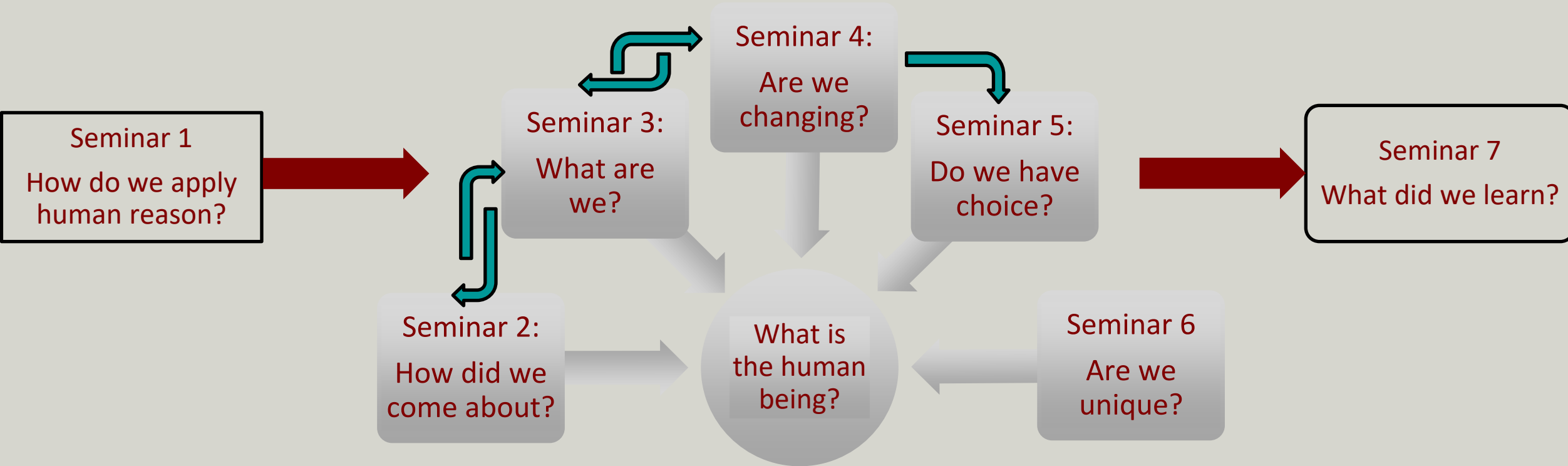
Dr. Aasim I. Padela



Sh. Hamza Karamali



Relationships between the Seminars



Seven Seminars

Jan 14th & 15th

Seminar 1: What do we know and how do we know it?
Reasoning Exercises in Religion and Science

Instructors: Hamza Karamali, & Omar Qureshi

Seminar 2: Evolution and God's Special Creation: What is our Origin?

Instructors: Shoaib Malik & Omar Qureshi

Seminar 3: The Soul, Body, Sentience and Artificial Intelligence: What is our Essential Nature?

Instructors: Macksood Aftab & Hamza Karamali

Seminar 4: Human Enhancement and Transhumanism: Are we Changing/should we Change Our Nature?

Instructors: Aasim Padela & Hamza Karamali

Feb 18th & 19th

Seminar 5: Are We Programmed or Do We Have Free Will? Discussions on Fate and Genetic Determinism

Instructors: Mohd Yusof Mohamad & Abderazak Hashi

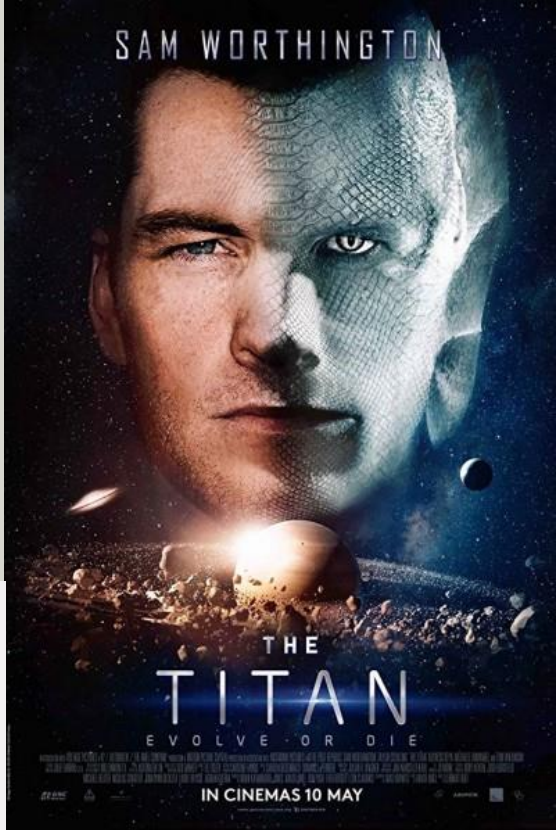
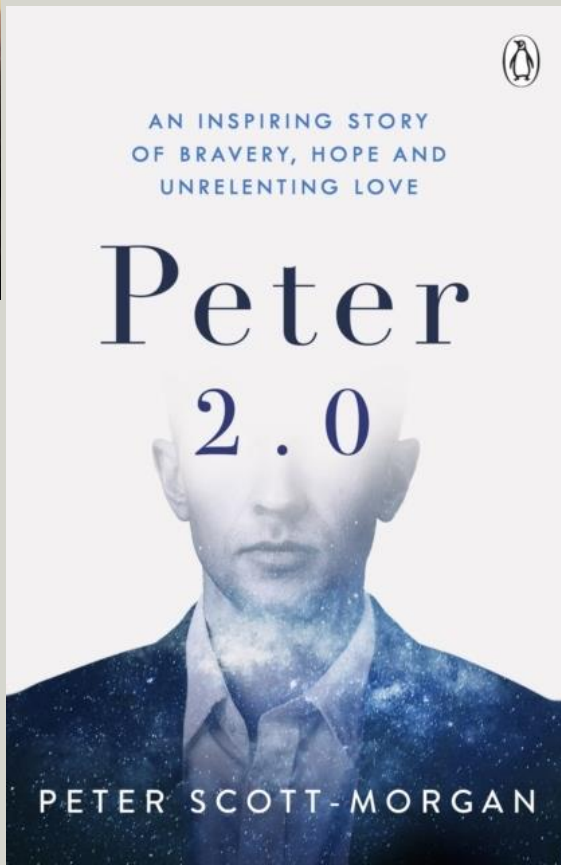
Seminar 6: Extraterrestrial Beings and Human Uniqueness: What Does Theology & Science Tell us?

Instructors: Ahsan Arozullah & Bilal Ali

Seminar 7: Knowledge Cafés and Harvests: What did you learn and how did we do?

Facilitators: Aasim Padela, Raudah Yunus, & others

BQs



BBC Sign in Home News Sport Reel Worklife Travel

NEWS

Home | War in Ukraine | Coronavirus | Climate | Video | World | US & Canada | UK | Business | Tech

Health | Coronavirus

Human-pig 'chimera embryos' detailed

26 January 2017

A microscopic image of a human-pig chimera embryo. The embryo is a small, translucent, yellowish-white structure with a prominent red, circular area in the center, likely representing the developing heart or a specific organ. It is set against a dark background.

JUAN CARLOS IZPISUA BELMONTE

The embryos were allowed to develop for 28 days

By James Gallagher
Health and science reporter, BBC News website

The Context & What's at Stake

- Based on our understanding of what we are [Unit 3] the following questions arise:
 - If biomedical interventions change our body
 1. → Are we slowly transforming ourselves into something beyond the human species?
trans(itional) human → post human
 2. → Are doctors (unwittingly) contributing to this future?
 3. Are there moral limits Muslims should be aware of?
 4. Are human beings unique in the universe?
 - If our society validates changes to our being (**body+ /soul**)
 - What are **our** values around such change?
 1. Are we desiring a future that God warns us against?
 2. Is there a notion of changing our being that Islam validates?



Learning Objectives

- Identify key components of *transhumanist* ideology
- Discern transhumanism-based narratives within popular media
- Distinguish between *Islamic theological perspectives on human enhancement* and its purposes and prevailing secular bioscientific views
- Apply *scriptural and scientific concepts* to evaluate the uses of biomedical technology to 'change' the human body



PART

1

**Ideologies,
Key
Concepts &
Terms**



PART

2

**Critical
Analysis**



PART

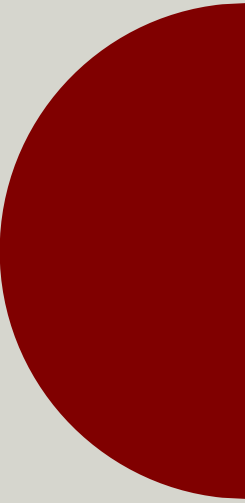
3

Dialogue

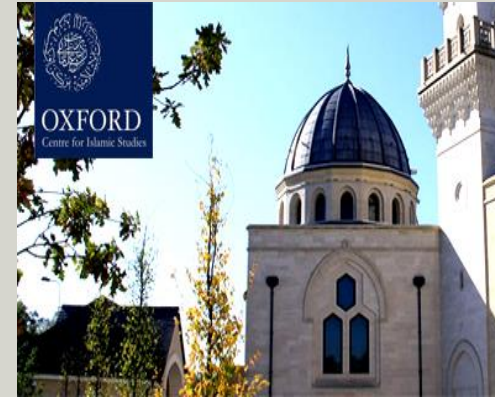


Who are we and What Hat(s) do we wear?

- Aasim I. Padela
 - MCW & II&M; Project lead; multiple hats
- Hamza Karamali
 - Basira Education; Project theologian-educator



My path: At the Intersection of Islam & Biomedicine



$f(x) = x^2$
 Find the derivative

$$\frac{f(x+h) - f(x)}{(x+h) - x} = \frac{g(x+h) - g(x)}{h}$$

$$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$

$$f(x) = \lim_{h \rightarrow 0} \frac{(x+h)^2 - x^2}{h}$$

$$= \lim_{h \rightarrow 0} \frac{x^2 + 2xh + h^2 - x^2}{h}$$

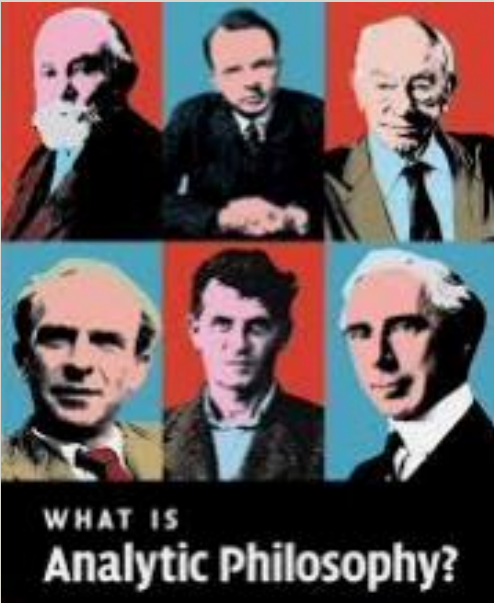
$$= \lim_{h \rightarrow 0} \frac{2xh + h^2}{h}$$

$$= \lim_{h \rightarrow 0} \frac{h(2x + h)}{h}$$

$$= \lim_{h \rightarrow 0} (2x + h)$$

$$= 2x$$

Hamza's Journey



Key Concepts

Bioscientific:

- Transhumanism
- Human Enhancement
- Disease

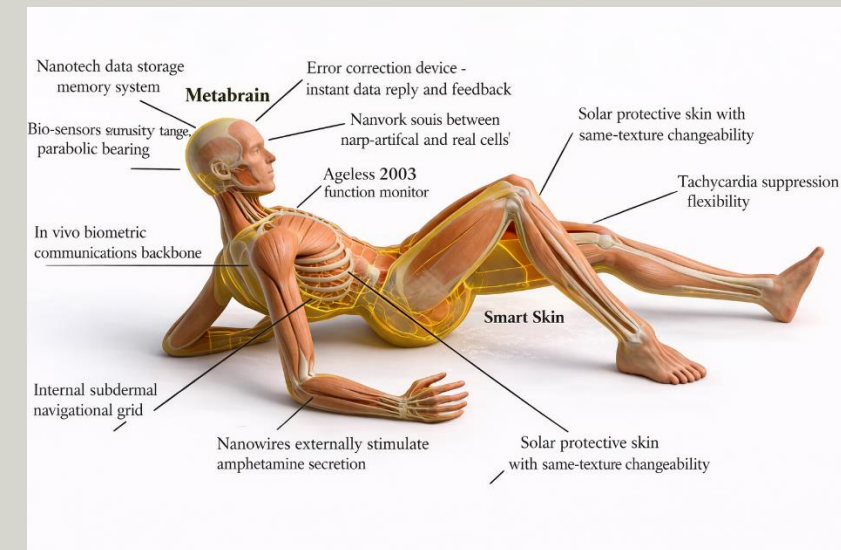
Islamic:

- Changing Creation [of God]
 - *taghyir*
 - *tabdeel*
- Best of 'forms' —ahsan taqweem
- Immortality



Transhumanism

- What is Transhumanism?
- Individual Reflection [3 people]
 - What thoughts come to mind?
- Essential elements of transhumanism:
 - Human beings are 'unfinished product' of evolution;
 - If we are 'naturally' changing why not induce changes?
 - Goal:
 - Extend ourselves, via **bioscience and technology**, beyond the limits of our frail bodies which are susceptible to decline and disease
 - Exemplar Activities:
 - Incorporate super-functioning body parts
 - Upload and preserve the mind
 - Genetically engineer bodies for better function







Biomedical Interventions & Biological Futures

Aasim I. Padela



@aasim_padela

An Islamic View of Illness, Disease, Curing & Healing



Curing and Healing

Prophet Muhammad's statements

مَا أُنْزِلَ اللَّهُ دَاءً إِلَّا أُنْزِلَ لَهُ شِفَاءٌ

(Sahih Bukhari 5678)

“There is no disease that Allah has sent down (created), except that He also has sent down (created) its healing”

تَدَاوُوا عِبَادَ اللَّهِ فَإِنَّ اللَّهَ سُبْحَانَهُ لَمْ يَضَعْ دَاءً إِلَّا وَضَعَ مَعَهُ شِفَاءً إِلَّا الْهَرَمَ

(Ibn Majah 4(31):3436)

“Seek treatment, O slaves of Allah! For Allah does not create any disease but He also creates with it the cure, except for old age”

خَرَجَ النَّبِيُّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ فَقَالَ " هُمْ الَّذِينَ لَا يَكْتَوُونَ وَلَا يَسْتَرْقُونَ وَلَا يَتَطَيَّرُونَ وَعَلَى رَبِّهِمْ يَتَوَكَّلُونَ "

(Jami` at-Tirmidhi 2446)

“They have never allowed themselves to be treated by cauterization... rather, they have put their trust in God alone”

Doctors, Diseases & Definitions

- What is the relationship between doctors and diseases?
 - Cure/heal/ameliorate
 - Combat/fight/terminate
 - (help) define
- How do you define a disease?
 - Does a child who is born deaf have a disease?
 - Does a person who is not able to conceive a child have a disease?



Defining Disease

- Related yet non-overlapping terms
 - Dis-ease → defined by subject
 - Dis-ability → defined by subject and society (tied to flourishing)
 - Dis-order → defined by society (tied to function)
 - Dys-function → abnormality or impairment or deviation from **norms** of physiology or social behavior
 - defined by professionals and society

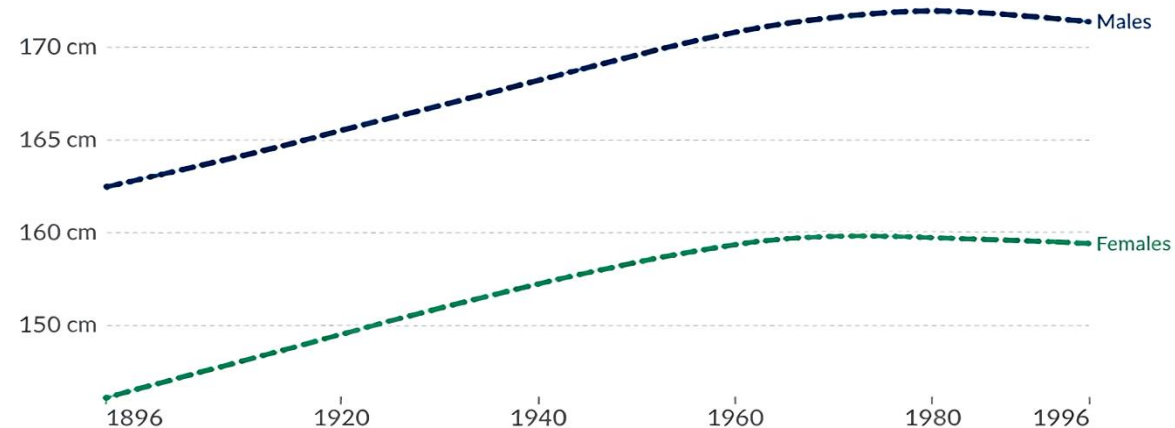


Average Adult Height by Year of Birth

Average adult height by year of birth, World, 1896 to 1996

Mean height of males and females at age 18, by year of birth

[Change country](#)



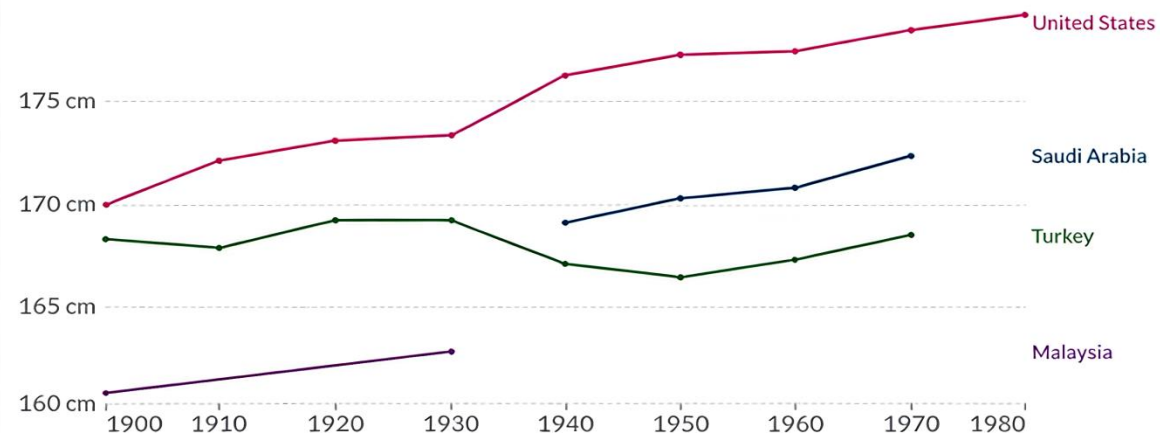
Source: NCD Risk, Human Height (2017)

[OurWorldInData.org/human-height](https://ourworldindata.org/human-height) • CC BY

► 1896 ◯ 1996

Average height of men by year of birth, 1900 to 1980

[+ Add country](#)



Source: University of Tuebingen: Height datahub (2015)

[OurWorldInData.org/human-height/](https://ourworldindata.org/human-height/) • CC BY

► 1820 ◯ 1980



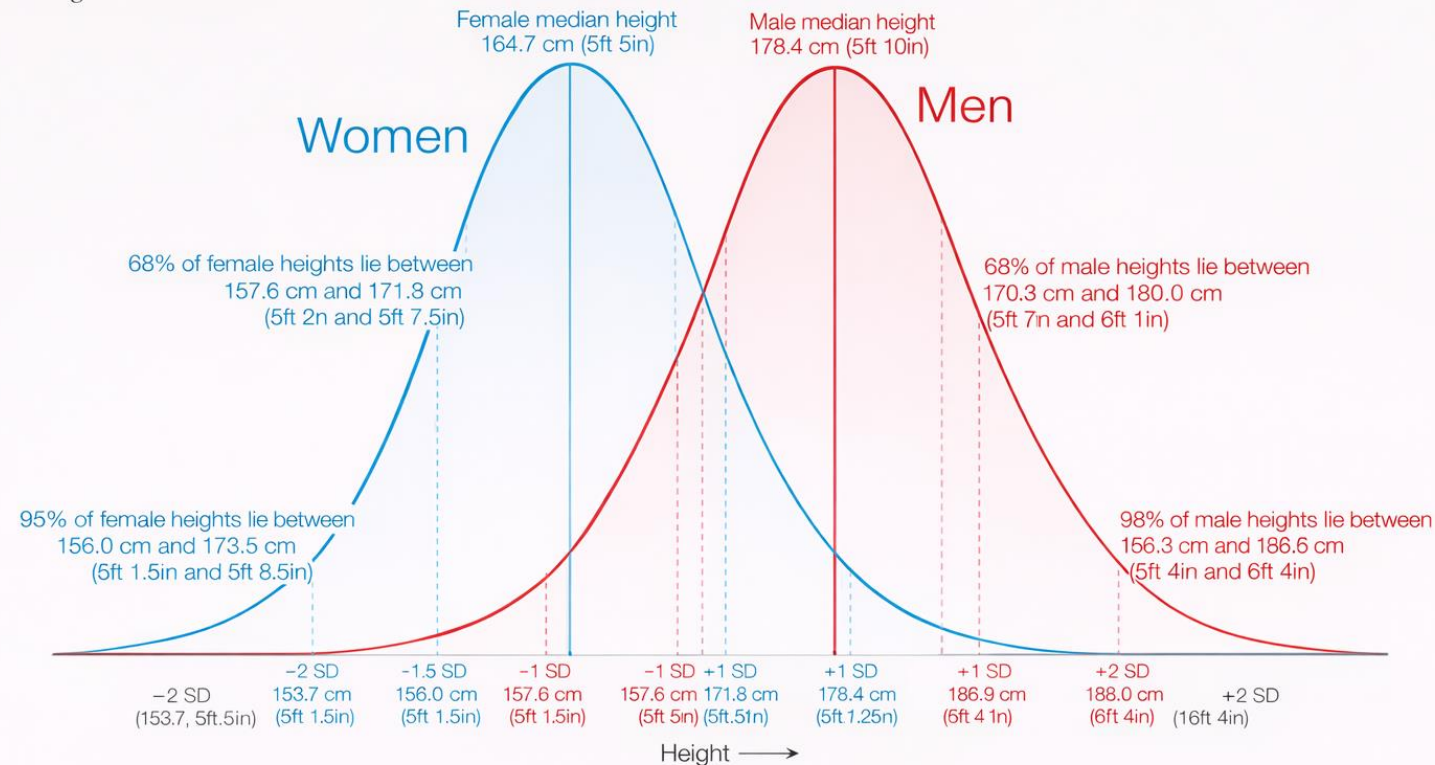
The Distribution of Male and Female Heights

The distribution of male and female heights

The distribution of adult heights for men and women based on large cohort studies across 20 countries in North America, Europe, East Asia and Australia. Shown is the sample-weighted distribution across all cohorts born between 1980 and 1994 (so reaching the age of 18 between 2001 and 2012).

Since human heights within a population typically form a normal distribution:

- ~ 68% of heights lie within 1 standard deviation (SD) of the median height;
- ~ 95% of heights lie within 2 SD.



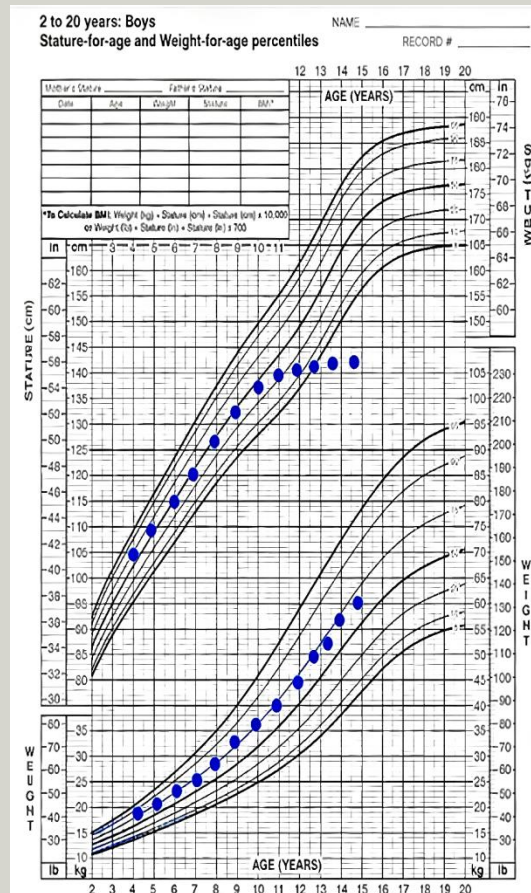
Note: the distribution of heights is not globally representative since it does not include all world regions due to data availability.

Data source: Jelenkovic et al., 2016.

Genetic and environmental influences on adult human height from twin analysis of 45 twin cohorts: individual-based pooled analysis of 45 twin cohorts. under CC-BY: The author: Cameron Apple



The Bio-socio-cultural Construction of Disease



Disorders of growth hormone/insulin-like growth factor secretion and action

Philippe F. Backeljauw MD, ... Ron G. Rosenfeld MD, in [Pediatric Endocrinology \(Fourth Edition\)](#), 2014

Idiopathic short stature.

ISS can be defined as a condition in which the height of an individual is more than 2 SD below the corresponding mean height for a given age, sex, and population group without evidence of systemic, endocrine, nutritional, or chromosomal abnormalities. Specifically, children with ISS have normal birth weight and are growth hormone sufficient. ISS describes a heterogeneous group of children consisting of many presently unidentified causes of short stature. It is estimated that approximately 60% to 80% of all short children at or below -2 SD fit the definition of ISS.

This definition of ISS includes short children labeled with “constitutional delay of growth and puberty” and “familial short stature.” The frequency of referral of these children is dependent on

Paper link:

https://www.researchgate.net/publication/283375651_Disorders_of_Growth_Hormone/Insulin-Like_Growth_Factor_Secretion_and_Action



The Impact of Short Stature

Height, body mass index, and socioeconomic status: mendelian randomisation study in UK Biobank

Jessica Tyrrell,^{1,2} Samuel E Jones,¹ Robin Beaumont,¹ Christina M Astley,^{3,4} Rebecca Lovell,² Hanieh Yaghootkar,¹ Marcus Tuke,¹ Katherine S Ruth,¹ Rachel M Freathy,¹ Joel N Hirschhorn,^{2,3,5} Andrew R Wood,¹ Anna Murray,¹ Michael N Weedon,¹ Timothy M Frayling¹

ABSTRACT

OBJECTIVE

To determine whether height and body mass index (BMI) have a causal role in five measures of socioeconomic status.

DESIGN

Mendelian randomisation study to test for causal effects of differences in stature and BMI on five measures of socioeconomic status. Mendelian randomisation exploits the fact that genotypes are randomly assigned at conception and thus not confounded by non-genetic factors.

SETTING

UK Biobank.

PARTICIPANTS

119 669 men and women of British ancestry, aged between 37 and 73 years.

MAIN OUTCOME MEASURES

Age completed full time education, degree level education, job class, annual household income, and Townsend deprivation index.

RESULTS

In the UK Biobank study, shorter stature and higher BMI were observationally associated with several measures of lower socioeconomic status. The associations between shorter stature and lower socioeconomic status tended to be stronger in men, and the associations between higher BMI and lower

socioeconomic status tended to be stronger in women. For example, a 1 standard deviation (SD) higher BMI was associated with a £210 (€276; \$300; 95% confidence interval £84 to £420; $P=6\times 10^{-3}$) lower annual household income in men and a £1890 (£1680 to £2100; $P=6\times 10^{-15}$) lower annual household income in women. Genetic analysis provided evidence that these associations were partly causal. A genetically determined 1 SD (6.3 cm) taller stature caused a 0.06 (0.02 to 0.09) year older age of completing full time education ($P=0.01$), a 1.12 (1.07 to 1.18) times higher odds of working in a skilled profession ($P=6\times 10^{-7}$), and a £1130 (£680 to £1580) higher annual household income ($P=4\times 10^{-8}$). Associations were stronger in men. A genetically determined 1 SD higher BMI (4.6 kg/m²) caused a £2940 (£1680 to £4200; $P=1\times 10^{-5}$) lower annual household income and a 0.10 (0.04 to 0.16) SD ($P=0.001$) higher level of deprivation in women only.

CONCLUSIONS

These data support evidence that height and BMI play an important partial role in determining several aspects of a person's socioeconomic status, especially women's BMI for income and deprivation and men's height for education, income, and job class. These findings have important social and health implications, supporting evidence that overweight people, especially women, are at a disadvantage and that taller people, especially men, are at an advantage.

○ Taller men

- Higher level of mean education
- Higher incomes
- Other sociological data
- Shorter kids
 - Prone to bullying → psychological impacts
- Shorter men & Taller women
 - Fewer romantic prospects

Paper link:

<https://pubmed.ncbi.nlm.nih.gov/26956984/>

Let's fix this = Biomedical interventions

Table 1. Estimated Average Adult Height, Psychological Benefit or Harm, and Cost Associated with Various Management Options for Short Stature for the Child in the Case Vignette.*

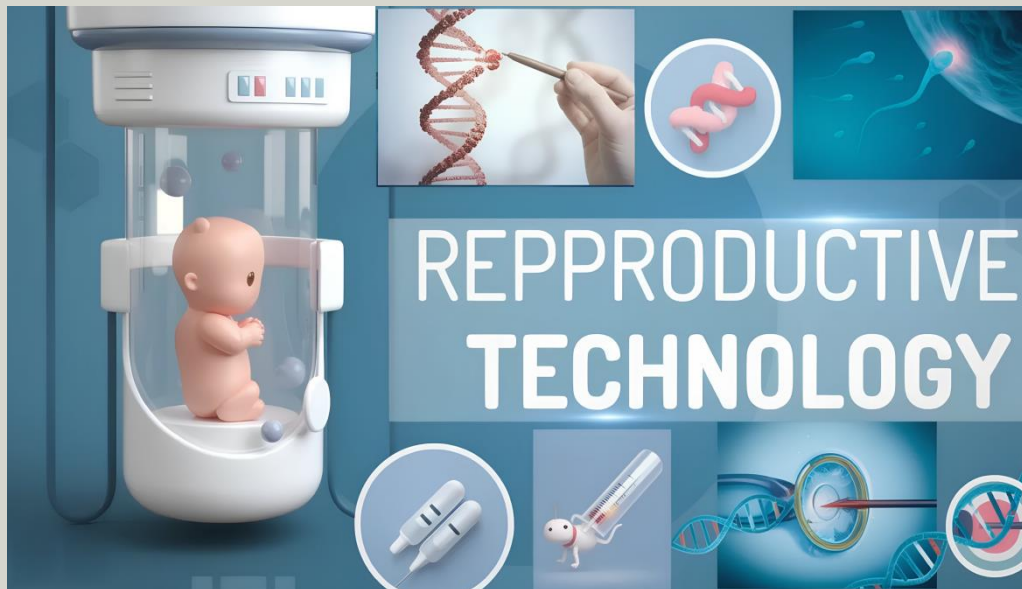
Treatment	Estimated Adult Height in Inches (± 1.3 in.)	Psychological Benefit or Harm	Estimated Treatment Cost
No medication	65	Uncertain	No cost for drug with or without cost for counseling
Low-dose androgen (i.e., oxandrolone)	65	Uncertain	Oxandrolone, 2.5 mg/day, $\$2,920/\text{yr} \times 2.5 \text{ yr} = \$7,300$
Human growth hormone until onset of puberty	66	Uncertain	Human growth hormone at dose for idiopathic short stature (0.375 mg/kg/wk) $\times 2.5 \text{ yr} = \$76,050$
Human growth hormone until normal range (e.g., 5th percentile) of adult height	66	Uncertain	Human growth hormone $\times 4 \text{ yr} = \$133,087$
Human growth hormone until completion of growth	66–67	Uncertain	Human growth hormone $\times 5 \text{ yr} = \$176,962$
Human growth hormone until maximum attainable height	68	Uncertain	Human growth hormone at dose for idiopathic short stature $\times 2.5 \text{ yr}$ plus “pubertal” dose of human growth hormone (0.7 mg/kg/wk) $\times 2.5 \text{ yr} = \$264,420$

* To convert the values for inches to centimeters, multiply by 2.54. Costs of therapy were based on estimates of weight derived from the 3rd percentile for age: a mean of 28 kg from 11 up to 13 years of age, 36 kg from 13 up to 15 years, and 45 kg from 15 to 16 years. Medication costs, obtained from Epocrates Online, were \$50 per milligram of human growth hormone (the lowest current available per-milligram cost listed was \$50 to \$75 per milligram) and \$8 per 2.5-mg tablet of oxandrolone.



Biomedical construction of a disease

- Is high blood pressure a disease?
 - What if we had no sphygmomanometer?
- Is being childless a disease?
 - What if there were no artificial reproductive biotechnologies?



Main points

- Diseases are variably defined (4 D's)
- Bioscience can define a disease based on idea of the 'normal' spectrum of physical or social attributes and assess harms of abnormality
- Biomedicine can then develop treatments to address that dysfunction
- Human bodies are changing → Normality changes over time and across space

(Claim = empirical proposition based on probabilistic knowledge)



Therapy vs. Enhancement

○ Differentiation

- Medical practice vs. non-medical practice
 - Whatever doctors/allied health professionals do as licensed practitioners = therapy
- Restoring to normal function vs. augmenting function
 - If something creates equality of opportunity in society = therapy
- Treatments address maladies while enhancements target normal function
 - If improving function beyond biological function = enhancement



Therapy vs. Enhancement

- **Case examples: 10-minute exercise**

Within your groups come to consensus on whether the following is an example of therapy or enhancement and why?



Summary

○ Transhumanism

- **Transitional state of human → post-human**
 - Goal is to remove human frailties
 - Utilize biotechnology to do so
 - Example activities:
 - Genetic interventions to remove 'disease' and augment functionalities
 - Enhance biological form
 - Combat mortality through mind uploading; reanimation

○ Disease

- Definitions vary culturally and over time
- Can be functionally-based; teleology-based; subjectively-based
- Healthcare addresses these societally-based 'needs'
- Enhancement vs. treatment gets blurry because of it
- There is a 'normal' curve to human capacities



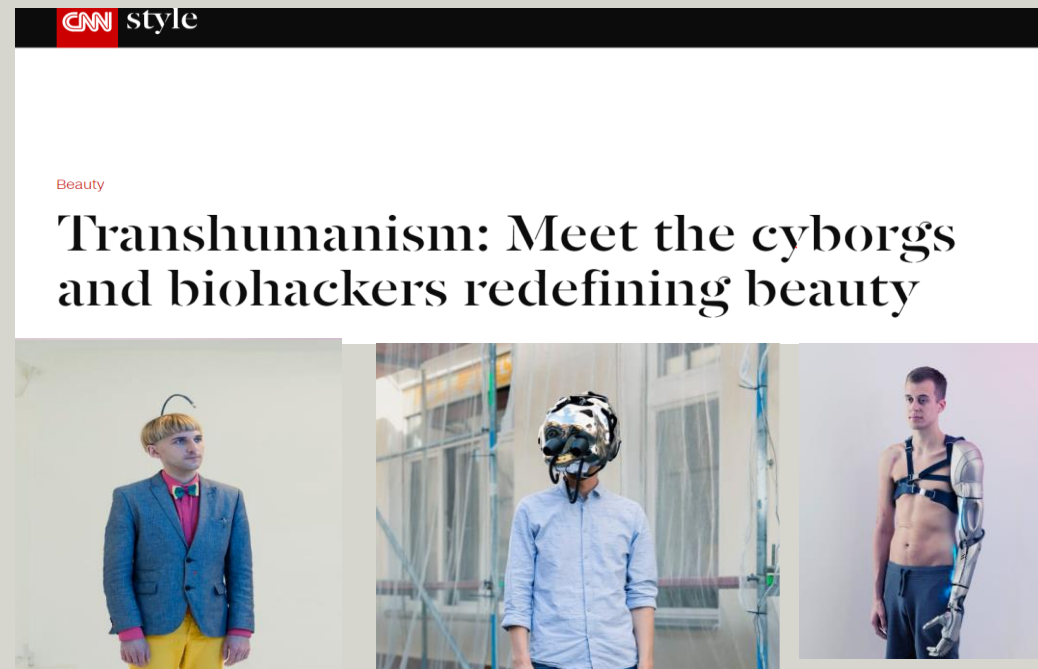
Transhumanism: Meet the Cyborgs and Biohackers Redefining Beauty

Instructions:

- o Use the internet to lookup your assigned person from the article
- o Among your group decide:
 - Enhancement or Therapy
 - As a Muslim doctor would you have helped the person? Why or why not?
- o Report back to entire room

Paper link:

<https://edition.cnn.com/style/article/david-vintiner-transhumanism>





Revelatory Insights into Enhancing Our Being and Human Futures

Hamza Karamali



@hamzakaramali

Transhumanism

How do you think this verse relates to transhumanism?

فَوَسْوَسَ لَهُمَا الشَّيْطَانُ لِيُبْدِيَ لَهُمَا مَا وُورِيَ عَنْهُمَا مِنْ سَوْءَاتِهِمَا وَقَالَ
مَا نَهَاكُمَا رَبُّكُمَا عَنْ هَذِهِ الشَّجَرَةِ إِلَّا أَنْ تَكُونَا مَلَائِكَةً أَوْ تَكُونَا مِنَ
الْخَالِدِينَ

“Then Satan whispered to them that he might manifest unto them that which was hidden from them of their shame, and he said: Your Lord forbade you from this tree only lest ye should become angels or become of the immortals.”

— (Sūrah al-A‘rāf 7:20)



The Journey of Our Souls

1

Life of Souls

We were souls
without bodies

“Remember when your Lord
took out from the loins of the
children of Adam their
offspring and said, “Am I not
your Lord?” and they said,
“Yes indeed, we testify.””
(Quran, 7:172)

2

This Life

Our souls were
breathed into our
bodies

“... then an angel is sent to it
and it breathes the soul into it
and it is commanded to write
down four things ...”
(Ṣaḥīḥ al-Bukhārī)

3

In the Grave

Our souls will
separate from our
bodies and our
bodies will decay

“Every soul shall experience
death.”
(Quran, 3:185)

4

The Afterlife

Our souls will be
reunited with our
resurrected bodies

“ ... then it will be blown in
again and we will suddenly
stand up, looking.”
(Quran, 39:68)



Views on Humans

1. What does it mean to make humans better?
2. Will we able to we make humans better?
3. Will humans be able to live forever?



Changing Allah's Creation

وَإِنْ يَدْعُونَ إِلَّا شَيْطَانًا مَّرِيدًا
لَّعَنَهُ اللَّهُ ۖ وَقَالَ لَأَتَّخِذَنَّ مِنْ عِبَادِكَ نَصِيبًا مَّفْرُوضًا ۖ لَعَنَهُ اللَّهُ ۖ وَقَالَ لَأَتَّخِذَنَّ مِنْ عِبَادِكَ نَصِيبًا مَّفْرُوضًا ۖ
وَلَأُضِلَّنَّهُمْ وَلَأُمَنِّيَنَّهُمْ وَلَآمُرَنَّهُمْ فَلَيُبَتِّكُنَّ ءَاذَانَ الْإِنْعَمِ وَلَأُؤْمُرَنَّهُمْ فَلْيُغَيِّرَنَّ خَلْقَ اللَّهِ ۖ وَمَنْ يَتَّخِذِ الشَّيْطَانَ وَلِيًّا مِّن دُونِ
اللَّهِ فَقَدْ خَسِرَ خَسِرَانًا مُّبِينًا

“... they pray to none else than Satan, a rebel whom Allah cursed, and he said: Surely I will take of Your servants an appointed portion, and surely I will lead them astray, and surely I will arouse desires in them, and surely I will command them and they will cut the cattle’ ears, and surely I will command them and they will change Allah’s creation. Whoever chooses Satan for a patron instead of Allah is verily a loser and his loss is manifest.”

(Sūrah an-Nisā’, 4:117–119)

A Highly Oversimplified Summary (Just For the High-Level Idea)

It is unlawful to beautify a human being by effecting significant permanent change but medical treatment is permissible.



Allah Created Humans in the Best of Forms

لَقَدْ خَلَقْنَا الْإِنْسَانَ فِي أَحْسَنِ تَقْوِيمٍ

“ ... Surely We created man of the best form.”
(Sūrah at-Tīn 95:4)

Humans have been created with the best
potential to freely choose to worship Allah



No Immortality in the Life

كُلُّ نَفْسٍ ذَائِقَةُ الْمَوْتِ

“Every soul will, without doubt, fully experience death.”
(Sūrah al-Anbiyā’ 21:35)

Death gives our lives purpose.



But There is Immortality in Another Life

جَزَاؤُهُمْ عِنْدَ رَبِّهِمْ جَنَّاتٌ عَدْنٌ تَجْرِي مِنْ تَحْتِهَا الْأَنْهَارُ خَالِدِينَ فِيهَا أَبَدًا رَضِيَ اللَّهُ عَنْهُمْ
وَرَضُوا عَنْهُ ۚ ذَٰلِكَ لِمَنْ خَشِيَ رَبَّهُ

“Their reward is with their Lord: Gardens of Eden underneath which rivers flow, wherein they dwell for ever. Allah is pleased with them and they are pleased with Him.”

(Sūrah al-Bayyinah 98:8)



Which is the better?

Show: Mandolarian or Star Trek?

Film: Avatar or Chappie?

Group Activity

- Identify transhumanist elements in these video clips
- Recast the stories to make them more Islamic



Group Activity

- Identify transhumanist elements in these video clips
- Recast the stories to make them more Islamic

1. “Fennec’s Cybernetic Implants,”



2. Scene From Avatar Number 2,



3. Avatar



Group Activity

- Identify transhumanist elements in these video clips
- Recast the stories to make them more Islamic



Discussions and Reflections

Group Activity

Now let's VOTE:

Which group rewrote the BEST Islamic story?

Deep Reflections

Group Activity

- Identify transhumanist elements in these three video clips
- Recast the stories to make them more Islamic
- We will vote on the best stories after we share with the group

Sh. Hamza's Reflections

Best “Islamic” rewrite

Recapping the Learning Objectives

- Identify key components of *transhumanist* ideology
- Discern transhumanism-based narratives and elements within popular media
- Distinguish between *Islamic theological perspectives on human enhancement* and its purposes and prevailing secular bioscientific views
- Apply *scriptural and scientific concepts* to evaluate uses of biomedical technologies to 'change' the human body



Modeling a Dialogue Between Bioscience and Theology: Limits and Possibilities of Changing our Body and Soul

- Student parking lot questions/cases
- Or increasing the VMAT gene or medications to reduce talking to spirits