

# Binary and Gradualist Concepts: Some Key Issues

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## Ethics Matters

Lawrence M. Hinman

Emeritus Professor of Philosophy  
University of San Diego

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# Introduction

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A number of key issues in ethics turn on the question of personhood:

- Abortion
- Human embryonic stem cell research
- The moral status of animals
- The moral status of chimeras, cyborgs, robots and other autonomous entities
- This presentation considers just a single issue from a group of interesting concerns: is the concept of personhood a binary concept? In other words, is someone either a person or not? Or are there gradations of personhood?

# Introduction

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- Concepts have their own internal logic, the (often implicit) rules that govern the ways in which they can be used. This in turn shapes the ways in which we think about particular issues.
- Sometimes this internal logic can lead us astray.

# Two Types of Concepts

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In this presentation, I want to distinguish between:

- **Binary concepts**, which require an unequivocal affirmation or denial. This is the logic of “yes” and “no.”



- **Gradualist concepts**, which require specification in terms of degree. This is the logic of “more” or “less.”



# A binary concept

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- Computers are binary in structure: everything is ultimately reducible to a series on zeroes and ones, off and on, no and yes.
- If the concept of a person is a binary one, then we are forced by the logic of the concept to say of something/someone that it either is or is not a person. It does not admit of degrees.



# A Sliding Switch: A Gradualist Concept

Instead of thinking about personhood as an on-off switch, we might think of it as a dimmer switch, sliding from the highest to lowest extremes.

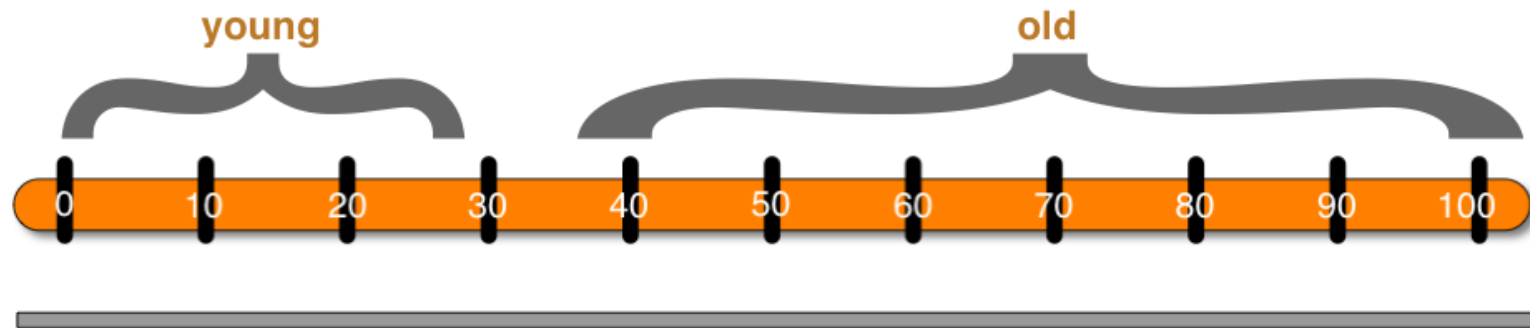
- We will call this a gradualist concept of personhood.

The advantage of this approach is that it allows us to make more finely textured judgments

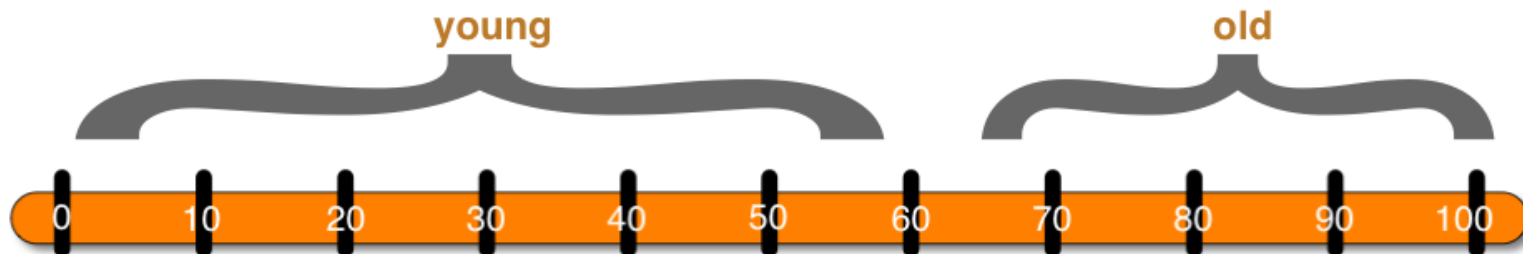


# From Young to Old

When I was young, the distinction between young and old looked like this:



Now that I am (much) older, the distinction between young and old looks like this:



# Axes of Personhood

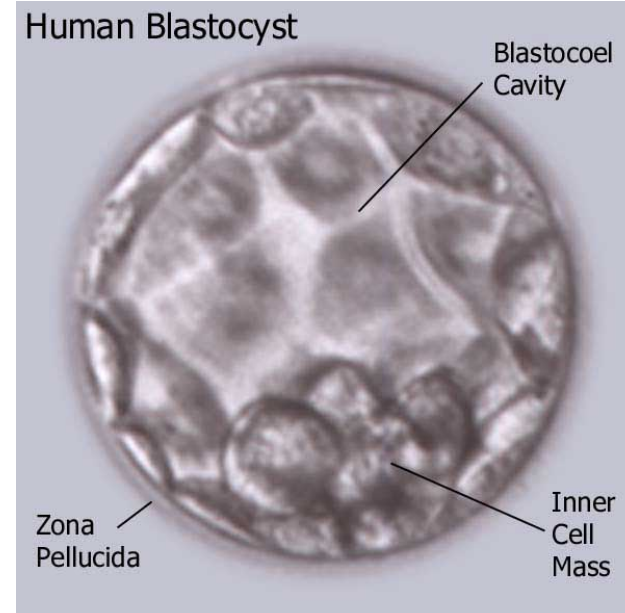
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- The next question is which characteristics are relevant to the attribution of personhood? Candidates include:
- Intelligence
- Ability to have a life plan
- Ability to feel pain
- Ability to experience happiness
- Ability to have emotions
- A soul
- Once you have established the characteristics, it is then necessary to specify the things that are indicators of the possession of those characteristics. For example, IQ tests are intended as ways of determining the presence of intelligence.



# Some Vocabulary

- Conception: the coming together of sperm and egg
- **Pre-Embryo: 1-14 days**
  - **Zygote: days 1-3.** Divides into two identical cells (blastomeres) and continues to subdivide every 12-20 hours
  - **Morula: days 4-5.** After 3 days, the zygote is called a morula or pre-embryo. Sixteen cells.
  - **Blastocyst:** After 5 days, the morula becomes a blastocyst. The inner group of cells will become the fetus, and the other group will become the uterus
  - **Implantation**, in which the pre-embryo attaches to the endometrium, occurs 10 days after conception. 12 days after conception, blastocyst produces hormones that can be detected in the urine
  - Twinning can occur any time during the first 14 days
- **Embryo: 16-70 days**
  - **The primitive streak:** 16 days. Twinning no longer possible. Now called an embryo. 21 days: about the size of the tip of a pencil
- **Fetus: 70 days until birth**



# Embryonic and Fetal Development

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- There are a number of possible points in the development of the embryo/fetus which may be morally significant:
  - ***First Trimester***
    - Fertilization
    - Implantation in the uterine wall (day 5)
    - Appearance of the primitive streak (17 days)
    - Beginning of the heartbeat (23 days)
    - Development of the brain waves (48 days)
    - Point at which essential internal and external structures are complete (56 days)
  - ***Second Trimester***
    - Point at which the fetus begins to move around (12-13 weeks).
    - Ability to feel pain (Controversy: 20-24 weeks)
    - Viability
  - ***Third Trimester***
    - Birth

# Death

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## Death: A Gradualist Perspective

Beginning of dying process

Total  
death

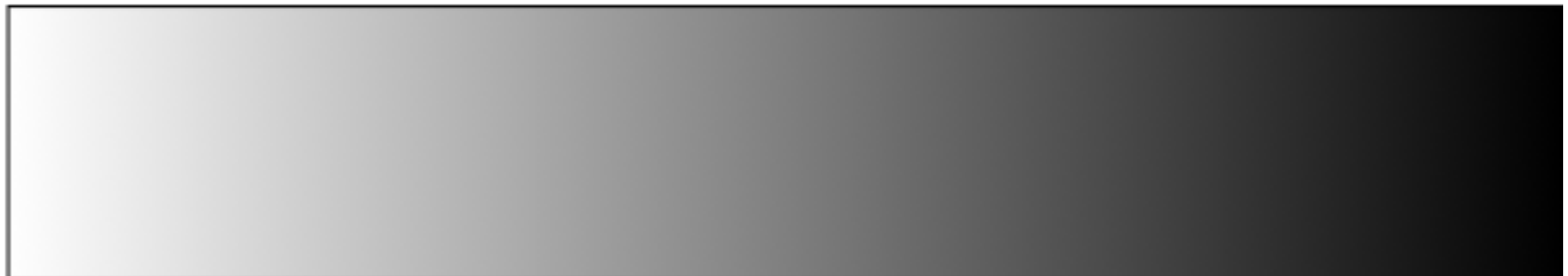
Diagnosis of  
a terminal  
disease

Gradual decline  
of major faculties  
(sight, speech,  
mobility, etc.)

Permanent and  
irreversible cessation  
of circulatory and  
respiratory functions

Cessation of  
brain wave  
activity

Shut down of all  
bodily organs



# Concluding Two Questions

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Thus we see two key questions about the concept of personhood:

1. Is the concept of a person a binary concept or a gradualist concept?
2. Is the concept of a person dependent on a single criterion (soul, human DNA, etc.) or a group/family of criteria?