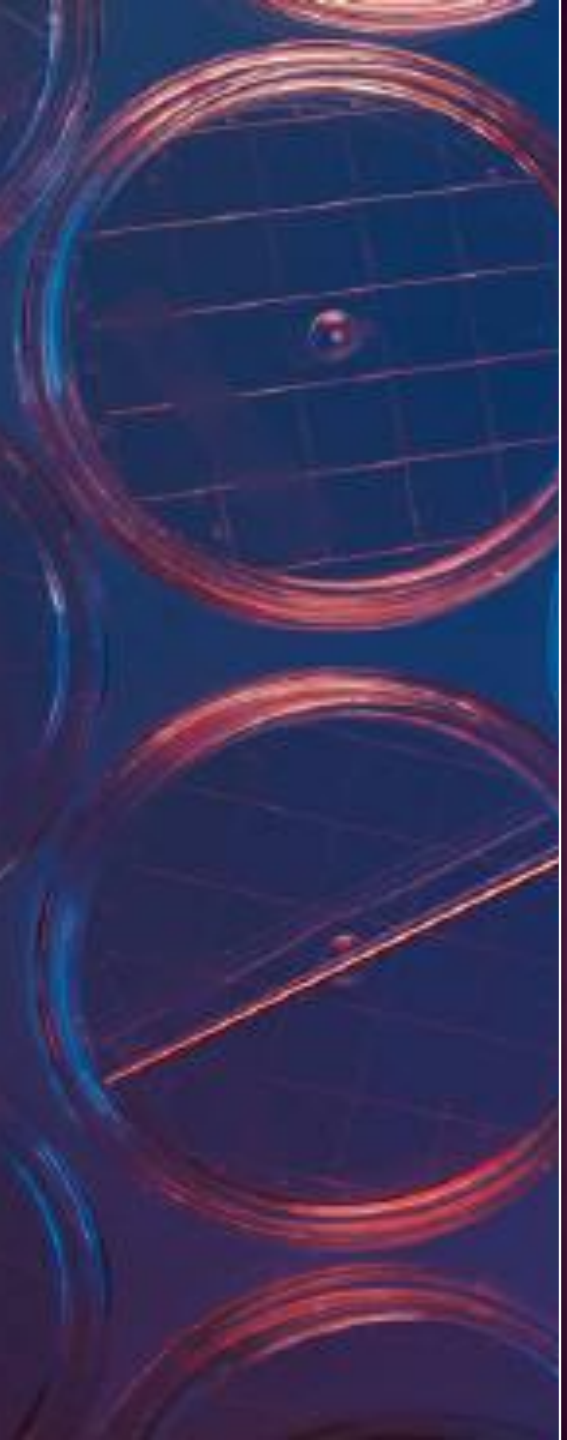

Problematizing Animal Experimentation: Scientific & Moral Costs

Bioethics & Animals (Spring 2013)

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Spectrum of Positions

Lenient:
Human interests *nearly always* outweigh animal interests

Demanding:
Human interests *almost never* carry significant weight

Common:
a) There are moral limits on animal use;
AND
b) Humans can use them when doing so advances significant human interests.

Prima facie case for animal experimentation

- We can legitimately generalize what we learn from animals to humans
- Animal experimentation has been essential to medical and scientific advances.
- Scientific rationale supports above claims.
  - Cannot ethically or practically use humans for many controlled experiments.
  - Only one intact system (whole animal) can adequately model another intact system.

Problems with the Prima Facie Argument

- How essential has animal experimentation been for discoveries and knowledge?
- "simply because something is part of a development's history **does not mean that it was a causally significant—let alone necessary**—element of that history" (LaFollette 802, emphasis added)
  - Might have made similar discoveries without animal use
  - Using animals within same paradigm can actually stunt progress (e.g., rhesus monkeys for polio research)
- Problem of selective perception
  - Successes within scientific paradigm are published and cited repeatedly; failures are rarely discussed.

Problems with the Prima Facie Argument

- Can non-humans adequately model what we should expect in humans?

- **Similarity problem:** Is the disease in the lab animal relevantly similar to how it would manifest in humans?
  - How crucial are the differences in bone structure, endocrine systems, etc?

- **Inference problem:** If the models are relevantly similar, can we generalize from non-humans to humans?
  - Will the methods for control or amelioration be the same across species?

The Problem of Confidence

- How much certainty is needed to have confidence in the predictions offered in biomedical research?

- "experiments on animals **cannot do what they aim to do—that is, give us *confidence* in predictions** and human biomedical phenomena prior to human testing" (807, emphasis added)
  - Where 'confidence' is understood in terms of total certainty
  - Is total certainty required? If not, how do we make this determination beforehand, especially given the (resource and moral) costs involved in animal research?

Evolutionary Challenges

- Adaptations are often biomedically significant – undermining confidence in predictions

- Descriptions of biological phenomena
  - **Functional properties**
    - how it moves, cognizes, feeds

    Important for moral considerability (when capacities matter)

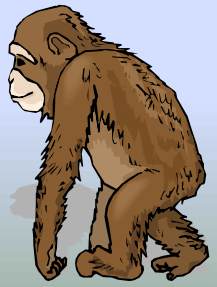
  - **Causal properties**
    - mechanisms for achieving functions

    What researchers want to identify and understand

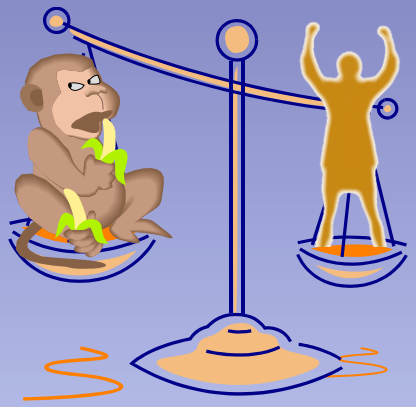
  - **Explanatory properties**
    - mid-level, dual-purpose (e.g., breathing)

Evolutionary Challenges

- Animals can have similar properties of one type (e.g., functional) while being dissimilar along the others (e.g., causal).
  - "symptomatic similarity does not guarantee causal similarity" (810)
- Given the complexity of intact systems and their feedback mechanisms, a small change in one area can have drastic effects in other areas.



Utilitarian Weighing



- Considerations
  - Adjust for moral worth of creatures with interests at stake
  - Figure in the significant of the harms and benefits (keeping in mind whether they are *definite* or *remote*)
    - Animals experience immediate, intense, and definite harms for possible, remote, potentially trivial human benefit.
    - Also calculate the *unique* benefits (if any) from these harms—consider alternatives.
  - Count the number of all involved creatures.
- Scientific experiments as part of larger pattern of activity within institutional practices
  - Does the institution provide more benefits or harms?

Varying Obligations

- Acts vs. omissions
  - Experimenter (presumably) believes preventing a harm (i.e., suffering from a disease) is more important than causing a harm (to the animal).
    - Contradictory to most moral evaluations of doing/allowing
  - Numerous harms involved in experimentation, even when adjust for lower status of non-humans
- Do experimenters have special obligations?
  - No direct obligations to identifiable potential beneficiaries of research
  - If anything, they have direct obligations to the lab animals!

Further Concerns

- Scientific justification for animal experimentation assumes **causal similarities**, while moral justification assumes **functional differences**
  - Non-humans are not sufficiently similar to use for us to weigh their interests heavily…though they are sufficiently similar to us to use as models…
  - Problematic because of our intricate intact systems and evolutionary history

Leads to Bio-Cartesianism: "the brain, although formed by the same evolutionary pressures that shape other biological systems, somehow developed independently of those other systems. This makes no evolutionary sense" (819)

Discussion Questions

- How should we determine the required amount of certainty needed to have sufficient confidence in biomedical predictions?
- Given the difficulty of changing a scientific paradigm, how do you think we should proceed in using animals for research?
  - Added precautions? Moratorium? Invest in alternatives? Proceed as normal?
- Do you think a utilitarian calculus could favor animal experimentation in a single case?
  - What about animal experimentation as an institutional practice?

QUESTIONS? COMMENTS?