

LECTURE 2: MORAL AND SCIENTIFIC CONTROVERSIES

Material today

1. Fact and opinion
2. Controversies
3. Back to fact and opinion

Fact and opinion

- Q: Which of these is a matter of fact? Which is a matter of opinion?

A. The Earth is round.	<input type="checkbox"/> Fact	<input type="checkbox"/> Opinion
B. Abortion is immoral.	<input type="checkbox"/> Fact	<input type="checkbox"/> Opinion
C. Assisted suicide is moral.	<input type="checkbox"/> Fact	<input type="checkbox"/> Opinion
D. Water is made of hydrogen and oxygen atoms.	<input type="checkbox"/> Fact	<input type="checkbox"/> Opinion
E. Same-sex couples should be able to marry.	<input type="checkbox"/> Fact	<input type="checkbox"/> Opinion
F. The supreme court ruled that same-sex couples should be able to marry.	<input type="checkbox"/> Fact	<input type="checkbox"/> Opinion

Fact and opinion

- Q: What *makes* the matters of opinion matters of opinion, and not matters of fact?

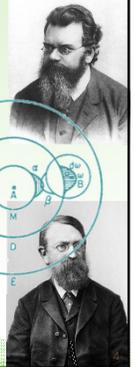
- | |
|--|
| B. Abortion is immoral. |
| C. Assisted suicide is moral. |
| E. Same-sex couples should be able to marry. |

- they are all *moral value judgments*
- Q: Why can't value judgments be based on facts?
- Popular reasons:
 - moral judgment is influenced by emotion
 - moral concepts are abstract and intangible
 - *but especially*: people disagree about morality all the time...

Controversies

But consider a scientific controversy:

- Even in the late 19th century, the existence of atoms was **controversial!**
 - e.g., Ludwig Boltzmann (1844–1906) was a leading defender of atomism
 - e.g., Ernst Mach (1838–1916) was a leading critic of atomic theory—*along with most physicists*
- The controversy arose because atoms are invisible (**intangible!**)
 - Mach and others said: we only know what we observe; all the rest is useful fiction
- The controversy was even very **emotional!**
 - Boltzmann killed himself over the stress



Controversies

But consider a scientific controversy:

- Even in the late 19th century, the existence of atoms was **controversial**
- The controversy arose because atoms are invisible (**intangible**)
- The controversy was even very **emotional**

Q: Was the atomic theory a mere opinion rather than something based on facts?

- (A) Yes, atomic theory was a mere matter of opinion.
(B) No, atomic theory was based on facts.

Controversies

- Of course, Boltzmann offered *reasons* for his theory:

“ Boltzmann wrote a series of papers suggesting that the second law of thermodynamics (that entropy always increases or stays the same) could be interpreted in terms of the movements of the microscopic constituents of physical systems . . .

Boltzmann argued that although atoms were not directly observable, their existence was established reliably by interpreting the macroscopic behavior of physical systems with the theory of statistical mechanics.

- something like this *argument*:

“ Elements combine in definite proportions when forming compounds. The best explanation of element's combining in definite proportions when forming compounds is that atoms are real microscopic pieces of matter. Therefore, atoms are real microscopic pieces of matter.

- the controversy was resolved when more came to appreciate the logic of such arguments...
- Q: Why not resolve moral controversies with arguments?

Back to fact and opinion

- Some contrasts that may be more useful than “fact” vs. “opinion”
 - *mere opinion* vs. *justified beliefs*
 - *Mere opinion*: I think maybe the Earth is roughly round.
 - *Justified belief/knowledge*: I think the Earth has a roughly round shape, as the evidence shows
 - descriptive vs. prescriptive (value) judgements
 - *Factual judgment*: Vegetables contain nutritious vitamins.
 - *Value judgment*: Vegetables are good for you because they have vitamins.
- **Can value judgments be based on facts?**
 - i.e., can they be *justified beliefs*, rather than mere opinions?

8

PHIL 252: MAKING MORAL DECISIONS

LECTURE 2: MORAL AND SCIENTIFIC CONTROVERSIES

Material today

1. Fact, opinion, and controversy
2. A scientific/moral controversy
3. Frederick Douglass on slavery

Fact, opinion, and controversy

- Last time, we considered reasons people think morality is a matter of opinion:
 - it is influenced by emotion
 - its concepts are abstract and intangible
 - people have strong disagreements about it
- But that's also true of the atomic theory controversy!
 - yet Boltzmann's atomic theory seemed to be more than an opinion, even when it wasn't widely accepted
 - could moral judgments be more than mere opinion too?
- **Q**: How did the Baker reading tell a similar story?

10

A scientific/moral controversy

- In the 19th century, equality of the races was **controversial** among *distinguished scientists*
 - e.g., Louis Agassiz (1807-1873) and anthropologists at Harvard taught that races evolved separately, some were inferior
 - e.g., Franz Boas (1858-1942) fought an uphill battle to oppose this idea
- The question was also very **abstract**
 - involved generalizing about whole races and their evolution in the distant past
- The controversy was also very **emotional**
 - some scientists were terrified by members of other races, others by racial oppression



A scientific/moral controversy

- In the 19th century, equality of the races was **controversial** among *distinguished scientists*
- The question was also very **abstract**
- The controversy was also very **emotional**
- **Q**: Was Boas' opposition to racist anthropology a mere opinion, rather than something based on facts?
 - (A) Yes, anti-racist anthropology was a mere matter of opinion.
 - (B) No, anti-racist anthropology was based on facts.
- **Q**: Why couldn't Boas' view be better than an opinion even if it wasn't widely accepted?



4

A scientific/moral controversy

- Boas did have reasons for his views:

¹⁹ African civilizations were smelting metal when Europeans were still in the stone age. This is best explained by the existence of social/environmental differences, not innate racial superiority.
Therefore, there are social/environmental differences among the races, not innate biological superiority.

- And his views had moral implications:

²⁰ (1) Africans are fully human beings.
(2) Human beings have rights that should be respected.
Therefore, Africans have rights that should be respected.

- science helped show premise (1) is true
- but why should people have rights? is that a mere opinion, or is it justifiable?

