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Vagueness conclusion

14 November, 2006

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Next week

New topic: Causation

Read Russell

What's wrong with Sorites?

1 grain of sand is not a heap.

If 1 grain of sand is not a heap,
then 2 grains of sand is not a heap.

If 2 grains of sand is not a heap,
then 3 grains of sand is not a heap.

Heaps

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If 999,999 grains of sand is not a heap,
then 1,000,000 grains of sand is not a heap.

So, 1,000,000 grains of sand is not a heap.

Responses to sorites puzzle

Accept conclusion (nihilism)

Truth value gaps (supervaluationism)

Degree theories

Epistemic view

Nihilism

Accept the conclusion

There are no heaps, no bald people, no children...

Nihilism

Accept the conclusion

There are no heaps, no bald people, no children...

But the conclusions seem obviously false!

Difficult to show that nihilism is wrong.

Supervaluationism

Indeterminate cases

Complicated semantics

Simple logic

Supervaluation: semantics

"That is a heap"

supertrue: true for every sharpening

superfalse: false for every sharpening

Otherwise indeterminate

Sharpening

Make "is a heap" precise by drawing a sharp line between heaps and non-heaps.

Supervaluationism: logic

Classical logic (mostly)

Accept law of the excluded middle

Reject bivalence

Supervaluationism: logic

Bivalence: Every sentence is either true or it is false.

Law of the excluded middle: “S or not-S” is true for any sentence S.

Supervaluationism

Problem: higher order vagueness

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Epistemic view

Bivalence

Ignorance

Epistemic view

Bivalence
(there is a sharp boundary)

Ignorance
(you cannot know where the boundary is)

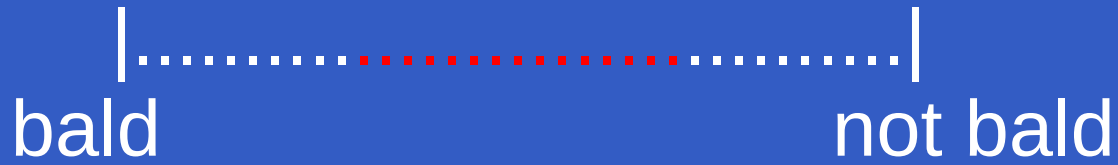
Three features of vague terms

Penumbra

Tolerance

Sorites susceptibility

Penumbra



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Tolerance

Small differences don't matter

Sorites

Nihilism

Penumbra (none)

Tolerance (yes)

Sorites (sound)

Supervaluationism

Penumbra (yes)

Tolerance (no, but)

Sorites (not all premises are true)

Epistemic

Penumbra (no, but)

Tolerance (no)

Sorites (exactly one premise is false)

Degree theory

Penumbra (?)

Tolerance (?)

Sorites (?)

Degree theory

The wall is whiter than the floor.

Bill is more bald than Joe.

Truth comes in degrees

The wall is whiter than the floor.

“The wall is white” is more true than “The floor is white”.

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Truth comes in degrees

Bill is more bald than Joe.

“Bill is bald” is more true than “Joe is bald”.

Truth comes in degrees

1 grain of sand is not a heap.

2 grains of sand is not a heap.

3 grains of sand is not a heap.

...

1,000,000 grains of sand is not a heap.

Truth comes in degrees

Some sentences are more true than other sentences.

Truth comes in degrees

Some sentences are more true than other sentences.

Are there any completely true sentences?

Truth comes in degrees

Some sentences are more true than other sentences.

Are there any completely true sentences?

Depends how we develop the degree theory.

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Let's develop a version of the degree theory.

Degree of truth measured

Completely true: degree of truth 1

Completely false: degree of truth 0

In between: some number > 0 but < 1 .

Degree of truth measured

Bill is completely bald.
Joe is less bald than Bill.
Leo is not bald at all.

Degree of truth measured

Bill is completely bald.
Joe is less bald than Bill.
Leo is not bald at all.

“Bill is bald” is true to degree 1.
“Joe is bald” is true to degree .8
“Leo is bald” is true to degree 0.

Degree theory

Penumbra (yes?)

Tolerance (no)

Sorites (premises not quite true, and this adds up, so the conclusion is false)

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Problems with this version of degree theory

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Problems with degree theory

Too precise

Higher order vagueness