

- # Supervaluations and Degrees

8 November, 2006

Monday and Today

Accept conclusion (nihilism)

Truth value gaps (supervaluationism)

Degree theories

Next week

Epistemicism: there is a sharp boundary, but we can't know where.

Reading: Timothy Williamson, check web

Final Paper

1500-2500 words, 6-10 pages

Dates

Encouraged to think of your own topic

Topic suggestions coming soon

Supervaluations

Truth value gap

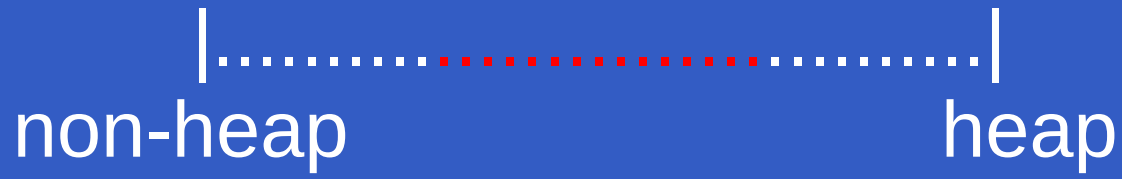
"That is a heap"

definite non-heap: false

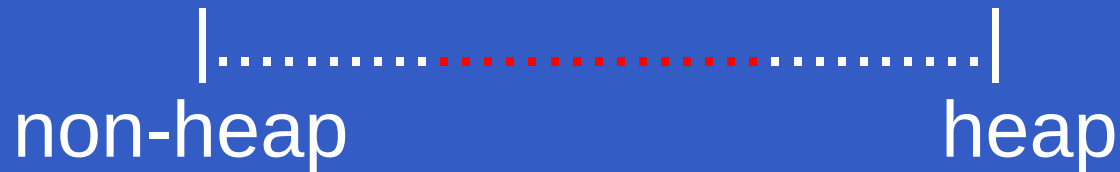
definite heap: true

penumbra: indeterminate

Penumbra



Sharpening



Sharpening: an acceptable way to draw a sharp line between heaps and non-heaps.

Supervaluations

"That is a heap"

true: true for every sharpening

false: false for every sharpening

Otherwise indeterminate

Supervaluations

Reject bivalence

Bivalence

Every sentence is either true or it is false.

For example, "That is a heap" is either true or it is false.

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Reject bivalence

"That is a heap" is true, or it is false, or it is indeterminate.

Excluded middle

Law of the excluded middle

For any sentence S , “ S or not- S ” is true

For example, “That is a heap or that is not a heap” is true.

Accept excluded middle

Supervaluationism accepts the law of the excluded middle

“That is a heap or that is not a heap”

Accept excluded middle

Supervaluationism accepts the law of the excluded middle

“That is a heap or that is not a heap”

... as well as (most) classical laws of logic

First problem with solution

For some x , x grains of sand is a heap
but $x-1$ grains of sand is not a heap

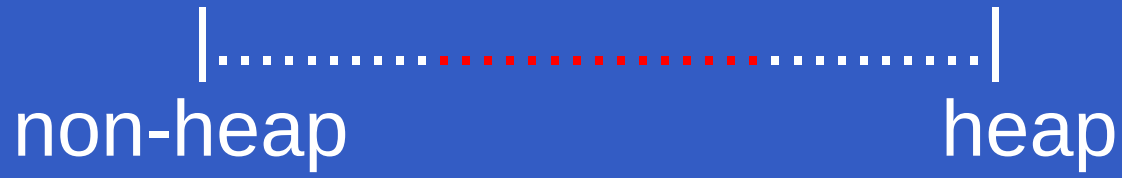
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Second problem

Higher order vagueness

- .
- .
- .

Higher order vagueness



Higher order vagueness

“That is a heap”

According to supervaluationism, removing one grain of sand can change this sentence from true to not true.

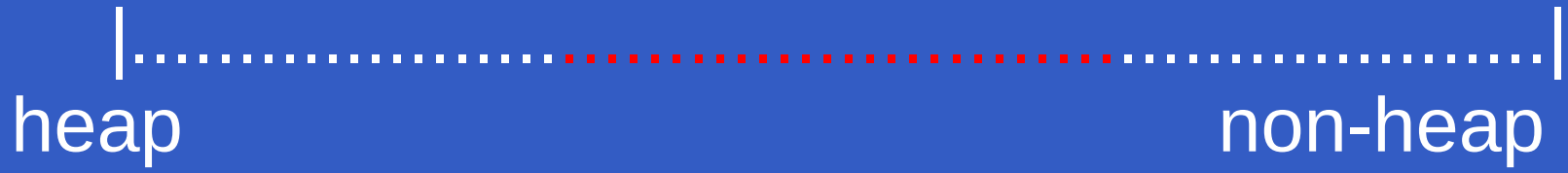
Higher order vagueness

“That is a heap”

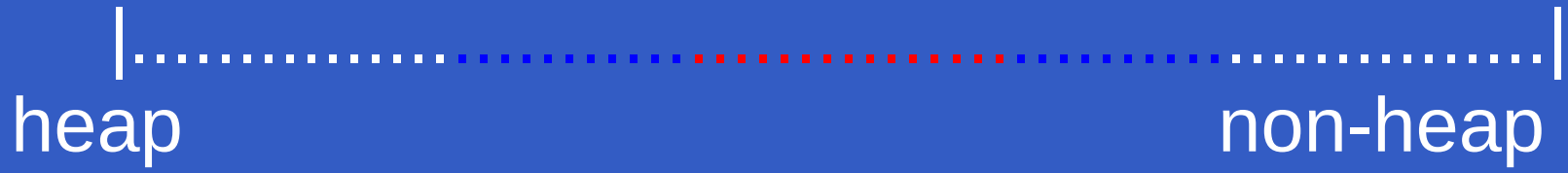
According to supervaluationism, removing one grain of sand can change this sentence from true to not true.

Is that right?

Higher order vagueness



Higher order vagueness



Two more penumbras

definitely a heap — not definitely a heap

not definitely not a heap — definitely not a heap

Question

Is there higher order vagueness?

Does it indeed pose a problem?

Monday and Today

Accept conclusion (nihilism)

Truth value gaps (supervaluationism)

Degree theories

Comparing

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”.

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.

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

....

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.

A valid argument

Valid argument: if the premises are true, then the conclusion must be true.

Today is Wednesday.

If today is Wednesday, then we are thinking hard.

So we are thinking hard.

Don't forget

Taking reasoning seriously.

Supposing truth comes in degrees.

What is a valid argument?

Validity with degrees

Today is Wednesday. (completely true)

If today is Wednesday, we are thinking hard. (?)

So we are thinking hard. (a little less than true)

Validity with degrees

Today is Wednesday. (completely true)

If today is Wednesday, we are thinking hard. (a little less than true)

So we are thinking hard. (a little less than true)

What's wrong with Sorites?

All the premises are a little less than true (except the first premise).

These small departures from truth add up.

The conclusion is false.