Philosophy 101

Representation & Function

February 25, 2014

Representation & Physicalism

Physicalism & Underived Representation

1. Matter (e.g. pictures, words) does not possess any underived representational properties
2. Mental states (e.g. beliefs) possess underived representational properties
3. ∴ Mental states are not material

Dretske's Strategy

- Distinguish between two kinds of intentionality
  - indication
  - representation
- Indication is a natural occurence in the physical world
- When indication is done for a purpose or function then it becomes the kind of state or event that can (mis)represent something else
  - indications typically possess their function due to the intentions of human beings
  - some indications have *natural* functions, independent of any human being

Dretske's Strategy

- Mental representation in human beings is the result of:
  - internal states which function (or have the purpose of) indicating a particular fact about the world
  - Dretske wants to show how it would be in principle possible for the internal (e.g. neurological) states of an organism to have this representational function

Indication

- X indicates Y when it is the case that, in normal conditions, X occurs if and only if Y occurs

Thermometers as Indicators

- A bulb thermometer indicates local ambient temperature
  - the volume of a metal (mercury) varies in proportion to local ambient temperature
  - in normal conditions a particular volume of mercury occurs if and only if a particular local temperature occurs
- Paperclips (or any other volume of metal) also indicate local temperature

Indication & Function

What's the difference between a paperclip and a thermometer?

- no physical difference
  - they are both made of metal
- no informational difference
  - they both vary in volume with ambient temperature
  - both the mercury and the paperclips convey the same information about temperature

Indication & Function

What's the difference between a paperclip and a thermometer?

- functional difference
  - the purpose of a thermometer is represent the ambient temperature
  - the purpose of a paperclip is hold papers together

Function & Misrepresentation

- Thermometers *represent* the ambient temperature, paperclips don't
- The capacity to represent the temperature depends on having the corresponding capacity to *mis*represent temperature
- Thermometers (mis)represent temperature because they have the *function* of representing temperature

Function & Misrepresentation

Two Questions

1. Why is the capacity for misrepresentation necessary for the capacity for representation?
2. How is this capacity for (mis)representation acquired?

Function & Misrepresentation

1. Why is the capacity for misrepresentation necessary for the capacity for representation?
    - the meaning of a representation is 'detached' from what causes it
        - we can represent things that are not present, and that don't exist
    - a fundamental feature of representation (e.g. belief) is that it can be false

Function & Misrepresentation

2. How is something able to (mis)represent?
    - indication for some purpose
        - natural
        - artifical

- How do thermometers (mis)represent?
    - we put the indicative powers of mercury to use in the construction of an artifact that measures the ambient temperature

Function & Misrepresentation

Although clocks, compasses, thermometers, and fire alarms…can misrepresent the conditions they are designed to deliver information about, they need our help to do it. Their representational successes and failures are underwritten by the purposes and attitudes of their designers and users. (Dretske, 494)

Function & Misrepresentation

Figure : Mercator Projection

Function & Misrepresentation

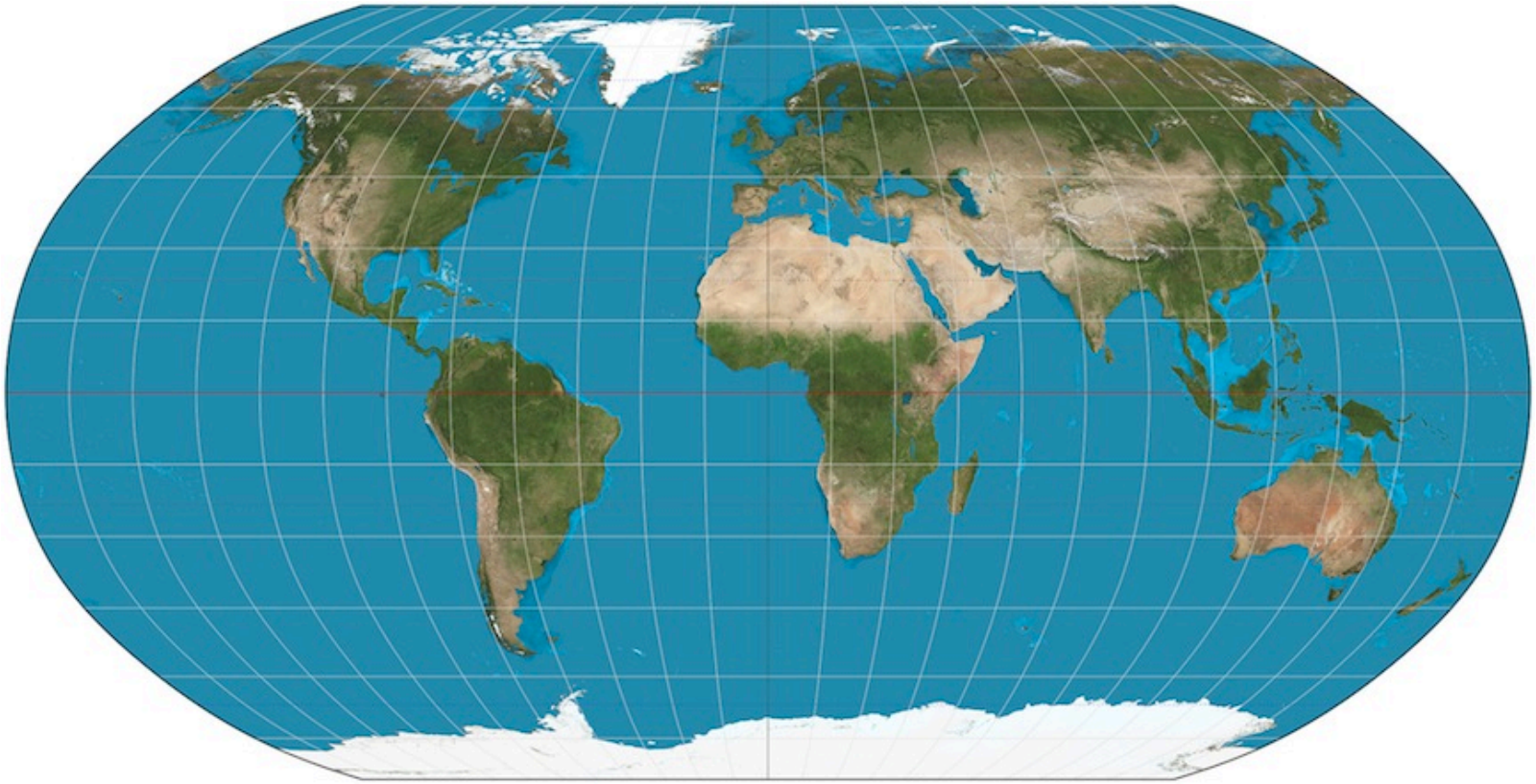

Figure : Robinson Projection

Summary of Indication & Representation

- Indication is not representation and vice versa
  - if X indicates Y then you can't have X without Y
  - if X represents Y then (at least some times) you can have X without Y
- The key difference between indication and representation is that with representation comes the possibility of *mis*representation
  - (mis)representation requires that the representational properties of a thing serve some function or purpose
    - artificial functions (e.g. thermometers, compasses)
    - natural functions (e.g. the need for food)

Natural Functions

If an information-carrying element in a system could somehow acquire the function of carrying information, and acquire this function in a way that did not depend on our intentions, purposes, and attitudes, then it would thereby acquire (just as a thermometer or a compass acquires) the power to misrepresent the conditions it had the function of informing about. (Dretske, 495)

Acquiring a Function

- Convention or human intentions
- Natural & non-human processes
    - evolutionary processes (phylogenetic)
    - individual development & learning (ontogenetic)

Acquiring a Function

- Acquiring a natural function is a *historical process* — the natural function of a system or state to do X is acquired over time

An Example of Natural Function

The function of the heart is to pump blood

- over time, evolutionary pressures (e.g. survival pressures) selected for organisms possessing organs that could pump blood
  - an organism has a heart in order to pump blood
  - when a heart *fails* to pump blood it doesn't stop being a heart

Summary of Natural Functions

- Independent of human purposes, intentions, conventions, etc.
- Acquired via historical processes
- May be had by a thing whether or not it always achieves its function
    - e.g. a stopped heart is still a heart

A Recipe for Thought

Take a system…whose survival or well-being depends on its doing A in conditions F. Make sure that this system has a means of detecting (i.e., an internal element that indicates) the presence of condition F. Add a natural process, one capable of conferring on the element that carries information F the function of carrying this piece of information…If all goes well, when the process is complete, the result will be a system with internal resources for representing (with the associated power of misrepresenting) its surroundings. Furthermore, that this system represents, as well as what it represents, will be independent of what we know or believe about it. (Dretske, 497)

Making Minds

1. Matter does not possess any underived representational properties
2. Mental states possess underived representational properties
3. ∴ Mental states are not material

- Dretske denies (1)—intentionality is a natural feature of the physical world
  - in the right circumstances the indicative properties of a system become representational properties