What is Reality?

Paul Thagard
University of Waterloo

1

Outline

1. Questions about reality
2. Theories about reality
3. Materialism
4. Truth
5. Causality and explanation

2

Reality Questions

1. What is real?
2. What is truth?
3. Does science approach truth?
4. What is causality?
5. God? Minds? Etc.

Method: consider alternative answers and choose according to coherence with all knowledge, especially science.

3

The Story so Far

1. Mind=brain, i.e. all mental processes are neural mechanisms, which are physical (biochemical) processes. Lectures 2-3.
2. Knowledge is multimodal, consisting of semantic pointers that are reliably acquired good approximations to the external world. Lecture 4.
3. Knowledge develops by additions and revisions based on explanatory coherence. Lecture 4.

4

How to decide what exists?

Force. Authority. Faith. Wishful thinking.

Reliable coherentism:

1. Collect evidence using fairly reliable procedures such as perception, memory, testimony.
2. Use arguments to assemble hypotheses and evidence.
3. Use coherence to pick the hypotheses most coherent with the evidence.

5

What is Real?

Skepticism: nothing is real (Buddhism, postmodernism)

Idealism: only mind is real.

Objective: the real is one big mind.

Subjective: the real is just your mind.

Dualism: reality = mind + matter

Materialism: reality = matter/energy

6

Materialism

If mind=brain, then idealism, dualism, and panpsychism (everything has consciousness) are false.

Hence materialism is true, and provides the best available explanation of all evidence, from science and everyday life.

So there is no life after death – immortality and soul do not exist.

7

Truth

Inference to the best explanation by explanatory coherence supports the existence of a world independent of our minds.

1. Psychology: we can't control most perceptions.
2. Cosmology: history of the universe
3. Biology: theory of evolution

So truth is approximate **correspondence** of neural representations to reality.

8

Truth - alternatives

Truth is coherence (Hegel, idealism).

Fails because of external world and external constraints on evidence.

Coherence theory of knowledge makes a coherence theory of truth implausible.

Truth is redundant: to say that a sentence is true is just to say the sentence.

No: sentences are used to make claims about correspondence to the world.

9

Theories of science

Relativism: science is just another form of discourse and social relations.

Empiricism: science just tries to be adequate at describing phenomena.

Scientific realism: science tries and sometimes succeeds in finding truths about the world, using inference to the best explanation.

10

Scientific Realism

1. That science aims for truth is clear from the efforts of scientists to perform robust experiments, develop explanatory theories, and comparatively evaluate them.
2. That science sometimes succeeds in approximating truth is the best explanation:
   a) Technological success
   b) The cumulative nature of science
   c) The interpersonal agreement of science

11

Explanation

1. Explanation is telling a story that answers a question. Narrative, e.g. why did Slovakia become independent?
2. Explanation is explaining away, elimination. E.g. soul.
3. Explanation is deduction from scientific laws. Deductive-nomological.
4. Explanation is showing how something results from a causal mechanism.

12

Mechanism

Mechanism = system of interconnected parts whose interactions produce regular changes.

Results may be emergent, i.e. belonging to wholes but not parts because they result from interactions of parts.

Note that "produce" means more than just what happens next: cause!

13

What is Causality?

1. Causality is an illusion (positivism)
2. Causal power – mysterious
3. Constant conjunction – Hume
4. Probability (effect given cause) > probability (effect)
5. Causality is a mind-detectable temporal pattern in the world resulting from mechanisms.

14

3-analysis of Causality

1. Exemplars: pushes, pulls, motions
2. Typical features:
   a) Sensory-motor-sensory patterns – infants
   b) Regularities: children
   c) Manipulations: children
   d) Statistical dependencies + causal networks: scientists
3. Explains: why things happen, why interventions work

15

How to decide if X exists?

1. Construct hypotheses about X.
2. Collect evidence relevant to X using reliable procedures such as perception, memory, testimony, instruments, experiments.
3. Use arguments to assemble hypotheses and evidence. Consider alternative hypotheses.
4. Accept the hypotheses most coherent with the evidence.
5. Believe in X if hypotheses about X are accepted; otherwise, don't believe in X.

16

Does God Exist?

1. Is God the best explanation of the existence of the universe, biological design, moral instincts, popularity of religion?
2. No: all of these can be better explained by physics, evolutionary biology, cognitive neuroscience, and social science.
3. Therefore, God is not part of the most explanatorily coherent account of the world.

17

Do Other Minds Exist?

Yes: the existence of other minds is the best explanation of why other people behave like me, as explained by similar brain structures and evolution. Alternatives?

Do non-human animals have minds? Yes, e.g. mammals experiencing pain. But non-humans are limited in their ability to do recursive bindings so they can't do full language or social emotions.

Do computers have minds? Not yet.

18

Do Social Groups Exist

Are countries, nations, universities, departments, clubs, families, etc. just the sum of their parts?

No: they have emergent properties, e.g. going to war, declaring independence, granting degrees, admitting members, being happy.

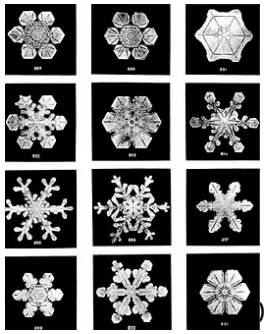
So groups exist, because they help to explain the behavior and mental representations of individuals.

But there are no collective ideas, thoughts, emotions.

19

Emergence

Emergent properties are possessed by the whole, not by the parts, and are not simple aggregates of the properties of the parts because they result from interactions of parts.



Multilevel Emergence

Social events (e.g. riots) and changes (e.g. government) result from multilevel emergence: social, psychological, neural, and molecular mechanisms.

21

Other Questions

What is mathematical reality?

Reject: Platonism, empiricism, but what is alternative? Number concepts are innate.

What are space, time, and space-time?

Reject: social relativism, empiricism, but what is alternative?

Can relativity theory and quantum theory be reconciled?

22

Conclusions

1. Materialism is true.
2. Truth is correspondence to the external world.
3. Causality is a kind of pattern in the world.
4. Supernatural entities do not exist.

23