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Alternative view of ‘definitions’

* Real definitions: capture the ‘essence’ of something
* Stipulative definitions: conventions that stipulate how a word is to be used
* Precising definitions: make words more precise

Important Properties of Technology (necessary properties?)

* Design: Technology is designed for some purpose/ function
* Tools: Technologies are tools/ artifacts
* Applied Science: Technology is applied science/ knowledge

1/23/19

Science & Technology Studies

Inductivism

* Inductive method: theories should e formulated based on particular observations, experiments and test
* Particular observation 🡪 general theories

Observe particulars

P treats A’s TB P treats b’s TB P treats c’s TB

Inductive inference

Thud P can cure all case of TB

Hume on the limits of induction

1. If the future resembles the past, then induction will be reliable
2. We have non(non-inductive) evidence that the future will resemble the past
3. Thus, there is no (empirical) justification for induction

Logical Positivism

* Genuine scientific knowledge is empirically testable/ verifiable in experience

Popper’s Falsificationism

* Science ought to proceed by the method of falsificationism
* Cannot verify a theory, but can falsify it
* Should formulate bold theories (that make specific predictions) and try to falsify them
* Evolutionary model of science: only theories that withstand critical test (Corroborated theories) will survive.

Kuhn’s historical view of science

* Descriptive
* Science is not accurately described as “capturing the truth”, but as” puzzle solving”.
* Science is not distinguished by ‘scientific method’ but by the presence of a ‘paradigm’.

Paradigm = theoretical frameworks shared by community of scientists

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The logical Positivist’s on science:

1. Anti-metaphysical: free of metaphysics (negative thesis)
2. Empirical: Empirically based, or relatable to experience (positive thesis)

-Science should be free of metaphysics

* Metaphysics = theory of what exists
* Theories of existence go beyond the observable (e.g. Existence of God)
* Metaphysics statements are meaningless because they go beyond the empirical domain

-Science should be empirical

“There is knowledge only from experience, which rests on what is immediately given (observable). This sets the limits for the content of legitimate (meaningful) science.”

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Logical positivism & technology

* Logical is applied science
* Good science (empirical & free of metaphysics) is value neutral
* Should plan on how science will be applied to benefit society (social engineering)

Metaphysics 🡪 encourages prejudice and discourages social change

Science and society (1931)

* Main argument: The application of science and technology in society should be self-consciously planned

The “Great Contradiction” (Dewey)

* Careful planning in gaining scientific knowledge
* No planning in applying this knowledge

Planning Science

* Society should deliberately plan how science and technology are applied
* Allowing them to be applied by ‘free market’ forces 🡪 disaster
* “stop confining our idea to antithesis of individualism and socialism, capitalism and communism, and realize that the issue is between chaos and order, chance and control: the haphazard use and the planned of use”
* Resistance to ‘planning science’ stems from patriotic & emotional thinking
* i.e. political resistance to socialism/ communism

2/1/19

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Technological determinism

* Material forces (especially the properties of available technologies) determine social events
* Assumption: technologies are laden with values (instrumentalism is false)

2/8/18

Heidegger & technological determinism

* Technological determinism technology drives society in a certain direction
* H: since the industrial revolution (1760-1820), technology has main humans perceive nature as a resource.
* This “mode of perception” (challenging) is determined by technology

Heidegger (1954)

* Aim: to examine the essence of modern technology & our orientation towards it
* Technology has a hidden essence
* Goal = to reveal this essence

Modes of Revealing

* Theoretical orientation/ framework for perceiving the world
* A way of perceiving
* Different ‘modes’ (e.g. Poiesis, challenging) reveal different aspects of reality

Heidegger’s analysis suggests that one’s theoretical assumptions (or historically situated assumptions) can determine the way that one perceives events

What are some examples where some’s (theoretical) expectations/ assumptions affect the way that they perceive something?

Aristotle’s 4 causes (Poiesis)

1. Material cause: the material something is created from
2. Formal cause: the form or shape of something
3. Final cause: the purpose or goal of something
4. Efficient cause: the action that led to the creation of something

Chalice example

1. Material cause: the material something is created from (silver)
2. Formal cause: the form or shape of something (shape of a cup)
3. Final cause: the purpose or goal of something (drinking cup at religious ceremony)
4. Efficient cause: the action that led to the creation of something (action of a silversmith)

Poiesis

* “bringing forth”
* (ancient) mode that reveals the particularity/ uniqueness of something
* Captures the moment when one thing (e.g. silver) is transformed into another thing (e.g. silver chalice)

Technology and reavealing

Technology = a ‘mode of revealing’

The mode of revealing associated with something challenging

Challenging and enframing

* Challenging is a mode of revealing that views nature as a resource to be used
* Nature is perceived as a standing reserve (a source of resources/energy)
* Enframing = value orientation that drives challenging

Enframing

A value-orientation towards nature

The mood or altitude of our technological age

Desire to control nature

Two modes of revealing

1. Poeisis

* Pre-modern: associated with poetry and the crafts
* Reveals the particularity of things

1. Challenging

* Modern: associated with modern technology
* Reveals how something can be used as a resource

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Heidegger’s Criticism of tech

* Modern age (late 18th – present) = technological age
* This age views nature as a resource ( a ‘standing reserve’) to be exploited
* Technology = ‘a mode of revealing’
* Heidegger rejects the ‘instrumentalist’ view of technology (pg3-5)
* Technology is not a value-neutral instrument

Heidegger as a technological determinist

* Tech changes the way that we perceive things
* Nature is perceived (‘revealed’) as a resource (‘a standing reserve’) to be used and exploited
* Other things (e.g. leisure, people) are also seen in this light

Heidegger jargon

Important terms (Exam!!! Link all these terms)

1. Revealing
2. Challenging
3. Standing-reserve
4. Enframing

Revealing

* A certain way of perceiving the world
* Different ‘modes of revealing’ = different ways of perceiving/ understanding
* Different ‘modes of revealing’ (e.g. poeisis

Challenging

* Mode of revealing associated with modern tech
* Views things in term of how they can be effectively used or as recourse
* “The revealing that rules in modern technology is a challenging, which puts to nature the unreasonable demand that it supplies energy that can be extracted and stored. (pg14)
* Challenging = an industrialist/ capitalist way of viewing nature

Standing reserve

Nature is viewed

Enframing

* Basic mood or attitude characteristic of the technological age
* Framework or value-orientation towards the world
* Desire for precise, ordered, controllable knowledge of nature

The essence of technology

The essence of modern technology is enframing (a desire to control nature)

Recognizing this essence gives us insight on our orientation towards the world

The dilemma

Drive to control nature(enframing) 🡨🡪 way of perceiving nature (challenging)

How can humanity move into a “free relationship” with technology?

The solution

Develop a free relation with technology

Don’t allow technology to dominate your life