

Outline

- 1) his view of 'model' and 'sem view'
- 2) empirical content of theory's acceptance vs belief \Rightarrow constructive empiricism
- 3) exclusion of theory
- 3) Hermeneutic Circle
- 4) criticism of 'syntactic view'
 - structural limitations (extension, embedding, etc.)
 - observational lag
- 5) similarity to naturalistic semantic view

Models (Sem View) : 'Semantics' = 'empirical adequacy, emp't strength, truth, logical strength' \rightarrow distinct from 'struct' of theory [even though based on extensive analysis of struct!]

- Beth vs Tarski, interesting, not relevant for our purposes (aside - he remarks Suppes predicate notation, for a model claims - not clear why he says this)
- idea of 'substructure': v.F. says 'not syntactic' - Hilborn et al. show this mistaken
- "Sem view": quote p. 64 "present - they do + specify models; seek to specify parts of models, empirical substructures" \rightarrow picked out by description of models; not explication (superior to Suppes?)

discuss empirical import from p. 2 of Sem view

\rightarrow 'appearance' = 'structures' (in world) described in exp't of experimental of measurement reports

\rightarrow 'empirical adequacy' = \exists model which empirical substructure is isomorphic to appearance; what actually happens (no model)

- empirical equivalence
- problems:
 - "substructure of world"??
 - how to identify 'empirical substructure' if not by explicitly representing exp's of measurement? goes beyond scientific view - \rightarrow introduces similar problem of circularity/vacuity he leveled at Log Emp for their reliance on particular vocab
 - \rightarrow ed he scurrilously calls Suppes' view shallow (compared to 'identifying empirical substructures' w/ reliance on theory of measurement of data?)
 - false dichotomy between 'structural' of theory and its 'Semantics' (p. 67)
- \rightarrow 'empirically at least is strong': $T > T'$ if \forall empirical substructures of every model M are isomorphic to empirical substructures of $M' \in T'$; equiv: $T > T'$ and $T' > T$

- description of models - not a criterion - how to pick out models or this informal basis?

acceptance vs belief; constructive empiricism

- 'to believe a theory is to believe exactly one of its models correctly reps world' (p. 47)

[why is this simply not believing the model - which can be embedded in substructure in many theories? -

since acceptance focuses only on single model?

Ockham's Razor? well, given his eyes based on extensions
→ So, 'no sense w/ theory'? finer than every ladder of theory once one gets model, as he wants to throw up every linguistic ladder of description of models]

→ 'empirical import of family of empirically equivalent theories is not usually their 'common part', but can be characterized in some terms as empirical adequacy is claimed' (p. 47)

discuss in earlier part of lecture

[Against structuralism]

- discuss Leibniz's TNE vs TD(v) models (pp. 46-47)

→ does this work? that 'common part' is not part of epistemically warranted 'observations and sentences' - so does this really cut just

Log Emps?

- pragmatic superiority/virtue: 'reliab specifically to human concerns' - [opposed to 'epistemic' or 'analytic connection to truth' ?]

⇒ must play fundamental role in 'acceptance' since that is 'human concern' per excellence

→ extensibility of theory is important pragmatic virtue, but does not go beyond empirical equivalence w/ epistemic issues because such pragmatic concerns do not bear on what theories count as 'observable'. (p. 53)

- 'phys theories describe more than observables, but only empirical adequacy matters, not truth or falsity of what goes beyond (p. 64)

- 'constructive empiricism': 'what matters in sci is empirical adequacy, not truth' (p. 61) - but w/o deny' that all sentences of theory have truth ends entirely independent of human activity (non-pragmatic) → p. 38

[still stuck with Kantian Dign or Fichtel? - truth ends that go beyond our epistemic capacities?]

Lecture 1: How/Sens Thers - v.F. Sci Image

15 Dec 2016

(3)

pick up line 22 Dec

Hermeneutic Circle of Criticism of Synthetic View:

v.F. accepts
"obs^{er} vs
unobs^{er}"
(my notes on
his p. 58)

⇒ 'observable vs unobservable theory-dependent?'

- Cannot isolate empirical content by dividing language

→ work things out on p. 54

"if could be done, T/E says exactly what T says about what is and not observable; but unobservable entity differs from observable in way it lacks observable features; therefore we can say that its observable part of language E; reductio ad absurdum."

⇒ misses point by focusing on 'perception' → fundament of 'observability' - those which cannot comprehend

moved well beyond - those sentences are not empirically verifiable, so they are not part of fundamental part of sentences in observation language

⇒ not syntax alone that specifies what sentences are part of empirical part of T - one requires contact w/ experimentation and methodology - correspondence rules and analysis of epistemic warrant - to judge this, and v.F. just ignores this

⇒ his view will turn out to be quite similar to nature (empiricist)?

- "Hermeneutic Circle" : v.F. does accept "obs vs unobs" -

"phenomena are said when exhibited as part of larger unity, so would be strange if observable part described by diff't language than rest" - p. 58
→ what part of it does 'strangeness' cut?

⇒ limits to observability must be shown by science - including theory - itself [Comp agrees]
→ circularity? NO : "what is observable is described by theory, not theory - relative or theory dependent"

Lecture: Straw/Seas Thesis - vF Sciz Image

15 Dec 2016

(4)

[Heuristics Circle cont.]

- but Gomp would agree in part - but importantly also disagree, since for her what is 'observable' (characterized by experimental ability and state of technique, probably 'what is simple', e.g., has clearer epistemic warrant) can and does change over time, in part also based on theory development itself \Rightarrow pragmatism

\rightarrow vF seems to have in 'in principle' view of what is observable, given our capacities (perceptual of cognitive) as humans, including what sorts of technologies we may or may not be able to develop - so non-pragmatic in a world sense - but how justified given her avowed epistemic modesty? I think he is committed to this because her view doesn't allow models themselves to be constructed in possible experimental outcomes and her commitment to domain-free truth ends for Gomp would otherwise make it impossible to judge truth of props corresponding to empirical substructures of models, if 'observable' was itself

\rightarrow her criticism of Emp is not pragmatism - one may need to use theory to demarcate observational regulatory - does not show that what is 'observational' may not be well and wholly described in a separate, well structured 'obs'l language' - only that one needs some input beyond what is purely obs'l to articulate the vocab and write down epistemically warranted obs sentences, & then then way better

\rightarrow recognizing, as Gomp did, that what counts as observable may change over time as theoretical and experimental knowledge grow and deeper and so epistemic warrant extends to new sectors

most consistent position for vF: I can delineate in principle what is observable (or: that exists in theory/knowledge-independent way); but I am agnostic/certain silent about anything that may be unobservable in principle

Paper topic: why vF reject 'state of theory' (Suppes) \Rightarrow important, not semantic, when his semantic is based on analysis of state

non-dependent