

Steve Sears Thesis Lecture: Group

17 Nov 2016

pick up here on Friday

Outline

In future: end of FWS, ontology (L & S) vs 'first' discussion vs 'prag' (first/prag)

emph of theor's laws

- epist motivation (quote from ch. 26 Phil Found Phys)
 ⇒ empirical basis for theoretical claims.
- obs vs theor: terms, sentences (only obs terms fully understood (of domain); theor. terms not defined, but put in context)
- partial-interp & terms: no theor's defns; correspondence rules
- sense of theory: correspondence rules; analytic vs factual, &
- ⊙ FWS: capture epistemic power, analytic vs factual; no 'we' in methodology
- Ramsey (Group sentences): indeterminacy of their terms; structuralism (interp of theor's terms involves only: ① logical category of theor's terms (vars); ② whatever restriction); explicit empirical basis for theoretical claims (not terms), as what follows out is non-observational
- not 'syntactic': rather reconstruction of theor's knowledge showing how observational basis is empirical character of evidence warrant for theor's claims
 ⇒ must go beyond syntax, which they explicitly do w/ partial interp
 ⇒ p. 42 'Metaphysical Theor Concepts', p. 45 motivation of Tarski
 p. 68 on syntactic or semantic rules of derivation/inference

not in real metaphysics

→ 'criteria of significance' for theoretical terms in 'Metaphysical Theor Terms'

→ pick up here next week

→ epistemology's projection - accept, not assert → w/ p. 62

See "Metaphysical Theor Concepts" p. 45, w/ ESO; →

Phil Found Phys ch. 26 (pp. 29ff in part) esp. 33

→ conclude Putnam's 'model-theoretical' arg; my remarks on how a Carnapian would respond to it (notes on p. 3 of Demopoulos's manuscript)

Outline of discussion

- linguistic fw: "new way of speaking, w/ new rules" (p. 213, 2 steps)
- external vs internal questions - "Kantian transcendental empiricism"
- cognitive content - "ESO", pp. 219: pragmatism, convergence of views, agreement (Pauze)
- choice/acceptance vs assertion
 - methodology, epistemology, rules of inference of derivation, standards of evidence
 - testability & confirmation - question of meaning of propositions is a refinement of Kant's question about the possibility of knowledge
- analytic / synthetic } "ESO" pp. 213-214
- a priori

"Kantian transcendental empiricism"

see quotes in "ESO", pp. 207, 213, 215

→ not revelation or intuition in the traditional sense

"principle of verification" is not itself verifiable - not a problem for Carnap, coz the principle is a priori (I would not say analytic) in a very Kantian transcendental sense - it grounds the possibility of attribution of meaning to and having knowledge about propositions.

Quick Review of Reichenbach

- his notion of constitutive a priori is quite similar to, and likely partially inspired, Carnap's view on the a priori in linguistic fw
- "constitutive of concept of object"
 - both what we count as an "object" at all, and also what sorts of properties it can have, relations it can enter into w/ other obj's, and behaviors it can manifest
- completely general, "highest" ones (credibility, probability, causal connectivity -)
- specific ones, e.g., Maxwell's eqns as reps of EA field, character concept of 'Em field', e.g., $\nabla \cdot B = 0$ "means" that "there are no magnetic charges"

Lectures 8 & 9: Theories - Comp

17 Nov
2016
①

"Method Over Theory Concepts"

- obs being fully interpreted
→ and so better understood (pp. 40-41)

⇒ 'observations' and 'theories' may get pushed back
of faith between diff't parts of leg

because it is better to understand 'obs' by the criticism

'fully understood' (see Phil Found Phys, ch. 23
on simplification of measurement; ch. 24 p. 15)

Paper typically explores a complex
account of 'grasp of leg. by obs
understood nature in some way'
(Method Over Theory Concepts, p. 40)

Lecture: Sense of ^{Sci} Structure Theory - Concep I 28 Apr 2015

①

ESO

- see notes from last lecture

- a theory is not the fw; the fw provides the terms and cognitive content (rules of reasoning, rules of evidence etc.) one uses to formulate the theory

analytic (L-entities, L-rules) - theoretical postulates

synthetic - correspondence rules, empirical laws, statements of fact

Intro to Phil Sci: Qd. Found. of Phys (chs. 23-26)

- theoretical vs observable terms (entities, properties, relations): interesting target: (concep) explanation based on simplicity of techniques used to measure & observe

→ empirical vs theoretical laws

- emp = confirmed directly by empirical obs

→ laws about (and only about) observables

- theor = contains unobservable terms

theor laws \approx emp laws as emp laws \approx emp facts

they help explain, allow derivations

but theor laws are not generalizations of emp laws,

→ emp laws are realizations of emp facts

⇒ because theor laws contain unobservables, other props are needed to connect theor (laws) to emp laws

⇒ correspondence rules

→ also needed to derive ~~correspondence~~ emp from theor laws

Correspondence rules

- connecting their w/ obs terms
- conditionals of & correlatives, generally

Sub - there are not "def's" of these terms
these terms cannot be explicitly defined using obs terms
(but they can be 'partially interpreted')

⇒ a def'n would be an answer to an external question?

Struc Sci Theory

- i) choice of fw (including division of them from obs terms)
- ii) theoretical postulates (laws)
- iii) correspondence rules
- iv) emp laws

Ramsey Sentence (provides semantics)

How do these terms acquire meaning?

(see list of questions in 3rd q1 of ch 26, and 4th q1)

A theory \mathcal{T} contains these terms T_1, T_2, \dots
and obs terms O_1, O_2, \dots

and consists of postulates and c-rules $P_1(T_1, T_2, \dots), P_2(T_1, T_2, \dots), \dots$
 $C_1(T_1, T_2, \dots, O_1, O_2, \dots), \dots$

and $\mathcal{T} = P_1 \wedge P_2 \wedge \dots \wedge C_1 \wedge C_2 \wedge \dots$

then Ramsey sentence is

$$(\exists x_1)(\exists x_2) \dots [P_1(x_1, x_2, \dots) \wedge P_2(x_1, x_2, \dots) \wedge \dots \wedge C_1(x_1, x_2, \dots, O_1, O_2, \dots) \wedge \dots]$$

Lecture: Sense of Sci Things - Comp I

28 Apr 2015

(3)

So what?

⇒ ^(or incomplete) "partial interpretation" of their terms,
extensionally, w/ some empirical content as old theory,
no their terms, can all that is needed to explain facts
not make new predictions

⇒ great elegance and power: makes it impossible
even to formulate external questions!

and

allow distinction between

'analytic' of 'factual' in

theory, coz Comp sentence implies
only analytic observable sentences

⇒ "analyticity relative to a theory"

primary
purpose of
sci theories

Comp sent:

Ramsey sent \supset partially intep theory

- 'analytic' because it 'implicitly defines' the theoretical vocab;
- non-factual coz it implies only logical truths in D-language
- non-creative (in logical sense)