Constructing the World

Lecture 6: Whither the *Aufbau*?

David Chalmers
Plan

*1. Introduction
2. Definitional, Analytic, Primitive Scrutability
3. Narrow Scrutability
4. Acquaintance Scrutability
5. Fundamental Scrutability
6. Structural Scrutability
7. Whither the Aufbau?
Whither the Aufbau?

• Carnap defends: definitional scrutability of all truths from a logical scrutability base

• Vindicates a construction of all truths about the world from a logical/structural base

• How close can we come to these Carnapian goals?

• What sort of principled scrutability bases are suggested?
So Far

- I have argued: all truths scrutable from PQT1, and from some/all of:
  - spatiotemporal truths
  - nomic truths
  - phenomenal truths
  - quiddistic truths
  - indexicals, fundamentality, logic/math
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Definitional Scrutability

- A Priori Scrutability does not entail Definitional Scrutability - but can we get close?
- Context-dependent definitions
- Infinitary (or long finite) definitions
- Approximate definitions (converging?)
- Revisionary definitions (explications)
- Suitable for some Carnapian purposes
Analytic Scrutability

- Is an a priori scrutability base an analytic scrutability base?
- Not if there are synthetic a priori truths.
- But maybe if we expand the base:
  - add normative truths, mathematical truths, ...
  - pursued in further work on verbal disputes
Primitive Scrutability

• Base involving only primitive concepts?
  • \textit{l, now, this}
  • negation, conjunction, existence
  • spatiotemporal (given primitivism)
  • nomic (given non-Humean view)
  • phenomenal (given phenomenal realism)
  • quiddistic (given quidditist view)
  • \textit{fundamental, in-virtue-of?}
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Narrow Scrutability

- An expression is *Twin-Earthable* when there are two possible twins that use it nondeferentially with different extensions
  - E.g. ‘water’, ‘Godel’.
- Extensions of predicates etc. are properties
- An expression is *narrow* if it is non-Twin-Earthable or a primitive indexical
  - E.g.: ‘zero’, ‘believe’, ‘I’?
Narrow Scrutability II

• Narrow Scrutability: All truths are scutable from narrow truths (using only narrow expressions)

• Idea: Twin-Earthability goes along with scrutability from empirical truths about the environment.

• E.g. ‘water’: reference depends on underlying external truths, and is correspondingly scutable from those truths.
Narrow Scrutability III

• Narrowness plausible for
  • logic/maths, indexicals
  • fundamentality
  • phenomenal (for a phenomenal realist)
  • law of nature (for a non-Humean)
  • spatiotemporal (for a primitivist)
  • quiddistic (for a conceptual quidditist)
Narrow Scrutability IV

- Does narrow scrutability yield narrow content?
- Requires also narrowness of scrutability
  - If A is scrutable from B for S, counterpart A’ is scrutable from B’ for any twin S’.
- Grounded in narrowness of apriority
  - If a thought T constitutes a priori knowledge for S, a corresponding thought T’ constitutes a priori knowledge for any twin S’.
Narrow Scrutability IV

- Generalized narrow scrutability plus narrowness of scrutability entail narrow primary intensions.
- If a token of ‘water is XYZ’ is scrutable from a XYZ-scenario specification for Oscar, a corresponding token will be scrutable from the same specification for Twin Oscar.
- So primary intensions coincide.
- More generally: if a thought T has a given primary intension, so will its counterpart T’ for any twin.
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• Russell’s principle of acquaintance: All propositions are composed of constituents with which we are acquainted.

• All expressions definable in terms of acquaintance expressions.

• Russell: these include ‘I’, ‘now’ (?), expressions for sense-data and certain universals.
Acquaintance Scrutability II

• All truths scrutable from truths involving only acquaintance expressions?

• Members of our scrutability base are at least reminiscent of Russell’s acquaintance concepts.
Acquaintance
Scrutability IV

- An epistemically rigid expression is one that has the same extension in every epistemically possible scenario (and every possible world)

- No: ‘water’ (picks out H\textsubscript{2}O or XYZ), ‘Godel’


- Alternative: An epistemically rigid expression is one whose extension we can know a priori.

  - Epistemic rigidity entails non-Twin-Earthability?
  - A posteriori necessities requires epistemic nonrigidity?
Acquaintance Scrutability V

- Epistemic rigidity is reminiscent of acquaintance
  - Acquaintance: One knows the referent merely by having the concept
  - Epistemic rigidity: One can know the referent a priori (by having the concept).
- Differences
  - More idealization (e.g. ‘43+59’ is ER but not A?)
  - Apriority required (e.g. ‘I’ is A but not ER?)
Acquaintance
Scrutability VI

• Suggestion: two kinds of acquaintance
  • Acquaintance with concrete entities
    • Primitive indexicals
  • Acquaintance with abstract entities
    • Epistemic rigidity
  • An acquaintance expression is either a primitive indexical or an epistemically rigid expression
Acquaintance Scrutability VII

- Then: all expressions scrutable from acquaintance expressions?
- ‘I’, ‘now’, ‘this’: primitive indexicals
- phenomenal, nomic, fundamental: epistemically rigid
- A vindication of Russell?
- Acquaintance scrutability might then explain narrow scrutability, primitive scrutability, etc?
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Fundamental Scrutability

• All truths are scrutable from metaphysically fundamental truths

• Those in virtue of which all truths obtain

• Better: All truths are scrutable from metaphysically fundamental truths and indexical truths
Fundamental Scrutability II

- Problem: There are many modes of presentation of fundamental properties.

- Solution: Require that fundamental truths are specified using only epistemically rigid terms.

- Problem: No e-rigid specification of fundamental properties on some quiddistic views.

- Handle via Ramsey-sentence specification of fundamental truths, with e-rigid O-terms.

- Key property: Fundamental truths necessitate all (epistemically rigid) truths.
1. All epistemically rigid truths are necessitated by (epistemically rigid) fundamental truths.

2. When \( S \) is epistemically rigid, \( S \) is necessary iff \( S \) is a priori.

3. All epistemically rigid truths are a priori scrutable from fundamental truths.
3. All epistemically rigid truths are a priori scrutable from fundamental truths.

4. All truths are a priori scrutable from epistemically rigid truths and indexical truths.

5. All truths are a priori scrutable from fundamental truths and indexical truths.
Fundamental Scrutability V

• Most non-indexical truths in our base look fundamental

• Nomic, spatiotemporal, quiddities, that’s-all

• Correspond to fundamental physical truths about world (depending on Humeanism, spatiotemporal primitivism, quidditism).
What about phenomenal truths?

- Fundamental for dualist, not in scrutability base for type-A materialist

- Type-B materialists hold that phenomenal truths aren’t scrutable from fundamental truths plus indexicals, so deny Fundamental Scrutability.

- But if Fundamental Scrutability is plausible in all other cases (and motivated by argument), then it yields a good reason to reject type-B materialism.
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Structural Scrutability

- Carnap: All concepts are definable in terms of structural concepts
- Weakly structural concepts: relational and logical concepts
- Strongly structural concepts: logical concepts
- Motivation: only structural concepts are objective, communicable, and suitable for science
- Non-structural concepts rely on subjective ostension
Structural Scrutability II

- All truths are scrutable from structural truths
- From strongly structural truths?
  - Corresponds to a “structure description”
  - Refuted by Newman’s problem.
- From weakly structural truths?
  - Corresponds to a “relation description”.
  - Look for objective relation descriptions?
Spatiotemporal Structuralism

- All truths are scrutable from spatiotemporal (and indexical) truths
  - Base: There exist entities and properties distributed in such-and-such way over spacetime
  - Spatiotemporal concepts are primitive, defines nomic, phenomenal, etc from there.
  - Lewis’s Humean scrutability
- Spatiotemporal truths can be specified using
  - basic spatiotemporal relations, or mathematical spaces with certain dimensions designated as spatiotemporal
Nomic Structuralism

• All truths are scrutable from nomic truths (and indexicals)
  • Base: There exist entities and properties connected by such-and-such nomic relations
  • Nomic concepts are primitive, others defined from there
  • Epistemological analog of Shoemaker’s metaphysical causal/nomic structuralism?
• Nomic truths specified using
  • a single nomic relation $N$, or a single nomic operator, plus mathematics etc?
Phenomenal Structuralism

- All truths are scrutable from phenomenal truths (and indexicals)
  - Base: There exist experiences that stand in certain structural relations
  - Requires phenomenalism or panpsychism
  - Phenomenal truths specifiable using similarity/difference relations or mathematically.
  - Dilemma: either incomplete (if knowable in black-and-white room) or non-objective (if not).
Combined Versions

- There are also combined versions
- Nomic/Phenomenal/Spatiotemporal Structuralism, etc
- Quiddistic Structuralism?
- My view: any “objective” form of structuralism is undermined by phenomenal knowledge (and indexicals?).
- But these leaves open structuralism about the nonphenomenal domain -- cf. structural realism.
Fundamentality
Structuralism

• All truths are scrutable from truths about fundamentality (and logic, math, indexicals)

• There exist such and such fundamental objects, properties, and relations, distributed in such-and-such way with respect to each other

• A purely mathematical specification of fundamental physics, with certain axes labeled as fundamental

• Spatial and temporal dimensions analyzed mathematically as spacelike and timelike dimensions.

• Nomic, phenomenal, etc analyzed from there.

• Cf. Carnap’s final system in the Aufbau.
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Whither the Aufbau?

• I have not constructed the world, or even written an Aufbau.

• But I have suggested ways in which various Aufbaus might be written.
The Carnap/Lewis Aufbau

• The scrutability base contains only logical, mathematical, and indexical expressions, and “fundamental”.

• The basic truths specify the existence and distribution of fundamental objects, properties, relations, and one’s relation to that space.

• Spacetime defined mathematically.

• Laws and causation defined in terms of regularities

• Mentality defined in terms of causation and behavior

• Everything else definable from there.
My view

- The Carnap/Lewis *Aufbau* is beautiful, but fails
  - The definitions it needs may not be available.
  - It cannot adequately account for the nomic or the phenomenal
My Aufbau

- The scrutability base contains only logical, mathematical, and indexical expressions, plus phenomenal expressions, ‘fundamental’, and ‘law’.

- The basic truths specify the existence, distribution, and nomic relations of fundamental objects, properties, and relations, with some specified as phenomenal properties (and some as quiddities?), and relation to oneself.

- Spacetime scrutable from laws and experience.

- Causation scrutable from laws and properties.

- Mental states scrutable from causation and phenomenology.

- Everything else scrutable from there.
Conclusion

• The project of the Aufbau is alive and well.