Carnap on the Mind-Body Problem and Non-Classical Reductionism

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Introduction

Observation: We often find a gap of dealing with traditional philosophical topics within analytic philosophy.

Examples:

- Metaphysics: elimination $\Rightarrow$ Kripke's essentialism
- Ethics: meta-ethics $\Rightarrow$ Frankena's analytic normative ethics

$$\vdots$$

- Philosophy of Mind: mind-body pseudo-problem $\Rightarrow$ Feigl's rehabilitation

In this talk we focus on the mind-body problem "gap" in analytic philosophy.

Introduction

Ad gap:

> *"[I]t was the papers by Smart and Feigl that introduced the mind-body problem as a mainstream metaphysical Problematik of analytical philosophy, and launched the debate that has continued to this day" (Kim 2000, p.1)*

This expresses the widely held view that the current debate on the mind-body problem in analytic philosophy began during the 1950s at two distinct sources:

- in the US deriving from Herbert Feigl's writings (particularly 1958)
- in Australia related to writings by J.J.C. Smart (particularly 1959)

Introduction

Recent interest in this field: (Kim 2003), (Heidelberger 2003), (Crawford 2021)

Brings to the fore: Feigl was important, but relied heavily on Schlick and Carnap.

Schlick: double-language theory (some form of "epistemic" identity theory)

Carnap: revision of views due to his discussions with Carnap

Introduction

Feigl was important, because of . . .

- . . . his propaganda for *Logical Positivism: A New Movement in European Philosophy* (published 1931, in the *Journal of Philosophy*),
- . . . his role in the *exodus* of analytic philosophy (Europe ⇒ US),
- . . . his pushing the philosophy of the cognitive sciences: In 1953, he established the *Minnesota Center for Philosophy of Science* (the first center of its kind in the United States; focus on philosophy of cognitive science, today also a stronghold philosophy of biology).

But, as said, there was also Carnap . . .

Carnap & Feigl

University of Pittsburgh, ULS, Rudolf Carnap Papers, 1904-2007 ASP.1974.01

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Logical Positivist's Mind-Body Background

The Origin of Psyochophysical Parallelism

Psychophysical parallelism was *the* dominant account of the 19th and early 20th century.

It had been established and developed by the physicist, philosopher, and psychologist Gustav Theodor Fechner.

Elements of Psychophysics (1860)

Psyochophysical Parallelism

We have to distinguish three different forms (cf. Heidelberger 2003, sect.1):

1. empirical postulate: a methodical rule for researching the mind-body relation, claiming that there is a consistent correlation between mental and physical phenomena $\Rightarrow$ question of causation to be but forward
2. identity view: doctrine of two perspectives: mental and physical are two aspects of one and the same entity $\Rightarrow$ question of causation results from scrambling different perspectives
3. panpsychism: Even inorganic processes have a psychical side to them

Psyochophysical Parallelism: Mach

Fechner was very influential, e.g. Ernst Mach set himself in the tradition of Fechner

Mach cut the Gordian knot of causal influence by entirely forgoing causality and permitting solely functional dependence.

Psyochophysical Parallelism: Wundt

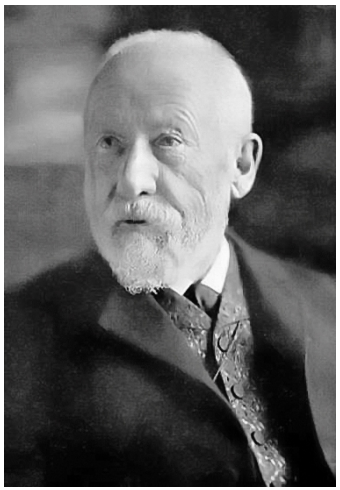
Wilhelm Wundt, the principal representative of "new psychology" in Germany, advocated a form of partial parallelism.

He confined parallelism to those physical and mental events for which we have actual proof that they are parallel.

Not at least due to Wundt, psychophysical parallelism was endorsed by the majority of both psychologists and physiologists into the 20th century.

Psyochophysical Parallelism: Psychology

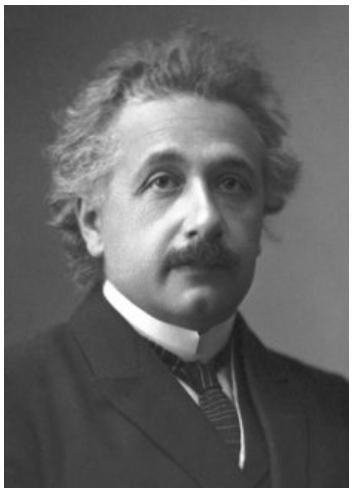
Wilhelm Dilthey pushed Carl Stumpf (arranged an appointment as chair for psychology in Berlin) . . .

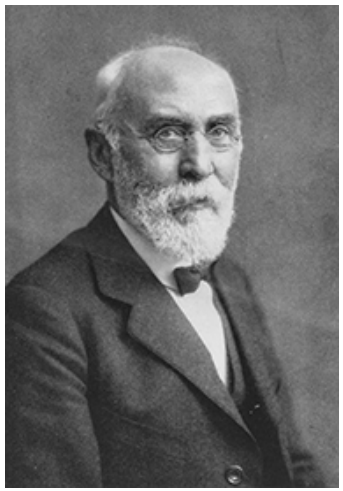


. . . to prevent parallelists such as Wilhelm Wundt, Hermann Ebbinghaus, and Benno Erdmann from taking the chair.

Psyochophysical Parallelism: Physics

Fechner's account was not only influential in psychology, but also in physics.





Einstein: "To guard against the collision of the various sorts of 'realities' with which physics and psychology deal, Spinoza and Fechner invented the doctrine of psychophysical parallelism, which, to be frank, satisfies me entirely"

von Neumann: the distinction made in quantum mechanics between the observer and the system under observation can be considered as a from the principle of psychophysical parallelism.

Lorentz: "the mental and the material are inviolably tied to one another, they are two sides of the same thing. The material world is a way in which the Weltgeist appears, since the smallest particle of matter has a soul, or whatever one chooses to call it. This is all closely tied to Fechner's views [...] and I think that we have to assume something similar."

Psyochophysical Parallelism: Philosophy

Heidelberger (2003, p.250):

> *"It is not surprising that philosophers well educated in natural science, as Moritz Schlick and Rudolf Carnap were, stood squarely within the tradition of psychophysical parallelism when it came to dealing with the mind-body problem. In General Theory of Knowledge, published in 1925, Schlick referred to himself explicitly as an advocate of that doctrine[.]"*

Carnap on the Mind-Body Problem

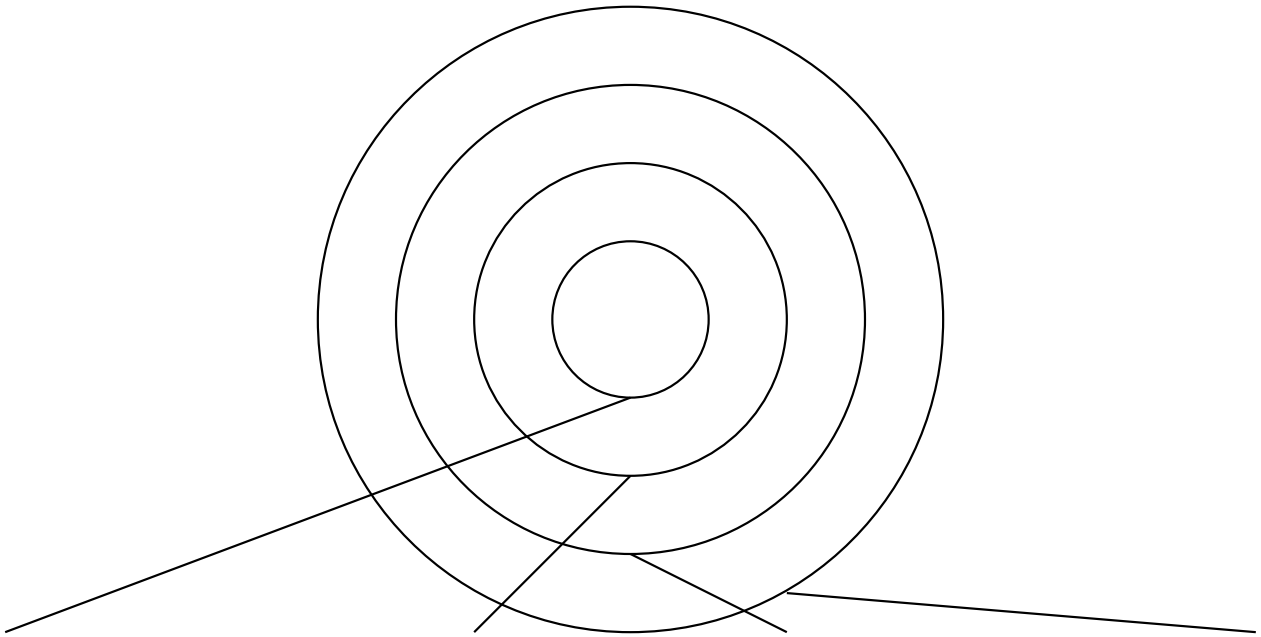
Main Sources

Most relevant sources of Carnap's account:

- *The Logical Structure of the World and Pseudoproblems in Philosophy*, originally published in 1928 (*Aufbau*)
- "Psychology in Physical Language", originally published in 1932
- *Logical Syntax of Language*, originally published in 1934, no explicit treatment of psychology/the mind-body problem
- "Testability and Meaning", published in 1936/37
- *The Philosophy of Rudolf Carnap*, published in 1963

Main Approach already in the *Aufbau*

Philosophy of science = constitution theory/application



auto-psychological ⇒ physical ⇒ psychological ⇒ cultural

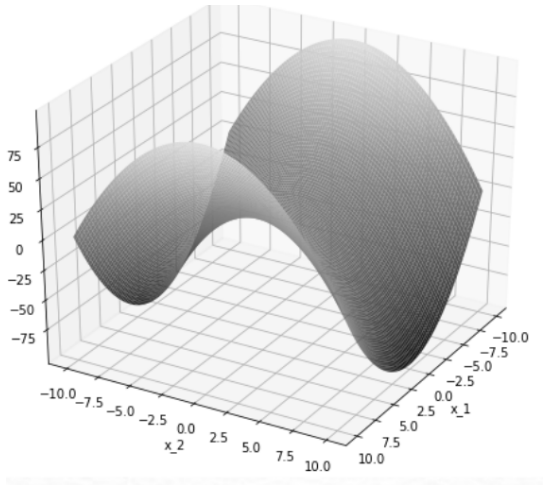
In the *Aufbau*: constitution = explicit definition

The Auto-Psychological Basis

The auto-psychological basis consists of so-called *elementary experiences* ("Elementarerlebnisse")

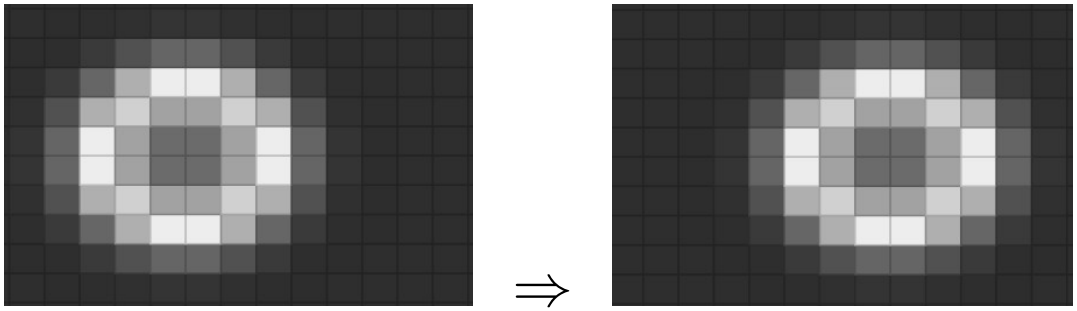
These are temporal slices of one's total stream of experience.

By help of (quasi-)analysis we can distinguish different sensory input: visual, audio, haptic etc.



Constitutional Problems and Pseudo-Problems

Example of a constitution: movement via features of a recollection-of-similarity relation *Er* applied to a set of elementary experiences.



Internal questions: questions that can be formulated/answered within a constitution system. E.g.: Can *frustration* be defined by physical terms alone?

External questions: questions that cannot be formulated/answered within a constitution system. E.g.: auto-psychological vs. physical basis?

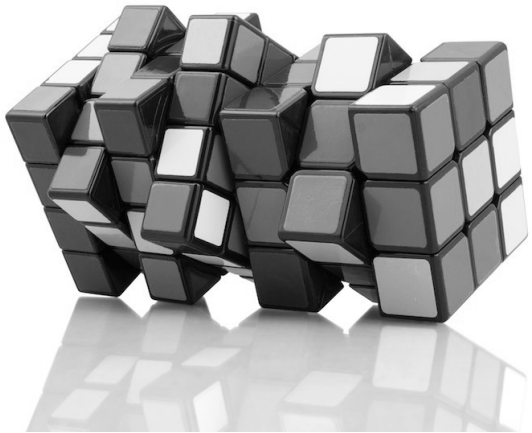
Constitutional Problems and Pseudo-Problems

Since, according to Carnap, (unified) science operates only within a constitutional framework, external questions are not scientific.

They lack (constitution-theoretical) meaning or even syntax.

Hence, they only appear to be proper questions/problems.

But, in fact, they are pseudo-problems.



Carnap on the Mind-Body Problem

The problem of the psychophysical relation consists in the difficulty of understanding and explaining the parallelism of such heterogeneous phenomena as that of the mental and the body (cf. Carnap 1928/2003, par.166)

Carnap mentions three different metaphysical solutions: the hypothesis of mutual effect (neutral monism), the identity thesis, and the thesis of parallelism without identity.

Problem: Solutions remain unclear inasmuch as they fail to be properly worked out within a constitution system.

E.g.: Identity theory: What does it mean to "underlie an inner and outer side", perspective etc. (cf. Carnap 1928/2003, par.22)

Carnap on the Mind-Body Problem

Basically, the problem of the parallelism is about a parallel in elementary experiences.

Since elementary experiences are simply given, the fact that they can be ordered in two parallel series needs to be accepted without reserve.

Carnap on the Mind-Body Problem

mind-body problem = pseudo-problem

(Non-Classical) Reductionism

Carnap's solution in Context

Carnap's solution: there is no need to account for the parallelism, because asking for such an account is a pseudo-problem.

His approach to the mental was reductionist: psychology in physical language

Context of Carnap's reductionism: it is one of the three pillars of logical positivism:

- reductionism
- analytic/synthetic distinction
- verificationism

Skipping of verificationism: logical positivism $\Rightarrow$ logical empiricism

What remained were the "Two Dogmas of Empiricism" (Quine 1951)

Carnap's Reductionism

Carnap's reductionism comes in three stages (cf. von Kutschera 1991):

- 1928: Aufbau
  $\Rightarrow$ explicit definition
- 1936/37: Testability and Meaning
  $\Rightarrow$ bilateral reduction
- 1950s and 60s (particularly his replies in the Schilpp volume from 1963): Logical Theory of Probabilities/Confirmation Theory
  $\Rightarrow$ empirical confirmability

So, Carnap increasingly weakened his constraints for reductions.

Carnap's Reductionism: Examples

Toy-example: "reduction" of the notion of *aggression*

- Explicit definition: x is aggressive iff x's serotonine level passes the for her/his type characteristic level significantly.

$$A(x) \leftrightarrow \ldots$$

- Bilateral reduction: If x is tested by T at t, then x is aggressive iff x reacts the way R at t.

$$T(x,t) \rightarrow A(x) \leftrightarrow R(x,t)$$

- Empirical confirmability: that $x \ldots$ would confirm that x is aggressive.

$$conf(A(x)|E) > r$$

Problems for Classical Reductionism

Although weakened in such a way and loosing some important formal features, there are still some serious problems left.

E.g., one of the main objections against physicalism regarding the mental are the following ones (cf. Beckermann 2001, p.90):

1. Mental predicates are cluster concepts— there are no sufficient and necessary conditions for defining them physicalistically.
2. If one tries to define them, then one produces a circle—at least in describing test-reaction-pairs.
3. Mental predicates can be, at the best, only characterised partially.

The Problem of Finding Adequate Conditions

The objection against classical reductionism in 1 is justified by the claim that sometimes, but not always, T leads to R and that because of this such reductions are inadequate (cf. Beckermann 2001, pp.87f).

In detail, the argument runs, e.g., against a supposition about tests made within bilateral reductions:

$$\forall x(\exists t(T(x,t)\&R(x,t)) \rightarrow \forall t(T(x,t) \rightarrow R(x,t)))$$

The most natural way to address this objection seems to try to overcome this problem by weakening this supposition about tests:

$$\forall x(\exists t(T(x,t)\&R(x,t)) \rightarrow \textit{usually at } t(T(x,t) \rightarrow R(x,t)))$$

Non-Classical Reductionism

Such a weakening corresponds to a weakening of the requirements for weak reductions.

One may try, e.g.:

$$\textit{Usually it holds for } x \textit{ and } t: \ (T(x,t) \rightarrow (A(x) \leftrightarrow R(x,t)))$$

And this is to allow not only reductions within classical logic, but also within non-classical logic:

Definition (Non-classical term-by-term reduction)

An expression t of T_2 is reducible to a set of expressions of T_1 iff t of T_2 is non-classically connectable via so-called rules of correspondence with expressions of T_1.

It seems that this is a quite natural extension of the Carnapian reductionist programme.

Summary

In this talk we have dealt with Carnap's approach to the mind-body problem and his reductionism regarding the mental.

We have seen that the background of early analytic philosophy was that of pschophysical parallelism (Fechner).

Carnap's approach to problems regarding this parallelism consists in identifying them as *pseudo-problems*.

His account of the mental consists in reductionism.

We have seen that his reductionism underwent some modifications.

And we have outlined that, in order to tackle problems of reducing the mental, it seems that Carnap's account can be naturally extended to some form of non-classical reductionism.

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