B5.2 Historical Aspects in the Philosophy of Science

Franz Roh as the missing link between Rudolf Carnap and Otto Neurath

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Franz Roh (1890-1965) was one of the most important German art historians of the last century. Beside of that, Roh has been a close (and lifelong) friend of both Rudolf Carnap and Otto Neurath, and, actually, he also established the connection between Carnap and Neurath. Against the background of recent studies on that topic by Hans-Joachim Dahms, Günther Sandner, and Christian Damböck, this paper evaluates the role that Roh played for the friendship of Carnap and Neurath, and the way how Roh – a student of Herman Nohl and therefore a member of the Dilthey-school – has influenced both Carnap and Neurath. The sources that will be used for that purpose are (1) the correspondence between Roh, Neurath, and Carnap as available at the Roh Nachlass Getty Center for the History of Art and the Humanities Santa Monica, at the Carnap Nachlass Archives for Scientific Philosophy, Pittsburgh, and at the Neurath Nachlass Wiener Kreis Archief, Noord- Hollands Archief, Haarlem, (2) Roh’s unpublished (and by now completely neglected) philosophical writings from the 1940s as available at the Germanisches Nationalmuseum. The working hypothesis is that Roh significantly influenced both Neurath and Carnap and that this influence has been neglected because Roh remained a defender of the humanities (Geisteswissenschaften) after 1930 while Neurath and Carnap (who both earlier had been sympathetic to an implementation of the humanities in the context of their vision of unified science) rejected that notion. The aforementioned philosophical writings of Roh’s are extremely important for that task, because they show a philosophical attitude quite similar to Carnap (e.g., with respect to values), although Roh remained a defender of the humanities and therefore did not share the reductionist aspects of physicalism.

Schlick and Wittgenstein: The Theory of Affirmations Revisited

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This talk will investigate whether consideration of the philosophical relationship between Moritz Schlick and Ludwig Wittgenstein may allow for the redemption of Schlick’s mid-1930s
theory of affirmations — albeit for the price of removing him from the philosophy of science narrowly understood.

Viewed from the perspective of the epistemology of science, Schlick’s theory was a clear failure. Affirmations were meant to be observation statements not identical with the protocol statements recorded by scientists but instead were conceived as incorrigible reports where understanding of sense coincided with recognition of truth. Schlick was unable to resolve the tension between the subjective certainty they provided and the objective legitimation of scientific knowledge claims they aimed for. Interpreters either rejected the theory wholesale or saved only part of it by discarding another.

The alternative reading explored here starts from noting, first, that both the early and the late Schlick accepted that there existed certain foundations for human knowledge and, second, that for the first few years since his return to philosophy in 1928 Wittgenstein’s thought also centered largely on what we could not be mistaken about, on immediate experience, and its relation to human discourse generally. On the basis of Wittgenstein’s notebooks and recent important archive work I will try to determine both when and which of the relevant intermediate insights on the road to his mature views were communicated to Schlick, explore how Schlick’s affirmations fit with them and whether this can make better sense of them. I will argue that Schlick was encouraged to recast his earlier engagement with skepticism in terms of what he took to be Wittgenstein’s new views and that, while remaining ultimately unsuccessful, Schlick’s affirmations gain a certain plausibility in this light.

Cassirer, Kaila, and "Helsinki Realism"

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In 1910, Ernst Cassirer published his influential monograph Substanzbegriff und Funktionsbegriff. In that book, Cassirer argued for an ‘invariantist’ conception of objectivity. According to this theory, scientific statements and laws are the more objective the more invariant they are. As an example, Cassirer in his 1921 “Zur Einsteinschen Relativitätstheorie” discussed the principle of general covariance as the most objective – since it’s the most invariant – principle of General Relativity. Programmatically, he intended to argue for what he called “logical idealism.” Interestingly enough, Eino Kaila, implicitly relying on Cassirer, argued for an invariantist conception of objectivity as well. However, his aim was not to strengthen idealism, but rather what he called “critical realism.” His case in point was the theory of measurement that, in his opinion, could only be interpreted in realistic terms. This Kailaian conception of the 1930s and 1940s, in turn, was the smoking gun for the representatives of “Helsinki Realism.” Especially Raimo Tuomela (1973) and Ilkka Niiniluoto (1999) attempted in their respective writings at defending a “critical scientific realism” that they initially intended as an answer to C.G. Hempel’s “Theoretician’s Dilemma” (1958). Yet although very close in spirit to Kailaian critical realism, both Tuomela and Niiniluoto eventually left open the question of their ontological commitment. As will be argued in the paper, Kaila’s original – measurement-
based – ‘invariantism’ is capable of bridging this gap. In short, it’s invariant structures that are
detected and objectively determined by executing measurements. Accordingly, the physically
“real” is to be equated with (mind-independent) invariant measurable structures and thus
conceptualized within a naturalistic setting. The resulting position may be called ‘metrological
structural realism.’ By adopting this position, Helsinki Realism can be defended against both
scientific antirealism and metaphysical realism. On the whole, the impact of Kaila’s
philosophical point of view will be accorded greater detail.

Revisiting Lakatos's Criticism of Carnapian Inductive Logic

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In an influential paper published in 1968, Imre Lakatos argues that Carnapian inductive logic
was a degenerate research programme. My talk argues that Lakatos's influential criticism was
misplaced, and that a correct Lakatosian analysis of Carnapian inductive logic renders it
progressive, rather than degenerate.

The talk begins by setting Lakatos's criticism in its historical context. I explain the
circumstances in which Lakatos's critical essay first appeared, trace its influence and present
relevant archival material which, I believe, has not yet received proper scholarly attention.

I then summarise Lakatos's criticism, arguing that it was misplaced. Lakatos's central
argument assumes that early Carnapian inductive logic was committed to identifying
objectively given degrees of partial entailment between propositions. I present evidence in the
form of quotations from early Carnap which shows that this assumption was incorrect: early
Carnapian inductive logic in fact sought merely to codify actually existing patterns of inductive
reasoning, rather than to reveal objectively given partial entailment relationships.

Next I analyse the history of Carnapian inductive logic according to Lakatos's `methodology of
scientific research programmes'. I conclude that Carnapian inductive logic was theoretically
progressive, had heuristic power and showed signs of empirical progress.

Finally I assess my argument's significance to contemporary discourse in philosophy and the
history of philosophy. From a historical point of view, I argue that many accounts of Carnapian
inductive logic, which broadly agree with Lakatos, need to be revised. On a more substantive
level, to the extent that Lakatos's methodology is sound, my argument improves the standing
of Carnapian inductive logic and Carnap's method of explication.