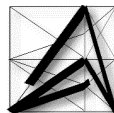


Philosophical Symposium 2025

The Legacy of the Vienna Circle a Century On

Faculty of Arts · Maribor, Slovenia

December 4–5, 2025



Philosophical Symposium 2025

The Legacy of the Vienna Circle a Century On

Maribor, Slovenia · December 4–5, 2025

Organized by Borut Trpin (Universities of Ljubljana and Maribor), Bojan Borstner (University of Maribor), and Martin Justin (University of Maribor)

•

Institutional Sponsors

Department of Philosophy, University of Maribor

DAF, Slovenian Society of Analytic Philosophy

•

Financial Sponsors

Department of Philosophy, University of Maribor

ARIS, Slovenian Research and Innovation Agency
(Grants No. P6-0144 and No. J6-60107)

•

The conference is officially included in the program of the activities of the Slovenian Society for Analytic Philosophy.

This symposium marks a century since the intellectual height of the Vienna Circle, whose members helped redefine the relationship between science and philosophy. Their approach to empiricism, logic, language, and the critique of metaphysics shaped the development of analytic philosophy and set lasting standards for clarity, rigour, and a scientific conception of the world.

The contributions reflect how the Vienna Circle's ideas remain relevant (or problematic) within contemporary philosophical debates. The symposium particularly focuses on submissions that show how themes developed by the Vienna Circle can inform current discussions in philosophy of science and epistemology.

Conference Program

Thursday, December 4

Time	Lecture room 2.11
9:00–9:15	Introductory Remarks
9:15–10:15	Olga Ramírez Calle (University of Málaga) <i>Basic Tenets of Logical Empiricism and their Actuality</i>
10:15–11:15	Matteo De Benedetto (IMT Lucca) <i>Putting Tolerance back in its place: Carnap’s translational methodology in the Syntax years</i>
11:15–12:15	Aviezer Tucker and Georg Gangl (University of Ostrava) <i>The Political Philosophy of Moritz Schlick</i>
12:15–13:45	Lunch Break
13:45–14:45	Boris Vezjak (University of Maribor) <i>Neurath’s ship metaphor: pragmatic rationality in the context of the Vienna Circle</i>
14:45–15:45	Martin Justin (University of Maribor) <i>Neurath’s Bet on Random Allocation of Research Funding</i>
15:45–16:15	Coffee Break
16:15–17:15	Ulrich Arnswald (University of Innsbruck / Oles Honchar Dnipro National University) <i>Not Really “Unified Science” – Democratization of Knowledge in the Vienna Circle and its Immediate Environment (Neurath, Popper, Feyerabend, Hayek)</i>
17:15–18:15	Marco Giovanelli (University of Turin) <i>Cassirer and Vienna Indeterminism</i>
19:30–	Social Dinner

Friday, December 5

Time	Lecture room 2.14
10:00–11:00	Sybren Heyndels (Charles University) <i>In what sense is modal language non-descriptive?</i>
11:00–12:00	Bojan Borstner (University of Maribor) <i>Who said: There is no metaphysics? G. Bergmann's Truncated World</i>
12:00–13:30	Lunch Break
13:30–14:30	Tadej Todorović and Janez Bregant (University of Maribor) <i>From Sentences to Models: Multiple Realization after the Vienna Circle</i>
14:30–15:30	Vito Balorda (University of Rijeka) <i>Waismann's Open Texture: The Many Faces of Biological Mechanism</i>
15:30–16:00	Coffee Break
16:00–17:00	Mousa Mohammadian (American University of Beirut) <i>Logical Empiricist Account of the Epistemic Aim of Science: Revival and Defense</i>
17:00–18:00	Adam Tamas Tuboly (ELTE Research Centre for the Humanities) <i>Breaking Up over the Sociology of Science: Frank, Kuhn, and Logical Positivism</i>

Website

More information about the symposium
available on the link below.



<https://philevents.org/event/show/138882>

Abstracts

Contents

Ulrich Arnswald: Not Really “Unified Science”	7
Vito Balorda: Waismann’s Open Texture	9
Matteo De Benedetto: Putting Tolerance back in its place	10
Bojan Borstner: Who said: There is no metaphysics?	13
Olga Ramírez Calle: Basic Tenets of Logical Empiricism and their Actuality	14
Marco Giovanell: Cassirer and Vienna Indeterminism	15
Sybren Heyndels: In what sense is modal language non-descriptive .	18
Martin Justin: Neurath’s Bet on Random Allocation of Research Funding	20
Mousa Mohammadian: Logical Empiricist Account of the Epistemic Aim of Science	22
Tadej Todorović, Janez Bregant: From Sentences to Models	24
Adam Tamas Tuboly: Breaking Up over the Sociology of Science . .	26
Aviezer Tucker, Georg Gangl: The Political Philosophy of Moritz Schlick	28
Boris Vezjak: Neurath’s ship metaphor	29

Ulrich Arnswald (University of Innsbruck / Oles Honchar Dnipro National University)

Not Really “Unified Science”—Democratization of Knowledge in the Vienna Circle and its Immediate Environment (Neurath, Popper, Feyerabend, Hayek)

The term “democratization of knowledge,” promoted by the Vienna Circle and especially by Otto Neurath, has been on everyone’s lips in recent years. Neurath’s achievements in this field were highly regarded, however, they do raise further questions that are also related to the activities of Neurath and the Vienna Circle.

In its 1929 manifesto “The Scientific Conception of the World,” the Vienna Circle set itself the goal of striving for a “scientific worldview” that would serve not only intellectual progress but also social progress. At the same time, it sought to establish a unified, scientific way of thinking that would form the basis for a better world. An important aspect of the democratization of knowledge was the demand to communicate scientific findings in understandable language to make them accessible to a broad public. Neurath pursued this goal.

For the Vienna Circle, science should form the basis for rational thinking and action. In this respect, Karl Raimund Popper, who was only marginally involved with the Circle, agrees with the Vienna Circle. Popper did not explicitly use the term democratization of knowledge, but his work, especially his ideas on the open society and critical rationalism, form a philosophical basis for it. He advocated the free exchange of ideas, the constant review and criticism of theories, and tolerance toward other opinions, all of which are essential aspects of the democratization of knowledge. For Popper, knowledge was never complete, but always a matter of trial and error and the possibility of making mistakes and learning. This promotes an open and collaborative approach to knowledge, as it is not about rigid dogmas, but about continuous improvement through criticism.

Paul Feyerabend advocated for the democratization of knowledge by promoting epistemological and political pluralism that challenges the monopoly of Western science, promoting the equal recognition of different knowledge systems such as indigenous traditions, and insisting that scientific understanding and decision-making be subject to democratic control and no longer remain the exclusive domain of experts. He believed that this openness, which corresponded to his principle of “anything goes,” would lead to better global understanding and a more just society.

Finally, Friedrich August von Hayek, who took up the ideas of the Vienna Circle, does not advocate the democratization of knowledge in the sense of direct participation by all in decision-making, but rather the “democratic use” of decentralized knowledge through the freedom of individuals to use their local knowledge. His central argument is that the knowledge crucial to decisions is not the knowledge of a central authority, but rather the scattered, local, and often implicit knowledge of countless individuals.

Four thinkers from the Vienna Circle or its immediate environment who took fundamentally different approaches to the “democratization of knowledge,” although the Vienna Circle had the goal of a “unified science”. The lecture aims to trace the approaches of the four thinkers and place them in context with one another.

Vito Balorda (Department of Philosophy, University of Rijeka)

Waismann's Open Texture: The Many Faces of Biological Mechanism

In this paper, I examine the conceptual status of *mechanism* in the life sciences through the lens of Friedrich Waismann's notion of *open texture*. I argue that Waismann's framework, understood as the permanent possibility of unforeseen applications and revisions, offers a more accurate way of capturing the theoretical flexibility of the concept of a mechanism.

The concept of a mechanism is a central explanatory notion in contemporary philosophy of biology and neuroscience. Mechanistic explanations are often taken to reveal how organized entities and activities produce phenomena, and thus represent the dominant explanatory schema in the life sciences. However, the concept itself exhibits a striking multiplicity. Across the literature, we find a variety of competing characterizations: some accounts emphasize spatial organization and componential decomposition, while others stress temporal dynamics, plasticity, and system-level features.

Moreover, recent discussions have drawn attention to causal-explanatory structures that depart from traditional mechanistic frameworks, such as pathways and cascades, suggesting that the mechanistic paradigm may not be exhaustive. The concepts of a pathway (e.g., glycolysis in biochemistry) or a cascade (e.g., blood coagulation in biomedicine) raise questions about the scope and boundaries of the mechanistic framework. I contend that this multiplicity is a manifestation of the open texture of the concept of a mechanism. The boundaries of the concept remain permanently open to extension and revision in light of novel empirical contexts. This openness, I argue, reflects not a failure of precision but a structural feature of the biological sciences.

By applying Waismann's distinction, I aim to show that *mechanism* exemplifies an open-textured empirical concept whose role in scientific inquiry depends on its capacity for conceptual adaptation rather than definitional closure. Recognizing this feature not only clarifies the structure of mechanistic explanation but also situates the concept of mechanism within a broader philosophical understanding of how empirical inquiry operates with flexible and revisable conceptual tools.

Matteo De Benedetto (IMT Lucca)

Putting Tolerance back in its place: Carnap's translational methodology in the *Syntax* years

The last three decades have witnessed a flourish of historical scholarship on Carnap's philosophy, which significantly transformed the received view of Carnap's philosophical development (e.g., Richardson 1997; Friedman 1999; Carus 2007; Wagner 2009; Blatti and Lapointe 2016; Leitgeb and Carus 2020). An important part of this reassessment has concerned the originality of Carnap's late methodology of explication and the metaphilosophical pluralism embodied by this method (e.g., Stein 1992; Carus 2007; Friedman 2012; Uebel 2012, 2018; Richardson 2013; Steinberger 2016). This recent focus on Carnap's explication as a philosophical methodology is closely connected to a two-step historical narrative of Carnap's methodological evolution, according to which, Carnap's (1928a,b) early understanding of philosophy as rational reconstruction is followed, after an interim phase of methodological crisis, by a mature period in which the method of explication and the related spirit of philosophical tolerance take central stage (cf. Carnap 1947, 1950, 1963). In this picture, the transitional phase after rational reconstruction and before explication, is depicted as a methodologically confused phase, in which Carnap slowly and gradually comes to develop the idea of explication via a sort of trial and error process (cf. Awodey and Carus 2009; Carus 2007). According to this narrative, what guides Carnap in this phase is the principle of tolerance, which pushes him to gradually free his methodology from the inconsistencies and restrictions that allegedly plagued this phase of Carnap's thought (cf. Carus 2017; Creath 2009, 2012; Ricketts 2009).

In this talk, I want to refine this two-step picture of Carnap's methodological development by highlighting the significance and originality of a third methodology in Carnap's philosophical development. Specifically, I will argue that we must recognize that Carnap, in the middle part of his philosophical career, understands his philosophical activity as a translational effort, employing a unique kind of logical analysis that is qualitatively different from both rational reconstruction and explication. I will argue that this specific translational methodology can be seen as guiding the whole project of the *Logical Syntax* (Carnap, 1934).

In contrast to the aforementioned dominant "narrative" of this period of Carnap's thought, I will show how Carnap's methodology in the *Syntax* is not just a confused predecessor of the method of explication, but rather encompasses a unique understanding of the method of logical analysis that is fully consistent with the principle of Tolerance. I will demonstrate that this methodology

differs from both rational reconstruction and explication from a metaphilosophical perspective. In particular, I will argue that a distinctive feature of Carnap’s translational methodology is the particular form of metaphilosophical pluralism that this method allows. Analyzing several methodologically revealing passages of the *Syntax*, I will show how Carnap’s translational methodology combines a radical pluralism about its inputs and outputs with a normative requirement on translating philosophical theses into precise statements inside a formal framework. It is this specific mixture of logical freedom and normative philosophical requirements that constitute the original context of the principle of tolerance.

References

- Awodey, S. and Carus, A.W. (2009): “From Wittgenstein’s Prison to the Boundless Ocean: Carnap’s Dream of Logical Syntax”. In (Wagner, 2009), 79-108.
- Blatti, S. and Lapointe, S. (Eds.) (2016): *Ontology After Carnap*. Oxford University Press, Oxford.
- Carnap, R. (1928): *Der logische Aufbau der Welt*. Weltkreis, Berlin.
- Carnap, R. (1928b): *Scheinprobleme in der Philosophie*. Weltkreis, Berlin.
- Carnap, R. (1934): *Logische Syntax der Sprache*. Springer, Vienna.
- Carnap, R. (1947): *Meaning and Necessity*. University of Chicago Press, Chicago.
- Carnap, R. (1950): *Logical Foundations of Probability*. University of Chicago Press, Chicago.
- Carnap, R. (1963): “Carnap’s Intellectual Autobiography and The Philosopher Replies”. In Schilpp, P.A. (Ed.), *The Philosophy of Rudolf Carnap*, Open Court, LaSalle, 3-84, 859-1013.
- Carus, A.W. (2007): *Carnap and Twentieth-Century Thought: Explication as Enlightenment*. Cambridge University Press, Cambridge.
- Carus, A.W. (2017): “Carnapian Rationality”. *Synthese* 194, 163-184.
- Creath, R. (2009): “The Gentle Strength of Tolerance: The Logical Syntax of Language and Carnap’s Philosophical Programme”. In (Wagner, 2009), 203-216.
- Creath, R. (2012): “Before Explication”. In Wagner, P. (Ed.), *Carnap’s Ideal of Explication and Naturalism*, Palgrave Macmillan, London, 161-174.
- Friedman, M. (1999): *Reconsidering Logical Positivism*. Cambridge University Press, New York.
- Friedman, M. (2012): “Rational Reconstruction, Explication, and the Rejection of Metaphysics”. In (Wagner, 2012), 190-204.
- Leitgeb, H. and Carus, A. (2020): “Rudolf Carnap: Supplement D. Methodology”. In Edward N. Zalta (Ed.), *Stanford Encyclopedia of Philosophy* (Summer 2020 Edition), <https://plato.stanford.edu/archives/sum2020/entries/carnap/methodology>.
- Richardson, A. (1997): *Carnap’s Construction of the World: The Aufbau and the Emergence of Logical Empiricism*. Cambridge University Press, Cambridge.

- Richardson, A. (2013): “Taking the Measure of Carnap’s Philosophical Engineering: Metalogic as Metrology”. In Reck, E. (Ed.), *The Historical Turn in Analytic Philosophy*, Palgrave Macmillan, London, 60-77.
- Ricketts, T. (2009): “From Tolerance to Reciprocal Containment”. In (Wagner, 2009), 217-235.
- Stein, H. (1992): “Was Carnap Entirely Wrong After All?”. *Synthese* 93, 275-295.
- Steinberger, F. (2016): “How Tolerant Can You Be? Carnap on Rationality”. *Philosophy and Phenomenological Research* 92(3), 645-668.
- Uebel, T. (2012): “The Bipartite Conception of Metatheory and the Dialectical Conception of Explication”. In (Wagner, 2012), 117-130.
- Uebel, T. (2018): “Carnap’s Transformation of Epistemology and the Development of His Metaphilosophy”. In *The Monist* 101 (4), 367-387.
- Wagner, P. (Ed.) (2009): *Carnap’s Logical Syntax of Language*. Palgrave Macmillan, London.
- Wagner, P. (Ed.) (2012): *Carnap’s Ideal of Explication and Naturalism*. Palgrave Macmillan, London.

Bojan Borstner (University of Maribor)

Who said: There is no metaphysics? G. Bergmann's
Truncated World

To be added.

Olga Ramírez Calle (University of Málaga)

Basic Tenets of Logical Empiricism and their Actuality

My proposal will deal with three main tenets of Logical Empiricism: 1) The abandonment of the Kantian synthetic a priori judgements in favour of just logic and language; 2) The idea that conceptual analysis required showing how language hooked to the world; 3) That for any sentence to be meaningful, there had to be something it was about.

In the first case, I will examine the difficulties raised by the abandonment of the Kantian idea according to which our understanding would contribute to conforming experience and consider whether it was an error to attempt to do without it. Turning now to the second tenet, I will explain how the evolution from Logical Empiricism to Pragmatism, with the abandonment of the Verificationist Criterion in favour of acceptability conditions (Wright, 1991), resulted in the conviction that digging into the relation of language to the world, given the instrumental character of language, was both an unsuitable and unreachable ideal (McDowell 1981). In contrast, I shall defend the necessity to recover conceptual analysis understood in, at least, sympathetic lines to Logical Empiricism. To illustrate this, I will provide several examples: first, I will show different ways the relations of concepts to experience might be defective; secondly, following Russell's analysis of definite descriptions, I will defend that there are not just existential presuppositions to our concepts as he argued but also functional ones (Calle, 2020) where the rightness of conceptual use depends on a) whether there is an acceptable function that was presupposed and b) whether it is really satisfied by the resulting conceptual content. Finally, addressing the third case, I shall consider some hard cases, by which figuring out what we are talking about poses some puzzle and address the challenge of clarifying what it is we are referring to in each case. I will then reconnect to the first problem and pose the question of whether, by some concepts, we might have to accept that it is our own contribution to the conformation of experience we are referring to.

References

- McDowell, J. (1981) "Non-Cognitivism and Rule Following". *Wittgenstein: To Follow a Rule*, S. Holtzman and C. Leich (Eds.), London: Routledge. 141–162.
- Ramírez Calle, Olga (2020). "Numbers, Empiricism and the A Priori." *Logos and Episteme* 11 (2):149-177.
- Wright, C. (1992) *Truth and Objectivity*. Harvard University Press.

Marco Giovanell (University of Turin)

Cassirer and Vienna Indeterminism

At the turn of the 2000s, Stöltzner (1999) introduced the category ‘Vienna indeterminism’ to describe a coherent philosophical tradition centered around the Viennese physicist F.S. Exner. While Planck integrated Boltzmann’s statistical mechanics into a deterministic worldview, Exner ventured to claim the universal applicability of Boltzmann’s probabilistic approach. In particular, Exner’s (1919) lectures on the ‘physical foundations of the sciences,’ written during the war, served as the ‘historical link’ between the older generation of Viennese philosopher-physicists, Mach and Boltzmann, and the younger generation, Schrödinger (1929), von Mises (1928, 1930), and Frank (1932), who developed and promoted Exner’s synthesis to wider audiences.

Through Frank and von Mises, Exner’s indeterminism percolated into the Vienna Circle, led by Planck’s former student Moritz Schlick. According to Stöltzner, his Schlick’s (1931) article on causality in quantum mechanics shows some *rapprochement* with Vienna indeterminism. Yet, the détente never became a full alliance. By contrast, Stöltzner notes a stronger *convergence* between Cassirer and Vienna indeterminism, the last representative of the once-influential Marburg school of neo-Kantianism. Indeed, in his 1936 monograph on quantum theory, *Determinismus und Indeterminismus*, Cassirer embraces the very core tenets of Vienna indeterminism that Schlick rejected: (a) Exner’s (1910) hypothesis that fundamental laws might be only statistical, (b) von Mises’s (1928) frequentist probability, (c) Frank’s (1932) and von Mises’s (1930, 1934) statistical interpretation of Heisenberg’s uncertainty relations.

Stöltzner avoids further discussion of Cassirer, and the convergence between Vienna indeterminism and late Marburg neo-Kantianism remains unexplored. The literature on Cassirer and the Vienna Circle focuses on similarities with Schlick and Carnap’s ‘structuralism, rather than Frank and von Mises’s ‘indeterminism. The literature on Cassirer’s interpretation of quantum mechanics does not escape this interpretative framework (French 2014, sec. 4.8; Ryckman 2015). *Determinismus und Indeterminismus* is seen, with nuances, as the culmination of the same ‘structuralist approach to classical physics found in his earlier monographs. Yet, this narrative leaves an important part of the story untold. In fact, upon closer inspection, the over 60-year-old Cassirer engages with quantum mechanics against a revised image of classical physics. Notably, in *Determinismus und Indeterminismus*, he addresses irreversibility and statistical mechanics, topics he had largely avoided before. In doing so, he encountered Exner and his epigones, long foreign not only to his own work but to neo-Kantianism as a whole.

This paper contends that Cassirer and the Vienna indeterminists broadly converged on this ‘interpretation’ of quantum mechanics. However, they used it as a starting point to pursue parallel philosophical goals. One could speak of a sort of *parallel convergence*. For the Viennese, the impossibility of fixing the initial conditions with arbitrary precision forces us to reject the notion of *causality* that dominated classical physics. According to Cassirer, this takeaway results from the Laplacian identification of ‘causality’ with ‘predictability’ rather than ‘lawlikeness.’ In his view, quantum mechanics challenges the classical notion of substantiality. By denying the possibility of well-defined trajectories, quantum mechanics forces us to abandon the idea of the trans-temporal individuality of particles independent of all possessed ‘properties. In search of a label, the paper argues that Cassirer proposed a sort of ‘non-individuals interpretation of quantum mechanics (Krause, Arenhart, and Bueno 2022).

References

- Ballentine, Leslie E. 1970. “The Statistical Interpretation of Quantum Mechanics.” *Reviews of Modern Physics* 42:358-381.
- Cassirer, Ernst. 1936. “Determinismus und Indeterminismus in der modernen Physik: Historische und systematische Studien zum Kausalproblem.” *Göteborgs Högskolas Årsskrift* 42. Repr. in ECW.
- Cassirer, Ernst. 1956. *Determinism and Indeterminism in Modern physics: Historical and Systematic Studies of the Problem of Causality*. Translated by Theodor Benfey. With a foreword by Henry Margenau. New Haven: Yale University Press.
- Exner, Franz S. 1919. *Vorlesungen über die physikalischen Grundlagen der Naturwissenschaften*. Leipzig/Wien: Franz Deuticke.
- Frank, Philipp. 1932. *Das Kausalgesetz und seine Grenzen*. Wien: Springer.
- Frank, Philipp. 1950. *Modern Science and its Philosophy*. Cambridge: Harvard University Press.
- French, Steven. 2014. *The Structure of the World: Metaphysics and Representation*. Oxford: Oxford University Press.
- Krause, Décio, et al. 2022. “The Non-Individuals Interpretation of Quantum Mechanics.” In *The Oxford Handbook of the History of Quantum Interpretations*, edited by Olival Freire.
- Mises, Richard von. 1928. *Wahrscheinlichkeit Statistik und Wahrheit*. Wien: Springer.
- Mises, Richard von. 1930. “Über kausale und statistische Gesetzmäßigkeit in der Physik.” *Erkenntnis* 1:189-210.
- Mises, Richard von. 1934. “Über Heisenbergs Ungenauigkeitsbeziehungen und ihre erkenntnistheoretische Bedeutung.” *Naturwissenschaften* 22:822.
- Ryckman, Thomas. 2015. “A Retrospective View of Determinism and Indeterminism in Modern Physics.” In *The Philosophy of Ernst Cassirer: A Novel Assessment*, edited by J. Tyler Friedman and Sebastian Luft, 65-102. Berlin/Boston: De Gruyter.

- Schlick, Moritz. 1931. "Die Kausalität in der gegenwärtigen Physik." *Die Naturwissenschaften* 19:145- 162.
- Schrödinger, Erwin. 1929. "Was ist ein Naturgesetz?" *Die Naturwissenschaften* 17:9-11.
- Stöltzner, Michael. 1999. "Mach, Boltzmann, Exner." *Synthese* 119 (Ludwig Boltzmann 'Troubled Genius as Philosopher'): 85-111.

In what sense is modal language non-descriptive?

There is a family of views about modality, rooted in the works of Wittgenstein and the logical positivists, which has at times been labeled ‘expressivist’, ‘conventionalist’, or ‘normativist’. In recent decades, such views have received renewed attention in the works of (among others) Sidelle (1989, 2009), Brandom (1994, 2008), and, most recently, Thomasson (2020), who has developed in considerable detail a position she calls ‘modal normativism’. One claim that has played a central role in this tradition of views concerning modality is that modal discourse is non-descriptive. This view is expressed in a variety of ways by the early Wittgenstein and many of the logical positivists. Concerned mainly with the status of logical and mathematical necessities, the logical positivists specified Hume’s original distinction between ‘matters of fact’ and ‘relations of ideas’ in terms of the claim that, whereas contingent synthetic claims have an empirical subject matter, logically or mathematically necessary statements are “tautologous” and “say nothing at all about the objects we want to talk about” (Hahn 1933: 158), “devoid of factual content” in the sense that “they convey no information whatever on any empirical subject matter” (Hempel 1945: 552), “say nothing and thus inform us just as much” (Reichenbach 1951: 222–223), or “do not state anything about the world of facts” (Carnap 1963: 64). These views were influenced by Wittgenstein’s *Tractatus*, which popularized the idea that the propositions of logic should be understood as tautologies that do not ‘say anything’ (Wittgenstein 1922: §6.11).

This paper (re-)evaluates the claim that modal language is non-descriptive. First, I distinguish between three senses in which modal language can be said to be non-descriptive. These senses correspond to three views I will call the ‘No-Information View’, the ‘No-Proposition View’, and the ‘No-Truthmaker View’. Whereas the first two views are connected to actual historical views held by Wittgenstein and the logical positivists, the ‘No-Truthmaker View’ is a more contemporary formulation of the view, and has been recently defended by philosophers such as Thomasson (2020), Büttner and Glock (2024), and Locke (2020), who states that modal normativism “rejects the truthmaker assumptions that typically come along with descriptivism about modal indicatives” (Locke 2020: 112). Secondly, I argue that contemporary modal normativists should embrace a so-called ‘metasemantic turn’, which centers on the explanatory claim that the truth of metaphysically and logically necessary propositions can be explained entirely in terms of the semantic rules governing our terms. I further argue that this metasemantic view is fully compatible with both standard possible-worlds semantics and the more recently

developed truthmaker semantics for modal propositions.

Martin Justin (University of Maribor)

Neurath's Bet on Random Allocation of Research Funding

Currently, most research funding is distributed through grant peer review. In this process, researchers prepare and submit project proposals, which are then evaluated by panels of subject-area experts. Because resources are insufficient to support all submitted proposals, these evaluations determine which projects receive funding. This process is lengthy and time-consuming for all parties involved—according to a 2008 survey, scientists at leading U.S. research universities spend approximately 19% of their research time writing grant proposals (Link et al. 2008).

Recently, several authors have suggested an alternative to grant peer review: the random allocation of funds (Shaw 2022). While specific proposals differ, they share the core idea that random selection should play at least some role in determining which projects are funded. For example, an influential early proposal by Brezis (2007) recommends using random allocation only among proposals for innovative research, rather than basic research. The motivation behind this suggestion is that reviewers tend to favor established approaches and are therefore unreliable in identifying truly innovative work. In addition to this “argument from ignorance,” proponents of partial randomization argue that such reforms would reduce bias and improve the effectiveness of funding decisions.

However, not all scholars agree that allocation by lot is desirable. Bedessem (2019) offers one such critique, challenging the epistemological justification for randomization. He argues that current proposals rest on two premises: first, that there “exist many (or a sufficient number to justify random allocation) research projects whose merit cannot be comparatively assessed;” and second, that random allocation is the best way to resolve this issue. Drawing on an understanding of science as an interconnected system of practices, Badessem rejects both premises and contends that it is at least theoretically possible to obtain a more precise comparison of the value of “equally good” projects by considering the diverse objectives they pursue.

In this paper, I defend the random allocation of research funding against Badessem's critique by arguing that it is epistemically prudent. To support this claim, I draw inspiration from the philosophy of Otto Neurath. Through his philosophical and economic writings particularly his early work on decision-making (Neurath 1973, 1983) Neurath emphasized our limited ability to evaluate competing courses of action, ideas, or economic plans. Consequently, he maintained that we must rely on external reasons or “aux-

iliary motives,” in his terminology to make decisions. While factors such as tradition or democratic deliberation can serve this role, Neurath persuasively argued that, in some cases, chance offers the most epistemically honest solution. I contend that research funding allocation is one such case.

References

- Bedessem, Baptiste. 2019. “Should we fund research randomly? An epistemological criticism of the lottery model as an alternative to peer review for the funding of science.” *Research Evaluation* 29 (2): 150-157. <https://doi.org/10.1093/reseval/rvz034>.
- Brezis, Elise S. 2007. “Focal randomisation: An optimal mechanism for the evaluation of R&D projects.” *Science and Public Policy* 34 (10): 691-698. <https://doi.org/10.3152/030234207X265394>.
- Link, Albert N., Christopher A. Swann, and Barry Bozeman. 2008. “A time allocation study of university faculty.” *Economics of Education Review* 27 (4): 363-374. <https://doi.org/10.1016/j.econedurev.2007.04.002>.
- Neurath, Otto. 1973. “The Problem of the Pleasure Maximum.” In *Empiricism and Sociology*, edited by Marie Neurath and Robert S. Cohen, 113-122. Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-94-010-2525-6_4. 1983.
- Neurath, Otto. 1986. “The Lost Wanderers of Descartes and the Auxiliary Motive.” In *Philosophical Papers 1913-1946: With a Bibliography of Neurath in English*, edited by Robert Sonn   Cohen and Marie Neurath, 1-12. Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-94-009-6995-7_1.
- Shaw, Jamie. 2022. “Peer review in funding-by-lottery: A systematic overview and expansion.” *Research Evaluation* 32 (1): 86-100. <https://doi.org/10.1093/reseval/rvac022>.

Mousa Mohammadian (American University of Beirut)

Logical Empiricist Account of the Epistemic Aim of Science: Revival and Defense

What is the Epistemic Aim of Scientific Theorizing (EAST)? There are four major accounts of EAST in the current literature: problem-solving ability, truth, knowledge, and understanding. In this paper, I revive, elaborate, and defend a logical empiricist account that I call “Theoretical Virtues as the Epistemic Aim of Scientific Theorizing” or “TV-EAST” for short. According to TV-EAST, the primary epistemic aim of scientific theorizing is to produce theories that exhibit the greatest possible number and degree of theoretical virtues. These include empirical accuracy, explanatory and predictive power, simplicity, coherence, unification, and fruitfulness.

The first section of the talk focuses on the historical origins of TV-EAST in the works of prominent logical empiricists, including Felix Kaufmann, Herbert Feigl, Ernst Nagel, and Carl Hempel. I argue that one can detect a gradual yet consistent development of TV-EAST in the background of logical empiricism. This logical empiricist account finally comes to the foreground in light of Thomas Kuhn’s *The Structure of Scientific Revolutions* (1962) and the debates it generated over scientific rationality and progress.

In the second section, I discuss the historical and philosophical relationships between TV-EAST and the problem-solving account, first suggested by Kuhn and later developed in Larry Laudan’s *Progress and Its Problems* (1977). I show that a proper examination of the different types of problems (or puzzles) and problem-solving activities reveals the centrality of theoretical virtues in both Kuhn’s and Laudan’s accounts. This analysis shows that the greatest problem-solving ability is nothing beyond achieving the best balance of theoretical virtues—precisely the aim defended by logical empiricists. Accordingly, the problem-solving account can be seen as TV-EAST in disguise. I further argue that in their later works, both Kuhn and Laudan set this disguise aside and effectively embraced TV-EAST.

In the third section, I examine the relationship between TV-EAST and the realist account of EAST, according to which the epistemic aim of scientific theorizing is to produce true scientific theories (“Truth-EAST,” for short). TV-EAST has often been associated with antirealism—after all, Hempel, Kuhn, and Laudan proposed their accounts as alternatives to Truth-EAST, and following van Fraassen (1980), many have understood the realism-antirealism debate in terms of opposing views about the aim of science. However, I argue that TV-EAST’s antirealist association is historical and contingent. Philosophically, TV-EAST is neutral with respect to the realism-antirealism debate. In fact,

if one adopts the realist view that the epistemic aim of scientific theorizing is to find true theories, one should also endorse TV-EAST.

Finally, drawing on three themes developed in the works of Kaufmann, Feigl, and Nagel, I defend TV-EAST as a viable account of the epistemic aim of scientific theorizing on two grounds. First, I argue that it can successfully address the challenges raised against the “aim of science” metaphor in the philosophy of science literature. Second, I discuss the advantages of TV-EAST over Truth-EAST, showing that it provides a more comprehensive and philosophically robust account of scientific theorizing.

Tadej Todorović, Janez Bregant (University of Maribor)

From Sentences to Models: Multiple Realization after the Vienna Circle

The presentation examines the consequences of the Vienna Circle’s vision of unified science for contemporary debates in the philosophy of mind. Specifically, we want to examine key concepts and ideas, such as reductionism and the syntactic view of scientific theories, and how they affected the debate in philosophy of mind throughout the century until today. A key example of our discussion is multiple realization and its relationship to the autonomy of special sciences. First, we outline the evolution of the argument for the autonomy of science based on multiple realization and how certain key terms, such as the “syntactic” conception of scientific theories and reductionism, stemming from the Vienna Circle, have allowed the argument to gain such force in philosophy of mind. The Syntactic View, which understood theories as sets of sentences, required that predicates appearing in scientific laws (e.g., “atom” or “protein”) be ontologically committing, corresponding to entities in the actual world. This is followed by an analysis of broader trends in philosophy of science, such as the introduction of the recent “semantic” approach to the understanding of scientific theories, which challenges the ontological commitment. According to the Semantic View, theories are understood as sets of models and not sentences and it is the models, and not sentences, which are, in some relevant aspect, identical to the actual world. On the semantic account, scientific models often invoke idealized or domain-specific predicates that do not have to be ontologically committing, as would be required by the syntactic view.. As van Fraassen says, “/.../ phenomena are, from a theoretical point of view, small, arbitrary, and chaotic—even nasty, brutish, and short, one might say—but can be understood as embeddable in beautifully simple but much larger mathematical models.” (Fraassen, 2008: 247)

We analyse various influential multiple realization cases from the literature, such as Fodor’s Gresham’s law (1974), Kim’s jadeite and nephrite (1989, 1992), or Shapiro and Polger’s corkscrews (2016), with two aims in mind. First, to examine the influence of the Vienna Circle’s understanding of scientific theories and reduction, and second, to articulate a semantic perspective of multiple realization that preserves the unity of science: higher-level explanations can remain useful, real, and relatively autonomous. By acknowledging semantic antireductionism, we believe we present a picture of the scientific world that retains some elements of the Vienna circle: it accounts for the explanatory powers of special sciences, creates a simpler ontological picture of the world, and justify the *modus operandi* of special sciences. Our account offers a framework that validates the explanatory autonomy of science, while

still maintaining, in the spirit of the Vienna Circle, a coherent and unified ontological picture of the world.

Adam Tamas Tuboly (ELTE Research Centre for the Humanities)

Breaking Up over the Sociology of Science: Frank, Kuhn, and Logical Positivism

If one field is still less associated with logical empiricism, it is sociology, especially sociology of knowledge and science. Although Otto Neurath's affinity with the social sciences (economics and sociology) are obviously known, it is often conceived either as a detour, or a personal interest, not having much to do with positivism itself. Nonetheless, recent attempts to incorporate Philipp Frank into the canon of history of logical empiricism and the history of philosophy of science have shown that even bigger, more comprehensive, and institutionalized efforts were made within logical empiricism to embrace and integrate sociology of science within the movement.

After the establishment of Frank's Institute for the Unity of Science in Cambridge, MA in 1947, one of the Institute's most prestigious research group dealt with sociology of science. Frank did everything he could to assemble a group of leading sociologists, historians, and philosophers to shape the new discipline (that was just about to unfold in the States during the early 1950s). After years of preparations, he was able to put together a research proposal to circulate and a committee that included Ernest Nagel, Robert K. Merton, Thomas Kuhn, and later Ernst Topitsch, Lewis Feuer, and others.

Though the group was unable to leave a mark on the intellectual history of sociology, but back in the day they were quite influential on various grounds: by preparing the first bibliography of sociology of science, organizing workshops, providing significant funding to various scholars in need.

But one of the most important features of the group was the relationship between Frank and Kuhn. Although Kuhn is known as one of those philosophers who killed logical positivism, in the 1950s, he seemed to be eager to work with Frank on sociology of science, and attended several meetings of the committee, and even discussed the issues with Frank personally. Though not much has come out from their meetings, it can be shown that their relationship was influential in both directions, and they have criticized each other's work indirectly on later occasions.

In my talk, I will reconstruct the major biographical events of the Frank-Kuhn relationship and will focus on their philosophical and methodological differences regarding the subject and aim of sociology and philosophy of science. Although the Frank-Kuhn relationship could be interesting from a purely revisionist perspective (demystifying somewhat the narratives that place Kuhn above all positivists), my talk aims to contribute also to general HOPOS, as

the Frank-Kuhn business documents neatly how philosophy of science was transformed from a pluralist and humanist endeavor into a more specialized discipline.

Aviezer Tucker, Georg Gangl (University of Ostrava)

The Political Philosophy of Moritz Schlick

Unlike his fellow members of the Vienna Circle, Schlick did not shy away in principle from writing about normative philosophy, for example in his book on *The Problems of Ethics*. In 1933, Schlick began working on a book on the philosophy of culture, social and political philosophy. Schlick was assassinated in 1936 before he could complete this last work. Schlick's student, Josef Rauscher, collected manuscripts and lecture postscripts that Schlick planned to include in this book, his last word as it were about political philosophy and a reaction to the rise of Nazism.

Schlick proposed that the state is not necessarily territorial, and proposed to replace territorial sovereignty with nonterritorial states founded on explicit social contracts. Schlick was inspired in his political philosophy by Augustine's *civitas dei*, the city of God that co-exists with an earthly city on the same territory. Similarly, different states founded on different types of social contracts can co-exist on the same territory. The philosophical idea that states are not essentially territorial and should be founded on explicit social contracts is sometimes called Panarchy, a term Schlick did not use and probably was not familiar with. The term "Panarchy" was coined in 1860 by the Belgian philosopher (and more famously botanist) Paul Emil De Puydt. Panarchy founds the relations between citizens and states on formalized voluntary consent, rather than on land and blood, the territorial and ancestral accidents of birth. It allows people with very different political ideals, identities, and aspirations to live together in the same territory but in different states. Unlike other contractarian political philosophies (Hobbes, Locke, Rousseau, and after Schlick Rawls and Nozick), Panarchy makes no hypothetical guesses or speculations about what abstract rational agents would have agreed to under hypothetical circumstances, or at the dawn of human history; nor does it offer a "one size fits all" solution to the basic problem of political philosophy in which kind of just state should we live? Instead, it recognizes that different types of states fit different types of people and allows them to engage in political choice and experimentation, without imposing on them any hypothetical social contract. Vienna has been called "the laboratory" of the twentieth century and the forerunner to the European Union. In some respects, our current globalized society is analogous to the late Habsburg Empire written large. Writing later in the thirties, Schlick faces the dual menaces of the extremes of the Nazi right and Communist left. Schlick's contractarian non-territorial new beginning for politics is therefore a useful idea for framing alternative foundations for the state.

Boris Vezjak (University of Maribor)

Neurath's ship metaphor: pragmatic rationality in the context of the Vienna Circle

Neurath's ship metaphor remains one of the most vivid images of anti-foundationalist epistemology in the twentieth century. The ship, repaired by sailors while still at sea, expresses the idea that it is impossible to begin from absolute or unshakable foundations. All knowledge is already »at sea«, built from a network of beliefs, linguistic frameworks, and theories. For Neurath -and later for Quine - rationality consists in replacing those parts of the system that no longer work when confronted with empirical reality. The metaphor therefore highlights (a) anti-foundationalism, (b) holism, (c) the continuity of scientific practice, and (d) the relative stability of the whole even as individual components change.

The metaphor emerged in the context of debates about protocol sentences and the foundations of scientific language. Rudolf Carnap defended an individualistic and strongly foundationalist view based on atomistic, direct observations (*Der logische Aufbau der Welt*, 1928), which he treated as theory-independent and indubitable. Neurath, by contrast, argued for a holistic, social, and pragmatic understanding of knowledge. The ship metaphor served to illustrate that scientific claims are revised gradually within the existing framework, like sailors repairing a vessel without ever reaching dry dock, and thus offered a direct critique of Carnap's idea of absolute foundations.

However, contemporary philosophy of science shows that the metaphor has important limitations. Can a single ship, with a single crew and a single coherent hull, really capture modern scientific practice, which is dispersed, materially embedded, and socially complex? I argue that the metaphor remains a useful tool for understanding anti-foundationalism, but it is inadequate for describing the epistemological and methodological landscape of contemporary science. Some authors (e.g., Collin, 2020) suggest that, with certain modifications, the metaphor can still be productive. Even so, it continues to face criticism for being practically unhelpful, overly relativistic, and unable to accommodate the complexity of today's scientific and social world.