

Chapter 21

The Scientific World-Conception in the Making: Towards the Ideological Roots of Logical Empiricism in Berlin and in Vienna



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Abstract The essay examines the ideas and organizations of ‘late enlightenment’ in both European centers of interwar Logical Empiricism, Berlin and Vienna. It aims to demonstrate that secular, laically and (partly) anti-clerical movements such as the Monists, the Freethinkers and other groups promoting non-religious ethics anticipated and, in part, conceptualized the idea of a scientific world conception. The scientific-world conception, however, was not a purely scientific enterprise. Rather, it continued the historical tradition of a socially liberal enlightened reform project, whose political manifestations ranged from decidedly Marxist to a social-oriented, liberal-bourgeois spectrum.

21.1 Are There Any Ideological Roots of Logical Empiricism?

The answer to the question of whether there are any ideological roots of Logical Empiricism is far from self-evident. Logical Empiricism is a theory in epistemology, as well as a historical movement within Western philosophy of science.¹ It is not a political ideology; however, research on the history of philosophy of science has convincingly demonstrated that politics and the philosophy of science cannot be strictly separated. Like all philosophical discourses, logical empiricist ones must be viewed within their own historical framework and related to the social conflicts and

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¹Alan Richardson/Thomas Uebel (Eds.), *The Cambridge Companion of Logical Empiricism*. Cambridge: Cambridge University Press 2007.

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controversies of their particular time. The Vienna Circle or some of its members constitute a striking example of the complex relationship between philosophy, science and politics.²

What can be said about the ideological roots of Logical Empiricism? Aside from a particularly liberal-left wing of the youth movement,³ “late enlightenment” ideas and organizations⁴ defined an ideological milieu in which many later philosophers of the logical empiricist environment were shaped. Although these two traditions must be analyzed as separate phenomena, they are also connected in a number of ways. Influential philosophers and intellectuals who espoused logical empiricist ideas—including liberal philosopher Friedrich Jodl—were active in both movements. A leading monist and chairman of the Ethical Culture society *Gesellschaft für ethische Kultur*, Jodl was also one of the speakers at the youth movement’s famous 1913 ceremony at the top of the Hohen Meißner, a mountain in Hessian, Germany⁵; he is also mentioned in the “historical background” section of the Vienna Circle Manifesto.⁶

The debate over the ideological roots of Logical Empiricism does not necessarily imply that the movement was politically or ideologically oriented, at least not in explicit terms. In fact, many of the later logical empiricists stressed the apolitical and non-ideological character of their intellectual work, and focused only on its

²Thomas E. Uebel, “Political Philosophy of Science in Logical Empiricism: The Left Vienna Circle,” in: *Studies in History and Philosophy of Science*, Vol. 36, 2005, pp. 754–773. Günther Sandner, “Political Polyphony. Otto Neurath and Politics Reconsidered”, in: Maria Carla Galavotti/ Elisabeth Nemeth/ Friedrich Stadler (Eds.), *European Philosophy of Science –Philosophy of Science in Europe and the Viennese Heritage*. Dordrecht, Heidelberg, New York, London: Springer 2014, pp. 211–222. George Reisch, *How the Cold War Transformed Philosophy of Science: To the Icy Slopes of Logic*. Cambridge, New York: Cambridge University Press 2005. Donata Romizzi, “War die wissenschaftliche Weltauffassung des Wiener Kreises nicht doch auch eine Weltanschauung?” In: Elisabeth Nemeth/ Friedrich Stadler (Eds.), *Die europäische Wissenschaftsphilosophie und das Wiener Erbe*. Wien: Springer 2013, pp. 127–151. Donata Romizzi, “The Vienna Circle’s ‘Scientific World-Conception’: Philosophy of Science in the Political Arena”, in: *Hopos: The Journal of the International Society for the History of Philosophy of Science*, Vol. 2, No. 2, 2012, pp. 205–242.

³This will be the subject of an edition currently in progress: Christian Damböck/ Günther Sandner/ Meike Werner (Eds.), *Logical Empiricism, Life Reform and the German Youth Movement*. Dordrecht: Springer 2019 (forthcoming).

⁴Friedrich Stadler coined this term in his essay “Spätaufklärung und Sozialdemokratie in Wien 1918–1938”, in: Franz Kadrnoska (Ed.), *Aufbruch und Untergang*. Wien, München, Zürich: Europa 1981, pp. 441–473.

⁵The Journal *Aufklärung und Kritik*, Vol. 21, No. 3, 2014 published a special issue on Friedrich Jodl (“Friedrich Jodl und das Erbe der Aufklärung”). For Jodl as a speaker at the Hohen Meißner Treffen cf.: Jürgen Reulecke, see “Utopische Erwartungen an die Jugendbewegung 1900–1933”, in: Wolfgang Hardtwig, *Utopie und politische Herrschaft im Europa der Zwischenkriegszeit*. München: Oldenburg 2003, pp. 199–218, p. 199. Otto Neurath, for instance, discussed his unrealized plans for a habilitation at the University of Vienna with Friedrich Jodl. Otto Neurath to Friedrich Jodl, 12 October 1903 (Wienbibliothek, Sammlung Wilhelm Börner).

⁶Friedrich Stadler/ Thomas Uebel (Eds.), *The Scientific World-Conception. The Vienna Circle*, Wien, New York: Springer 2012, pp. 75–116, p. 76.

scientific relevance. Not only philosophers such as Moritz Schlick rejected any political ambitions of their intellectual work, even such forceful political thinkers as Otto Neurath stressed repeatedly the apolitical character of their scientific expertise.⁷ A historical approach to the subject, however, demonstrates the clear existence of a political and ideological milieu in which many later representatives of Logical Empiricism were actively involved.

During the years between WWI and WWII, Vienna and Berlin were the centers of logical empiricist thought in continental Europe, and in the late 1920s, a similar organizational structure existed in both cities. Relatively open forums and discussion groups served both core and associated members, while an official association promoted communication and advanced scientific knowledge; in Berlin, the Society for Empirical/Scientific Philosophy, and in Vienna, the Ernst Mach Association. Although there were far-reaching personnel overlaps, the associations and discussion groups were not identical and pursued different goals. While both the Berlin Group and the Vienna Circle restricted their forum activities to the exchange of philosophical ideas, their respective associations addressed a wider audience. They organized lectures, seminars and congresses, edited a journal as a joint venture (“*Erkenntnis*”) and in Vienna’s case, published the 1929 programmatic manifesto “The Scientific Conception of the World.”⁸ Although the Berlin Group published no comparable manifesto, however, its representatives did release several programmatic texts, such as Alexander Herzberg’s newspaper article on “Empirical Philosophy,” in which he advocated a unified world view based upon experience.⁹

The most prominent members of the Berlin society included Hans Reichenbach, Walter Dubislav, Kurt Grelling and Alexander Herzberg, while the Viennese Ernst Mach Association was represented by its chairman, Moritz Schlick, and additionally by Otto Neurath, Rudolf Carnap, Hans Hahn and Philipp Frank. Additionally, politically prominent associates such as Karl Korsch (Berlin) and Edgar Zilsel (Vienna) are worth noting although they were just peripheral members.

The following essay examines the second part of these intellectual influences mentioned above—that is, the ideas and organizations of late enlightenment—and focuses on both European centers of interwar logical empiricism, Berlin and Vienna. It aims to demonstrate, that secular, laically and (partly) anti-clerical movements such as the Monists, the Freethinkers and other groups promoting non-religious ethics anticipated and, in part, conceptualized the making of a scientific world view. To that end, I argue that the scientific-world conception was not a purely scientific enterprise. Rather, it continued the historical tradition of a socially

⁷For Otto Neurath’s self-image as an apolitical social engineer (“*Gesellschaftstechniker*”) cf. Sandner, Otto Neurath, loc. cit., pp. 114–147.

⁸Stadler/Uebel, *Scientific World-Conception*, loc. cit.

⁹Alexander Herzberg, “*Empirische Philosophie*”, in: *Vossische Zeitung*, 8. August 1928, p. 11. For a detailed discussion on possible quasi-manifestos of the Berlin Society cf. Nikolay Milkov, “*Einleitung des Herausgebers*”, in: Nikolay Milkov (Ed.), *Die Berliner Gruppe. Texte zum Logischen Empirismus*, Hamburg: Meiner 2015, pp. ix–lxi.

liberal enlightened reform project, whose political manifestations ranged from decidedly Marxist to a social-oriented, liberal-bourgeois spectrum as Friedrich Stadler demonstrated the problem using the examples of Moritz Schlick and Otto Neurath.¹⁰

This political milieu, however, was defined not only positively—in terms of its common ideological and political convictions—but also negatively, by its common opponents irrational philosophy, Catholic clericalism, religious dogmatism, nationalism, and, not least, anti-Semitism. Many prominent logical empiricists, including Otto Neurath and Hans Reichenbach, were of Jewish extraction. Whether or not they self-identified as practicing or religious Jews, anti-Semites nonetheless identified and attacked them as such.¹¹ Scientific knowledge and the promotion of free and liberal discourse were set on the political agenda against reactionary, metaphysical attempts in the field of politics. However, the scientific world-conception was not intended only a scientific idea, but as a political one as well, as Otto Neurath argued in a socialist daily newspaper. In an article with the same title as the manifesto (“Scientific World-Conception,”) Neurath praised Marx and Mach as visionaries who liberated humankind from traditional thinking and paved the way for the scientific world-conception.¹²

21.2 Late Enlightenment and Scientific World-Conception

In both Vienna and Berlin, a number of associations in the spirit of the “late enlightenment” were active. The majority of them were founded during the late nineteenth century, but remained active during the interwar years. They included the Monist League, the Freethinker’s Association, the German Society for Ethical Culture, and the Ethical Society or, as it was called from 1919 onwards, the Ethical Community in Vienna. All of them combined scientific secular and non- or antireligious thinking in their programs.¹³

¹⁰Friedrich Stadler, *Der Wiener Kreis. Ursprung, Entwicklung und Wirkung des Logischen Empirismus im Kontext*. Wien: Springer 2015, pp. 285–292.

¹¹By 1906, Gustav Schmoller attributed “Jewish race properties” (“jüdische Rasseigenschaften”) to Otto Neurath. The young Neurath was a Roman-Catholic with a Jewish father who converted to Catholicism before Neurath’s birth (Sandner 2014, pp. 47–48). In the 1920s, the journal “Schulwacht,” Vol. 9, No. 2, 1923, pp. 19–20, published an anti-Semitic satire of Otto Neurath.

¹²Otto Neurath, “Wissenschaftliche Weltauffassung”, in: *Arbeiter-Zeitung*, 15. Oktober 1929, pp. 17–18.

¹³For Germany cf. Horst Groschopp, *Dissidenten. Freidenkerei und Kultur in Deutschland*. Berlin: Dietz 1997. Jochen-Christoph Kaiser, *Arbeiterbewegung und organisierte Religionskritik*. Stuttgart: Klett-Cotta 1981. For Austria: Stadler, *Spätaufklärung*, loc. cit.; Marcus Patka, *Freimaurerei und Sozialreform. Der Kampf für Menschenrechte, Pazifismus und Zivilgesellschaft in Österreich 1869–1938*, Wien: Löcker 2011.

The political climate was similar in both Germany and Austria, where the capitals represented a socialist and liberal intellectual and cultural hegemony. Thus, conservative provinces treated the major cities with hostility. Additionally, nationalists rejected the cosmopolitan ‘flair’ they perceived in the capitals, often defining this atmosphere as typically “Jewish.” Despite the modern and liberal atmosphere of Vienna and Berlin, however, there were also strong counterforces not only around but also within the capitals. In addition to a liberal and “red” political and intellectual climate, a “black” one also existed¹⁴; particularly in Austria, the universities were focal points of this climate.¹⁵

Nevertheless, from the turn of the century to the years between WWI and WWII, both the German and the Austrian capital were breeding grounds for modern social and cultural reform movements. In 1906, zoologist and Darwinist Ernst Haeckel founded the “German Monist League,” and in 1913, sociologist Rudolf Goldscheid—who is also mentioned in the Vienna Circle’s manifesto—¹⁶ established an Austrian branch of the League. The German and Austrian monists cooperated closely with another and formed an alliance with the Freethinker’s Association. In Austria, the “Free Federation of Cultural Associations” (“Freier Bund kultureller Vereine”) was an umbrella organization for many of these associations.¹⁷ Additionally, there was a close association between members of the federation and the Social Democratic Worker’s Party (SDAP) that ruled “Red Vienna” with an absolute majority of seats in the interwar years.¹⁸

While the Freethinker’s Association played a crucial role in the foundation of the Ernst Mach Association, many leading Monists were also involved in the foundation of the Berlin Society for Empirical Philosophy.¹⁹ Although a certain distance

¹⁴Cf. Anson Rabinbach, *The Crisis of Austrian Socialism: From Red Vienna to Civil War, 1927–1934*, Chicago: University of Chicago Press 1983; Janek Wasserman, *Black Vienna. The radical right in the red city, 1918–1938*. Ithaca/NY: Cornell University Press 2014.

¹⁵Klaus Taschwer, *Hochburg des Antisemitismus. Der Niedergang der Universität Wien im 20. Jahrhundert*. Wien: Czernin 2015; For Berlin University cf. Aleksandra Pawliczek, *Akademischer Alltag zwischen Ausgrenzung und Erfolg. Jüdische Dozenten an der Berliner Universität 1871–1933*, Stuttgart: Steiner 2011. Aleksandra Pawliczek, “Kontinuität des informellen Konsenses. Die Berufungspolitik der Universität Berlin und ihre jüdischen Dozenten im Kaiserreich und in der Weimarer Republik”, in: Rüdiger Bruch (Ed.), *Kontinuitäten und Diskontinuitäten der Wissenschaftsgeschichte des 20. Jahrhunderts*, Stuttgart: Steiner 2006, pp. 69–92. Georg G. Iggers, “Academic Anti-Semitism in Germany 1870–1933. A Comparative International Perspective”, in: *Tel Aviver Jahrbuch für deutsche Geschichte*, Vol. XXVII, 1998, pp. 473–489; Notker Hammerstein, *Antisemitismus und deutsche Universitäten 1871–1933*, Frankfurt/M./New York: Campus 1995.

¹⁶Stadler/ Uebel, *Scientific World-Conception*, loc. cit., p. 79.

¹⁷Stadler, *Spätaufklärung*, loc. cit., p. 441.

¹⁸Helmut Gruber, *Red Vienna. Experiment in Working-Class Culture 1919–1934*, New York, Oxford: Oxford University Press 1991.

¹⁹Friedrich Stadler, *Vom Positivismus zur “wissenschaftlichen Weltauffassung”. Am Beispiel der Wirkungsgeschichte von Ernst Mach in Österreich von 1895 bis 1934*, Wien, München: Löcker 1982, pp. 171–173; Sandner/Pape, *Late Enlightenment to Logical Empiricism*, loc. cit., Dieter Hoffmann, “The Society for Empirical /Scientific Philosophy”, in: Alan Richardson/ Thomas

existed between modern Logical Empiricism and the “old-fashioned arguments”—as Neurath polemically described them—of monism and freethinking,²⁰ there were obvious programmatic links. In fact, many elements of the Vienna Circle’s manifesto “The Scientific World-Conception” were anticipated in the discourses of the Monist movement.

From the very beginning, in announcements and proclamations, the Monist League strictly distinguished between the church’s religious beliefs on the one hand and a modern scientific conception of the world on the other.²¹ Later, founding members of the Berlin Society such as psychologist Alexander Herzberg, an activist and member of the German Monist League, repeatedly used the term “scientific world view” (“Wissenschaftliche Weltanschauung”) to describe and characterize the program of Monism.²² In the same article, however, Herzberg also used the Monist phrase “scientific world-conception” (“wissenschaftliche Welt- und Lebensauffassung”) to characterize the monist’s aim.²³

In this context, however, it is particularly the case of Rudolf Goldscheid that matters. Goldscheid, co-founder of the Sociological Society in 1907, was probably the most important Austrian monist.²⁴ He heard lectures of Ernst Mach at the University of Vienna already in the 1880s.²⁵ Between 1913 and 1917 he was chairman of the Austrian Section of the Monist League. Goldscheid was a colorful figure, with a multi-faceted intellectual profile: he worked as both a demographer and an economist, and developed the controversial concept of “human economy” (“Menschenökonomie”).²⁶ In contrast to leading monists in Germany such as Ernst Haeckel and Wilhelm Ostwald, however, Goldscheid was a committed pacifist who

Uebel (eds.): *The Cambridge Companion to Logical Empiricism*, Cambridge 2007, pp. 41–57, p. 44.

²⁰Otto Neurath, “Die Philosophie im Kampf gegen die Wissenschaft” (1932), in: Rudolf Haller/Heiner Rutte (Eds.), *Otto Neurath. Gesammelte philosophische und methodologische Schriften*. Band 2. Wien: Hölder-Pichler-Tempsky 1981, pp. 571–576, p. 573. (“Es ist kein erfreulicher Anblick, wenn die modern aufgeputzten Lehren der Halbtheologen und Schulphilosophen von Freidenkern, Monisten und anderen Gegnern mit altmodischen Argumenten bekämpft werden, die vor einer Generation schon recht matt und lahm waren”).

²¹“Aufruf des Monistenbundes in Österreich”, in: Rudolf Goldscheid, *Monismus und Politik*. Vortrag gehalten auf der Magdeburger Tagung des Deutschen Monistenbundes im Herbst 1912, Wien, Leipzig: Anzengruber 1912. (“Zwischen der von den staatlich anerkannten Kirchen verkündeten ”Religion“ und der heutigen wissenschaftlichen Welt- und Lebensauffassung hat sich eine unüberbrückbare Kluft gebildet”).

²²Alexander Herzberg, “Wissenschaft und Monismus”, in: *Monistische Monatshefte*, Vol. 8, No. 1, 1923, pp. 1–7. (“Der moderne Monismus, wie ihn der Monistenbund vertritt, soll nach der Erklärung seiner Anhänger wissenschaftliche Weltanschauung und Lebensgestaltung sein”).

²³*Ibid.*, p. 1.

²⁴Gudrun Exner, *Die “Soziologische Gesellschaft in Wien” und die Bedeutung Rudolf Goldscheids für ihre Vereinstätigkeit*, Wien: New Academic Press 2013.

²⁵Helge Peukert, *Rudolf Goldscheid. Menschenökonom und Finanzsoziologe*, Frankfurt/M., New York: Peter Lang 2004, p. 9.

²⁶Ulrich Bröckling, “Menschenökonomie, Humankapital”, in: *Mittelweg* 36, No. 1, 2003, 3–22.

opposed war and militarism even in 1914, when few others did. In a way, he also belonged to the initiators of the scientific world-conception. He used the term “scientific world-conception” years before the Vienna Circle Manifesto (1929) and introduced it into the philosophical and ideological debates of his days.²⁷

Goldscheid initially developed his scientific world-conception in negative terms, by focusing on its opposite. He emphasized that the dominant, “official” scientific establishment of that era was not an ally. In contrast, scientific training grounds—universities—have become breeding grounds of an anti-progressive and reactionary thinking. Thus, any realization of the scientific world-conception requires the liberation of the university from reactionary political forces. For Goldscheid, the social and political fight for the scientific world-conception was also a fight for the democratization of the universities, and for freedom of research and teaching. He stressed the fact that every meaningful statement is based upon science, and espoused the Monist slogan, “Scientific World-Conception and a corresponding personal life.”²⁸ Thus, the paradox was that science has to be defended against its official representatives: the universities and a vast majority of its professors.

This paradox was also noticed by the authors (anonymously published but most probably written mainly by Neurath, Hahn and Carnap)²⁹ of the Vienna Circle’s manifesto. It begins with the observation “that metaphysical and theologizing thought is again on the rise today, not only in life but also in science.” A look “at the topics of university courses and the titles of philosophical publications” confirms this assertion.³⁰ Despite the manifesto’s focus on progressive developments in different scientific fields and their consequences for the scientific world-conception, some sections are written in a rather militant and political terminology that is very similar to, for instance, Goldscheid’s writing style: “The representatives of the scientific world-conception resolutely stand on the ground of simple human experience. They confidently set to work on the task of removing the metaphysical and theological debris of millennia.”³¹ However, the manifesto warns that the “increase of metaphysical and theologizing leanings . . . seems to be based on the fierce social and economic struggles of the present.” The authors were convinced that while hard social and political battles awaited them, in the end, the scientific world-conception would win through.³²

²⁷Rudolf Goldscheid, “Die Pflanzstätten der Wissenschaft als Brutstätten der Reaktion”, in: *Die Wage*, Vol. 4, 1923, pp. 137–143.

²⁸*Ibid.*, 138. (“Wissenschaftliche Weltauffassung und ihr entsprechende Lebensgestaltung”).

²⁹For a detailed analysis of genesis and authorship cf. Thomas Uebel, “On the Production History and Early Reception of The Scientific Conception of the World. The Vienna Circle”, in: Stadler/Uebel, *Scientific World-Conception*, loc. cit., pp. 291–314.

³⁰Stadler/Uebel, *Scientific World-Conception*, loc. cit., p. 78.

³¹*Ibid.*, p. 89.

³²*Ibid.*, p. 90.

Despite Neurath's critique, many of the Vienna Circle's representatives worked as supporters or, at least, as speakers for the Ethical Community (Schlick, Carnap, Kraft), the Monist League (Schlick, Neurath, Feigl) and the Freethinkers' Association (Neurath and Frank). On the other side, a number of Berlin Society representatives were active in or supportive of the Monist League—for example, by contributing to their journal—such as Alexander Herzberg, Max Deri, Georg Graf von Arco, Kurt Grelling, and Hans Reichenbach.³³

21.3 Founding Fathers: Joseph Petzoldt and Ernst Mach

Both Ernst Mach and Joseph Petzoldt may be considered founding fathers of the logical empiricist associations in Vienna and Berlin; their roles, however, were decidedly different. While the Ernst Mach Association was founded only in the spirit of its namesake, Joseph Petzoldt was physically present among the early members of the Berlin Society for Empirical Philosophy, founded on 27 February 1927 in the apartment of Georg Graf von Arco.³⁴ Joseph Petzoldt (1862–1929) and Ernst Mach (1838–1916) knew each other well, and followed the same or at least similar philosophical ideas. Both were influenced by late enlightenment ideas and, in turn, influenced the scientific world-conception.

By 1912, Petzoldt had founded the Berlin Society's forerunner "Society for Positivistic Philosophy" that was integrated into the Kant Society in 1921. He worked for large parts of his professional life as a schoolteacher, finally rising to the position of professor in 1922, at the Technical University Charlottenburg.³⁵ Petzoldt praised Ernst Mach as a great man and educator³⁶; nevertheless, he was also a programmatic thinker. In his essay "Positivistic Philosophy," the emphasis on empiricism, the rejection of metaphysics and a critique of the separation of the humanities and the natural sciences were crucial elements.³⁷ The opening session of the Berlin Society for Empirical Philosophy started with a programmatic lecture by Petzoldt entitled "Rational and Empirical Thinking" ("Rationales und empirisches Denken").³⁸

³³Sandner/Pape, Late Enlightenment to Logical Empiricism, loc. cit.

³⁴On Petzoldt and the Berlin Society cf. Sandner/Pape, Late Enlightenment to Logical Empiricism, loc. cit. Dieter Hoffmann, "The Society for Empirical/Scientific Philosophy", in: Alan Richardson/Thomas Uebel (Eds.): *The Cambridge Companion to Logical Empiricism*. Cambridge: Cambridge University Press 2007, pp. 41–57, p. 44.

³⁵Walter Dubislav, "Joseph Petzoldt in memoriam", in: *Annalen der Philosophie und philosophischen Kritik*, Vol. 8, 1929, pp. 289–295. Dieter Hoffmann, The Society, loc. cit., pp. 45–48.

³⁶Joseph Petzoldt, "Ernst Mach", in: *Der Kunstwart*, Vol. XXIX, No. 12, 1916, pp. 232–233.

³⁷Joseph Petzoldt, "Positivistische Philosophie", in: *Zeitschrift für positivistische Philosophie*, Vol. 1, 1913, pp. 1–16.

³⁸Joseph Petzoldt, "Rationales und empirisches Denken", in: *Annalen der Philosophie und philosophischen Kritik*, Vol. 6, 1927, pp. 145–160, p. 153.

Ernst Mach died in 1916, well before the Ernst Mach Association was founded (mainly by Austrian Freethinkers) in 1928.³⁹ For his followers, Mach stood for intellectual freedom, progressive enlightenment, and political commitment. After having suffered a stroke in 1898, he came as an ill person to the upper house of the Austrian Parliament (where he retained his membership after his retirement) to vote for the nine hour day and later for manhood suffrage.⁴⁰ Although Mach's intellectual work was influential in many respects, "he did not establish a school of philosophy in his lifetime."⁴¹ Nevertheless, his intellectual influence was apparent in the Vienna Manifesto.⁴² Later logical empiricists appreciated both men on many occasions.⁴³

Both Mach and Petzoldt were intellectually close to monism. Mach was a follower of a "Monist scientific conception of the world,"⁴⁴ while Petzoldt was asked to become a board member of the German Monist League. Since leaving the church was a precondition and he refused to do so, however, he was forced to decline the offer.⁴⁵

21.4 Modernism and Anti-Modernism

Despite their long historical tradition, in the interwar years both Berlin and Vienna were modern cities; still, a certain tension characterized the capitals' identification with the past versus the present. On one hand, conservatism and rightwing nationalism dominated considerable parts of intellectual life. On the other, modern science and culture constituted a challenging progressive social and political project. Science and scientific knowledge played a crucial role in ideas and projects of social and political transformation. Therefore, there were at times fierce fighting—not solely of the intellectual variety—between modernism and anti-modernism.

The logical empiricist organizations were essentially modernist movements. This was not only a self-image but also an ascription. They wanted to overcome traditional philosophy, and insisted that there is no authority above science. Many

³⁹Stadler, *Vom Positivismus*, loc. cit., pp. 170–173.

⁴⁰Friedrich Stadler, "Ernst Mach – Leben, Werk und Wirkung", in: Rudolf Haller/ Friedrich Stadler (Eds.), *Ernst Mach – Werk und Wirkung*, Hölder-Pichler-Tempsky: Wien 1988, pp. 11–63, pp. 24–25.

⁴¹Brian F. McGuinness, "Ernst Mach and His Influence", in: Wolfgang L. Gombocz/ Heiner Rutte/ Werner Sauer (Eds.), *Traditionen und Perspektiven der analytischen Philosophie. Festschrift für Rudolf Haller*. Wien: Hölder-Pichler-Tempsky 1989, pp. 149–156, p. 153. For a detailed discussion of Mach's influence cf. Stadler, Ernst Mach, loc. cit., pp. 34–57.

⁴²Scientific World-Conception, loc. cit., pp. 78–79.

⁴³Otto Neurath, Ernst Machs Vermächtnis, in: *Arbeiterzeitung*, 27.07.1921, p. 5. Philipp Frank: Zum 100. Geburtstag Ernst Machs, in: *Neue Freie Presse*, 15.02.1938, p.7.

⁴⁴Stadler, Ernst Mach, loc. cit., p. 33.

⁴⁵German Monist League to Joseph Petzoldt, 25.10.1922 (Estate Petzoldt, TU Berlin, Pe 306–5). Later he became a board member of the local branch in Hannover (cf. document Pe 30 e).

of their followers and members were liberal or leftwing intellectuals (although only a few were politically active), and almost none of them supported right-wing movements. Logical Empiricism was in many respects connected to cultural progress and change. Despite their scientific orientation, however, representatives of Berlin and Viennese Logical Empiricism emerged from modern social and cultural movements and represented a spirit of modernity that entered an ideological battleground.

Several examples serve to illustrate this precarious relationship. Oskar Vogt—though no philosopher and no logical empiricist—was one of the founding members of the Berlin Society for Empirical Philosophy. A famous neuroscientist and researcher (he dissected Lenin's brain),⁴⁶ he advocated modern science as a necessary element of social progress and modern life. Even before the First World War, Vogt saw contemporary science as a collective endeavor. Therefore, he demanded, for instance, the organization of study groups; he believed science could and should not be done by individual researchers alone. Most of all, Vogt was an advocate for the internationalization of science. He designed the modern image of a future international scientific community based upon labor division, coordination, collaboration, and cooperation.⁴⁷

After the revolution of 1918, Oskar and his wife Cécile Vogt published an essay on the relation between science and the modern state in Germany. In their view, modern science was closely connected with modern man, who sought to appropriate science and make it the foundation of his actions. The more science-oriented a state, the more modern it was.⁴⁸ The Vogts were especially critical of the German state, feeling that by this criteria, it was still far from modernity. In lieu of cultural and religious freedom, Germany demanded strict obedience to the emperor and other authorities. From an empirical scientific perspective, Cécile and Oskar Vogt also expressed their sympathies for Marxism and for the German Social Democratic Party as the political movement closest to the interests and needs of modern science. Moreover, they called for the promotion of scientific disciplines such as sociology, individual psychology and civic education. They were convinced that those intellectual fields, neglected in the German Empire, were of the utmost significance for a future modern society.

Another example is Lily Herzberg, wife of leading Berlin Society representative, psychologist and monist Alexander Herzberg and herself a member of the Monist League. She examined in her dissertation the intellectual history of Monism and

⁴⁶Walter Kirsche, *Oskar Vogt (1870–1959). Leben und Werk und dessen Beziehung zur Hirnforschung der Gegenwart. Ein Beitrag zur 25. Wiederkehr seines Todestages*, Berlin: Akademie-Verlag 1986.

⁴⁷Oskar Vogt, “Über Forscher und Organisation der Forschung”, in: *Nord und Süd. Eine deutsche Monatsschrift*, Vol. 37, No. 459, Dezember 1912, pp. 346–357.

⁴⁸Cécile und Oskar Vogt, “Wissenschaftliche Forderungen an den modernen Staat”, in: *Nord und Süd*, Vol. 43, No. 534, März 1919, pp. 245–250.

published her study in a two-part essay in the journal “*Annalen der Philosophie*”.⁴⁹ In her essay, Herzberg identified different “philosophical mainstreams” of Monism. According to her, Monism was a continuum in the history of philosophy that appeared in many different times and in many different forms. Meanwhile, she traced the roots of modern Monism to three philosophical movements: positivism, materialism and critical relativism. (Critical realism not categorized separately, but as a part of positivism).

Herzberg maintained that these political philosophies were united around the belief that science promotes social progress and—especially in the case of ethical positivism—an emphasis on human happiness. Historical materialism, however, is related to Marxism. For Herzberg, especially the Austrian Rudolf Goldscheid was an excellent example for someone who combined Marxist analysis of society and economy with the ideology of Monism.⁵⁰ There is, she claims, a commonness of positivism, materialism and Marxism such as their positive orientation on the natural sciences, for instance. Thus, most of the followers of Monism came from one of those ideological and philosophical camps. The typical monist is a theoretical and philosophically educated person on the one hand, and a socialist-oriented on the other, she concludes.⁵¹ Implicitly, she claims that monism and a scientific orientation will pave the way for a modern society. Incidentally, Lily Herzberg was one of the very few women who participated in that era’s discourse on scientifically-oriented philosophy.

21.5 Conclusion

In the years following the foundation of the Ernst Mach Association (1928) and the Berlin Society for Empirical Philosophy (1927), both organizations became more deeply embedded in scientific communities, leaving behind the ideological clashes between opposing political and intellectual cultures. They focused on publishing the journal “*Erkenntnis*” (with Reichenbach and Carnap as editors), addressed to the scientific community, and not a medium for the popularization of scientific knowledge. Additionally, they continued to organize international conferences and similar activities.⁵² They tried to distance themselves from political and ideological controversies. In fact, Moritz Schlick overarticulated this approach, when in times of political repression (Austrian civil war in 1934) he stressed in letters to Austrian

⁴⁹Lily Herzberg, “Die philosophischen Hauptströmungen im Monistenbund”, in: *Annalen der Philosophie*, Vol. 7, 1928, pp. 113–135, pp. 177–199.

⁵⁰Ibid., pp. 192–194.

⁵¹Ibid., p. 199.

⁵²Sandner/Pape 2017, Late Enlightenment to Logical Empiricism, loc. cit. For the development of the Berlin Group cf. Nikolay Milkov/ Volker Peckhaus (Eds.), *The Berlin Group and the Philosophy of Logical Empiricism*, Heidelberg; New York, London: Springer 2013.

dictator Engelbert Dollfuß the apolitical character of the association's activities and his loyalty to the dictatorial regime.⁵³ Fascism and National Socialism, nevertheless, signified the violent end of any progressive intellectual activities.

In sum, representatives of ideologically-oriented associations in turn-of-the-century Berlin and Vienna anticipated some of the basic ideas of the scientific world-conception. Among these ideas are an emphasis on science as a transformative force in human history, and the conviction that scientific progress results in or decisively promotes social progress and political democratization. Additionally, there was the conviction that although science itself can never represent an unquestioned system of truth, there is no authority above science, and traditional or political authorities who claimed superiority over science needed to be challenged. Furthermore, they followed a critique of hegemonic manifestations of philosophy and science ("school-philosophy", metaphysics, contemporary doctrine on the universities) and were convinced that, in the end, a scientific world-conception will be successful.

⁵³Sandner, Neurath, loc. cit., pp. 226–227.