



Critical Realism and Technocracy – RW Sellars’ Radical Philosophy in its Context

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Abstract

The victory of realism over idealism at the start of the twentieth century, and of scientific realism over logical empiricism and pragmatism in the mid twentieth century, is a striking phenomenon that calls for historical explanation. In this paper I propose an externalist account, looking at the social and political reasons why realism became attractive, rather than considering the internal factors—the merits of the arguments in favour of realism. I look at the agenda of Roy Wood Sellars’ *critical realism* which was not narrowly theoretical, but very much related to his concerns for the development of American society post WWI, as expressed in *The Next Step in Democracy* (1916b) and *The Next Step in Religion* (1918). I discuss the significance of technocracy in America – not only the increasing influence of scientists and engineers in government, but also the diffusion of the view that social issues are best addressed by scientific, technical means. Counter-cultural critics of technocracy, such as Roszak (1969) claimed that a “scientific world-view” provided an “ideology” for this system of governance. We will see that RW Sellars was explicitly involved in the task of building a scientific world-view, but with political goals that were probably not realised by the post-war establishment.

Keywords Roy Wood Sellars · Critical realism · Scientific realism · Humanism · Political theory · Technocracy · Secularism · History of philosophy of science

1 Introduction

The rise of realism and the dethronement of idealism is a major shift that occurred in Anglo-American philosophy at the start of the twentieth century. After World War II, the consolidation of scientific realism over logical empiricism and Deweyan pragmatism, as *the* science-friendly, mainstream view, is a similarly puzzling reversal. Philosophers are, by nature, attracted to internalist explanations of historical changes, whereby the perceived superiority of ideas and arguments accounts for their proliferation. The internalist conceit, harboured by many realists today, is that realism won out over its rivals because it is the better view. In this paper I will instead offer part of an externalist account for the rise of realism, one which takes, as explananda, contextual factors rather than considerations

pertaining to the internal logic of the arguments for or against realism, or the correctness of realism as an account of scientific knowledge. The distinction between internalist and externalist explanations is, of course, borrowed from the historiography of science.¹ My supposition is that neither internal nor external accounts offer the whole truth regarding change in the history of ideas, but that it is worth pursuing the externalist strategy precisely because that is the one normally neglected by philosophers writing on the history of their own discipline.

In Sect. 2 of this paper I specify what I mean by an externalist explanation, and show why it is worth exploring in

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¹ Shapin (1992). My research here should be taken as ‘externalism-lite’. I have not done archival research on the context and dissemination of ideas, and am relying on published philosophy texts. My task is to show how the new philosophical position of critical realism was motivated by one philosopher’s seemingly unrelated opinions on politics and religion. Obviously, these opinions were fostered by the times and place that Roy Wood Sellars was living in. More systematic biographical research would potentially show how those influences worked – what happened to make technocratic socialism attractive to a Canadian American academic philosopher whose formative years were between the Gilded Age and WWI?

the case of the widespread shift towards realism in the twentieth century. Section 3 offers an exposition of Roy Wood Sellars' early critical realism, showing how it can be understood as an incipient form of scientific realism. Section 4 provides evidence that Sellars' realism is motivated (at least in part) by his social-political agenda, one which can be characterized on the one hand as a secular humanism and on the other hand as technocratic in its endorsement of scientifically trained specialists as rightful holders of political power. As we will see, this is quite explicit in Sellars' publications. This raises the question of whether comparable factors were in play in the wider acceptance of realism.

This question is addressed in Sects. 5 and 6 where I present the more tentative claim that appreciation of its ideological convenience delivers part of an externalist explanation for the success of scientific realism in post-war America. A key document here is a collection of essays co-edited by RW Sellars which propounds the advantages of a metaphysically committed materialism, over empiricism and pragmatism, for architects of a scientific world view and the concomitant scientifically managed society. This *Topoi* special issue looks at new realism, the first wave of American realism in the twentieth century, and it should be noted that with new realism a case could also be made that this self-declared "scientific philosophy" had social-political ramifications. The point is raised by none other than Bertrand Russell, an inspirational figure for the American new realists (as outlined in the article by Neuber 2023 in this SI), speaking at an international congress for scientific philosophy:

Modern science arose from the marriage of mathematics and empiricism; three centuries later, the same union is giving birth to a second child, scientific philosophy, which is perhaps destined to as great a career. For it alone can provide the intellectual temper in which it is possible to find a cure for the diseases of the modern world. (quoted in Horkheimer 1937/2002, 140)

Hopes for a utopian "cure" for the ills of modernity are by now mostly vanished, but if it still seems to us that the least bad form of government is one in which policy decisions are heavily informed by a cadre of experts whose credentials are technical but not popularly mandated, we should look again at philosophers like Roy Wood Sellars who helped first to articulate what would become the undisputed common sense of today.

2 Towards an Externalist Explanation for the Rise of Realism

Externalist explanations come in many varieties. A historian of philosophy of science who considers the practical benefits conferred by a philosophical view, such as realism, on practicing scientists, can avail themselves of one kind of externalist explanation;² a historian who focusses on the mesh between a certain theory and pedagogical practices within the institutions that popularized it, has another kind.³ Most well known are the externalist explanations in the history of science referring to the social and political context within which a scientific movement has risen to prominence.⁴ The account to be presented in this paper is of this sort. The key term is *ideology*, by which I mean a set of ideas that legitimizes and stabilizes a political system, often unbeknown to members of that society, because it has status of unquestionable fact or common sense.⁵ If one can show how a philosophical theory fits with the agenda of a governing elite, one has the basis of an externalist explanation of the theory's prominence in a particular time and place where those political factors occur.

My working hypothesis is that scientific realism provides ideological support for *technocratic* political authority. Esmark (2020, 4) quotes two fairly similar definitions of technocracy: it is, a "political system in which the determining influence belongs to the technicians of the administration and the economy", or a "system of governance in which technically trained experts rule by virtue of their specialized knowledge and position in dominant political and economic institutions".⁶ America in the early to mid 20th century never had a fully technocratic government yet, as we will see in Sect. 5, this mode of authority grew in prominence during this period, which is the era of the rise of realism. Through my case study of RW Sellars, I will show how the working hypothesis is reasonable, and worthy of pursuit in future studies potentially based on different lines of inquiry.

² For example, Giere (2006, 36) points out the methodological usefulness of scientific realism for working scientists, as it provides them with the heuristic: "Proceed as if there is a single world with a unique structure".

³ The thought would be that as philosophy of science became established as an academic discipline, it came to be taught to science undergraduates, who had little background knowledge of philosophy and its history. Traditions like phenomenology and neo-Kantian philosophy of science are extremely hard to explain under those circumstances, whereas scientific realism is quite intuitive to scientists and can be grasped without background knowledge of philosophy.

⁴ E.g. Shapin and Schaffer (1985).

⁵ This is basically the Marxist notion, but I do not suppose that ideologies are necessarily false, or that their only merits are for social control. Further discussed in § 5.3.

⁶ These are due to Bell (1973, 348) and Fischer (1990, 17), respectively.

To give a more articulated view of technocracy, we should note some of its various features. One is the ethos of politics as utilitarian problem solving, which Friedman (2019, 5, 13) identifies with the “cost-benefit state”. It has also been theorised as a kind of Taylorism, a transference of the principles of scientific management from industry to government (Esmark 2020, 31–32). Of particular significance for us is the association between technocracy and *scientism*. This is the view that natural and social sciences provide, a universal form of knowledge that can in principle be applied to address any kind of problem, regardless of its origin (Sorell 1991; Esmark 2020, 7–8). As such, there is no barrier to this one form of knowledge being brought to bear on the problems of human life in the arena of political dispute. Hence, technocracy is based on the “assumption that human problems, like technical ones, have a solution that experts, given sufficient data and authority, can discover and execute” (Kuisel 1981, 76, quoted in Esmark 2020:7). In Sect. 5 we will encounter various endorsements of scientism, from Roy Wood Sellars and others such as John Dewey, expressed when this was not nearly as common a view as it is today. Bell (1973:349) writes that,

a technocratic mind-view.... with some sense of paradox, is more than just a matter of technique. In its emphasis on the logical, practical, problem-solving, instrumental, orderly, and disciplined approach to objectives, in its reliance on a calculus, on precision and measurement and a concept of a system, it is a world-view quite opposed to the traditional and customary religious, esthetic, and intuitive modes.

What this points to is the likelihood that technocratic political formations come with a broader *Weltanschauung* or philosophy, in the non-academic sense. I will argue that we find in the writings of Roy Wood Sellars precisely a statement of a scientific and naturalistic view of the world, hospitable to technocracy and uninhabitable to antiquated forms of political authority, which required super-naturalist notions, such as divine appointment of the king.

This project was prompted by my noticing hints at an ideological role for scientific realism in some contemporary and historical texts. For example, at the start of her new defense of a perspectival variant of scientific realism, Massimi (2022, 3) explains that:

My original motivations for writing this book were fairly simple and, in a way, pre-philosophical. I have always been of the view that a realist stance on science offered a safeguard to a society where trust in science was being eroded before our eyes.

Massimi is of course reacting to the populist backlash against the role of expertise in policy and governance, an undeniable feature of the political landscape in North America and Europe since 2016. The point is that lack of “trust in science” threatens a certain form of authority, and that one particular philosophical theory, scientific realism, offers a “safeguard” to it. Of course, trust is a human and social matter, and talk of trust suggests an epistemic asymmetry between the experts and those governed by expertise: amongst themselves, scientists are not expected to have merely an attitude of “trust”, but of criticism and a discernment that is responsive to evidence and rational argument.

The scientific ideology associated with technocracy was a target of criticism from the American counter-culture of the 1960s. This is a theme of Herbert Marcuse's (1964) *One Dimensional Man*, and Theodore Roszak's similarly influential book, *The Making of a Counter Culture*, the subtitle of which is, “reflections on the technocratic society and its youthful opposition.” Roszak (1969, 56 fn7) discusses how,

Ideology is not absent in the technocracy; it is simply invisible, having blended into the supposedly indisputable truth of the scientific world view. ... The most effective ideologies are always those that are congruent with the limits of consciousness, for then they work subliminally.

Amongst those supportive of a scientific worldview (remembering here the “*wissenschaftliche Weltauffassung*” of the Vienna Circle), it is interesting that Otto Neurath warned of a particular danger regarding metaphysically realist philosophies of science (as opposed to anti-metaphysical empiricism) in that realism opened a door to a new form of authoritarianism, no longer based on the metaphysics of the super-sensible and divine, but on an inflated notion of scientific certainty. Neurath (1930/1983, 45 – 6) writes that,

It is of decisive importance for the scientific world-conception to become aware of the narrowness and limitation of knowledge in this way because otherwise there would be the danger that one creates a new idol by the postulate of complete definiteness, one that would take the place of the old a priori, or the infinite and the divinity. Where formerly the priest or philosopher stood, the professor would stand. We must refrain from such hasty postulates.⁷

⁷ Concern about the anti-democratic consolidation of power amongst a small group of scientific experts was, furthermore, a motivation for Neurath's “isotype” pictorial notation for science education: “In bringing about the ‘renaissance [sic] of hieroglyphics’ Neurath wrested from the hierarchy of his own scientific colleagues their monopoly of learning. Our civilization, he feels, is still under the sway of a Middle Ages pattern in which a word language is the property of one class

The common feature of the old theocratic ideology and scientific realism, taken as an ideology of technocracy, is a notion of a metaphysical absolute Reality (either God or mind-independent nature) and the idea that authority should accrue to those who have a privileged standing with respect to a Reality that transcends the observable, empirical realm – be it the priest’s knowledge of God’s will or the scientist’s access to truths about the unobservable. It is precisely this reiteration of hierarchy in a modern form that Neurath’s anti-metaphysical empiricism sought to avoid.⁸

These are clues that a link between realism and technocratic ideology is worth exploring. One basis for an externalist account of a philosophical theory is the demonstration of explicit links between historical actors’ political and philosophical commitments. Roy Wood Sellars (1880–1973) is a good choice for this enquiry because he published two books on society, politics and religious values, *The Next Step in Democracy* (1916b) and *The Next Step in Religion* (1918), at the same time that he published his first book on realism, *Critical Realism* (1916a). Moreover, his long career encompassed both the rise of realism over idealism, and the rise of scientific realism over empiricism and pragmatism. He was active in these two debates, and not shy about his wider commitments to a naturalistic,⁹ materialist, and scientific world view. His son, Wilfrid Sellars (1912–1989), was also a key figure in the later development of scientific realism, and they had many common political and philosophical sympathies. I will now summarise the relevant points from RW Sellars’ realist philosophy.

3 Elements of Critical Realism

Roy Wood Sellars is not a thinker who underwent drastic reversals in his basic philosophical principles at any point during his lengthy career. In this and the next section I offer a reading of his early output. In *Critical Realism* (1916a,

alone. In the Middle Ages, it was the monks with their Latin. Today it is the scientists whose polysyllabic books are over the heads of most of us. Yet if democratic cooperation toward the solution of complex problems is not to fail, we must all understand the great forces which affect our lives.” (1936 *Survey Graphic* article on Neurath, quoted Reisch 2005:73).

⁸ The contrast between RW Sellars’ realism and Dewey’s philosophy of science will be important later on (§ 5.3). At this stage I would like to flag up the point that while Dewey can be interpreted as a kind of scientific realist (Godfrey-Smith 2002), the ‘Hegelian deposit’ in his thought means that his notion of reality remains an immanent not transcendent one, and he does not accept the terminology of the ‘mind-independent’, since that risks reinstating a subject-object division. As I will explain, these differences restrict the ideological potential of Dewey’s account of science over Sellars’ scientific realism.

⁹ By which I mean just that Sellars opposed any belief in super-natural entities and agency, such as immaterial souls and God.

henceforth CR) Sellars outlines the position of emergentist materialism which will characterize his later philosophy.¹⁰ I will be interpreting critical realism as an early articulation of scientific realism, a view which is a necessary partner for this materialist ontology. Firstly, some terminology needs to be set out. In CR, *realism* is understood as the dialectical target of *idealism*, which Sellars characterises in a broad way, inclusive of Berkeleian subjective idealism as well as the idealisms generated by followers of Kant and Hegel in 19th century Anglo-American philosophy. Realism in this sense is prerequisite to *materialism* – the view that what exists in mind independent reality are the material entities and properties discovered by the natural sciences.¹¹ We can think of materialism as the ontological plank of scientific realism: scientific theories are not merely means for predicting observable phenomena (as empiricists and instrumentalists hold), but they describe the constituents of an unobservable reality, the atoms, electrons, quarks, etc. This is mandated by the epistemological plank of scientific realism, which asserts that the best scientific theories make (approximately) true statements about mind-independent reality. Thus, science is the means by which we can attain knowledge of mind-independent reality.¹²

The aim of CR, as stated in the preface, is to solve the problem of epistemology by giving an adequate definition and set of conditions for knowledge. Sellars opposes epistemologies that rely on “apprehension” or “acquaintance” with the object known (Chap. 10). This sets him both against the new realists and the “natural realism” of pre-theoretical common sense (CR:256ff). As a corollary to the emergentist materialism outlined in the ninth chapter of the book, Sellars proposes a solution to the mind-body problem, arguing that mind and consciousness are properties of complex arrangements of matter that have evolved through natural selection (CR:251-3).

Sellars’ contention that we have knowledge of external reality not through perceptual intuition but through intellectual conception is the foundation to my interpretation of CR as offering an early version of scientific realism. It is precisely scientific enquiry which offers this conceptual path to knowledge: science delivers knowledge of the *relationships* between objects and events¹³ and the causes that obtain in

¹⁰ Gimes (2021) provides a good overview.

¹¹ A term roughly equivalent to *physicalism* as understood today, except that physicalism allows for basic entities to be forces and fields (not only matter) and does not allow for the special sciences to posit fundamental entities or properties, which is not consistent with Sellars’ emergentist version of materialism.

¹² Psillos (1999) for explication of the epistemological, ontological, and also semantic dimensions of scientific realism.

¹³ Thus we have a structural realism: “When we analyze the knowledge of the physical world given by science we find that it is reducible to a knowledge of the relative sizes, the structure, the active properties,

external reality (CR:151). The core critical realist belief that knowledge is mediated and conceptual rather than direct and intuitive is inspired by Kant. However, Sellars reaches a realism rather than transcendental idealism by arguing that the mediating,

categories are not contributed by the self in the Kantian way, and... they and the knowledge which they help to build up are objective to the individual and probably responsible to nature. (CR:150)

In other words, the way that the categories structure human knowledge is said to be a reflection of the structure of mind independent nature, not of the human mind by itself. Thus, Sellars goes on to ask,

why cannot they [the categories] assist in giving us knowledge about these realities?... We are evidently desirous of showing that things-in-themselves are knowable and that they are really what the scientist calls physical things (CR:150).

In short, the physical world described by the sciences is real, and all there is. Hence idealism is rejected and science (rather than metaphysics or ordinary perception) is in a privileged position to access truths about this mind-independent reality.

4 Sellars' Larger Vision: Scientism and Secularism

4.1 The Tension between Democracy and Technocracy

The Next Step in Democracy (1916b, henceforth NSD) is a highly readable book which sets out to defend a moderate version of socialism.¹⁴ By “socialism”, Sellars means a political position which is reformist and progressivist (i.e. anti-conservative), in favour of state-driven economic intervention (opposing laissez-faire capitalism), but is not revolutionary, nor anarchist, and not communist, since Sellars does not advocate for the abolition of private property and enterprise. Socialism, as Sellars puts it, “is both a science and an ideal” (NSD:24). I will argue below that the ideal is a technocratic one.

We should appreciate that Sellars is speaking for a progressive form of “democracy”, and yet technocracy is often

taken to be antithetical to democratic principles, since it requires that political representation of ordinary people by ordinary people be offset, to some extent, by a requirement that decision makers are recruited from a select group of experts. The point is not that those taking the lead in technocratic governance must be natural scientists. The most vocal movement for technocratic politics in North America, especially active in the 1920's and 30's,¹⁵ agitated for engineers to take the reins of government, an idea that goes back to the French utopian socialist, Henri de Saint-Simon (1760–1825) (Ryan 2012, 647–51). Furthermore, the most significant real-world variety of technocracy comes in the form of policy shaping by economists and other social scientists, influencing the course of nominally democratic governance (see Sect. 6). This is precisely the situation that Sellars seems to have envisaged as optimal for bringing about social improvements.

For one thing, Sellars describes his preferred socialism as an application of scientific principles to the socio-political domain:

Every feature of society must, from now on, defend itself before the bar of a reason steeped in facts and hopeful of improvement.

We have tried to show that modern socialism is the expression of just such a concrete, critical and experimental reason It is this studious, realistic, experimental attitude toward society which I regard as the spirit of modern socialism. (NSD:50)

Furthermore, Sellars singles out social scientists as having the relevant approach:

As a matter of fact, the socialist tries to look at these things from the point of view of the radical social scientist.... The socialist believes that he aims to apply science to life. (NSD75)

At some points Sellars directly acknowledges a conflict between democracy and this scientific approach, suggesting that the solution will be determined scientifically, and that traditional representative democracy should not be preserved for the sake of it:

The proper relation between the expert and the few, responsible, elected officials must be worked out in practice. Political science is studying this problem. (NSD:220)

and the relations of things. Nowhere do we have the actual presence of a physical thing in the field of experience” (CR:150 cf. CR:187).

¹⁴ The word “socialism” appears in the first five chapter titles of the book.

¹⁵ See Akin (1977) for a history of the movement.

The purpose of democracy is a general social control of the conditions of life rather than any traditional right to vote for every holder of office. (NSD 224)¹⁶

This last sentence is so significant because it reveals how, for Sellars, the meaning of “democracy” is flexible, such that the idea of the people holding power can be equated with society (in some general sense) having control of its own direction, and this control will necessarily be asserted through scientific and technical means.

4.2 Sellars’ Early Humanism

In *The Next Step in Religion* (1918, henceforth NSR), Sellars describes how a secular humanism, drawing on Christian ethics, will provide the values and principles for the social reforms that Sellars promoted in NSD. As he puts it quite directly,

With the growth of democracy of a socialistic kind, Jesus the Carpenter with his kindly word for the poor and downtrodden and his scorn for the haughty and rich has become the symbol and sign of a new social ethics. (NSR: 73–74)

In NSR, Sellars’ rhetoric is not anti-clerical by the standards of many on the political left.¹⁷ The expressed view is that, with the intellectual progress exemplified by modern science, humanity has outgrown all supernatural ideas, including theistic religion. He grants that traditional religious institutions had their good sides and were part of story of human progress (see Chaps. 14 and 15). That said, we cannot know from this text alone whether Sellars is frankly expressing his own views on the matter, or if he is seeking not to alienate a Christian readership.

Sellars will later be an author of the Humanist Manifesto (see Sect. 5). In his early book, we can appreciate how humanism arises, for Sellars, out of the remnants of Christianity, and how it relates to the philosopher’s aspirations for a more equitable society:

Christian ethics will operate more freely and creatively in the world when it is given an entirely humanistic

¹⁶ Also, “[w]e must cease worshipping Democracy with a capital D while refusing to analyze the actual behavior of a clumsy democracy which has little group spirit” (NSD:221) and NSD:215-6 on the inadequacy of one-man-one-vote elections.

¹⁷ That religion is pure ideology (the “opium of the people”) is the standard view of Marxists. At points Sellars comes close to it: “the supernaturalistic perspective which dominated and misled the world for so many centuries.” (NSR:207). “How many of the downtrodden have looked to another world to right their wrongs! It gave them hope: but it made them passive and all too meek.” (NSR:151).

setting. In dreaming of a super-mundane god, man has only too often forgotten his fellow man. In yearning for the coming of the divine kingdom, he has allowed his hands and feet to be idle, or has stepped unheeding over the prostrate forms of men and children broken in the mart [marketplace]. To remove theology from Christianity is to make the kingdom of this world. (NSR:59)

As Sellars sees it, the problem with Christianity has been that a lack of “trust in human reason” has led to “obscurantism and bigotry” (NSR:60). This newfound faith in human reason is without doubt the backdrop to Sellars’ political vision. As we saw, “democracy” means, for Sellars, a new kind of agency in the directing of social progress, made possible through social scientific knowledge. The new “humanist’s religion” justifies this aspiration by supposing that traditional religious worldviews underestimated humanity’s capabilities, and thereby hampered social and material progress:

the humanist’s religion is the religion of one who says yea to life here and now, of one who is self-reliant and fearless, intelligent and creative. It is the religion of the will to power, of one who is hard on himself and yet joyous in himself. It is the religion of courage and purpose and transforming energy. Its motto is, ‘What hath not man wrought?’ Its goal is the mastery of things that they may become servants and instrumentalities to man’s spiritual comradeship. (NSR:212)

At one point Sellars directly links the goals of this humanism with democracy, referring back to NSD (NSR:220). At the same time, the Nietzschean overtones are unmistakable. Sellars urges humanity to fully grasp its potential and prowess, no longer overawed by comparison with a transcendent God.

4.3 Linking Sellars’ Social Vision to *Critical Realism*

The link between leftwing politics and materialist philosophy have been widely noted, the most well known being the “dialectical materialism” of the Marxists. Beiser (2014, 93) describes how materialism had an agenda of human liberation, and from this stemmed its opposition to religion:

The great danger to this [human] autonomy came with religion, the materialist taught, because it introduces fear of the gods, who would punish those who did not obey their laws. Such fear grew out of superstition, i.e., the belief that natural events have spiritual or supernatural causes. The materialist’s antidote to such

superstition is natural science, which shows that the true causes of things lie in nature rather supernatural spirits.

It is quite clear, in the case of Sellars, that materialism, the anti-supernaturalist metaphysics which he takes to be supported by science, is favoured for these reasons. I will now discuss how critical realism also has a socio-political motivation.

As noted above, the dialectical target of critical realism is idealism. One of Sellars' stated reasons for opposing idealism, in spite of his feeling that the arguments in its favour are stronger than those for realism (CR:v), is that idealism, "has always been in alliance with religion and with a spiritualistic ethics" (CR:188). One of the strong points of idealism, in Sellars' view, is its rejection of the copy-theory of knowledge. We should understand critical realism as taking this feature, but grafting onto it a materialist ontology, fitting Sellars' anti-religious, progressivist purposes. In critical realism, the world of physics (which is material) becomes a new absolute, literally replacing God in the following passage:

My mind claims a knowledge of an external, impersonal world in which I live and move and have my being and by means of which I communicate with my fellows. (CR:160)

These lines are an allusion to a sentence of Berkeley's, second *Dialogue*: "I entirely agree with what the holy Scripture saith, *that in God we live, and move, and have our being.*"

Another task of CR was to offer a solution to the mind-body problem. In NSR Sellars explains the wider import of such an achievement, cross referencing to CR and explaining the connection as follows:

With the imminent solution of the mind-body problem, the last bulwark of the old supernaturalism will have fallen. Man will be forced to acknowledge that he is an earth-child whose drama has meaning only upon her bosom. It is my firm conviction that the clear realization of this fact will startle men into insights and demands of far-reaching import. May it not remove a dead-weight of inhibitions which has kept the human spirit under bonds to past attitudes and methods? (NSR:217)

The anti-conservative rhetoric is unambiguous. The post-religious human destiny is taken to be one of open possibilities for limitless progress.

It is also worth outlining Sellars' positive vision. It becomes clear why Sellars favours an anti-reductionist materialism which allows for there to be genuinely novel biological and psychological entities and properties,

emerging out of complex material systems.¹⁸ Sellars recognises that a reductionist materialism leaves many bereft of values and purpose, and that this has been one reason for the popularity of idealism, since "[m]odern philosophers have usually felt themselves to be defenders of the ideal against the cold naturalism of science...." (CR:227). However, Sellars argues,

there is no adequate reason to deny that the physical world rises to the level of purposive activity, and that consciousness is an immanently produced variant in the physical world. (CR:236)

Sellars' emergentism escapes the nihilistic void that materialism threatens to open, by allowing minds and their purposes and values to be real and distinct from low level physical entities and properties. Sellars seeks to validate human worth, in a naturalist frame, by elevating the status of the natural, rather than by relating humanity to some super-natural principle, writing, "[s]urely man is a part of nature. Only the thinker who degrades nature finds naturalism degrading" (CR:236).

5 Technocracy and the Rise of Realism

I have shown how there is a remarkable consistency of aims across Sellars' theoretical philosophy in CR and his vision of society and humanity in NSD and NSR. Sellars asserts that a solution to the mind-body problem, and a victory for critical realism over idealism, will help to establish the scientific world view which is to replace a religious one. He is keen for political authority to accrue to (social) scientific experts, making his vision a technocratic one. This much is explicit in Sellars' early publications. The further question is whether the noted alignment between realism and this social-political agenda had any role in the wider acceptance of realism in 20th century American philosophy. This cannot be established just from study of a philosopher's publications, but some circumstantial evidence is there, as I will argue below. I will first address the worry that Sellars' philosophy could not have served an ideological role for elites in the USA, since his social-political principles did not become mainstream. While it is true that America never took the path of socialism that Sellars espoused (though there is some overlap between his proposals and New Deal policies enacted in the 1930s), a technocratic dimension of governance did become increasingly important, consistent with Sellars' aspirations.

¹⁸ Consistent with this, Sellars upholds the autonomy of the special sciences (psychology, biology and chemistry) with respect to physics (CR:238).

5.1 Technocracy in America

The period between the wars was the high point of agitation for overtly technocratic management of the American economy. The idea that the country would be better run if engineers took deliberate control over production and distribution of goods was articulated by Berkeley engineer, William Smyth, who coined the word ‘technocracy’ in 1921 (Esmark 2020, 19) and social theorist Thorstein Veblen (Akin 1977, 14–26). The Technical Alliance and Technocracy Incorporated, political movements led by Howard Scott, promoted these ideas, and in the midst of the great depression, people were willing to countenance such radical proposals.¹⁹

After World War II, in the rush of an economic boom, the appeal of engineers putting their wrench in free running markets had dissipated. But this era can still be considered a golden age of technocracy, just of a different sort (Esmark 2020:37). It is not that engineers and scientists (rather than politicians) were holding office in the chambers of government, but that they became central to how power operated, as technical decision making became more crucial in military, economic, and social affairs (Bell 1973, Chap. 6). Esmark (2020:50) writes that this period saw, “a technocratic retreat into the background of policy processes, a complete abandonment of earlier utopian postures and the overt pursuit of political influence in more or less direct conflict with democratically elected leadership.” And yet, Esmark continues, we should not conclude, “that technocrats exert less influence on public policy. Rather the opposite: technocrats have become even more influential”, precisely because of the increasing reliance of political systems on technical expertise.

This tendency is given a useful name by Habermas (1968/1971): “the scientization of politics”. On his account, it is a two-way set of influences, both from science to government and from government to science, via the channelling of public funds into research councils such as the National Science Foundation (NSF) founded in 1950 under the Truman presidency. Habermas notes that the “United States, [is] the country in which the scientization of political practice has progressed furthest” (p.70); a sentiment expressed more sarcastically by the ‘anarchist’ philosopher of science Feyerabend (1978, 74): “Church and State are

¹⁹ “In 1932-33 the ideas of the technocrats overshadowed all other proposals for dealing with the crisis. No economic study had ever received such widespread attention. Newspapers spread technocracy across the front pages; periodicals devoted more features to it than to Franklin D. Roosevelt; spontaneous organizations and study groups sprung up across the United States and spread across the border into Canada. For a moment in time it was possible for thoughtful people to believe that America would consciously choose to become a technocracy.” (Akin 1977:x-xi).

now carefully separated. State and Science, however, work closely together.”

5.2 Agitating for Humanism and Materialism

As we have seen, the scientization of American politics in the mid twentieth century is a phenomenon noted by various observers. We can only imagine that Sellars viewed this trend positively, since it is entirely congruent with his expressed vision in NSD and in the first “Humanist Manifesto”, from 1933, which Sellars co-authored with Unitarian minister, Raymond Bragg, and which lists John Dewey amongst the 34 signatories. In this document, as in NSR, the case against traditional religion and for social progress take support from an elevation of science as the new basis for acquisition of truths not only about the material world, but also about the place of humanity within the cosmos, and about the values that should guide us, delivering a religion without faith in anything beyond the human.²⁰ This is articulated in fifteen theses of “religious humanism”. The eleventh is particularly relevant to our discussion of scientism and technocracy:

Man will learn to face the crises of life in terms of his knowledge of their naturalness and probability. We assume that humanism will take the path of social and mental hygiene and discourage sentimental and unreal hopes and wishful thinking. (Bragg and Sellars 1933)

This tells us that the problems of human life are to be approached through acquisition and application of scientific knowledge, especially in the domains of sociology and psychology (“social and mental hygiene”).

In the Humanist Manifesto, the anti-metaphysical pragmatist, Dewey, and the metaphysical realist and materialist, Sellars, are literally on the same page. At this time, John Dewey, as a public intellectual, held immense influence on American social discussions. And yet, the realist ideas of the lesser known Sellars senior should strike us as much more akin to the worldview put forward both in popular secularist and popular science discussions today. As mentioned at the outset, one important question about the rise of realism is why it won out over anti-metaphysical pragmatism and empiricism as *the* science friendly philosophy, given that metaphysical commitment had before then been taken to be incompatible with the scientific spirit. In this essay, I cannot

²⁰ They assert a direct incompatibility between the discoveries of science and the beliefs of religious traditions: “the universe depicted by modern science makes unacceptable any supernatural or cosmic guarantees of human values. ... Religion must formulate its hopes and plans in the light of the scientific spirit and method.” (Bragg and Sellars 1933).

fully resolve this historical puzzle but I can at least present the arguments made by Sellars and his collaborators for the superiority of metaphysically realist materialism over its rivals. Further research would be needed in order to establish whether or not these arguments were actually influential, and to relate them to other factors which helped bolster realism.

After World War II, Roy Wood Sellars, VJ McGill and Marvin Farber co-edited a book entitled *Philosophy for the Future: The Quest of Modern Materialism*. This text gives as an answer to the question of why, at least in Sellars' eyes, realist materialism was the best science-friendly philosophy available. The foreword to the book, co-authored by the editors,²¹ begins with a statement which should by now sound familiar:

The growth of science and technology, the advance of medicine, universal education, and general enlightenment have greatly increased the valid authority of science. Any number of social questions which were once the exclusive prerogative of religion and conventional morality are now recognized as falling within the sphere of the social sciences. (Sellars, McGill, and Farber 1949, v)

The scientific and technocratic point that science should take the lead on social questions is the same as stated in NSD, NSR and the Humanist Manifesto. An additional claim, here, is that, “[t]his kind of progress has resulted in an increasingly materialist outlook...” (ibid.) – in other words, that the changes to society brought about by science and technology are already driving people to replace traditional worldviews with materialism. They go on to complain that, “the socio-economic organization of men ... lags behind [science and technology], and prevents the full realization of human values inherent in our industrial and scientific efficiency” (Sellars et al. 1949: viii). It is the task of materialist philosophers to address this discrepancy. In this same introduction, some remarks are made about the wider benefits of materialism over Dewey's philosophy, here referred to as “naturalism”²²:

Whereas.... naturalism is reluctant to commit itself to a positive theory of the world, materialism endeavors to set forth a synoptic view of man and the universe

²¹ In the list of editors here and on the cover, Sellars' name appears first, indicating lead authorship, though it may just reflect his greater renown or seniority.

²² In a book referred to by Sellars et al. (1949), featuring an essay by Dewey, Krikorian (1944) characterises naturalism by its commitment to, “[t]he method relied upon in seeking an understanding of the world [being] the empirical method of science as against allegedly superior methods”.

implicit in the sciences at their present stage of development. (Sellars et al. 1949:ix-x)²³

Furthermore, naturalism is said to have been too ready to compromise with those seeking to put limits on use of scientific method (ibid.).

A chapter in *Philosophy For the Future* by Maurice Cornforth makes quite a passionate case for the advantages of materialism over the logical empiricism of Neurath and others:²⁴

But such an analysis can give no account at all of what science is doing, why it is doing it, what is its value, or why we should prefer it to mysticism or metaphysics. In other words, it is altogether wide of the mark as an analysis of science. Its chief feature is that it continues to ‘reject’ the idea that science reflects the real world and gives us objective truth. (Cornforth 1949, 511)

A key point for us is that the deficiencies of empiricism, outlined by Cornforth, relate to its inability to establish science as an authority to guide both action and our general worldview, because it does not (as realism does) ground scientific knowledge in an “objective” reality (also, Cornforth 1949, 514). Cornforth goes on to state a forthright scientific realism, following this up with the standard realist claim that the technological success of science is a direct consequence of its discovery of laws of nature:

The observations of science are obtained in such a way that they throw light on the actual constitution and laws of physical systems. And scientific theories, if properly understood and used, serve the ends of increasing our all-round understanding of ourselves and the universe, of increasing our power to use natural processes for our own ends and our ability to organize our own social affairs. In this way, it may be added, the test of scientific theories is by no means confined to a laboratory test, but is effected in the whole application of science in social life. (Cornforth 1949, 516-7)

²³ Wilfrid Sellars clearly took up his father's ambitions for philosophy. One of Wilfrid's best known remarks is that, “[t]he aim of philosophy, abstractly formulated, is to understand how things in the broadest possible sense of the term hang together in the broadest possible sense of the term” (Sellars 1963, 1), and the guiding metaphor of that essay – of fusing the manifest and scientific images of mankind – is precisely one of providing a “synoptic vision”. Wilfrid Sellars had a large influence on the formulation of scientific realism as we know it today, which there is not space to discuss in this article. Incidentally, there is a chapter by Wilfrid in *Philosophy for the Future*, which is a rather arcane piece of Aristotle scholarship.

²⁴ Discussed also in Reisch (2005, 131–134).

The point that sticks out here—compared to most current statements of scientific realism, though fully congruent with our discussion of technocracy—is that the technological possibilities envisaged by Cornforth are as much for the social sciences as they are for the natural sciences: the rewards of applied science will be as great in the engineering of people and society as they are from the harnessing of nature.

One final criticism raised against logical empiricism is that it does not sufficiently arm us against the conservative enemies of progress:

the misrepresentation of the character of science which is made by logical empiricism is such as to obscure the whole social function of science and to confuse the issues of the fight to realize the progressive potentialities of scientific knowledge. In relation to the task of extending scientific knowledge and securing its development and utilization in the service of human progress, the program of ‘logical analysis’ bears a barren and scholastic character. In this respect it is certainly no ‘progressive philosophy’ – a title which is often claimed for it. Quite the reverse. By rejecting the objectivity of scientific knowledge it obscures the significance of science as a weapon of enlightenment and progress. Cornforth (1949:519).

Again, the argument is that only scientific realists can be the true friends of a science-led politics, precisely because of their metaphysical commitment to the notion of objective reality and, likewise, of science’s ability to track the truth.

5.3 Three Roles for Philosophy

We have just encountered the various arguments presented by Sellars and collaborators for the superiority of realism, over Deweyan and empiricist rivals, as the philosophy best able to support a politics in which the task of social improvement is equated with the application of social science—in other words, a technocratic politics. As mentioned at the start of Sect. 5, it is not possible in this essay to determine whether or not these arguments were themselves influential. What I will do instead in this section is outline three different ways that the Sellarsian philosophy of scientific realism and materialism can potentially be understood as playing a socio-political role, and therefore being an attractive philosophy within the post-war context of the increasing scientization of politics. The three hypotheses are that the philosophy provides a *worldview*, an *ideology*, and a *political theology*. I will discuss each in turn.

By worldview I mean a shared values system that gives people meaning, enhances social cohesion, frames practice,

and enables interpretation of complex circumstances. Sellars is quite explicit that he wants his philosophy to offer a worldview. He calls his humanism a new “religion” and, especially in the Humanist Manifesto, he asserts that science has a role in shaping the values system that will be the successor to traditional religion. In *Philosophy for the Future*, the task is to bring scientists and philosophers together in order to provide a “reformulation” of the materialist outlook that is already growing as a consequence of scientific progress. Here, Sellars, McGill and Farber clearly state that materialism offers people a general, scientific worldview:

Materialism does not doubt the possibility of satisfying man’s need for a comprehensive picture of the universe, and asserts the capacity of scientific methods eventually to cope with basic human problems. It therefore combats agnosticism, skepticism, and all irrational confessions of defeat. (Sellars et al. 1949:vii)

Thus, we can reasonably conclude that in the post-war American context, the philosophy of scientific realism and materialism offered to those sympathetic to the new technocratic elements in politics a coherent worldview that sanctioned these developments as both beneficial to humankind and epistemically legitimate.

A limitation of the analysis of scientific realism as a worldview is that it does not reveal the distinctive significance of realism. As mentioned at the start of this essay, logical positivism was just as much a worldview, and the same goes for the classical positivism of the nineteenth century, which went even further than its successor in espousing a humanism to replace traditional religion. The next two hypotheses about the wider attractions of scientific realism allow us better to see what distinguishes realism from other scientific worldviews. They draw ultimately from the early twentieth century social theorist Max Weber, and his observations of how impersonal bureaucracies, with (often spurious) technical rationales, were playing an increasingly prominent role in governance.²⁵ They consider, on the one hand, how scientific realism offers an epistemology friendly to technocracy, and on the other, how the metaphysics of realism supports a particular notion of sovereignty.

As mentioned in Sect. 2, the charge that academic philosophy of science served as an ideology of technocracy was levelled by two intellectuals associated with the 1960s counter-culture Theodore Roszak and Herbert Marcuse.

²⁵ Schmitt (1922/2005, 65), originator of the term “political theology”, writes: “There must no longer be political problems, only organizational-technical and economic-sociological tasks.... The modern state seems to have actually become what Max Weber envisioned: a huge industrial plant.” And see note 31. Marcuse was, like Habermas, associated with the Frankfurt School founded originally by Weber.

Ideology in the sense used by Roszak (quoted in Sect. 2) and Marcuse means a system of values and justifications that is useful for elites because it masks the actual nature of social conditions, and often becomes the unquestioned common sense of wider society. Marcuse makes more wide-ranging observations about the logic of scientific/technical progress and political domination, and how these link to the scientific realist view of objective nature:

The incessant dynamic of technical progress has become permeated with political content, and the Logos of technics has been made into the Logos of continued servitude. The liberating force of technology—the instrumentalization of things—turns into a fetter of liberation; the instrumentalization of man.

.....

In other words, the scientific universe (that is, not the specific propositions on the structure of matter, energy, their interrelation, etc., but the projection of nature as quantifiable matter, as guiding the hypothetical approach to—and the mathematical-logical expression of—objectivity) would be the horizon of a concrete societal practice which would be preserved in the development of the scientific project. (Marcuse 1964/1991, 163-4)

What is for both Sellars and Dewey a selling point of naturalism and scientism – the prospect that the methods of natural science can be applied to human beings as well, in order to direct society – is, to Marcuse's mind, frankly totalitarian.²⁶

But why would technocracy need an ideology? The advantage of governance shaped by science, over other regimes, is that its proof should be in the empirical pudding: by acquiring and applying the relevant knowledge, technocracy should be able to deliver on its promises to citizens, and not need the mystifications of an ideology in order to legitimise itself. That would be so if technocracy worked as well in practice as it sounds in theory. A worry raised against technocracy by Walter Lippmann in 1937, and restated in recent years by Jeffrey Friedman, is that it is simply not possible to acquire a certain enough degree of knowledge about current social conditions and the effects of proposed interventions, for technocracy to be as successful as hoped by Sellars and others, in ameliorating social problems and directing the course of socio-economic change.²⁷

²⁶ See "Technology and Science as 'Ideology'" in Habermas (1968/1971) for a critical discussion of this analysis.

²⁷ See Lippmann's (1937, Chap. 3) remarks, quoted in Friedman (2019:103): "In science there was knowledge...In government there was power. By their union an indispensable providence was to be created and the future of human society contrived and directed." However,

Friedman writes extensively about the debate that took place between Dewey and Lippmann and argues that the challenges raised by Lippmann over the epistemic infeasibility of scientifically guided policy making due to the extreme complexity of social systems, were not addressed by Dewey, a philosopher who, like Sellars, advocated for an increasing role of scientists in gathering knowledge relevant to political decisions and informing members of the general public.²⁸ Friedman (2019, 127–131) suggests that Dewey's own naturalist, evolutionary epistemology had some resources to counter Lippmann's attacks, should Dewey have chosen to employ them. I am not so sure. It seems to me that an ideological advantage of scientific realism over naturalism is that it better subverts these difficult questions for technocracy, regarding its epistemic foundations: if absolute, mind-independent reality is just 'out there', and science is the assured method for finding out truths about this reality, and scientific knowledge, when applied, allows for control of this reality, then in principle there is no obstacle to successful technocratic governance. As mentioned in footnote 8, Dewey is a realist to the extent that he grants that nature contains structures and relations that science seeks to represent,²⁹ though he rejects the notions of absolute truth and certainty that are more at home with standard scientific realism (though not all scientific realists commit to them). Ideologies speak the language of certainty – power cannot be diffident.

The third hypothesis is that scientific realism offers a "political theology". This term originates from political theorist Carl Schmitt who argued that the secularisation of politics, ongoing since the seventeenth century, leaves an outstanding problem of how authority or sovereignty can be established. Schmitt (1922/2005:46) sees a direct connection between the default metaphysics of an era, and its sense of what is politically legitimate:

Lippmann argued, there is an "essential limitation" of "all policy, of all government" which is that, "the human mind must take a partial and simplified view of existence".

²⁸ The Lippmann-Dewey debate is also discussed in Westbrook (1991, Chap. 9). One thing to note is that in the 1920s Lippmann espoused an elitist technocracy whereby professional social scientists but not ordinary members of the public were thought to have the knowledge requisite for scientifically guided policy making. Dewey resisted this, holding that with improvements in the quality of journalism, the general public would be equally capable of taking part in policy making. Lippmann's (1937) later view is that even the best-informed experts cannot acquire enough knowledge to guide society in a chosen direction, because of the overwhelming complexity of society. I have argued elsewhere that underestimation of the complexity of the systems which science seeks to represent is one of the characteristics of standard scientific realism (Chirimuuta 2023).

²⁹ See Dewey's rebuttal of Reichenbach's anti-realist interpretation of Dewey's philosophy of science in the *Library of Living Philosophers* volume (Schlipp 1939).

The metaphysical image that a definite epoch forges of the world has the same structure as what the world immediately understands to be appropriate as a form of its political organization....metaphysics is the most intensive and the clearest expression of an epoch.

Cornforth (1949:519 – 20) makes the highly relevant remark that the problem with empiricism, due to its metaphysical silence, is that it leaves a vacuum for an anti-scientific metaphysics of idealism or supernaturalism to fill. If metaphysics is an ineliminable expression of people's understanding of the world and how society should be governed, those wishing for a science-led politics are required to furnish people with a metaphysics consistent with this. Empiricism, positivism (both logical and the classical nineteenth century sort),³⁰ and Deweyan naturalism are all inconveniently silent about metaphysics, if not openly hostile to it.

A political theology can be understood as a notion of a transcendent, metaphysical absolute that systems of governance make claim to have a privileged relation to, in order to assert their sovereignty. According to scientific realism, mind independent nature is an absolute, and truths about it acquired by scientists put them in relation to this absolute reality, from which both epistemic and social authority flows. Logical empiricism, positivism and Dewey's naturalism cannot serve this role in legitimating technocratic power, because they all explicitly deny that scientific knowledge consists in some relation to an absolute. Similarly to Neurath's empiricism (see footnote 7), Dewey blocks the esoteric picture of scientific knowledge that the political theology requires. An interesting point is that even though, like standard realists, Dewey does not deny the existence of unobservables such as atoms – an issue he clarifies in his exchange with Reichenbach (in Schlipp 1939) – he fiercely avoids treating scientific descriptions of material objects as rivals to the common sense descriptions available to untrained ordinary people. In other words, he avoids any esoteric implications of a realistic interpretation of physical theories, and he insists that “genuine” social science should public facing, appearing in newspapers rather than scholarly journals (Westbrook 1991:310).

³⁰ That is not to say that these theories cannot interact with politics in interesting ways. Positivism has certainly provided ammunition and motivation for progressivist and secularising political movements. Two examples discussed by Pickering (2019) are the positivist ideas espoused by politicians in the French third Republic in the last quarter of the nineteenth century, and the influence of positivism on Mustafa Kemal Atatürk, founder of the modern state of Turkey. We should note that the Third Republic was a representative democracy, not a technocratic system of governance, and so did not require a scientific metaphysics to coincide with its arrangement of sovereignty. The Comtean ideas helped fend off Catholic traditionalists and monarchists. Incidentally, we should not forget that at the origins of technocratic thought we have Saint-Simon, who was Comte's mentor.

These three ways of understanding the wider appeal of scientific realism in the context of a growing technocracy all have merits, and I do not take them to be incompatible with one another. To establish an externalist explanation for the acceptance of scientific realism in this context – to establish that scientific realism was taken up at least in part because it served one or more of the roles outlined above – must be left to future research. I hope at minimum to have established the plausibility of this kind of explanation for the rise of realism.

6 Conclusion: Philosophy of Science was Never Apolitical

A conclusion I take to be established by the preceding discussion is that realist philosophy of science is not and never was apolitical. I am responding here to what I call the ‘Icy Slopes Thesis’ – the view put forward by Reisch (2005) that while the empiricist philosophy of science of the Vienna Circle was overtly progressivist and politically engaged, in the context of Cold War America philosophy of science became arcane and apolitical in order to survive. In one sense it is true that philosophy of science became more academic and professional, and not so connected to political agitation as, for example, the Unity of Science movement had been under Neurath's leadership (Reisch 2005, 31 – 8). However, there is a further claim: that philosophy of science became so abstract and disconnected from social issues that it lost all wider political significance (Reisch 2005:355). What I am challenging is the claim that the dominant successor to logical empiricism, scientific realism, was in fact apolitical in this latter sense. We have seen in the course of this essay that the ascendent scientific realism had political ramifications which were extremely salient in the writings of Roy Wood Sellars. The key point was that the notes of political accord were struck not only with the left-progressivist politics, the “socialism” favoured by Sellars, but also with the technocratic dimensions of the US post-war establishment, and this could help to explain realism's ascendancy in this context.

One reason why Reisch and others may have overlooked this connection is that technocracy, as many including Habermas (1968/1971) observe, is itself a politics of depoliticization: in a technocratic frame, social-political issues, human dilemmas and conflicts over values and resources, get approached as technical problems to be solved, in the manner of engineering, through fact finding and trouble shooting.³¹ Hence, a technocratic ideology could very well appear apolitical. At the same time, a strike against Reisch's

³¹ This is how we should take Schmitt's remark, quoted note 25 above, that “[t]here must no longer be political problems”.

thesis that the downfall of logical empiricism can, at least in part, be explained by its association with left-wing politics, is that the very same association is there for materialism (later rebranded as *physicalism*, see note 11). Scientific realism and materialism did get accepted by the cold war academic establishment even though the links between materialism and revolutionary Marxism were actually stronger than any that could be boasted by empiricism.³²

An indication of how the establishment repurposing of formerly oppositional ideas could come about is to be found in Reisch's trail-blazing study. He discusses an advertisement for the RAND corporation³³ which features a portrait and quotation of Hans Reichenbach, the empiricist philosopher of science, on science's "truth-seeking spirit." Reisch (2005:353) observes that,

While Reichenbach's probabilism is not out of step with the activity of truth seeking, it denies that science (or any other activity) can secure absolute, indubitable truths about nature. While the advertising designer... was almost surely not aware of the letter of Reichenbach's work, he or she was certainly aware of the value and currency of 'truth' in Cold War culture... Truths about freedom and the evils of communism were widely seen as a second bulwark against communist invasion, right behind the first bulwark of military strength.

This is interesting because it suggests a link from scientific realism to a further geo-political agenda, whereas, in the course of this essay I have concentrated on the role of notions of absolute truth, secured by science, in the service of new forms of domestic governance. To return, in the end, to internalist explanations for the rise of realism, it may still be the case that realism won out because of the superiority of the arguments in favour of it. But I hope to have shown that that is not the only potential explanation. Realism might well be a false and flawed philosophy, but in the context of certain times, one convenient enough to hold on to.

Declarations

Conflict of Interest None

³² Lenin's hatred of Mach's empiricism is well known, due to his fulminating *Materialism and Empirio-criticism* of 1908 (Reisch 2005, 120–121). Sellars et al. (1949) apologise that a chapter on dialectical materialism was not available in their collection. This is a hint that they somewhat felt the chill of the cold war, though they did not actually attempt to hide their socialist sympathies (Reisch 2005, 132).

³³ Often mentioned as a key site for the development of post-war technocracy (Esmark 2020, 42).

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