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ORDER: GOD'S, MAN'S AND NATURE'S

Late Feyerabend against Scientific Materialism

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Abstract: Feyerabend's interests in religion and mysticism grew through his career. In his later writings, Feyerabend's numerous critiques of scientific materialism are often accompanied by purported advantages of religious orientations and temperaments. These commendations do not simply follow from his tolerant theoretical pluralism; they are more positive attempts to articulate distinctive aspects of human life satisfied by religion, but not by scientific materialism. Elevating the human need for mystery, reverence, and love, he contrasts these goods with the deliverances of monistic conceptions of science and reason. I bring attention to some of the common themes in these remarks to argue that they were integral with other parts of his philosophical project and that they could serve as helpful rejoinders to contemporary exhortations to science-based secularism from philosophers of science.

1. Introduction

This paper aims to elucidate a few threads of Paul Feyerabend's writing on religion and mysticism, and to suggest that his attitude toward the topics was generally more positive than what results from a mere tolerance for heterodox ideas or a consequence of his theoretical pluralism. Feyerabend understood religion as practice and as temperament, emphasizing especially themes of the world's ineluctable mysteriousness. These passages do not form any systematic doctrine endorsing religion but do cohere with other parts of Feyerabend's philosophical project such as his doctrine of the ineffability of nature. While some readers might find his references to gods and scripture as a bizarre curiosity of his later work, I will suggest that such themes are of a piece with several larger philosophical goals and moreover that the ideas on the nature of religion are live ones that remain relevant in contemporary debates over science and religion.

I begin (§2) with some background and context to Feyerabend's thinking, showing how his concern with characterizing science led naturally to debates about

science's relationship with religion. For Feyerabend this process included a time-honored tradition of using the Galileo affair as a lens through which to focus his own concerns about science and its cultural authority. Feyerabend followed others in this sort of analysis, including the playwright Berthold Brecht, whose interpretations of the Galileo affair had earlier been produced on stage as *The Life of Galileo*. I then review Feyerabend's late writing on religion and mysticism (§3) and illustrate the filiations with other parts of his philosophy, namely his idea of the ineffability of nature and the existential context of knowledge. Finally, I show how Feyerabend's thoughts could be relevant to contemporary debates on science and religion advanced by other philosophers of science (§4). To the extent that his views are tenable, they could help re-orient debates on science and religion within philosophy of science. Those debates often make religion out to be defunct attempts to do precisely what modern science does better, namely, constructing theoretical explanations of the physical world. Feyerabend's writings help us to see that this construal of (much) religious life is off the mark, and that the mystical experiences and practices he draws attention to could survive criticism from philosophers who use science to underwrite their secularism.

2. Setting the Stage with Galileo

In a 1990 lecture entitled, 'The Crisis of Faith in Science', Cardinal Joseph Ratzinger argued that contrary to the image of science as a benign institution forever pointing the path of progress, science has in fact been used in very destructive ways; and furthermore that there is no one monolithic worldview arising from the natural sciences, and certainly not one that forces the abdication of traditional and religious ways of life. In light of changing sociological and philosophical insights, he said, we needed fresh interpretations of the relationships between science and society, and re-examinations of how science bears on religion. These are familiar themes to any scholar of Feyerabend, and parts of the Cardinal's speech could have been given by Feyerabend himself. The controversy began when Ratzinger actually cited Feyerabend's somewhat revisionary take on the Galileo affair. Years later, this citation, giving the impression that he was "against" Galileo rather than apologetic for the church's historical sins, earned Ratzinger – by then Pope Benedict XVI – widespread student protests and a rescinded invitation to speak at Rome's La Sapienza

University.[1] Evidently, aligning oneself with Feyerabend can be dangerous business, even for a Pope.

The source of the controversy, Feyerabend's own Galileo, was a figure whom the church justly reprimanded for his universalistic methods and his attempts to compel his rationalism onto others. On this account, Galileo was a quintessential if early example of a scientist who disregarded important ethical, metaphysical, and social consequences of his work. Feyerabend uses Galileo to make a point about modern science writ large, and he often abstracts from (or simply neglects) historical details in order to do so. Feyerabend's main use of Galileo in *Against Method* ([1975] 1993) is to demonstrate how the history of science does not fit into the strictures of normative epistemology proposed by philosophers of science, and moreover that if scientists did follow such recommendations, those like Galileo couldn't have arrived at conclusions that were so fruitful. To take just one example, Feyerabend contends that Galileo, contrary to the recommendations of empiricists, frequently "disregarded phenomena" when they clashed with theoretical commitments to universal and immutable laws (1999a, 237). But Feyerabend includes more critical dimensions to his assessment as well: Galileo used deceptive rhetoric to conceal the "lacunae" and the "nonsemantic elements" that separate basic kinematic and dynamical motions (1999a, 126-7); he had narrow expertise but insisted that all astronomical matters be decided by specialists, not by any other elements of society (1985, 157); and he incautiously insisted that a predictively accurate model has special or even final claims to truth (1985, 158).[2]

By contrast, the church rightly took into account a variety of popular and expert views on religion and astronomy; it understood that scientific models could not be related to reality without complex judgments; it knew that ideas could injure people; and even though it tried to administer the "nonsense" of the Council of Trent's findings

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[1] The faculty of physics signed a widely circulated letter un-inviting the Pontiff: "These words [Feyerabend's], as scientists faithful to reason and as teachers who dedicate their lives to the advancement and dissemination of knowledge, offend and humiliate us. In the name of secularism of science and culture … we hope that the incongruous event can still be canceled" (*La Republica*, 14 January 2008). For details and an assessment of the merits of Ratzinger's and Feyerabend's claims, see McMullin 2008.

[2] It is important to remember that some of Feyerabend's critiques here are also meant to be complimentary! Galileo's "propagandistic machinations" (1975, 72) were part and parcel of successful scientific tactics, without which science would not be able to accomplish what it has.

on the interpretation of scripture, in the end the church was still “more straightforward, more honest, and certainly more rational” (1985, 160) than baroque modern administrative procedures that similarly restrict the introduction of novel scientific outlooks. Feyerabend certainly objected to the church’s authoritarian power, but not to the church’s use of scripture in general, which he actually endorsed.[3] With respect to the cultural authority of scientific expertise, then, the church had a more defensible position than Galileo.

Feyerabend was not the first modern writer to position Galileo in a less-than-heroic light. Other critical narratives preceded Feyerabend, removing Galileo from a triumphant champion of reason’s victory over dogma, and one salient example here is Bertold Brecht’s play *Life of Galileo*. Feyerabend had a close connection with the playright: Feyerabend had declined the chance to be production assistant to Brecht after meeting him in Germany in 1949, which he later reported a source of great regret because it would have been a chance to change emotions and attitudes through the arts – not just change minds with arguments (1978, 114).

Brecht’s own take on Galileo shifted following the second World War, as seen in the different versions of *Life of Galileo*. The earliest (1938) version of the play takes a celebratory attitude towards reason’s triumph over bourgeois values and a medieval church power structure.[4] Later versions of the play, including the Los Angeles version, contained a much more ambivalent assessment of science. In that version, Galileo is grim, no longer so heroic, and receives a harsher indictment even than the church had in the first version. The scientist’s fault is his self-imposed ethical divorce from the consequences of his search for truth. Lines from the play read, “Are we as scientists concerned with where the truth might lead us?” Brecht wrote, “Galileo’s crime can be seen as the ‘original sin’ of modern natural sciences” (Willett, 1980, 126). The intellectual has lost sight of serving humanity, and we find in Galileo a clear reflection of Robert Oppenheimer. Penned in early 1945, The Los Angeles version concludes

[3] Feyerabend praised the Bible’s multi-layered arrangement (1999a, 178), and in a separate context he referred to the Bible as a worthy source with which to combat the dehumanizing tendencies of modernity because it was an eminently human document (1987, 259). Biblical stories might be “better adapted to our situation” than other narratives insofar as they are essentially about humans, relationships, and feelings.

[4] This first version came with a stamp of approval from Hans Reichenbach, who had discussed the manuscript with Brecht in Los Angeles (Willett and Manheim 1980, xi).

with the prescient reflection that “Practically every new invention is greeted with a shout of triumph, which immediately turns into a cry of horror” (Ewen 1970, 17 /339).

Just a few months later, the atomic bombing of Japan made science’s service to capitalism and destruction most apparent. Brecht wrote, “The atom bomb is… the classical end-product of [Galileo’s] contribution to science and his failure to contribute to society” (Willett 1980, 126). The conclusion drawn by Brecht – and many others – was that the truth that was supposed to enlighten and set free the masses could just as easily be used to destroy the masses.[5] The atrocities of the World Wars were indisputably adventures in secular nationalist ideologies, so it became sadly clear that religion is not the only social structure compatible with human butchery. When the church is no longer the obvious social power broker or constraint on scientific advance, certain questions take on greater significance. First, one can ask what other ideologies shape, constrain, and promote the sciences when they are not placed in simple opposition to religion. Second, one can ask about religion’s own functions when it is not taken simply to be repressing inquiry: What forms of life does it support, what ideals does it encourage, and how tenable are its creeds? Feyerabend pursued both lines of questioning.

Feyerabend used Galileo to show that science does not proceed according to the normative methods of philosophers of science, and to illustrate how science presents peculiar epistemic dangers – which the church had recognized and attempted to manage. This analysis of Galileo also breaks down facile divisions between progressive scientific knowledge and reactionary religious obfuscation. Feyerabend was familiar with Brecht’s work on Galileo, and sympathized with Brecht’s treatment; he even wrote an essay in response, praising the play’s exemplification of how philosophy can be *shown* through the performance and embodiment of reasoning, rather than just recited though intellectual argument (1999b, Chp. 9).

Both Brecht and Feyerabend analyzed the Galileo affair along the lines of elitism, democracy, and service to humanity. Far from being a tale of some inevitable conflict between science and religion, the affair was about expertise, ethics, and the uses of reason. The villainy of the religious establishment provides neither the

[5] 1947 is the same year in which Horkheimer and Adorno’s *Dialectic of Enlightenment* first appeared; that treatise included similar themes about how the World Wars disrupted progressive Enlightenment promises that the search for truth would generate a better and more harmonious world.

dramatic nor philosophical thrust of those works. Both stories, in their separate ways, disrupt the essentialist Enlightenment narrative that science is pitted against religion.

Feyerabend had increasingly many things to say on the nature of religion and mysticism as his career progressed. While his early references to religion were often part of the familiar refrain that "science is a religion" – highlighting only forced conformity– his later references to religion were more specific and also much more positive. We turn now to some of those instances.

3. Materialism, Religion, and Mysticism

According to Feyerabend, and contrary to a widespread view, the Galileo affair was not primarily about some essential conflict between science and religion. In fact, given Feyerabend's philosophical commitments to the nature of science – as we shall see – no such conflict is even possible. But such insight hardly leads to any particular positive view on religious thought. Just because religion is not the villain does not amount to any endorsement. And yet Feyerabend wrote numerous favorable passages about religion, and his thought grew increasingly aligned with a Spinozistic mysticism. Such comments followed not on the grounds of mere respect or tolerance based on his interests, for example, in John Stuart Mill's liberalism (Lloyd, 2000). It was that those with religious proclivities or temperaments, open to the world's mysteriousness or responding to the world with a sense of reverence, might well lead richer or more humane lives. Secular materialists who did not share such orientations should not seek to establish their own experience of reality as a default one arising from the correct interpretation of nature: first, because theirs was not a privileged experience of reality, and second, because their own sensibilities and experiences of the world were themselves, perhaps, attenuated. To appreciate these views more fully we will situate them in the broader themes of Feyerabend's philosophy of science.

Feyerabend's mature and late corpus (roughly, after the mid-1970s) construed natural sciences as strongly disunified. Different realms of knowledge may be only loosely related to one another, and claims that they are stitched together as a single tapestry, based either on their content or some shared method, are greatly exaggerated. Science speaks in multiple voices, and is comprised by a changing constellation of theories, practices, and institutions, so appeals to the abstract noun "science" are generally meaningless. He paints many of the defenders of science as intellectual imperialists who would foist their particular tradition onto others. But such

defenders have no easy appeal to science's "success", which he argued was more circumscribed than is often claimed, and what successes existed could in any case be uncoupled from the ideology that often supports those sciences.

This construal of natural sciences had direct bearing on their relationship to religion, and especially to the supposition that science discredits religion. Feyerabend sometimes made this connection explicit. Subsequent to a debate on modern sciences and the Catholic Church, Feyerabend took the trouble to write to one of the priests involved in the debate:

> When I was a student I revered the sciences and mocked religion and I felt rather grand doing that. Now that I take a closer look at the matter I am surprised to find how many dignitaries of the church take seriously the superficial arguments I and my friends once used, and how ready they are to reduce their faith accordingly. In this they treat the sciences as if they, too, formed a Church, only a Church of earlier times and with a more primitive philosophy when one still believed in absolutely certain results. A look at the history of the sciences, however, shows a very different picture (1987, 263).

The history of science furnishes good reasons for skepticism about scientific absolutism. That lack of absolutism makes the relationship between sciences and religions something other than religion's timorous retreat in the face of advancing science – not least because the terms "science" and "religion" were both elastic labels, naming a wide variety of traditions and beliefs, which had no univocal relationship with one another. Feyerabend thought that religious observers such as this Catholic priest should not capitulate to totalizing arguments in favor of science-based secularism, but aim for more accurate and less grandiose depictions of human inquiry.

Feyerabend's discussions of relativism frequently list religion as the sort of human institution cast away by dogmatic scientists when they think their own systems of belief "are the only acceptable measure of truth and excellence" (1987, 21). A chief concern is that scientific views could become as strictly entrenched as any Deuteronomic code. But fruitful inquiry demands the ability to slough off old conceptual schemes and resist rigid conformity to accepted tradition. The heavy-handed rejection of religion, then, seems to come precisely via an unacceptably rigid commitment to specific scientific creeds, and foremost among these is materialism. Earlier in his career Feyerabend made important contributions to materialist philosophy, prominently though his sketch of eliminative materialism in the philosophy of mind, but he subsequently rejected materialism, describing it as a "depressing" picture of the world that has no authoritative claim compelling acceptance (2011, 35).

Feyerabend takes seriously such psychological and emotive contours of philosophies like materialism. They are not incidental features of those philosophies, revealing the wishful thinking of hapless philosophers and critics of science. Rather, they are features to be seriously evaluated as a part of the democratic critique of science he advocates (2011, 37-8).

An example along these lines is his reply to E.O. Wilson's supposition that evolutionary theory refutes divine privilege, which he implies is a cornerstone for religious belief. Religion's widespread appeal, writes Wilson, is intimately tied to a view that God made humans unique. But Wilson notes that evolutionary theory reveals this to be false – humans are merely one contingent species among many. Feyerabend responds that this critique of religion might miss the target, but in any case is founded upon a problematic philosophical doctrine whose unworthiness is partly a spiritual matter: "absence of divine privilege does not mean absence of reverence and spiritual fulfillment; *materialism does*" (1987, 22).

So materialism is not only one philosophy among others, imposed upon people with shaky scientific credentials – Feyerabend made this point in many ways through the years – but it also has particular baleful effects, including distinctly spiritual effects. Materialism here entails the absence of reverence and spiritual fulfillment. Its impoverishment is at least partly on account of a spiritual malaise that attends it. It is likely that not everyone experiences such spiritual malaise – people will react differently to their experience and understanding of reality. But according to Feyerabend it is not necessarily the case that those who seek a more personal and intimate experience of reality suffer from a need for divine reassurance. To the contrary, it may be that those without such sensibilities – the disenchanted scientific materialists Feyerabend responds to – themselves have atrophied sensibilities.

The materialist's insistence on abstract scientific theory as the sole method and standard of truth is not only an aesthetic shortcoming – a lack of appreciation for the world's genuine diversity – but appears to be a more robust social and spiritual shortcoming, with consequences for our deepest commitments to fellow humans and their place in nature.

This point is most fully pressed when Feyerabend targets biologist Jacques Monod's "violent" formulation of scientific materialism that promotes objective knowledge and disowns any connections with human meaning (1999a, 5; 2011, 32). Monod writes that science renounces any filiations with meaningfulness, and that it

"sweeps away" millennia of human culture predicated on such ideas. Yet despite science's "Puritan arrogance," its recommendation from Monod is based on what he calls its "prodigious power of performance." But assessing materialism's accomplishments, Feyerabend argues that its success with some "arcane scientific results" still leaves ample space to ask whether it has contributed to more significant social and political goals. He judges materialism's track record here unimpressive. Far from finding materialism compelled upon us by science's remarkable successes, "the reply might well be that we are interested in other and more urgent matters" (2011, 34).

And where materialism is simply uninteresting from some perspectives, it can be positively harmful from others. Feyerabend blames materialism for creating the illusory divide between facts and values, and thus the sense of anxious or isolated subjects, estranged from nature and searching for objective truths "out there." Moreover he finds clear connections between materialism and social harms: it has gradually dehumanized all of nature, "until humans themselves were no longer viewed in a humane way" (2011, 94). Monod asserts that science generates knowledge without meaning, and that there is nothing else to be had, so in this way science gives rise to a world without meaning. Or, to use Steven Weinberg's oft-quoted phrase, "the more the universe seems comprehensible, the more it also seems pointless." Clearly Feyerabend understood materialism in tension with humanism. Its shortcomings and its potential for harm are both symptomatic of materialism's existential inadequacy. As a metaphysical outlook, extending beyond scientific successes and as a way to imagine the world and comport ourselves in it, it is judged by Feyerabend somewhere between insufficient and injurious.

The materialism rejected by Feyerabend is claimed at once to be all-encompassing, but also profoundly exclusive. It is upheld by its defenders as the only way to believe, and part of a uniform and rational scientific way of believing. While people have arranged their lives and beliefs in a great many ways through history, Feyerabend censures scientists who claimed to have properly delimited the beliefs for any agent, and who subsequently "complained about the variety (of values, beliefs, theories) that still remained" (1987, 1). Such variety constitutes much of the "abundance" Feyerabend so clearly delights in. Scientific materialism, he writes, is at its worst when it restricts the many practices and epistemic achievements of various peoples, and simultaneously diminishes their human and spiritual potential.

According to Feyerabend, materialism is one moment within a “a general movement toward abstractness and monotony” – a long historical process of the “conquest of abundance” where the world’s richness and variety is both buried and transformed by widespread adoption of abstract and monistic theory – too often, he says, at the hands of scientists and the philosophers who adopt an uncritical adulation of scientific accomplishments. But Feyerabend finds that such systems do not necessarily promote flourishing lives for us. They “lack important ingredients of a rewarding human life” (1999a, 269). What might such other ingredients include?

Feyerabend discusses poetry, common sense, and emotions, and themes explicitly endorsed in his later works also include love and mystery. Love in a strong sense of the term: a love that draws you out of yourself, that transcends self-centeredness, and that is essentially inscrutable. Mystery, too, in the sentiment that nature or Being as he called it can never fully be grasped. This is not the denial of a basic reality, but an insistence that we can never achieve a thorough comprehension of it. Such elements play an important role in a good life, and which can be positively harmed by the commitment to “search for truth” at all costs: “[The message that we should search for truth] makes us forget that a life without mystery is barren and that some things, for example our friends, should be loved rather than understood completely” (1991, 55).

Over time Feyerabend’s thinking grew increasingly aligned with mysticism, which included his descriptions of the ultimately mysterious character of Being. This view is closely linked to other philosophical topics he endorsed, such as the ineffability of nature – a view found most explicitly in his posthumously-published *Conquest of Abundance* and which he attributes to the fifth-century Christian mystic Pseudo-Dionysius the Areopagite (Kidd 2012). Long a proponent of epistemic pluralism for whom the sciences were particular “approaches” disclosing only partial “aspects” of reality (Oberheim 2006), Feyerabend appropriated from Pseudo-Dionysius a metaphysical doctrine of about the fundamental nature of reality that would supplement his pluralist epistemology. It did not deny the existence of a mind-independent reality, but insisted that absolute knowledge about this ultimate reality was impossible. Reality itself is ineffable but “reacts” to the plurality of different approaches.

While the sciences can yield “manifest realities,” the mistake of many scientists is to reify them as primary and unique. Against this scientific realism, Feyerabend advocates a more humble interpretation of our access to that ultimate reality:

> Concentrating our entire strength on Ultimate Reality we face nothingness, a void, no positive response. But we can describe and explain our interaction with certain emanations of God or, to express it in a less theological manner, we have access to the ways in which Ultimate Reality reacts to our approach. Ultimate reality, if such an entity can be postulated, is ineffable (1999a, 214).

Nature can be represented in many different ways, and is amenable to representation in a multitude of approaches, but is recalcitrant to any absolute accounting. Our attempts to grasp that ineffable reality are ultimately futile, as such attempts yield only responses from that nature but never nature itself.

> Describing a response and not Being itself, all knowledge about the world now becomes ambiguous and transparent. It points beyond itself to other types of knowledge and, together with them, to an unknown and forever unknowable Basic Reality. Thus the literary forms used by the composers of the Bible seem far better adapted to our situation than the more lucid but basically superficial stories that have replaced them. (1999a, 196).

According to this view, Being reacts differently when approached in different ways. It can react in positive and life-affirming ways which sustain people, but it will not always do so. Being may also prove incompatible with other approaches and will "reject" them (1991, 44). Being's variable reactions to our approaches consists in the relation between Being and our own concepts, theories, and practices.

Feyerabend's discussion of Being was sometimes explicitly anthropomorphic, attributing to Ultimate Reality the kind of personhood that is most common among theists. This particularly Spinozistic passage suggests Feyerabend's willingness to entertain the idea.

> Why should Being not react to human actions with worlds that are at least partially comprehensible to humans while remaining incomprehensible itself?
> Arnold: You almost speak as if Being were a person.
> Charles: It may well be – as a matter of fact I would not at all be averse to thinking of it as a kind of *deus-sive-natura*…

Feyerabend was clearly sympathetic to "people who would like to approach nature in a more personal way" (2011, 38) than the typically impersonal approaches of scientific materialism.

Such passages indicate that Feyerabend adopted some central aspects of mystical thought. These references were not simply goading readers into appreciating the lesson about the "grain of truth" in otherwise heterodox and unpopular theories, as he had done on previous occasions. In particular, this does not seem like his previous championing of astrology, which, after all, he admitted "bored him to tears" (1991,

165).[6] He is not just being contrarian and pluralistic, but seems to endorse the view that forms of life that include such commitments can be very good ones by his own ultimate standard of success: that they produce communities whose members can live rich and fulfilling lives. Specifically, they can be fulfilling in a way that a commitments to scientific materialism might obstruct.

Such impulses are of a piece with many diverse mystical traditions. Mysticism can be construed as itself religious, or religion might require additional elements, such as the conscious cultivation of practices supporting mystical experiences. Mysticism may or may not be theistic: there are certainly similar patterns within non-theistic traditions like Buddhism. But many strands of theistic religions would also include such mystical traditions or descriptions of reality. Feyerabend's writing and personal interactions do not typically indicate that he was a theist, but two points are worth noting here. One is that he repeatedly self-identified as a Catholic to several close friends, though there is disagreement over the seriousness of the claim or the nature of any particular commitment.[7] Second, there was his answer to the blunt question, "Do you believe in God?" recorded in *Tyranny of Science*:

> I don't know. But I am certainly not an atheist or conceited agnostic; it takes a whole life to find out about these matters. I have a feeling that some kind of supreme bastard is around there somewhere. I'm working on it (2011, 26).

According to Eric Oberheim, these words were not Feyerabend's actual response in person to the question. Instead, these were his revised, written thoughts recorded after the fact, which suggests a more considered view. Feyerabend's thoughts on the question of theism may very well have been in flux through his life, but he appears to have taken it seriously, and at the very least was wrestling with how to best develop these growing mystical themes. His extremely sympathetic interpretation of Wolfgang Pauli's enigmatic writing on science and spirituality (1999a, 172-6) indicate as much. The Nobel-prize winning physicist sought to forge a symbolic and religious rapprochement between the (heretofore estranged) sciences of matter, physics, and of spirit, psychology. It is not difficult to imagine that Feyerabend understood and shared

[6] When examining Feyerabend's most heterodox and politically unpopular claims, such as his defense of astrology or teaching creationism in school classrooms, many commentators are drawn to his 1978 book, *Science in a Free Society*. But Feyerabend did not return often to those topics or approaches, and his sentiment just a few years later that he did not want the book reprinted suggests these were not the basis of any considered, mature views.

[7] Paul Hoyningen-Huene, and Gonzalo Munévar, personal communication.

the personal struggle he parses as Pauli's attempt at a satisfactory worldview: "Finding a worldview, Pauli seems to say, is a personal matter that must be fought through by every individual; it cannot be settled by "objective" arguments" (1999a, 174).

Crucially, Feyerabend's inclusion of spiritual and religious dimensions of life are not primarily about *theories*. In the earlier stages of his career, Feyerabend discussed most all philosophical topics in terms of theories. This was certainly true about discussions of meaning and of folk psychology. This practice – perhaps a legacy of Popper's influence (Preston 1997) – appears to wane in his late corpus. Religion provides apt material for Feyerabend to work out the salience of non-theoretical features of human life.

It is largely with religious references that he identifies *worldviews*, which are not primarily theoretical. A worldview is "a collection of beliefs, attitudes, and assumptions that involves the whole person, not only the intellect… and imposes itself with a power far greater than the power of facts and fact-related theories." (1999a, 164). Because worldviews are the lens through which one interprets phenomena, one can stick to them even in the face of what could seem – to an outsider – like contradictory evidence. In the adoption or abandonment of worldviews, "reason" by itself is not some autonomous or neutral agent forcing itself on people, and it might be impotent to force a change in worldviews because peoples' lives and political situations might be just as important as theoretical considerations (2011, 9, 52).

This focus on the "whole person" is reminiscent of William James' remark that "Pretend what we may, the whole man within us is at work when we form our philosophical opinions. Intellect, will, taste, and passion cooperate just as they do in practical affairs." The discussion of worldviews allows us to grasp the existential significance of human knowledge: decisions to "live, think, feel, behave in a certain way" (1987, 30) are all relative to the kind of life one wants to live.

Feyerabend's discussion of religion and mysticism in the context of the existential significance of knowledge is refreshingly sophisticated: while the apologetics of some latter-day "New Atheists" demand clear separations between the bright light of reasonable science and the darkness of religious superstition, Feyerabend's analysis recognizes holistic aspects of belief systems which make it difficult to separate simple propositions from entire ways of living, such as being part of a community, taking part in traditions, and cultivating certain habits and virtues. His emphasis on practice

means that religions don't amount to a conjunction of doctrines, but they form cultural packages which have been "successful" in many times and places.

His analyses comport well with the most sophisticated contemporary scholarship on religion: for example in the history of science, scholars like John Brooke (1991) have convincingly made the case that there are no simple, grand narratives that could be appropriate for telling the history of science and religion, least of all the narrative of inevitable conflict between science and religion. Real history is much more complex and rich and complex. Likewise in the anthropology of religion: correcting for an over-emphasis on ideas and doctrines, the field focuses on ritual and practice, self-transformation, ethics, and economics of religious lives. Feyerabend's perspectives are impressively in tune with such insights.

4. Science-based Secularism

Next I will argue that Feyerabend's descriptions of mystical and religious orientations, and of the existential adequacy of knowledge, expose the shortcomings of some important arguments for science-based secularism. I will briefly mention three such arguments, each from esteemed philosophers of science, and gesture towards the seed of a Feyerabendian response to each. Any full-fledged response to these philosophers of science would have to include more details, and ones which Feyerabend doesn't always articulate. Furthermore, Feyerabend's own thinking on the topic is not necessarily the most fruitful or nuanced to be found. Indeed, given his prior proximity and attention to Wittgenstein, one wonders why he didn't engage more fully with Wittgenstein's own suggestive remarks on religious belief (Wittgenstein 1966). Nevertheless, religion and mysticism contribute significant inflections to Feyerabend's late philosophy, and when put into contact with some contemporary arguments in favor of secularism, their continuing relevance is better appreciated.

John Dupré argues that science has rightly been the decisive force in the replacement of any religious beliefs with naturalistic metaphysics favored by many contemporary philosophers. "Without the argument from design there is nothing credible left of theism generally" (2006, 56). Like E.O. Wilson and Richard Dawkins, Dupré thinks that evolutionary theory in particular is a death knell for any defensible religious belief. "Science, especially in the guise of Darwinism, has undermined any plausible grounds for believing that there are any gods or other supernatural beings."

We might think of such objections to religious belief as *theory-replacement* views: religion provided one theory, but it has been superseded by a better theory, so the original must be discarded. The design thesis has clear deficiencies compared with evolutionary theory, but Dupré's mistake is to construe all religion as that which remains in the peculiar vacuum left by sciences of the past. To be sure, some theologians have constructed cosmologies based on sacred texts, and they have enjoyed powerful influence. And the design thesis was a favored (religious and scientific) view for a very long time. But the design thesis plays a vanishingly small role in the religious lives of many peoples, and criticizing religion for reliance on the design thesis can seem like a category mistake. Many aspects of religious lives, institutions, practices and beliefs are not in the business of constructing systematic theories of the physical world. As Terry Eagleton writes, "criticizing religion for being bad science is like criticizing ballet as a botched attempt to catch the bus." Dupré's characterization misses out on the existential realities that are outside the scope of any systematic theoretical explanations of the physical cosmos.

Second, Philip Kitcher, concerned to achieve the Enlightenment aspiration for universal standards of rational adjudication, especially in political affairs, writes that religion can only obscure this project, and that when religion itself is rationally evaluated, it will be tried and found wanting, and will be replaced with other belief systems (2008, 2011). But here, Feyerabend brings our attention to the neglect of emotions from rationalists who would replace religion. Feyerabend laments the separation of emotion from broader philosophical thought. He writes that "pain, the feelings of friendship, fear, happiness, and the need for salvation, either in secular terms or in terms of some transcendent realm of being, play a large role in human lives. They are basic realities." Such basic realities and their ability to inform our judgments should not be ignored.

Kitcher does not adequately appreciate the role and significance of *feelings*, of emotions or temperments that inform and underwrite much religious belief. Such feelings are often pre-cognitive, predisposing us towards particular arguments and views. In a recent paper, Ian Kidd (Forthcoming) makes this point exceedingly well by drawing on the resources of William James, who argued that religious temperaments are founded in tacit and implicit senses of reality that are not grounded in the same evidential standards as science. Feelings and emotions contribute to those temperaments and the corresponding existential adequacy that people will place on

different investigations into the world. Because humans are not universally responsive to the same forms of evidence, Kitcher's belief that all of humanity will submit to the same rational deliverances of natural sciences, and subsequently adopt secular worldviews, is mistaken. Feyerabend does not spell out the psychological details or the theoretical consequences to the same extent as does James, but Feyerabend does share James's pragmatist sensibility that we are inclined or disinclined toward philosophical conclusions partly as a matter of broad considerations based on our feelings and on our "whole person." (Had he not been working during the nadir of American pragmatism, one suspects Feyerabend would have made more explicit use of that philosophical tradition.)

That is a descriptive possibility about variable human responses to evidence, but what about the prescriptive idea that religion and in fact all of our activities *should* be subjected to the uniquely correct scientific evidential standard at all times? John Worrall argues such a thesis in this third example: that being "properly scientific" is a matter of outlook and psychological disposition, and once anyone appreciates what it means to be scientific, they will at the same time acknowledge the inevitable clash with religion. According to Worrall the properly scientific person reasons critically about all propositions, and consistently endorses Ockham's Razor and other ontologically streamlining rules of thumb useful for scientific explanations. Worrall explains the apparently large number of counter-examples, those scientists who were also religious, by explaining that they suffer from "a simple failure to think things through fully; a failure to be properly scientific" (Worrall, 2004). Feyerabend calls this attitude a "restless criticism" and replies that it probably cannot be a basis for a flourishing life. "It certainly cannot be a basis of love, or of friendship" (1987, 262). This because true love and friendship, according to Feyerabend, trade off against thorough intellectual discernment; but also for the reasons presented above against materialism. Restless criticism may be satisfactory for practicing science, but as a way to comport yourself in the world, it is more problematic:

> A uniform "scientific view of the world" may be useful *for people doing science* – it gives them motivation… It is like a flag. However, it is a disaster for outsiders (philosophers, fly-by-night mystics, prophets of a New Age, the "educated public"), who, being undisturbed by the complexities of research, are liable to fall for the most simpleminded and most vapid tale" (1999a,160).

Soren Kierkegaard poses the question, "Is it not possible that my activity as an objective observer of nature will weaken my strength as a human being?" Worrall

answers no: it is in fact rationally incumbent for human beings to be tenacious and insistent objective observers of nature; Feyerabend answers with an emphatic yes.[8]

If the philosophy of science is to engage with religion, it will need to treat religion and mysticism in more substantial ways than it often has, for precisely some of the reasons that Feyerabend pointed out. It might need to recognize that the objectivizing impulses of sciences often estrange those sciences from large swaths of human existence. Conversely, it might have to identify and analyze ways that modern sciences engage the existential realities of people. These final possibilities are good reasons to integrate history and sociology into one's philosophy of science.

5. Conclusion

The most comprehensive analyses of Feyerabend's philosophy say very little about his many references to scripture, religions, or the mystical nature of Being (Oberheim 2006; Preston 1997; Farrell 2003). But Feyerabend appreciated the ways that religion contributed to the existential context of knowledge that shaped its overall existential adequacy, and he often defends the view that Being is abundant, manifold, mysterious, and able to be treated in a personal fashion. Indeed he acknowledged that his philosophical commitments "sound quite mystical" (Ben-Israel 2001, 97). His 'Letter to the Reader,' thought to be his intended introduction to *Conquest of Abundance*, is even more explicit about adopting the label, which he said was a better candidate to describe his work than was "relativism."

> Is there a name for an attitude or a view like this? Yes, if names are that important I can easily provide one: mysticism, though it is a mysticism that uses examples, arguments, tightly reasoned passages of text, scientific theories and experiments to raise itself into consciousness (Hacking 2000).

These presentiments of mystical or religious thought are a consequence of his changing stance toward the nature of religious belief: where he had been a critic through the 1950s and 60s, his later analyses presented religion in a much more respectable light. At the same time they arise from a critique of the use of natural sciences to promote a totalizing materialistic philosophy that he came to understand as existentially inadequate for pursuing a flourishing and humane life.

[8] Often overlooked, Feyerabend was in fact deeply influenced by Soren Kierkegaard, with whom he shared significant metaphilosophical goals relating to the existential criticism of scientific knowledge. See Kidd 2010.

Feyerabend's philosophy of science led him to recognize that some science-based calls to secularism arise prematurely: by presuming unacceptably rigid scientific methods, by drawing on potted histories of science granting absolute authority to scientific narratives, or by appealing to an impoverished philosophy of materialism that was not supported by the scientific successes it often accompanied. Also he recognized ways that religion could be misconstrued as one theory among others, rather than as anchoring deeper worldviews through which one interprets scientific evidence and all of reality.

Feyerabend wrote that philosophy is desiccated to the extent that it abstracts from the context of lived human experience: his preferred analysis of epistemology would be tied to "successful" ways of life, which would involve examining whether societies afforded their members relatively free, flourishing, and happy lives. He advocated a philosophy that would evaluate the consequences of particular forms of life, "including those which cannot be presented in words" (1999b, 198). The tacit and implicit sensibilities of religious orientations might well fit in here. They constitute a considerable foundation for many peoples' worldviews, and such sensibilities are precisely the sort of thing which Feyerabend thought should not be brushed aside to promote, instead, empirical content or explanatory power or other theoretical virtues discussed by philosophers of science.

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