

Marlon Jesspher De Vera

Quantum Theory and the Fiction of Secularity

Introductory Remarks

Quantum theory is a double-edged sword for secularity and scientism.¹ On one side, quantum theory seems to validate science as the ultimate source of truth, reason, and human progress as it is one of the most successful, coherent, and prolific scientific theories. It is successful in the sense that its empirical verifiability has been consistently demonstrated to high degrees of precision, and it is also highly prolific in the sense that it has led to revolutionary advancements in other fields of science and has brought about important technological innovations which led to the computer age and the information age.² Moreover, quantum theory is coherent in the sense that its unified account of reality – of particles

¹ I adopt Jeffrey Stout's general definition of secularism as the movement that seeks to minimize the influence of religion, in Jeffrey Stout, "The Folly of Secularism," *The Good Society* 19, no. 2 (2010): 10. Also, I take this definition to entail a close link between secularity and scientism as science is generally portrayed as the adversarial alternative to religion. For this, I draw from Horace L. Fairlamb, "Breaking the *Pax Magisteriorum*: The New War of Science and Religion," *Symploke* 20, nos. 1-2 (2012):251-275.

²Daniel Kleppner and Roman Jackiw, "One Hundred Years of Quantum Physics," *Science: New Series* 289, no. 5481 (2000): 893.

and forces—is considered to be one of its greatest achievements.³

Thus, quantum theory, from this standpoint, seems to validate secularism as well. On the other side, the fundamental premises of quantum theory challenge scientific intuition and scientific sanity. Quantum theory has brought about questions that are not only scientific but undeniably philosophical and spiritual in nature. Quantum theory as a unified theory of physical reality likewise seems to unify the realms of science and spirituality, and it could be easily visualized that such unification is not without conflict.

In this paper, I take off from this conundrum of how quantum theory seems to both glorify and undermine secularism, and proceed through an interpretative review and reflection on the developments in quantum theory, after which I argue that the pursuit of truth and wisdom is a unitary human aspiration and that secularity is fiction, a non-compelling and retrogressive attempt to fragment this unitary human aspiration. In my reflections, I draw from a modest reservoir of philosophical ideas of various origins to support the primary arguments presented here.

God Playing Dice and Quantum Insanity⁴

In the modernist scientific tradition before quantum theory, one important conflict between science and spirituality or between science and religion in particular, stems from the championing of determinism in science,

³Stephen M. Barr, "Faith and Quantum Theory," reprinted in *The Best American Spiritual Writing 2008*, ed. Philip Zaleski (Boston: Houghton Mifflin Company, 2008), 2.

⁴ In this section, I conduct my reflections with a certain reconstructive picture of the developments in quantum theory in mind and this reconstruction is primarily based on the accounts of Kleppner and Jackiw, Barr, and Max Tegmark and John Archibald Wheeler, "100 Years of Quantum Mysteries," *Scientific American*, February 2001, 72-29. I cite other references in the appropriate junctures in the article.

which implies the preclusion of free will. However, the fundamental premises of quantum theory deconstruct determinism as a fundamental truth. This deconstruction stems from the premise of wave-particle duality which initially meant that waves could behave like particles and was later broadened by Louis de Broglie to also mean that particles could behave like waves. The most radical consequence of the premise of wave-particle duality is a model of reality, represented by the Schrödinger equation, which yields only probabilities and not definitive results. Since the Schrödinger equation is regarded as the “master equation” of predicting reality, there is an evident conflict on the counter-intuitiveness of its probabilistic character as opposed to the evidently objective character of actual physical reality. This counter-intuitiveness has led to quantum weirdness or quantum insanity, and the inevitable need to respond to and resolve this weirdness or insanity has brought about, depending on the point of view, an elaborate spiritual debate within scientific spheres or an elaborate scientific debate within spiritual spheres. In line with this debate, several interpretative attempts have been made, primarily focusing on the nature of the quantum collapse – the transition from probabilistic quantum reality to objective sensory and physical reality.

What remains to be one of the most prominent of such attempts is the so-called Copenhagen interpretation which is generally regarded as a positivist or subjectivist view of quantum theory. Kristian Camilleri argues, through a historical examination, that the Copenhagen interpretation cannot be narrowly attributed to Bohr’s views as it has actually been identified with divergent philosophies, and the dominant characterization of the Copenhagen interpretation as positivist or subjectivist was brought about by the Soviet-Marxist critique of quantum theory in the 1950’s which identified the views of Bohr and his followers such as Heisenberg, Dirac, Pauli, and Born, with positivism or

subjective idealism.⁵ Following the dominant positivist or subjectivist characterization, the Copenhagen interpretation puts primacy on the mind of the human observer as the agent of the quantum collapse. This can be taken to mean that the Schrödinger equation determines the alternatives of outcomes that can be observed but it is ultimately the observer or the observer's mind which asserts the final outcome. Thus, the source of the appeal of the Copenhagen interpretation is that it somewhat refutes the preclusion of free will, which has been generally taken as a necessary consequence of scientific materialism.

Despite the apparent lack of a coherent and unambiguous characterization of the theoretical framework of the Copenhagen interpretation, it can be argued with fortitude that it cannot be espoused solely on scientific grounds without recognition of its philosophical and spiritual character. Doing so would be similar to what Lessl calls "gnostic scientism," an emergent version of scientism which carries the baggage of inherent logical inconsistency in such a way that even though it rests on the fundamental principles of scientific naturalism and determinism, it also regards scientific rationality as *gnosis*, a form of human experience that is transcendent of scientific reductionism, and thus implies a dualistic view which holds science as separate and independent from material reality.⁶ Taking the Copenhagen interpretation as a purely scientific proposition would similarly entail a problematic and scientifically unsound dualistic view of the observer's mind as an extraphysical entity.

Apart from the Copenhagen interpretation, other attempts to resolve quantum insanity include the theory of decoherence which argues that the quantum collapse

⁵Kristian Camilleri, "Constructing the Myth of the Copenhagen Interpretation," *Perspectives on Science* 17, no. 1 (2009): 26-57.

⁶Thomas M. Lessl, "Gnostic Scientism and the Prohibition of Questions," *Rhetoric and Public Affairs* 5, no. 1 (2002): 133-157.

happens when there is a leakage of information from a quantum system during the interactions of an otherwise isolated physical system with the environment.⁷ This theory seeks to explain why the quantum mechanical behaviour observed in experiments with isolated systems of atomic and sub-atomic particles does not seem to hold for actual macroscopic physical reality. Another interpretative attempt is the many worlds interpretation, popularly associated with the image of parallel universes and alter-egos, which postulates that probabilistic predictions of quantum theory represent actual reality and so reality diverges into infinitely many versions which are all equally real.⁸ It can be readily inferred that both the theory of decoherence and the many worlds interpretation affix a philosophical and, to some extent, spiritual character to the subject of quantum theory.

There have also been attempts to go back to scientific determinism. Einstein famously rejected the Copenhagen interpretation in particular and the view of the probabilistic picture of quantum mechanics as a complete scientific theory in general. Apart from positing the existence of hidden variables, Einstein also argued that quantum mechanics is a statistical theory which does not apply to an individual system taken in isolation but applies only to ensembles of individual systems. Peter E. Hodgson illustrates this view through an analogy with statistical predictions in demography (e.g. life expectancies) which are only meaningful in expressing probabilities about a population and not in considering the case of an individual person.⁹ Nonetheless, the existence of hidden variables has been experimentally refuted, through the empirical demonstration

⁷Tegmark and Wheeler, "100 Years of Quantum Mysteries," 77.

⁸Barr, "Faith and Quantum Theory," 8-9.

⁹Peter E. Hodgson, "Quantum Mechanics and its Interpretations," *Logos: A Journal of Catholic Thought and Culture* 12, no. 1 (2009): 62-78.

of the violation of the “Bell’s inequalities.”¹⁰ Also in line with such attempts to go back to determinism is Bohmian theory which deconstructs the idea of wave-particle duality through the alternative pilot-wave hypothesis which roughly means that waves are the “pilots” that direct particles. Bohmian theory has been shown to be able to replicate some of the predictions of quantum theory but lacks the elegant feature of being a unified theory of particles and forces.¹¹

The intent of this section is not to argue in favor of a certain interpretation of quantum theory but simply to assert that the interpretative attempts to resolve quantum insanity have given the discourse of quantum theory an unmistakably philosophical and, to some extent, spiritual character. This philosophical and spiritual character of interpreting the difficult repercussions of quantum theory has been manifested both in terms of an accommodation of philosophical questions within scientific spheres as well as an accommodation of scientific notions within the discourses of religious or spiritual spheres. For instance, despite the lack of consensus on the definitive characterization of the Copenhagen interpretation in particular, or on the interpretation of quantum theory in general, physicists within the Copenhagen school were in general agreement that the debate on interpreting quantum theory was essentially a philosophical matter.¹² Thinkers from a religious point of view have also participated in the debate both to resist and to assimilate certain features of quantum theory and its interpretations. For instance, in asserting a position in line with Einstein’s attempt to revert to scientific determinism, Hodgson also argues that because the Copenhagen interpretation, or a certain characterization of it, which he attributes to Bohr and his followers, is positivist rather than realist in character, it is incompatible with

¹⁰Kleppner and Jackiw, “One Hundred Years of Quantum Physics,” 897.

¹¹Barr, “Faith and Quantum Theory,” 9-10.

¹²Camilleri, “Constructing the Myth of Copenhagen Interpretation,” 42.

Christianity.¹³ Another example, on the more assimilative end, would be Lai Pan-chiu's exploration of how the arguments in Bohr's principle of complementarity can be integrated into a conception of Buddhist-Christian complementarity.¹⁴ Thus, it is evident that the discourse on the interpretations of quantum theory, which ultimately pertain to questions on resolving quantum insanity, cannot be addressed from a standpoint that is either exclusively scientific or exclusively philosophical and spiritual, but rather only through an interpretative approach that integrates both the scientific and the philosophical realms.

The Fiction of Secularity

I now go back to the initial conundrum of how quantum theory seems to both elevate and undermine secularity and scientism, and taking off from the initial general definition of secularity as the movement that aims to minimize the influence of religion, and following the lines of the argument in the preceding section in favor of an integrated approach towards resolving quantum insanity, I now assert that the root of the conundrum is the essentially exclusivist character of secularism. Because quantum theory is essentially a unified theory of reality, then the basic problems and questions about quantum theory must be the fundamental problems and questions about reality and existence in general, and neither science nor religion can exclusively claim authority in this area of inquiry. Similarly, secularism and scientism, or any other exclusivist movement, cannot preclude the legitimacy of philosophy and religion in addressing fundamental concerns pertaining to human reality. To support this argument, I invoke what Jürgen Habermas calls as "the tension between facticity and

¹³Hodgson, "Quantum Mechanics and its Interpretations," 64.

¹⁴Lai Pan-chiu, "Buddhist-Christian Complementarity in the Perspective of Quantum Physics," *Buddhist-Christian Studies* 22 (2002): 149-162.

validity,” which he primarily uses in the analysis of the dualistic character of modern law, which means, roughly, that the claim to legitimacy of law is in constant tension and sometimes conflict with actual social realities.¹⁵ Here, I apply Habermas’ idea in a broader sense to pertain, in general, to the tension between a claim to legitimacy and actual human reality. In the case of this discussion, the tension and conflict is between the narrow exclusivist character of the movement of secularism and the pluralistic character of human reality. Secularism is exclusivist in the sense that it rejects religion and spirituality, partially or fully, as valid foundations of reason and truth, and at least to some extent, it espouses science as the legitimate alternative. Scientism, at least in its conventional conception as methodological scientism, is likewise exclusivist in the sense that it regards science as the only source of real knowledge and fosters an intense prejudice against other modes of inquiry that do not conform with the scientific method.¹⁶ Human reality, on the other hand, has an undeniably pluralistic character which conflicts with the exclusivism of secularity and scientism. Pluralism can be defined in terms of the practical dimensions of diversity that characterize a highly heterogeneous human population. These dimensions could include genders, ethnicities, religions, cultures, philosophies and value systems, preferences, capabilities, and so on. The pluralistic character of human reality can also be further characterized in terms of the broad range of contexts or scopes—a spectrum from the individual to the universal—where these dimensions of diversity could be observed in varying degrees of heterogeneity. Apart from this reckoning, the pluralism of human reality can also be characterized within more general and abstract features of humanity such as morality and

¹⁵Jürgen Habermas, *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy*, trans. William Rehg (Cambridge, Massachusetts: The MIT Press, 1996), 9-17.

¹⁶Lessl, “Gnostic Scientism and Prohibition of Questions, 133.

rationality. For instance, in his criticism of right-based moral theories, J. Raz advocates a pluralistic understanding of the fundamentals of morality to include not only notions of duties and obligations but also a broader view of humanistic values.¹⁷ In his conception of the “rational fool,” Amartya Sen espouses a pluralistic reckoning of rationality and rational choice to include other justifications of choice aside from reasons based on self-interest.¹⁸

Another illustration of the conflict between the exclusivist quality of secularity and the pluralistic character of human reality is in relation to what Susan E. Babbitt describes as the self-sufficiency view of secularism. Through a synthesis of the accounts of David Nash and Charles Taylor, Babbitt posits that the primary objective of the movement of secularism is self-sufficiency which is achieved by depending on an internal humanistic view for reason rather than relying on an external alienating view like religion. However, Babbitt invokes the “problem of kinds” to argue that the self-sufficiency goal of secularism is unreasonable. Babbitt’s epistemological argument asserts that understanding is only attained through the use of “kinds” or unifying categories and the generation of conceptions of “kinds” is only possible through the interaction of the self with external reality. Thus, Babbitt argues that secularism can be as alienating as religion in its pursuit of self-sufficiency.¹⁹ I believe that the self-sufficiency view can be seen as a parallel manifestation of the exclusivist character of secularism and the “problem of kinds” is one consequence of the conflict of this exclusivism with the pluralistic character of human reality.

¹⁷J. Raz, “Right-Based Moralities,” in *Theories of Rights*, ed. Jeremy Waldron (Oxford: Oxford University Press, 1984), 181.

¹⁸Amartya Sen, *Rationality and Freedom* (Cambridge, Massachusetts: Harvard University Press, 2004), 3-64

¹⁹Susan E. Babbitt, “Secularism, Ethics, Philosophy: A Case for Epistemic Humility,” *Comparative Studies of South Asia, Africa and the Middle East* 31, no. 1 (2011): 4-12.

Thus, I put forward the argument that because of its exclusivist quality, secularity is a fiction in the sense that it is essentially a denial of the pluralistic character of human reality. In the same way that a purely scientific interpretation of quantum theory is insufficient to resolve quantum insanity, a secularist pursuit is an inadequate path towards reason and truth because genuine understanding could only arise from a mechanism that is consistent with and integrative of human reality.

As it has been pointed out that the problem with secularism is a consequence of its exclusivist character, one inevitable concern that arises is whether an adjusted or qualified conception of secularism can be formulated such that the tension against the pluralistic character of human reality is, in a sense, relieved. Some examples of attempts towards this end can be cited. For instance, Wilfred M. McClay draws the distinction between “negative secularism,” which simply rejects established belief and espouses freedom from such, and “positive secularism,” which advocates the secularist unbelief as an alternate established belief.²⁰ In this distinction, the notion of “positive secularism” can be conceptually aligned with the characterization of secularism and scientism initially presented in the discussion while the notion of “negative secularism” might be perceived as a more inclusive and capacious configuration which accommodates pluralism to some extent. An idea that is somewhat similar to the conception of “positive” secularism is Edward Said’s notion of “critical secularism” which, according to Aamir R. Mufti’s account, is the practice of unbelief not only against religion but also against other established doctrines, even those that are conventionally considered as secular.²¹ Thus, in a sense, “critical secularism” can be characterized as inclusive unbelief. Another example would be what Robert J. Baird

²⁰Wilfred M. McClay, “Two Concepts of Secularism,” *Journal of Policy History* 13, no. 1 (2001): 59-60.

²¹Aamir R. Mufti, “Critical Secularism: A Reintroduction for Perilous Times,” *Boundary 2* 31, no. 2 (2004): 2.

calls as “late secularism,” which is characterized by a deconstruction of the dichotomy between science as objective and religion as subjective through the “subjectivizing of science and objectivizing of religion” as necessitated by a unifying notion that assertions from both science and religion are theories or hypotheses that must be subjected to the same Humean criteria of empirical verifiability and consensual agreement among witnesses before being established as fact.²² As a consequence, even scientific theories that do not or cannot comply with the Humean criteria cannot be considered as fact while conceivably, religious claims that satisfy the Humean criteria can be considered as fact. Still another example is what Simone Chambers characterizes as “open secularism” which accommodates religious reasoning into public discourses.²³

Although the adjusted and qualified conceptions of secularism cited above can be appealing, I believe that serious objections can also be raised against such “expansionist” characterizations of secularity. For one, McClay himself recognizes the lack of robustness of the notion of “negative secularism” such that it tends to resemble plain subjectivism for the reason that it necessitates the equalitarian regard for all normative standards and as a consequence, it is not solidly founded on any one of these standards.²⁴ Thus, “negative secularism” tends to resemble “relativistic secularism” which relies on subjective judgement as the source of knowledge. Peter M. Collins rejects “relativistic secularism” on the grounds that its denial that a transcendent definitive reality is knowable, and its rejection of inquiry regarding such reality as meaningless, necessarily

²²Robert J. Baird, “Late Secularism,” *Social Text* 18, no. 3 (2000): 133-134.

²³Simone Chambers, “Secularism Minus Exclusion: Developing a Religious-Friendly Idea of Public Reason,” *The Good Society* 19, no. 2 (2010): 16-21.

²⁴McClay “Two Concepts of Secularism,” 67-68.

undermines the value of reason in general.²⁵ With regards to the notion of “late secularism,” I suspect that it is still an essentially scientific conception as evident in the Humean criteria of factuality that it espouses. Moreover, it does little in deconstructing the exclusivist character of secularism as it maintains a narrow doctrine of factuality. Among the examples cited, “critical secularism” and “open secularism” can be considered to be the most appealing in line with the aim of formulating a more inclusive conception of secularism because they invoke the ideas of critical thinking and public discourse which can be considered as viable approaches towards inclusiveness. However, it can be shown that these two notions are nonetheless inadequate to resolve the conflict between the exclusivism of secularity and the pluralistic character of human reality. By championing critical unbelief, “critical secularism” tends to undermine the deontological value of belief as an important feature of the pluralistic human reality. The significance of belief in actual human life is manifested in the paradoxical reality that even while secularism flourished, religious belief did not seem to diminish.²⁶ This likewise seems to be true even among scientists. Lessl cites the results of a survey by Edward Larson and Larry Witham which indicates that there was only a 3 percent increase in atheism among scientists in the United States from 1916 to 1997, a period of 81 years.²⁷ Thus, “critical secularism” maintains the exclusivist quality of secularism by adopting the rejection of belief as the starting point of critical thinking and in so doing, it ignores the actual value of belief in human life. On the other hand, “open secularism” initially assumes the secularist standpoint before “opening up” public discourse to include religious reasoning.

²⁵Peter M. Collins, “Philosophy in Blessed John Paul II’s Catholic University: An Antidote to Relativistic Secularism,” *Logos: A Journal of Catholic Thought and Culture* 16, no. 3 (2013): 122-123.

²⁶McClay, “Two Concepts of Secularisms,” 49.

²⁷Lessl, “Gnostic Scientism and Prohibition of Questions,” 150.

However, in this process of inclusion, certain boundaries limiting the influence of religion in public discourse are still defined and consequently, the pluralism in public discourse reflects the conditions of these boundaries rather than the pluralistic character of human reality. In general, I believe that any attempt to reconfigure secularism towards a more inclusive characterization ultimately fails to relieve the tension and resolve the conflict between exclusivist secularity and the pluralistic character of human reality because a deconstruction of the original secularist notion's exclusivist character is not possible without degrading its robustness and succumbing to relativism. As it has been shown, relativism is not a plausible alternate solution because it undermines the value of the pursuit of reason and truth, which is a central dimension of the pluralistic human reality. In the case of quantum theory, it has been shown that an exclusivist interpretation from either science or religion fails to provide a holistic understanding of the theory and its implications and thus fails to resolve quantum insanity. However, resorting to a relativistic position would render the entire interpretative pursuit as vacuous.

I have posited that the pluralistic character of human reality can be characterized in terms of the various dimensions of diversity, and now I argue that the pursuit of wisdom and truth, being a central dimension of human reality, also has a pluralistic quality. Thus, any conception that is exclusivist, such as secularism's partial or full exclusion of religious reasoning and scientism's doctrine of empirical testability and analytic consistency as the exclusive criteria for truth, fails as a mechanism towards wisdom and truth because of its denial of the pluralistic character of this pursuit. This conflict between exclusivist notions of truth with the essentially pluralistic character of truth in reality is shown in Margaret MacDonald's argument of how principles of natural law and human nature cannot be justified through scientific or mathematical proofs but only through persuasive artistic defences, which nonetheless provide grounds for

legitimacy that cannot be dismissed as inferior or less valid.²⁸ This argument deconstructs the Humean position that only analytic and synthetic truth claims can be considered as valid and all other truth claims are simply matters of sentiment. Fairlamb also argues against the adversarial exclusivism of both science and religion as both unreasonable and mutually detrimental, and proposes metaphysical inquiry as an area of overlap.²⁹ It has been suggested that neither a relativistic nor an exclusivist doctrine is an adequate characterization of the pluralistic character of human reality as well as of the central dimension of the pursuit of wisdom and truth. This inadequacy of both exclusivist and relativistic doctrines is brought about by their essentially fragmenting qualities in the sense that they both draw artificial boundaries among different areas of human reality and inquiry, and differ only in how exclusivism regards one area as superior over the others while relativism considers all areas to be of equal value or disvalue. Thus, both exclusivist and relativist doctrines remain inherently in conflict with the pluralistic character of human reality.

Following the assertion that both exclusivism and relativism conflict with the pluralistic human reality, I now argue that the only reasonable way of deconstructing the exclusivist character of secularism without resorting to relativism is through a conception of human reality that is both pluralistic and unitary, and through a notion of the pursuit of wisdom and truth as a unitary human aspiration. In line with this, I assert that the only reasonable way of resolving quantum insanity is through a unified interpretative undertaking towards a holistic understanding of quantum theory and its implications. Following Babbitt's account of "kinds" or unified categories as indispensable towards understanding, conceivably, the unitary pursuit of wisdom and truth can be described as the search for an

²⁸Margaret MacDonald, "Natural Rights," reprinted in *Theories of Rights*, ed. Jeremy Waldron (Oxford: Oxford University Press, 1984), 36-40.

²⁹Fairlamb, "Breaking the Pax Magisteriorum," 273-274.

ultimate “kind.” And since “kinds” can only arise through an interaction of the self with external reality, then the pursuit of wisdom and truth must likewise be undertaken in a manner that interacts with human reality which, as it has been argued, has a pluralistic character. Following this assertion and in line with Babbitt’s argument against the self-sufficiency view of secularism, I also argue in favor of a reconfigured conception of truth which primarily values a sense of unification with reality instead of relying on an exclusivist doctrine such as scientism. In a rather conjectural manner, I suggest a general conception of truth in terms of intuitive coherence and enlightened sensibility. By intuitive coherence, I mean the manner by which a truth claim assumes a certain value of legitimacy, on the grounds of its coherence or consistency with human reality, even before being subjected to scrutiny. Here I define intuitiveness in general terms to include a broad range of senses of validity prior to reasoning. I suggest that the value of faith and belief could plausibly be characterized in terms of this notion of intuitive coherence. By enlightened sensibility, I mean the way by which the legitimacy of a truth claim is strengthened through reasonable scrutiny which is still consistent with the pluralistic character of human reality. Consequently, a distinction can be drawn between the notion of enlightened sensibility and exclusivist modes of reasoning in the sense that reasonable scrutiny to establish enlightened sensibility is founded on the pluralistic yet unitary character of human reality. Given these conjectural characterizations, it can be posited that quantum insanity is brought about by the lack of intuitive coherence of the fundamental premises of quantum theory, while the flaws of many interpretative attempts are rooted on the employment of exclusivist modes of reasoning that undermine enlightened sensibility.

In these arguments I use the terms “unitary” and “unified” interchangeably but it can be pointed out that these two terms could have different meanings – that “unitary” means something that is singular while “unified” means something that consists of numerous elements that are

integrated. To resolve this, I invoke Bohr's principle of complementarity as characterized by Pan-chiu. The principle of complementarity was formulated to interpret the seemingly contradictory notion of wave-particle duality in quantum theory. Bohr's conjecture in the principle of complementarity is that in relation to the notion of wave-particle duality, light may not necessarily be both particle and wave at the same time but rather, the conceptions of "particle" and "wave" could be used to give a complementary, but not contradictory, epistemological characterization of the nature of light.³⁰ Thus, the principle of complementarity can also be applied in how the conceptions of "unitary" and "unified," used together or interchangeably, can epistemologically characterize the human aspiration of the pursuit of wisdom and truth in a complementary but not contradictory manner. The same can be done to explain the seemingly paradoxical assertion that human reality has a pluralistic yet unitary character.

It has been argued that the pursuit of wisdom and truth is a unitary human aspiration and so intuitively, the mechanism towards this aspiration can also be characterized in a unitary or a unified sense. Consequently, conceptions of wisdom and truth, whether defined in terms of forms, criteria, meanings, frameworks, or conditions, require definitive reckonings within this unitary mechanism. It has been argued that secularity is fiction in the sense that it essentially denies the pluralistic character of human reality and is thus artificial and non-compelling. Now, I likewise argue that because it is not a plausible unitary or unified mechanism towards the unitary human aspiration of the pursuit of wisdom and truth, secularism is also a retrogressive movement which undermines this unitary human aspiration.

The obvious concern that arises from this assertion is the need to propose a plausible characterization of this unitary mechanism towards the unitary aspiration of wisdom and truth. For this purpose, I am drawn towards the

³⁰Pan-chiu, "Buddhist-Christian Complementarity," 150.

discourse theory of Habermas as a starting point. Roughly, in social theory and legal theory, discourse theory proposes a deliberative and discursive approach towards achieving reasonable agreements and to relieve the tension between “facticity and validity.”³¹ I again apply discourse theory in more general terms as a plausible mechanism in the unitary pursuit of wisdom and truth and in the resolution of the conflict between exclusivist doctrines and the pluralistic character of human reality. For this purpose, it is also important to invoke Habermas’ notion of “communicative freedoms” as an important feature of the discursive and deliberative approach.³² In a concrete sense within the context of the notion of public discourse, a conception of “communicative freedoms” can include an upholding of the deontological value of agential freedom and empowerment to participate in public discourse and a maximal restriction of the powers and forces that undermine this value. This conception of “communicative freedoms” can likewise be generalized to pertain to the agential freedom and empowerment to participate in the pluralistic and non-exclusivist yet unitary character of the pursuit of wisdom and truth. Conceivably, a discursive and deliberative mechanism that values “communicative freedoms” evades the objections that has been raised against secularism and scientism and exclusivist movements in general, in the sense that such a mechanism can be characterized as non-exclusivist and non-relativistic. It can be characterized as non-exclusivist by stipulating that the deliberations and discussions are to be conducted in a manner that is consistent and interactive with the pluralistic character of human reality, and by emphasizing that the justifications for legitimacy claims are to be founded on the deliberative and discursive character of the mechanism rather than on the adoption of an exclusivist principle. The mechanism can likewise be characterized as non-relativist by affixing a teleological value to the discursive and deliberative mechanism in such a way that the goal of

³¹Habermas, *Between Facts and Norms*, 448-449.

³²*Ibid.*, 119.

such mechanism is to arrive at agreements on certain claims of reason and truth which are established with considerations of intuitive coherence and enlightened sensibility. It must be recognized, however, that a discursive and deliberative mechanism has an indisputable linguistic quality and thus, such mechanism can be accused of exclusivism on the grounds that it seems to exclude modes of reasoning that are non-linguistic. In response, the discursive and deliberative mechanism can be reconfigured to be inclusive of non-linguistic modes of reasoning as well as of the totality of the pluralistic yet unitary character of human reality.

I now attempt a concretization of this discursive and deliberative mechanism towards the unitary human aspiration of the pursuit of wisdom and truth. For this purpose, I draw from Fairlamb's argument that metaphysics, or philosophy in general, could provide an area of overlap that deconstructs the antagonistic exclusivism between science and religion. I believe that in the same way, a reconfigured idea of philosophical inquiry can be adopted as the primary building block of the unitary or unified mechanism for the pursuit of wisdom and truth. I recognize that there could be elements of exclusivism and relativism within philosophy and so I argue that the notion of philosophy must be reconfigured to conform with the characterization of the discursive and deliberative qualities previously stipulated, before being integrated into the unitary mechanism towards the pursuit of wisdom and truth. Following the argument that secularity is fiction, an artificial and retrogressive movement motivated by exclusivism, I argue that a reconfigured discursive and deliberative framework of philosophical inquiry can instead be adopted as the mechanism that would in a sense "realize" the unitary human pursuit of wisdom and truth. In the case of quantum theory, it has been shown that exclusivist interpretative attempts effectively fragment the holistic understanding of the theory and its implications which consequently leads to quantum insanity. Thus, genuine understanding can only be realized through the employment of a reasonable unified or

unifying approach such as the reconfigured discursive and deliberative framework of philosophical inquiry as described here.

Looking Ahead: The Theory of Everything

Quantum theory's unified account of particles and forces can be regarded as an important milestone in the quest of physics, and science in general, for a theory of everything. Following the definition of James P. Hartle, in physics, a theory of everything is composed of the fundamental laws that model the regularities demonstrated by all physical systems, "without exception, without qualification, and without approximation." Hartle, following Stephen Hawking's conception of "a no-boundary wave function of the universe," argues that if the fundamental laws of the theory of everything follow quantum mechanics, a theory of everything, in a sense, is not truly a theory of everything because quantum theory is essentially a probabilistic model and thus it cannot be a source of definite predictions about reality. Hartle also espouses, in a somewhat reductionist assertion, that a theory of everything has a universal character in the sense that it applies to the subjects of study of other areas of inquiry apart from physics—such as biology, economics, and psychology, for instance—although a theory of everything cannot predict the regularities that are relevant to these other areas of inquiry, primarily because of the probabilistic quality of the predictions of quantum theory.³³ Following Hartle's definition as well as his reductionist argument, the notion of a theory of everything can be generalized to mean an ultimate account of reality. In line with the arguments presented in the previous two sections, it

³³James B. Hartle "Theories of Everything and Hawking's Wave Function of the Universe," in *The Future of Theoretical Physics and Cosmology: Celebrating Stephen Hawking's 60th Birthday*, eds. G.W. Gibbons, E. P. S. Shellard, and S. J. Rankin (Cambridge: Cambridge University Press, 2003), 43, 48-49.

can be asserted that a secularist interpretation of quantum theory is inadequate as a theory of everything because of its artificial exclusivist character which conflicts with the pluralistic quality of reality. This inadequacy holds despite of quantum theory being one of the most successful, coherent, and prolific scientific theories.

This inadequacy becomes even more apparent for more recent developments in this search of physics and science for a theory of everything, particularly for string theory, which is more comprehensive than quantum theory in the sense that it aims to be a unified theory of all physical phenomena including quantum mechanics and gravity. The inadequacy of string theory as a theory of everything is more evident because it has not exhibited quantum theory's successful and prolific qualities. According to Reiner Hedrich, most of the theoretical predictions of string theory cannot be verified empirically at the present time and its theoretical framework has not been grounded on principles that are physically meaningful but only on complex and elaborate mathematics, which is motivated by a somewhat metaphysical pursuit for a unified theory of nature.³⁴ In the case of string theory, the progress in mathematical theory has significantly outpaced the progress of empiricism. Possibly, the development of empiricism is simply encountering a bottleneck and sooner or later, empiricism will overcome this bottleneck and catch up with the progress in theory. However, I suspect that this problematic inadequacy of string theory represents a fragmentation within science itself – between mathematical theory and empiricism – which could become aggravated into a separation that is analogous to the antagonistic division between science and religion. This insight exposes another detrimental and retrogressive feature of secularism and other exclusivist movements and doctrines. The fragmenting character of exclusivism seems to have a tendency to propagate and generate more exclusivism, thus

³⁴Reiner Hedrich, "The Internal and External Problems of String Theory: A Philosophical View," *Journal for General Philosophy of Science* 38 (2007): 261-263.

escalating the conflict with the pluralistic character of human reality. As shown by how the fragmentation between mathematics and empiricism follows from the more comprehensive and expansionist character of string theory, it can be posited that the degree of fragmentation increases with the attempt of an exclusivist doctrine to expand its authority. Thus, adopting an exclusivist doctrine or methodology in the quest for a theory of everything, which aims to be an ultimate account of reality, could conceivably lead to a much greater, and in some sense, ultimate degree of fragmentation which undermines the pluralistic yet unitary quality of human reality and leads to a sense of alienation from wisdom and truth.

Therefore, a theory of everything that is genuinely a theory of everything must be in harmony with the reality that it seeks to embody. Because reality has an essentially pluralistic yet unified character, such harmony cannot be attained through secularism, scientism, or any other movement or doctrine that is exclusivist and fragmenting. I argue that the only plausible manner by which to formulate a reasonable theory of everything that is in agreement with reality is to employ the unitary mechanism towards the unified pursuit of wisdom and truth. This unitary mechanism, as it has been proposed, is a reconfigured methodology of philosophical inquiry that has a discursive and deliberative character, within which a theory of everything can both be justified and constructed. If quantum theory, string theory, or any other unified account, is to be regarded as the foundational principle for a legitimate theory of everything, then it must be formulated, interpreted, and understood through this unitary mechanism and not through an exclusivist secularist, scientific, or religious approach.

Concluding Remarks

Through an interpretative review and reflection on the developments of quantum theory, I have emphasized the undeniably philosophical and spiritual character of the fundamental questions concerning the resolution of quantum

insanity. By generalizing this insight, I have pointed out the inherent tension between secularism, scientism, religion, or any other exclusivist or relativist movement or doctrine on one side, and the pluralistic human reality on the other side. Given this observation, I have argued that the pursuit of truth is a unitary human aspiration and that secularity is fiction, an artificial, non-compelling, and retrogressive attempt that denies the pluralistic human reality and fragments the unitary human aspiration for wisdom and truth. I have also proposed a conception of truth in terms of intuitive coherence and enlightened sensibility and have suggested that a reconfigured mode of philosophical inquiry that has a discursive and deliberative character is a plausible unitary mechanism for the pursuit of wisdom and truth.

In closing, I would like to briefly highlight that a conception of the pursuit of wisdom and truth as a unitary human aspiration does not only serve the purpose of theoretical robustness but it is also aligned with the practical ideals of freedom and peace. On the conceptual level, it has been shown that exclusivist and relativistic doctrines and movements are characterized by a constant state of conflict with reality and so in concrete settings, to an extreme extent, both exclusivism and relativism could inspire various forms of oppression, extremism, and discrimination. Moreover, in response to the alienating quality of religion, secularism and scientism are supposed to cultivate freedom of thought and conscience and foster harmony within human society. However, it has been argued that secularism and scientism can also be alienating, and in espousing narrow exclusivist positions that are not in harmony with the pluralistic character of human reality, secularism and scientism consequently undermine both freedom and peace. Thus, I end with the assertion that the positions and arguments espoused here can be considered for realization within and application to ordinary human affairs and formal social institutions for the advancement of humanity towards the ideals of freedom and peace.

Works Cited

- Babbitt, Susan E. "Secularism, Ethics, Philosophy: A Case for Epistemic Humility." *Comparative Studies of South Asia, Africa and the Middle East* 31, no. 1 (2011): 4-12.
- Babie, Paul. "Secularism and Freedom of Conscience by Jocelyn Maclure, Charles Taylor (review)." *Canadian Journal of Law and Society* 28, no. 2 (2013): 282-283.
- Baird, Robert J. "Late Secularism." *Social Text* 18, no. 3 (2000): 123-136.
- Barr, Stephen M. "Faith and Quantum Theory." Reprinted in *The Best American Spiritual Writing 2008*. Edited by Philip Zaleski, 1-10. Boston: Houghton Mifflin Company, 2008
- Bokulich, Alisa. "Paul Dirac and the Einstein-Bohr Debate." *Perspectives on Science* 16, no. 1 (2008): 103-114.
- Camilleri, Kristian. "Constructing the Myth of the Copenhagen Interpretation." *Perspectives on Science* 17, no. 1 (2009): 26-57.
- Chambers, Simone. "Secularism Minus Exclusion: Developing a Religious-Friendly Idea of Public Reason." *The Good Society* 19, no. 2 (2010): 16-21.
- Clark, Kelly James and Kevin Corcoran. "Pluralism, Secularism, and Tolerance." *Rhetoric & Public Affairs* 3, no. 4 (2000): 627-639.
- Clark, Kelly James and Kevin Corcoran. "In Our Own Defense." *Rhetoric & Public Affairs* 4, no. 4 (2001): 711-716.
- Collins, Peter M. "Philosophy in Blessed John Paul II's Catholic University: An Antidote to Relativistic Secularism." *Logos: A Journal of Catholic Thought and Culture* 16, no. 3 (2013): 114-125.
- Everett, Hugh III. "Relative State. Formulation of Quantum Mechanics." *Reviews of Modern Physics* 29, no. 3 (1957): 454-462.
- Fairlamb, Horace L. "Breaking the Pax Magisteriorum: The New War of Science and Religion." *symploke* 20, nos. 1-2 (2012): 251-275.

- Habermas, Jürgen,.. *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy*. Translated by William Rehg. Cambridge, Massachusetts: The MIT Press, 1996.
- Hartle, James B. "Theories of Everything and Hawking's Wave Function of the Universe." In *The Future of Theoretical Physics and Cosmology: Celebrating Stephen Hawking's 60th Birthday*. Edited by G.W. Gibbons, E. P. S. Shellard, and S. J. Rankin, 38-50. Cambridge: Cambridge University Press, 2003.
- Hedrich, Reiner. "The Internal and External Problems of String Theory: A Philosophical View." *Journal for General Philosophy of Science* 38 (2007): 261-278.
- Hodgson, Peter E. "Quantum Mechanics and its Interpretations." *Logos: A Journal of Catholic Thought and Culture* 12, no. 1 (2009): 62-78.
- Kleppner, Daniel and Roman Jackiw. "One Hundred Years of Quantum Physics." *Science, New Series* 289, no. 5481 (2000): 893.
- Lessl, Thomas M. "Gnostic Scientism and the Prohibition of Questions." *Rhetoric and Public Affairs* 5, no. 1 (2002): 133-157.
- MacDonald, Margaret. "Natural Rights." Reprinted in *Theories of Rights*. Edited by Jeremy Waldron, 21-40. Oxford: Oxford University Press, 1984.
- McClay, Wilfred M. "Two Concepts of Secularism." *Journal of Policy History* 13, no. 1 (2001): 47-72.
- Mufti, Aamir R. "Critical Secularism: A Reintroduction for Perilous Times." *Boundary 2* 31, no. 2 (2004): 1-9.
- Pan-chiu, Lai. "Buddhist-Christian Complementarity in the Perspective of Quantum Physics." *Buddhist-Christian Studies* 22 (2002): 149-162.
- Purcell, Bridget. "Transcendence and Tradition: Two Attempts to Revive the Concept of the Secular." *Anthropological Quarterly* 82, no. 3 (2009): 821-835.
- Raz, J. "Right-Based Moralities." In *Theories of Rights*. Edited by Jeremy Waldron. 182-200. Oxford: Oxford University Press, 1984).

- Sen, Amartya. *Rationality and Freedom*. Cambridge, Massachusetts: Harvard University Press, 2004.
- Stout, Jeffrey. "The Folly of Secularism." *The Good Society* 19, no. 2 (2010): 10-15.
- Tegmark, Max and John Archibald Wheeler. "100 Years of Quantum Mysteries." *Scientific American*, February 2001, 72-29.
- Vedral, Vlatko. "Living in a Quantum World." *Scientific American*, June 2011, 20-25.
- Ward, Ian. "Democracy After Secularism." *The Good Society* 19, no. 2 (2010): 30-36.
- Yong, Amos. "Mind and Life, Religion and Science: His Holiness the Dalai Lama and the Buddhism-Christianity-Science Trialogue." *Buddhist-Christian Studies* 28 (2008): 43-63.