

KALĀM JADĪD, ISLAMIZATION, AND THE WORLDVIEW OF ISLAM: APPLYING THE NEO-GHAZĀLIAN, ATTASIAN VISION

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The new *kalām* (*kalām jadīd*, or new dialectics) intellectual movement initiated by al-Ghazālī and matured by Fakhr al-Dīn al-Rāzī succeeded in putting the Hellenizing philosophical and natural sciences firmly within the theological and epistemological ambit of tradition. This historical success provides pertinent lessons for Muslim scholars and intellectuals today to formulate what can be called *kalām al-‘aṣr*, or the Dialectics of the Age, in order to bring tradition to engage creatively and evaluatively with the challenge and allure of contemporary secularizing sciences.

Keywords: Al-Ghazālī, Fakhr al-Dīn al-Rāzī, al-‘Aṭṭās, Worldview of Islam, *kalām jadīd*, *kalām al-‘aṣr*, Dewesternization, Islamization of Present-Day Knowledge.

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Even as a discourse on religion, *kalām* obviously inclined, right from the start, to use forms of arguments some of which were clearly employed by ancient (and modern) philosophers; and it is of course important to identify these forms, their sources and characteristics.¹

1. Preamble

In *Knowledge Triumphant*, Franz Rosenthal observes that the Islamic civilization is one essentially characterized by knowledge (*‘ilm*): “*‘ilm* is one of those concepts that have dominated Islam and given Muslim civilization its distinctive shape and complexion.”² This should not be surprising, since the divine revelation itself repeatedly emphasizes that its signs or verses are only understandable “for a people who think” (*li-qawmin ya‘qilūn*) (*al-Baqara*: 164).³ It exhorts believers, nay, even non-believers, to look to the cosmic horizons (*al-āfāq*) and into their very selves (*al-anfus*) for empirical/experiential evidences/indications (*āyāt*)⁴ demonstrating the revealed truth (*al-ḥaqq*) (*Fuṣṣilat*: 53). For many scholars, Muslim and non-Muslim alike, the seeds of rational/cognitive thinking were present in early Islam, in the Qur’ānic revelation itself.⁵ As Nuh Ha Mim Keller puts it, “the Qur’an

1. A.I. Sabra, “The Simple Ontology of *Kalām* Atomism: An Outline,” *Early Science and Medicine* 14 (2009): 68–78 (at 70).

2. *Knowledge Triumphant: The Concept of Knowledge in Medieval Islam* (Leiden: Brill, 1970), 2.

3. Most Qur’an translations are based on Muhammad Marmaduke Pickthall, *The Meaning of the Glorious Qur’an: Text and Explanatory Translation* (Mecca: Muslim World League, 1977).

4. For an elaboration of the term “*āyat*”, see Mohd Zaidi Ismail, “The Cosmos as the Created Book and Its Implications for the Orientation of Science,” *Islam & Science* 6, no. 1 (Summer 2008): 31–53; and Annemarie Schimmel, *Deciphering the Signs of God: A Phenomenological Approach to Islam* (New York: SUNY, 1994).

5. For instance, Hans Daiber in his unpublished series of lectures entitled “Islamic Philosophy: Innovation and Mediation between Greek and Medieval European Thought,” delivered to his postgraduate students at ISTAC during the 2001–2002 academic year; see also his “The Qur’an as Stimulus of Science in Early Islam,” as cited in “What is the Meaning of and to what End do we Study the History of Islamic Philosophy?: The History of a Neglected Discipline” in his *Bibliography of Islamic Philosophy*, 2 vols. (Leiden: Brill, 1999), 1: xxxi n. 127. Cf. Josef van Ess, “Early Development of *Kalām*” in Gautier H.A. Juynboll (ed.), *Studies on the First Century of Islamic Society* (Carbondale, IL: Southern Illinois University Press, 1982), 109–123 (at 110ff.).

itself uses rational argument.”⁶

From the very beginning, Muslims have taken a rational (or rather, intellectual and cognitive, *‘aqlī*) and scientific (*‘ilmī*) approach to matters in both the religious (including spiritual) and mundane domains (*umūr al-dīn wal-dunyā*).⁷ Simply put, there was never in Islamic intellectual history—Ibn Rushd (520–595/1126–1198) notwithstanding⁸—the peculiarly medieval Christian and early modern problem of reconciling reason and revelation, as if the two were mutually exclusive avenues to truth and knowledge that have to be brought together in some form of uneasy compromise and co-existence.⁹ As far as Muslims are concerned, revelation and reason are in mutual harmony as complementary avenues to objective knowledge that spring ultimately from the same transcendent source.¹⁰

This understanding is quite evident in ‘Umar Najm al-Dīn al-Nasafī’s (d. 537/1142) important epistemological preamble to his creed.¹¹ For the

6. Nuh Ha Mim Keller, “*Kalam* and Islam: Traditional Theology and the Future of Islam,” *Islamica* 13 (Summer 2005): 15–27 (at 17); accessible online at http://www.livingislam.org/k/ki_c.html.

7. See the important study by ‘Alī Sāmī al-Nashshār, *Manāhij al-baḥth ‘inda mufakkiṛ al-islām wa iktishāf al-naḥj al-‘ilm fīl-‘alam al-islām* (Dār al-Nahda al-‘Arabiyya, 1984). My thanks to Shaykh Ruzwan Mohammed of the Solas Foundation of Glasgow for directing my attention to this book. See also Rosalind Ward Gwyne, *Logic, Rhetoric and Legal Reasoning in the Qur’an: God’s Arguments* (London: Routledge, 2004).

8. Ibn Rushd, *Faṣl al-maḡāl fī mā bayna l-ḥikma wal-sharī‘a min al-ittiṣāl*, trans. George F. Hourani (Leiden: Brill, 1959). His tendency here to resolve the tension by subjugating revelation to reason is unacceptable to orthodoxy, for divine revelation has higher ontological, and hence epistemological, warrant than human reason.

9. Etienne Gilson, *Reason and Revelation in the Middle Ages* (New York: Charles Scribner, 1966). It seems to me that, despite himself, Gilson (pp. 81ff.) is subscribing to a kind of Thomistic “two-fold” truth, viz., the truth of Revelation which can *only* be “believed” *rather* than “known,” and the truth of “natural reason,” which can *only* be “known” and hence *not* “believed,” and to him the two truths should not be conflated or integrated into a single Truth—for such integration is impossible—and that lack of integration is to him *harmony*! From the point of view of Islamic orthodoxy, believing is not separate or distinct from knowing, hence “the beginning of religion is the *knowing* of God” (*awwal al-dīn ma‘rifat Allāh*): to “believe” in God is to “know” God.

10. Ibrahim Kalin, *Reason and Rationality in the Qur’an* (Amman: The Royal Aal al-Bayt Institute for Islamic Thought, 2012).

11. Syed Muhammad Naquib al-Attas, *The Oldest Known Malay Manuscript: A 16th Century Malay Translation of the ‘Aqā’id of al-Nasafī* (Kuala Lumpur: University of Malaya Press, 1988), 1–52 *passim*.

Muslim theologians, to whom belief (*īmān*) must be grounded in true knowledge (*‘ilm*), the problem is rather merely that of specifying the precise relation between the two—which is that reason and all the rational sciences derived from it find their role, purpose, and proper place (and hence their cognitive and axiological limits) within the enveloping context of experience, including the “trans-empirical” religious or spiritual experience of divine revelation, or Transcendence. Such was the position taken by the *mutakallimīn* and the *falāsifa*, both of whom “did not distinguish theology from philosophy,”¹² and neither did they distinguish it from physics or mathematics or medicine for that matter.¹³ Hence, Syed Muhammad Naquib al-Attas makes clear that

Islamic science and philosophy (i.e. *ḥikmah* as contrasted with *falsafah*) have always found coherent expression within a basic metaphysical structure formulated according to the tradition of Sufism and founded upon the authority of revelation, Tradition, sound reason, experience and intuition.¹⁴

Their underlying epistemic point of departure is that true belief cannot be simply “willed” into the heart,¹⁵ for it has objective cognitive content that must be known or understood in order to be properly affirmed (*taṣḍīq*).

12. Richard M. Frank, “The Science of *Kalām*,” *Arabic Sciences and Philosophy* 2, no. 1 (March 1992): 7–37 (at 19).

13. For instance, they realized that acceptance of atomism entails rejection of Euclidean geometry and affirmation of discontinuous or discrete geometry. Al-Kindī himself was able to argue for cosmic finitude “wholly along mathematical lines,” as shown in Nicholas Heer and Haig Khatchadourian, “Al-Kindī’s Epistle on the Finitude of the Universe,” *Isis* 56 (1965): 426–433. See also Anton M. Heinen, “Mutakallimūn and Mathematicians: Traces of a Controversy with Lasting Consequences,” *Der Islam* 55 (1978): 57–73; and George Saliba, “The Ash‘arites and the Science of the Stars” in R.G. Hovannisian and Georges Sabbagh (eds.), *Religion and Culture in Medieval Islam* (Cambridge: Cambridge University Press, 1999), 79–92. See also Nahyan Fancy, “Pulmonary Transit and Bodily Resurrection: The Interaction of Medicine, Philosophy and Religion in the Works of Ibn al-Nafīs (d. 1288)” (PhD diss., University of Notre Dame, 2006); and Robert Morrison, “*Falsafa* and Astronomy after Avicenna: An Evolving Relationship” in Y. Tzvi Langermann (ed.), *Avicenna and His Legacy: A Golden Age of Science and Philosophy* (Turnhout, Belgium: Brepols, 2009), 307–326.

14. Syed Muhammad Naquib al-Attas, *A Commentary on the Ḥujjat al-Siddīq of Nūr al-Dīn al-Rānirī* (Kuala Lumpur: Ministry of Culture), 464–465; Adi Setia, “Philosophy of Science,” 171. See also the recent book by Kalin, *Reason and Rationality in the Qur’an*.

15. As William James would have it, in his essay “The Will to Believe” in *The Will to Believe and other Essays in Popular Philosophy* (New York: Dover, 1956).

Moreover, that content can be demonstrable in various ways, and thus, communicated, shared, debated and *rationalized*.¹⁶ In short, belief or faith is not something you can simply shove down people's throats or wished into being out of thin air. As Keller puts it:

Indeed, Islam is a sapiential religion, in which salvation itself rests not on vicarious atonement as in Christianity, or on ethnic origin as in Judaism, but on *personal knowledge*. Whoever *knows* that there is no god but God and that Muhammad is the Messenger of God is by that very fact saved.¹⁷

2. The Islamic Scientific Endeavor

The scientific endeavor (in the sense of systematic intellectual inquiry) in Islamic history began with the textual standardization of the Qurʾān, and with the systematic transmission, collection, and authentication of the Sunna.¹⁸ These budding endeavors in systematic intellectual work soon inspired the cultivation of sophisticated linguistic sciences (etymology, phonology, morphology, syntax, semantics, lexicography, prosody, metrics, rhetoric, and *tajwīd* (the art of Qurʾānic recitation) which emphasized the precise relations between words and their meanings.¹⁹

The science of jurisprudence (*fiqh*) was rigorously developed on these linguistic foundations with its own internal analogical principles (*qiyās*) or “comparative-deductive”²⁰ method of juristic inference, which facilitated the creative application of the normative injunctions of the Qurʾān and Sunna to the particular local and temporal contexts of diverse Muslim communities. This cultivation of linguistic definition²¹ and rational

16. Thus, for instance, the position of Ibn al-Nafis; see Nahyan Fancy, “The Virtuous Son of the Rational: A Traditionalist’s Response to the *Falāsifa*” in Langermann, *Avicenna and His Legacy*, 219–248.

17. Keller, “*Kalam and Islam*,” 26 (italics mine).

18. M.M. Aʿẓāmī, *Studies in Early Ḥadīth Literature with a Critical Edition of Some Early Texts*, repr. ed. (Kuala Lumpur: IBT, 2009); Eerik Dickinson, *The Development of Early Sunnite Ḥadīth Criticism: The Taqdim of Ibn Abī Ḥatīm al-Rāzī (240/854–327/938)* (Leiden: Brill, 2001); Harald Motzki, *The Origins of Islamic Jurisprudence: Meccan Fiqh before the Classical Schools* (Leiden: Brill, 2002); Scott C. Lucas, *Constructive Critics, Ḥadīth Literature, and the Articulation of Sunni Islam: The Legacy of the Generation of Ibn Saʿd, Ibn Maʿīn and Ibn Ḥanbal* (Leiden: Brill, 2004).

19. G. Bohas, Jean-Patrick Guillaume, and D.E. Kouloughli, *The Arabic Linguistic Tradition* (London: Routledge, 1990).

20. As described by Hans Daiber in his unpublished lectures at ISTAC; see n. 5 above.

21. Roshdi Rashed once said, “If the writings of these two civilizations

argumentation in the context of religious, intellectual (viz. the translation movement), and political discourse (viz. administrative imperatives of government) prepared the ground for Muslims to creatively engage the attractions and challenges of the rich intellectual and scientific cultures of the ancient Egyptians, Chinese, Greeks, Persians, and Indians that they encountered in the newly-acquired and far-flung territories beyond the immediate boundaries of the Arabian peninsula.

The Muslims were most attracted to Greek philosophical, logical, medical, mathematical, scientific, and ethical principles, and studied them thoroughly, critically and *self-consciously*.²² By the time of the Caliph al-Ma'mūn (tenth century CE), a *cross-cultural*²³ intellectual movement for translating these Greek works into Arabic was in full swing, with the active support of the state and affluent, well-connected individuals. While rejecting some of those Greek principles, Muslim scholars readily recognized many others that were clearly in general accord with the Qur'ānic injunction of grounding knowledge, belief, and practice in objective rational thinking and empirical experience. Clearly, this critical, self-conscious appropriation of these ancient sciences (*al-'ulūm al-awā'il*) was motivated and framed both by the cognitive and pragmatic needs of the new, expanding empire and by the intrinsic intellectual allure and challenge proposed by the encounter with other, developed systems of knowledge.²⁴ Long before the attractions of Greek rational thought had taken root, the initially dormant discursive and argumentative acumen of Muslims had already been activated and honed by external theological debates with the Jews, Christians, Hindus, Buddhists, and Zoroastrians²⁵

[Hellenistic and Persian] and the information they had acquired were to be understood and, therefore, expressed in Arabic, the first task was to translate them and, consequently, to make Arabic, which was a language of the desert, a language of science." See his lecture published as "Islam and the Flowering of the Exact Sciences" in *Islam, Philosophy and Science* (Paris: UNESCO Press, 1981), 133–167 (at 133).

22. George Saliba, *Islamic Science and the Making of the European Renaissance* (Cambridge, MA: MIT Press, 2007), 1–72 *passim*.
23. *Ibid.*, 1–130 *passim*. See also the interesting discussion in Roshdi Rashed, "Greek into Arabic: Transmission and Translation" in James E. Montgomery (ed.), *Arabic Theology, Arabic Philosophy, from the Many to the One: Essays in Celebration of Richard M. Frank* (Leuven, Belgium: Peeters, 2006), 157–198.
24. *Ibid.*; see also Dimitri Gutas, *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and Early 'Abbasid Society* (London: Routledge, 1998).
25. See, for instance, Mustafa Ceric, *The Roots of Synthetic Theology in Islām: A Study of the Theology of Abū Mansūr al-Māturīdī* (Kuala Lumpur: ISTAC,

as well as by intra-Muslim political, theological, and juristic controversies, which resulted in the rise of distinct, contending doctrinal sects (*fīraq*)²⁶ and schools of thought (*madhāhib*) in theological, philosophical, scientific, and legal matters.²⁷

Indeed, there were heated controversies amongst these opposing schools of thought as to the extent to which the Greek sciences were in accord with the worldview of Islam developed through their readings and understandings of the Qurʾān.²⁸ On the one hand stood the Muslim philosophers (*falāsifa/hukamāʾ*), including al-Kindī (d. 866), al-Fārābī (d. 950), Ibn Sīnā (d. 1037), and Ibn Rushd, who, on the whole, could be said to be more receptive than critical of the Greek speculative sciences. On the other hand stood the Ashʿarite rationalist theologians (*mutakallimūn*), such as al-Ashʿarī (d. 935), al-Bāqillānī (d. 1013), al-Juwaynī (d. 1085),²⁹ al-Ghazālī (d. 1111), Fakhr al-Dīn al-Rāzī (d. 1209), and al-Bayḍawī (ca.1225–1316 CE), who could be said to be more critical than receptive of Greek rationality. Moreover, both camps were at the same time in heated engagement with the (more “conservative”³⁰) Ḥanbalites, Muʿtazilites, and Shiʿites.³¹

1995).

26. ʿAbd al-Qāhir b. Tāhir b. Muḥammad Abī Maṣṣūr al-Baghdādī (1037/429), *al-Farq bayn al-Fīraq* (Beirut: Dār al-Maʿārif, 2001).

27. Concerning these extra- and intra-communal politico-theological controversies, see respectively Daniel J. Sahas, *John of Damascus on Islam: The “Heresy of the Ishmaelites”* (Leiden: Brill, 1972); and Josef van Ess, “Umar II and His Epistle against the Qadariyya,” *Abr-Nahrain* XII (1971-72): 19–26. A survey in this regard is W. Montgomery Watt, *The Formative Period of Islamic Thought* (Edinburgh: Edinburgh University Press, 1973).

28. On the concept “Worldview of Islam” see al-Attas, *Prolegomena to the Metaphysics of Islam: An Exposition of the Fundamental Elements of the Worldview of Islam* (Kuala Lumpur: ISTAC, 2001), especially his forty page introduction, whereby (paraphrased from pp. 1–5) “The worldview of Islam is the vision of reality and truth that reveals to the Muslim mind what existence is all about. It is a metaphysical survey of the visible as well as the invisible worlds, including the perspective of life as a whole. In this holistic perspective of life, the *dunya*-aspect of life is thoroughly integrated into the *akhirah*-aspect of life, and in which the *akhirah*-aspect of life has ultimate and final significance.”

29. On al-Juwaynī, see the useful introduction by Paul E. Walker in his *A Guide to Conclusive Proofs for the Principles of Belief: Kitāb al-Irshād ilā Qawāṭiʿ al-Adilla fī Uṣūl al-Iʿtiqād* (Reading: Garnet, 2000), xix–xxxvii.

30. Meaning, less open to discursive argumentation, compared to the Ashʿarites and even Sufis like al-Muḥāsibī.

31. See, for instance, the useful survey by Shlomo Pines, “Islamic Philosophy”

Even amongst the philosophers, Fārābīan-Avicennan Aristotelianism was not received uncritically. A particular case in point is Abū al-Barakāt al-Baghdādī's (d. 1164) remarkable *Kitāb al-Mu'tabar*,³² which criticized Aristotelian physics and metaphysics just as al-Ghazālī had previously done in his celebrated *Tahāfut al-Falāsifa*, and which prefigured much of the Fakhrurāzīan wide-ranging polemics against peripateticism in general. Later, even the so-called "anti-rationalist" Ibn Taymiyya (1263–1328 CE) could not help but be appreciative of *al-Mu'tabar* and its author, and of Ibn Rushd himself, while being rather critical of both Ibn Sīnā and al-Fakhr al-Rāzī.³³ In other words, to effectively attack the philosophers and the logicians—meaning engaging them on their own grounds—Ibn Taymiyya was compelled to be superlative in philosophical and logical reasoning himself.

Ironically, even surprisingly, the perceived intellectual threat of Hellenistic thought, particularly Aristotelianism in its Neoplatonic garb,³⁴ was in the end overcome by a gradual, self-conscious, and self-confident process that incorporated it into the orthodox Islamic theological framework on the part of post-Ghazālīan *mutakallimūn*. The Greek sciences were hereby actively "appropriated" and "naturalized" to such an extent that Ibn Khaldūn in the fifteenth century was drawn to observe that one could no longer differentiate between *kalām* and *falsafa*.³⁵

in *The Collected Works of Shlomo Pines*, vol. 3: *Studies in the History of Arabic Philosophy*, ed. Sarah Stroumsa (Jerusalem: Magnes Press, 1996); and Richard M. Frank, *Philosophy, Theology and Mysticism in Medieval Islam: Texts and Studies on the Development and History of Kalam*, 2 vols. (Aldershot, Hampshire: Ashgate, 2005–2007).

32. *Kitāb al-Mu'tabar*, 3 vols. in 1 (Hyderabad, 1357 AH). A monograph on his metaphysics is Jamāl Rajab Sīdabī, *Abū al-Barakāt al-Baghdādī wa Falsafatuh al-Ilāhiyya: Dirāsa li-Mawqifih al-Naqdī min Falsafat Ibn Sīnā* (Cairo: Maktaba Wahba, 1996).

33. See Sulaymān al-Nadwī's informative introduction to the *Kitāb al-Mu'tabar*, 3 vols. in 1 (Hyderabad: 1357H), 3: 230–252. Ibn Taymiyya's philosophical acumen is remarkably borne out in some recent meticulous studies, such as the two-part study by Yahya J. Michot, "A Mamlūk Theologian's Commentary on Avicenna's *Risāla Adhawiyya*, being a translation of a part of the *Dar' al-Ta'arruḍ* of Ibn Taymiyya, with introduction, annotation, and appendices," *Journal of Islamic Studies* 14, nos. 2 and 3 (2003): 149–203 and 309–363, respectively; and Jon Hoover, "Perpetual Creativity in the Perfection of God: Ibn Taymiyya's Hadith Commentary on God's Creation of this World," *Journal of Islamic Studies* 15, no. 3 (2004): 287–329.

34. Parviz Morewedge (ed.), *Neoplatonism in Islam* (Albany, NY: SUNY, 1992).

35. Ibn Khaldūn, *Muqaddimah*, trans. Franz Rosenthal, 3 vols. (New York: Pantheon Books, 1958), 3: 52–53; cf. A.I. Sabra, "The Appropriation

It may be surmised that the eventual triumph of Ash‘arism (including Māturīdism and Ṭahāwism, or Sunnism in general), was due to its creative intellectual versatility in appropriating the rationalism of the Mu‘tazilites and the *falāsifa* and the traditionalism of the Ḥanbalites into its own “synthetic” theological framework,³⁶ which “gave both *naql* and *‘aql* their due, and took a middle course between the doctrines of the opposing sects.”³⁷ It can be seen that this middle course was not a “neutral” uncommitted course but a critically integrative one which gave each view and each school its “proper place” in relation to other contending views and schools within what may be regarded as a hierarchic onto-epistemic “scale of truth-reality” in which *Kalām* theology was harmonized with and integrated into *Ṣūfī* metaphysics and ontology.³⁸

Not only were *kalām* and *falsafa* so appropriated and naturalized (or even “Islamized,” in the Attasian sense of the term),³⁹ but each of the four mutually autonomous intellectual systems—namely, 1) *kalām*; 2) *falsafa*; 3)

and Subsequent Naturalization of Greek Science in Medieval Islam: A Preliminary Statement,” *History of Science* 27 (1987): 223–243; see also Ayman Shihadeh, “From al-Ghazālī to al-Rāzī: 6th/12th Century Developments in Muslim Philosophical Theology,” *Arabic Sciences and Philosophy* 15 (2005): 141–179.

36. On this “synthetic” (i.e., synthesizing) theological framework, see Mustafa Ceric, *Roots of Synthetic Theology in Islam: A Study of the Theology of Abū Maṣṣūr al-Māturīdī* (Kuala Lumpur: ISTAC, 1995).

37. Al-Māturīdī, *Kitāb al-Tawḥīd*, ed. and intro. Fathalla Kholeif (Beirut: Dar al-Machreq, 1982), xiii.

38. Al-Attas, *Prolegomena*, 177–332 passim; idem, *A Commentary on the Hujjat al-Siddiq of Nūr al-Dīn al-Rānirī* (Kuala Lumpur: Ministry of Culture, 1986); Syed Naquib al-Attas, *Some Aspects of Sufism as Understood and Practiced among the Malays* (Singapore: Malaysian Sociological Research Institute, 1963), 1–20 passim; Nūr al-Dīn ‘Abd al-Raḥmān ibn Aḥmad al-Jāmī, *al-Durra al-Fākḥira fī Taḥqīq Madhhab al-Ṣūfīyya wal-Mutakallimīn wal-Ḥukamā’ al-Mutaqaddimīn*, trans. Nicholas Heer as *The Precious Pearl* (Albany, NY: SUNY, 1979). See also the nuanced, comprehensive discussions by Ayman Shihadeh in his edited volume, *Sufism and Theology* (Edinburgh: Edinburgh University Press, 2007), 1–14; and Toby Mayer, “Theology and Sufism,” in Tim Winter (ed.), *The Cambridge Companion to Classical Islamic Theology* (Cambridge: Cambridge University Press, 2008), 258–287. See also the yet-unpublished doctoral study by Zaidi Ismail, “Existence (*al-Wujūd*) and Its Relation to Quiddity (*al-Māhiyyah*) in the Later Ash‘arite *Kalām*, with Special Reference to ‘Aḥdud al-Dīn al-Ījī’s *al-Mawāqif* and al-Sayyid al-Sharīf ‘Alī al-Jurjānī’s *Sharḥ al-Mawāqif*” (PhD diss., ISTAC, 2004), especially pp. 236–237.

39. On “Islamization,” see below and Syed Muhammad Naquib al-Attas, *Islam and Secularism* (Kuala Lumpur: ISTAC, 1993), 44–45.

fiqh and *uṣūl al-fiqh*⁴⁰; and 4) *taṣawwuf*⁴¹—were fused together into a more encompassing, self-consciously integrative Orthodoxy. This thoroughly *embedded* the intellectual or discursive sciences (*‘aqliyyāt*) into the firm ambit of divine revelation and prophetic tradition (*naqliyyāt/sam‘iyyāt*). This was the singular achievement of al-Ghazālī’s monumental *Iḥyā’ ‘ulūm al-dīn* (“The Revivification of the Sciences of Religion”), a grand synthesis that would eventually be endorsed by the entire Muslim world as it proclaimed him *Hujjat al-Islām*, “the Proof of Islam.”

In the *Iḥyā’*, the intellectual realm was delicately and elegantly fused into the spiritual realm, such that the intellectual and the religious person became one and the same.⁴² This at least was the case for centuries in the Islamic world, before the relatively recent onslaught of secularization brought on by colonization and Westernization, which together systematically banished all people of religious vision from having any meaningful role in the realm of the mundane and the worldly and the discourse pertaining to it.

3. Al-Ghazālī and the New *Kalām* (*Kalām Jadid*)

Instead of impeding philosophico-scientific thought in Islam, al-Ghazālī’s *Tahāfut al-Falāsifa*, by the intense responses it provoked amongst scientists and philosophers through subsequent centuries, actually did much to hasten this process of critical, self-conscious deconstruction, reconstruction, synthesis, and naturalization. In relation to the new *kalām*’s engagement with astrology and astronomy, for instance, George Saliba says:

It forced the scientists to redefine their disciplines and to attempt to achieve the consistency that they perceived to have been lacking in the Greek legacy. That new reconstruction had very positive effects on the making of what later became a truly Islamic science.⁴³

40. Wan Azhar Wan Ahmad, “The Place of Reason vis-à-vis Revelation in Imām al-Ḥaramayn al-Juwaynī’s Legal Theory: A Symbiosis between His *Kalām* and *Uṣūl al-Fiqh*” (PhD diss., International Institute of Islamic Thought and Civilization (ISTAC), 2006). See also Umar F. Abd-Allah, “Theological Dimensions of Islamic Law” in Winter, *Cambridge Companion*, 237–257.

41. That is, *taṣawwuf* in its metaphysical, cognitive, or Gnostic (*mukāshafa*) mode, i.e., in the form of metaphysical Sufism, in contrast to its more popular and accessible ethical, practical, or pragmatic (*mu‘āmala*) mode.

42. As in the remarkable case of Ibn al-Nafis; see Fancy, “The Virtuous Son,” 219–248. See also Gerhard Endress, “Reading Avicenna in the *Madrasa*” in James E. Montgomery (ed.), *Arabic Theology, Arabic Philosophy, from the Many to the One: Essays in Celebration of Richard M. Frank* (Leuven, Belgium: Peeters, 2006), 371–424.

43. George Saliba, “The Ash‘arites and the Science of the Stars” in Richard G. Hovannisian and George Sabagh (eds.), *Religion and Culture in Medieval*

The *Tahāfut* marked the rise of the new philosophical *kalām* (*kalām jadīd*), which was characterized by an aggressive, self-confident, thoroughgoing polemic against Avicennan *falsafa* on the latter's own conceptual, methodological, analytical, and logical terms, a polemic which ended with the former taking over as its own much of the ground covered by the latter.⁴⁴ By the time al-Ghazālī passed away, logic (*manṭiq*) had been naturalized as a conceptual tool for *kalām* and *fiqh*. Moreover, by the time of al-Rāzī and his successors, logic was well on its way to becoming a self-contained Islamic discipline in its own right,⁴⁵ while the subject matter of *falsafa* was as a whole thoroughly integrated into the new *kalām*. As Elder puts it, "New proofs were forthcoming which made use of the physics, metaphysics and mathematics of the philosophers."⁴⁶ Similarly, Nicholas Heer says:

In the wake of al-Ghazzālī there eventually came to be an increasingly close bond between logic and theological study. The theologian must be able to assess the weight of contending views, distinguishes the demonstrative (*ṣaḥīḥī*) from the dialectic (*jadālī*), the merely persuasive (*iqnā'ī*), the sophistic (*mughālaṭī*), and the poetic (*shī'rī*). Thus logic increasingly came to be accepted as an essential instrument for theology as well as other branches of knowledge.⁴⁷

In recognition of the pivotal roles of al-Ghazālī and al-Rāzī in the rise

Islam (Cambridge: Cambridge University Press, 1999), 79–92, at 90. For an interesting, nuanced discussion comparing the contending views of Hoodbhoy and Saliba, see Arun Bala, "Did Medieval Islamic Theology Subvert Science?" in George Gheverghese Joseph and Burjor Avari, *Knowledge and Cultures: Crossing Boundaries in History* (Manchester: Manchester Metropolitan University, 2009).

44. Al-Ghazālī, *The Incoherence of the Philosophers*, trans. Michael Marmura (Provo: Brigham Young University Press, 2000), xv–xvi; Binyamin Abrahamov, "Ibn Sīnā's Influence on al-Ghazālī's Non-Philosophical Works," *Abr-Nahrain* 29 (1991): 1–17; Jules Janssens, "Al-Ghazzālī's *Tahāfut*: Is It Really a Rejection of Ibn Sīnā's Philosophy?" *Journal of Islamic Studies* 12, no. 1 (2001): 1–17.
45. Nicholas Rescher, *The Development of Arabic Logic* (Pittsburgh: University of Pittsburgh Press, 1964), 51–54 and 57ff. See also Farid Shahran, "Fakhr al-Dīn al-Rāzī's Logic: An Edition of his *Mulakkhkhaṣ fī al-Ḥikmah wa al-Manṭiq* (Section on *Taṣawwūrāt* and *al-Ḥadd*)" (MA thesis, International Institute of Islamic Thought and Civilization (ISTAC), 1999), 1–22.
46. Earl Edgar Elder (trans.), *A Commentary on the Creed of Islam: Sa'd al-Dīn al-Taftāzānī on the Creed of Najm al-Dīn al-Nasafī* (New York: Columbia University Press, 1950), xvi.
47. Rescher, *Development of Arabic Logic*, 51. See also his *Studies in the History of Arabic Logic* (Pittsburgh: University of Pittsburgh Press, 1963).

and establishment of the new *kalām*, Ibn Khaldūn says: “The first [scholar] to write in accordance with the [new] theological approach was al-Ghazālī. He was followed by the Imām ibn al-Khaṭīb (i.e., Fakhr al-Dīn al-Rāzī). A large number of scholars followed in their steps and adhered to their tradition.”⁴⁸

Eventually, through the intellectual example and influence of al-Ghazālī and then al-Rāzī, the originally threatening Hellenistic background faded into oblivion and *falsafa* was gradually Islamized until it became totally transformed into a “naturalized” Islamic science—in the form of *ḥikma ishraqiyya* (which can be read as metaphysical Sufism) at the hands of al-Suhrawardī (549–587/1154–1191) and his successors,⁴⁹ in the form of *manṭiq* and philosophical *kalām* at the hands of al-Rāzī and his successors,⁵⁰ and leading eventually to the profound Sufi metaphysical synthesis of the contending *falsafa* and *kalām* perspectives in al-Jāmī’s *al-Durra al-Fākhira*.⁵¹

Indeed, there would always be influential detractors, including

48. Ibn Khaldūn, *Muqaddimah*, 3:43.

49. Mehdi Amin Razavi, *Suhrawardī and the School of Illumination* (Surrey: Curzon Press, 1997); also Ian Richard Netton, *Allāh Transcendent: Studies in the Structure and Semiotics of Islamic Philosophy, Theology and Cosmology* (London: Routledge, 1989), 256ff. Cf. Bilal Kuspinar, *Isma‘il Ankaravī on the Illuminative Philosophy: His İzāhı’l-Ḥikem: Its Edition and Analysis in Comparison with Dawwānī’s Shawākil al-Ḥūr, Together with the Translation of Suhrawardī’s Hayākil al-Nūr* (Kuala Lumpur: ISTAC, 1996).

50. From Sayf al-Dīn al-Āmidī (d. 631/1234) to al-Bayḍāwī, al-Ījī, al-Taftazānī, and al-Jurjānī (d. 1413 CE). For al-Āmidī, see Syamsuddin Arif, “Al-Āmidī’s Reception of Ibn Sīnā: Reading *al-Nūr al-Bāhir fī al-Ḥikam al-Zawāhir*” in Langermann, *Avicenna and His Legacy*, 205–217. For al-Bayḍāwī, see Edwin E. Calverly and James W. Pollock (trans. and eds.), *Nature, Man and God in Medieval Islam: ‘Abd Allah Baydawi’s Text Tawālī’ al-Anwar min Matalī’ al-Anzar, along with Mahmud Isfahani’s Commentary Matalī’ al-Anzar Sharh Tawālī’ al-Anwar*, 3 vols. (Brill: Leiden, 2002). See also Shlomo Pines, “Some Problems of Islamic Philosophy,” *Islamic Culture* (January 1937): 66–80 (at 68–69, 80). The reading of *kalām* as philosophical is reflected in the title and substance of the monumental work by Harry Austryn Wolfson, *The Philosophy of the Kalām* (Cambridge, MA: Harvard University Press, 1976). Though useful and thoroughly informative, it is unfortunately marred by a too-hasty tendency to hunt for parallels (and hence sources) in classical, hellenistic and patristic theological thought and concepts. A compelling reaction to this is Richard M. Frank, who, in his presidential address “Hearing and Saying What was Said,” commented “the highly nuanced language of the classical *kalām* was developed in an ongoing process of autonomous discourse in Arabic.” *Journal of American Oriental Society (JAOS)* 116, no. 4 (1996): 615.

51. Heer, *Precious Pearl*. Cf. al-Attas, *Commentary on the Ḥujjat al-Ṣiddiq*.

Ibn Taymiyya, al-Suyūṭī⁵² (d. 1505 CE), and Tāj al-Dīn al-Subkī (d. 771/1370), the latter of whom, though supportive of *kalām*, voiced his misgivings over what he perceived to be some of *kalām jadīd*'s excesses.⁵³ Essentially, however, *falsafa* in the guise of *kalām*, and *manṭiq* as a conceptual tool, became thoroughly Islamized and firmly entrenched in mainstream traditional Islamic education from the Maghrib⁵⁴ to the Malay Archipelago.⁵⁵ It is against this general intellectual historical background that one must situate and evaluate the significance of the impact of al-Ghazālī and al-Rāzī and their works on the process of the Islamization of the intellectual and empirical sciences.

4. The Ghazālīan-Fakhrurāzīan Investigative (*Tabayyuni*) Approach and Its Historical Impact

The works of al-Ghazālī and al-Fakhr al-Rāzī marked a historic turning point in the long “movement of thought”⁵⁶ in the Sunni *kalām* engagement with Hellenistic philosophy and science from al-Ash‘arī, al-Māturīdī (d. 944 CE), al-Bāqillānī, al-Juwaynī, al-Nasafī, al-Rāzī, al-Shahrastānī (d. 1153 CE) through al-Āmidī (d. 1233 CE), al-Bayḍāwī, al-Ījī (d. 1355 CE),

52. Jalāl al-Dīn al-Suyūṭī, *Ṣawn al-Manṭiq wal-Kalām ‘an Fann al-Manṭiq wal-Kalām*, bound in one volume with his abridgement of Taqī al-Dīn ibn Taymiyya, *Nasīḥat Ahl al-Īmān fī Radd ‘alā Manṭiq al-Yūnān*, ed. ‘Alī Sāmī al-Nashshār (Cairo, 1947).

53. Tāj al-Dīn al-Subkī, *Mu‘id al-Ni‘am*, 79–80, cited in Keller “*Kalam* and Islam,” 22 and 27 n. 2 (italics mine). However, for a sensitive, nuanced treatment, see Talal al-Azem, “Traditionalism against Scholasticism: The Debate over Curriculum in Damascus between 1150–1350” (MA thesis, University of Oxford, 2007), where he notes (p. 38), *inter alia*, that al-Subkī’s “*Jam‘ al-Jawāmī*” is viewed as a milestone in scholastic jurisprudence (*uṣūl al-fiqh ‘ala tariqat al-mutakallimīn*), and was studied by Shafī‘ites, Malikites, and even Ḥanbalites across the Muslim world, as it continues to be in traditional seminaries even today.”

54. For the case of the Maghrib, the educational role of Abū ‘Abd Allāh al-Sanūsī (d. 1490) and his *Umm al-Barāhīn* is significant; see article on him in *EI2* by H. Bencheneb, s.v. “al-Sanūsī,” with copious references.

55. For the case of the Malay Archipelago, see, for instance, al-Attas, *Oldest Known Malay Manuscript*, 1–52 passim. For the reception of the *Umm al-Barāhīn* in the Malay-Islamic world, see Che Razi Jusoh, “Al-Sanūsī’s *Umm al-Barāhīn* in its Malay Exposition: with an Annotated Transliteration and Translation of the Malay Text” (MA thesis, ISTAC, 2000).

56. A.I. Sabra, “Science and Philosophy in Medieval Islamic Theology: the Evidence of the Fourteenth Century,” *Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften* 9 (1994): 1–42 (at p. 23); see also his “*Kalām Atomism as an Alternative to Hellenizing Falsafa*,” in Montgomery, *Arabic Theology*, 199–272.

al-Taftāzānī (d. 1390 CE) and al-Jurjānī (d. 1413 CE). This “movement of thought” integrated theological, philosophical, and scientific themes, and resulted in the resurgent full-fledged philosophical *kalām* (the *kalām jadīd* or “new dialectics”) alluded to above, characterized by an unapologetic self-confident “investigative” reelucidation of traditional Islamic beliefs (*naqliyyāt*) on rational principles (*mabādī* ‘*aqliyya*).

As Sabra sees it, “*kalām* was an argumentative approach to religion which sought, through discussion and discursive thought, to interpret and transform the content of the Islamic revelation into a rationally-based doctrine,”⁵⁷ and as such, it was a “genuine form of knowledge” that was essentially neither apologetic nor polemical:

The *mutakallimūn* in particular made it their business to meet the *falāsifa* on their own ground, not however by merely arguing against their opponent’s views, but by being able to produce a distinct body of thought that proved powerful and elaborate enough to function as a substitute for *falsafa*.⁵⁸

In short, the *kalām* approach is one of *both* negative and positive critique. Sabra applies this characterization to both Mu‘tazilite and Ash‘arite *kalām*,⁵⁹ and in this regard, one finds ready support for him in Richard M. Frank⁶⁰ and in the important, yet-unpublished doctoral dissertation of Muhammad Afifi al-Akiti.⁶¹ Al-Akiti notes that within a century of al-Ghazālī’s thoroughgoing “disassembling,” and “reassembling” of *falsafa*,

The Eastern Islamic world saw the emergence of a new kind of religious scholar: the madrasah-trained, orthodox Sunni who was an Ash‘arī theologian as well as a Shāfi‘ī jurist. These scholars included Fakhr al-Dīn al-Rāzī, Sayf al-Dīn al-Āmidī (d. 631/1234) and ‘Abd al-Laṭīf al-Baghdādī (d. 629/1231–32)—all of whom were well-versed in the *ilāhiyyāt* and in the rest of the theoretical sciences of the medieval tradition of *falsafa*,

57. Sabra, “Science and Philosophy,” 11.

58. *Ibid.*, 23 n. 24.

59. See also Sabra, “Simple Ontology”; and *idem*, “*Kalām* Atomism,” 199–272.

60. Sabra, “Science and Philosophy,” 11; Frank, “Science of *Kalām*”; *cf.* *idem*, “The *Kalām*, an Art of Contradiction-Making or Theological Science?: Some Remarks on the Question,” review article in *JAOS* 88 (1968): 295–309.

61. “The *Maḍnūn* of al-Ghazālī: A Critical Edition of the Unpublished Major *Maḍnūn* with Discussion of his Restricted, Philosophical Corpus” (PhD diss., University of Oxford, 2008); see also *idem*, “The Good, the Bad, and the Ugly of *Falsafa*: Al-Ghazālī’s *Maḍnūn*, *Tahāfut*, and *Maqāṣid*, with Particular Attention to their Falsafi Treatments of God’s Knowledge of Temporal Events” in Langermann, *Avicenna and His Legacy*, 51–100.

including ontology, cosmology, and psychology. Unlike their founding father [i.e., al-Ghazālī], who could only philosophize behind closed doors to a restricted audience, they were able to publish their *ilāhiyyāt* and *falsafī* works in the full light of day.⁶²

We may continue to quote at some length some of al-Akiti's multifaceted conclusions on the net harvest of al-Ghazālī's engagement with *falsafa*:

The arguments of these three works—the *Maḍnūn*, the *Tahāfut*, and the *Maqāṣid*—are mainly presented at the highest scholarly level, that of *burhān*, a style of exposition which is itself a result of al-Ghazālī's engagements with the *falāsifa*. For al-Ghazālī, *burhān*—but not *kalam*—is what he considered to be scientific knowledge, the 'gold standard' in the art of reasoning—a judgment expounded in his *Mi'yār al-ʿilm*. This standard is higher than what was offered in the tradition from which he emerged and the traditional proofs which he rehearses (or should we say 'preserves') in the *Iqtisād*...

Al-Ghazālī made the art of *burhān* acceptable in the *Weltanschauung* of Islam's religious scholars. In time, that allowed Aristotelianizing theologians to emerge in the traditional Muslim Ashʿarite school, men such as Fakhr al-Dīn al-Rāzī (d. 606/1209–10)—a *doctor subtilis* in his own right. Indeed, al-Ghazālī was the first among this new breed of scholastic theologians: a committed rationalist of the Aristotelian sort, yet equally a spokesperson for the Sunni, orthodox tradition (and also, of course, a strong advocate of Sufism).

However, the earlier disputes between Arabic grammar and Greek logic—best exemplified in the famous debate between Abū Saʿīd al-Sirāfī (d. 368/979) and Abū Bishr Mattā (d. 328/940) over the legitimacy of Aristotelian logic—still loomed large in the memories of many in the community of religious scholarship to which al-Ghazālī belonged. Yet al-Ghazālī did what the eminent grammarian Ibn al-Sarrāj was unable to do, which was, in effect, to resolve the quarrels between those two sides and, indeed, marry them off.⁶³

5. The Investigative (*Tabayyunī*)⁶⁴ Nature of Dialectical Theology

62. Al-Akiti, "The Good, the Bad, and the Ugly," 94–95 (interpolations added).

63. Ibid., 91. Cf. Frank Griffel, *Al-Ghazali's Philosophical Theology* (Oxford: Oxford University Press, 2009).

64. In allusion to the verse "if a vicious person brings any news, try to get at the facts" (*in jāʾakum fāsiqun bi nabaʾin fatabayyanū*) (*al-Hujurat*: 6, as trans. Thomas Cleary, *The Qurʾan, A New Translation* [Chicago: Starlatch, 2004], 255).

“Investigation” or “research” is the key word in *al-Ḥaṭḥ al-ʿalā al-Baḥṭh* (*The Encouragement to Investigation*), the title given by the great al-Ashʿarī himself to his work encouraging the study of *kalām* or rationalistic theology.⁶⁵ This rigorous intellectual work of investigation and research toward objective truth by engaging the sciences of the day became the governing scholarly ethos of subsequent *mutakallimīn*. Hence, we may say that, in this regard, al-Ghazālī was preceded by al-Ashʿarī, and, perhaps, took his cue from him.

According to Marmura, al-Ghazālī's *Tahāfut al-Falāsifa* (“Incoherence of the Philosophers”) was third in an integral, investigative series of four works in which he expounded on the rational methodology of the philosophers (in *Miʿyār al-ʿIlm*, “The Gauge of Knowledge”), summarized their cognitive objectives (in *Maqāṣid al-Falāsifa*, “The Objectives of the Philosophers”), exposed the internal inconsistencies of their philosophical belief system (in *Tahāfut al-Falāsifa*), and finally expounded the true beliefs of Islam as he understood them (in *al-Iqtisād fī al-ʿItiqād*, “The Golden Mean of Belief”). Al-Akī's detailed study of al-Ghazālī's *Maḍnūn* corpus further reinforces this notion of “scientific investigation”—“scientific” due to its inherently cognitive, constructive, and positive nature, rather than merely dialectical, argumentative, reactive, and apologetic. As Langermann puts it in his excellent summary of al-Akī's ample study:

Afī al-Akī detects, uncovers, and displays three levels of writing in al-Ghazālī's approach to *falsafa* (Hellenistic philosophy), particularly as formulated for the Muslim public by Ibn Sīnā. He presents this philosophy as ugly in his *Maqāṣid* (Intentions of the Philosophers): it appears ugly because he includes without comment teachings that are clearly unacceptable. However, in his *Tahāfut* (Incoherence of the Philosophers), this same philosophy is presented as merely bad: specific faults are identified and criticized. Finally, in the corpus of texts known as the *Maḍnūn* (restricted), philosophy is seen to be good; sound philosophical doctrines are exploited in order to formulate key Muslim beliefs... Al-Ghazālī's project allows him to present a coherent explanation of the world, expressed in traditional terms, whose rationale derives from Avicennan science and philosophy; but he is also able to articulate the traditional, orthodox faith in philosophical terms. The differences in presentation between the good, the bad, and the ugly often amount, as al-Akī amply demonstrates, to nothing more than the addition or excision of a single word or phrase. In doing so, al-Ghazālī puts into practice a dictum attributed to ʿAlī, the Prophet's nephew, which states

65. Richard M. Frank (trans. and ed.), “al-Ashʿarī's *Kitāb al-Ḥaṭḥ al-ʿalā al-Baḥṭh*,” *Mélanges de l'Institut Dominicain d'Études Orientales du Caire* 18 (1988): 83–152; cf. Alnoor Dhanani, *The Physical Theory of Kalām* (Leiden: Brill, 1994), 2–3, for *kalām* as a “research program.”

that the true and the false can be very similar indeed, just like the venom of a snake so closely resembles its antidote.⁶⁶

Similarly, al-Fahkr al-Rāzī's early work critically engaging Avicennan thought was entitled *al-Mabāḥith al-Mashriqiyya* (*The Eastern Investigations*). The *Mabāḥith* was already at this early stage of his scholarly career a work very critical of Avicennan philosophy, somewhat in the spirit of Abū al-Barakāt's *Kitāb al-Mu'tabar*, or, as some have asserted, even in the spirit of al-Ghazālī's *Tahāfut*.⁶⁷ It cannot be said that he started out as a straight-forward peripatetic philosopher and ended up eventually a straightforward Ash'arite *mutakallim*. Rather, his intellectual journey was highly nuanced from the beginning through the end, as indicated by the title of his last philosophical *kalām* work, *al-Maṭālib al-Āliya* ("The Lofty Researches").⁶⁸

Although the century after al-Ghazālī witnessed some notable *mutakallimūn* such as al-Nasafī and al-Shahrastānī,⁶⁹ al-Rāzī is clearly the first post-Ghazālīan *mutakallim* who brought to comprehensive realization the intellectual project of close and comprehensive critical engagement with Greek philosophy initiated by al-Ghazālī in his *Maqāṣid al-Falāsifa* and *Tahāfut al-Falāsifa*. While al-Ghazālī succeeded in integrating Aristotelian logic into the principles of *kalām* and *fiqh*, al-Rāzī managed to further critically integrate much of the subject matter of Aristotelian metaphysics and physics into his many *kalām* and *falsafa* works, including his great commentary on the Qur'ān, *al-Tafsīr al-Kabīr* ("The Great Exegesis", known as *Mafātīḥ al-Ghayb*, "Keys to the Unseen"). He is noted by Dhanani as the first *mutakallim* to discuss space and time in a comprehensive manner,⁷⁰ and probably the first also to undertake a critical

66. Langermann, "Foreword" in *Avicenna and His Legacy*, viii–ix.

67. Muḥammad 'Āṭif al-'Irāqī, *al-Falsafa al-Ṭabī'iyya 'inda Ibn Sīnā* (Cairo: Dār al-Ma'ārif, 1971), 414; cf. 'Abd al-Raḥmān al-Badawī, *al-Turāth al-Yūnānī fīl-Ḥaḍāra al-Islāmiyya* (Cairo: Dār al-Nahḍa al-'Arabiyya), 270 n. 1; Muḥammad al-'Uraybī, *Muntalaqa al-Fikriyya 'inda al-Imām al-Fakhr al-Rāzī* (Beirut: Dār al-Fikr al-Lubnānī, 1992), 44; and discussion in Ṣāliḥ Zarkān, *Fakhr al-Dīn al-Rāzī wa Arā'uh al-Kalāmīyya wal-Falsafīyya* (Cairo: Dār al-Fikr, 1963), 85ff.

68. For a preliminary study of his physical theory largely based on his *Maṭālib*, see Adi Setia, "The Physical Theory of Fakhr al-Dīn al-Rāzī" (PhD diss., ISTAC, 2005).

69. Among others, he wrote the contra-Avicennan *Kitāb al-Muṣāra'a*, ed. and trans. Wilfred Madelung and Toby Mayer (London: I.B. Tauris, 2001), and a treatise on atomism, for which see Aḥmad Sa'id al-Damardash, "Makhṭūṭat al-Sharastānī 'an al-Jawhar al-Fard" in *Majallat Ma'had al-Makhṭūṭat al-'Arabiyya* 25 (1979): 195–218.

70. Alnoor Dhanani, "Al-Ghazālī's Perspective on Physical Theory," paper

comparative study of atomism and hylomorphism of any comprehensive scope.⁷¹ This versatility is no doubt due in large part to his own intimate, first-hand knowledge of the philosophical and empirical sciences such as logic, physics, medicine, mathematics, and astronomy, in addition to his complete mastery of the traditional Islamic sciences.⁷² Hence, it is hardly surprising that “here Fakhr al-Dīn al-Rāzī was to become al-Ghazālī’s most influential continuator,”⁷³ and perhaps also his “completer.”

According to Marmura, al-Ghazālī’s *Tahāfut* can be interpreted as a response to Ibn Sīnā’s “wide-ranging criticisms of the *kalām*.”⁷⁴ However, in launching his wide-ranging counter-attack, al-Ghazālī could not avoid being persuaded to some extent by the obvious cognitive merits of his adversary⁷⁵—hence his appropriation of some key Avicennan ideas to flesh out his basically Ash‘arite framework.⁷⁶ As al-Ghazālī’s “most influential continuator,” and most probably also “the most outstanding Sunnite figure”⁷⁷ after him, al-Rāzī took up where the former had left off, and intensified the debate with Ibn Sīnā, even while Ibn Rushd, his contemporary in the Islamic far West, was preparing his own counter-*Tahāfut* to criticize both Ibn Sīnā and al-Ghazālī.⁷⁸ Al-Ghazālī’s engagement

presented to the International Conference on al-Ghazālī’s Legacy, ISTAC, Kuala Lumpur, October 24–27, 2001, pp. 6–7.

71. Setia, “Physical Theory.”

72. Zarkān, *Fakhr al-Dīn al-Rāzī*, 37–55.

73. Gerhard Endress, “The Defense of Reason: The Plea for Philosophy in the Religious Community,” *Zeitschrift für Geschichte der Arabisch-Islamischen Wissenschaften* 6 (1990): 1–49, at 37.

74. Michael Marmura, “Avicenna and the *Kalām*,” *ZGAIW* 6 (1990), 173–206, at 206.

75. Abrahamov, “Ibn Sīnā’s Influence on al-Ghazālī”; Janssens, “Al-Ghazzālī’s *Tahāfut*”; Richard M. Frank, “Al-Ghazālī’s Use of Avicenna’s Philosophy,” *Revue des Etudes Islamiques* 55/57 (1987/1989): 271–285.

76. Richard M. Frank’s misgivings notwithstanding; see his *Creation and the Cosmic System: Al-Ghazālī and Avicenna* (Heidelberg: Carl Winter Universitätsverlag, 1992).

77. Fathallah Kholeif (ed. and trans.), *A Study of Fakhr al-Dīn al-Rāzī and His Controversies in Transoxiana* (Beirut: Dar el-Machreq, 1966), 6. Tāj al-Dīn al-Subkī considers him to be the *mujaddid* after al-Ghazālī; see Tāj al-Dīn al-Subkī ‘Abd al-Wahhāb ibn ‘Alī al-Subkī, *Tabaqāt al-Shāfi‘iyya al-Kubrā*, ed. M. Tanahi et al., 5 vols. (Beirut, 1992), I: 202.

78. Simon van den Bergh (trans.), *Averroes’ Tahāfut al-Tahāfut* (London: Luzac, 1978). An aspect of this Ibn Rushd-Ghazālīan debate is well summarized by George F. Hourani, “The Dialogue between al-Ghazālī and the Philosophers on the Origin of the World” in two parts, *Muslim World* 48 (1958).

with *falsafa* was such that he can be said to have succeeded in “kalāmizing” philosophy and, as an unavoidable consequence, “philosophizing” *kalām*, thus integrating (if not “con-fusing”) the two originally disparate intellectual disciplines. Such is the judgment of Ibn Khaldūn, and one cannot but agree with him after even a cursory reading of al-Rāzī’s works.⁷⁹

Given the preceding, it seems that historically the “exciting intellectual combat”⁸⁰ between *falsafa* and *kalām* has always been a dynamic, two-sided affair, with blows and counter-blows actively exchanged and no implications, however nuanced or subtle, left hidden and unexplicated. *Kalām* may have won finally,⁸¹ but as can be surmised from Ibn Khaldūn and Tāj al-Dīn al-Subkī’s remarks, the victory was bittersweet: *kalām* ended up thoroughly imbued with the philosophizing spirit which demands of Muslims that they, as responsible thinking individuals, be self-conscious and self-critical about their beliefs (al-Ghazālī’s [somewhat ambivalent?] *Iljām al-ʿAwāmm* notwithstanding).⁸² Just as the unexamined life was not worth living (as it would be aimless), so it was as if the unexamined faith was not worth keeping (as it could be easily shaken and corrupted by doubts generated by the onslaught of alien ideas).

The long-term intellectual consequences of al-Ghazālī and, after him, al-Rāzī’s wholesale creative “appropriation” of the philosophical sciences into *kalām* discourse was duly, if critically and even reluctantly, appreciated—not only by subsequent Ashʿarite *mutakallimūn* but also by Ḥanbalite theologians such as Ibn Taymiyya,⁸³ the formulators of Shīʿī *kalām* in the Persian East such as al-Ṭūsī (d. 1274),⁸⁴ and the Christian scholastics of the late medieval Latin West.⁸⁵ The intellectual impact of this

79. Ibn Khaldūn, *Muqaddima*, 3:43.

80. Hourani, “Dialogue,” 183.

81. Interestingly Hourani (“Dialogue,” p. 191) judges Ibn Rushd argumentative performance to be “disappointing,” as has van den Bergh (*Averroes*, 20 and 23 n. 1).

82. Al-Ghazālī, *Iljām al-ʿawāmm ʿan ʿilm al-kalām*, trans. Abdullah bin Hamid Ali as *A Return to Purity in Creed* (Philadelphia: Lamppost, 2008).

83. See, for instance, Hoover, “Perpetual Creativity,” 287–329.

84. Seyyed Hossein Nasr, “Fakhr al-Dīn al-Rāzī” in *A History of Muslim Philosophy*, ed. M.M. Sharif, 2 vols. (Delhi: D.K. Publications), 1: 642–656 (at 646). Cf. editor’s introduction to al-Rāzī’s *al-Maṭālīb al-ʿĀliya*, ed. Aḥmad Ḥijāzī al-Saqqā, 9 vols. in 5 (Beirut: Dār al-Kitāb al-ʿArabī, 1987), vol. 8–9: 12ff. Naṣīr al-Dīn al-Ṭūsī can be said to be the pivotal figure who helped Avicennan philosophy recover somewhat from the Fakhrurāzian onslaught. See also Hans Daiber, “Al-Ṭūsī, Naṣīr al-Dīn,” in *EI2*.

85. Pines, “Some Problems,” 68 n. 2; cf. Hans Daiber, unpublished ISTAC lectures, parts 5 and 6 with copious invaluable references.

new *kalām* as manifested two centuries later in al-Ījī's *al-Mawāqif* and its commentary by al-Jurjānī⁸⁶ was also felt by medieval Jewish thinkers⁸⁷ and the thinkers, philosophers, and scientists of the European Renaissance and Enlightenment, who shared with the *mutakallimūn* "a determined rejection of Aristotelianism and a preference for experimentation with various forms of atomism, as well as the belief in an omnipotent and free creator."⁸⁸

One may also add that the new *kalām* also impacted early modern European explorations of various forms of occasionalism and their epistemological, cosmological, and theological implications.⁸⁹ Modern-day Christian creationist theologians and philosophers have also not failed to notice the Ghazālian-Fakhrurāzian intellectual historical link in the further development of the *kalām* cosmological argument and its fine-tuning in modern physical, philosophical, and mathematical terms.⁹⁰

86. 'Aḥmad al-Dīn 'Abd al-Rahmān ibn Aḥmad al-Ījī, *Kitāb al-Mawāqif fī 'ilm al-kalām*, ed. Ibrāhīm al-Dustūqī 'Atiyya and Aḥmad al-Ḥanbulī (Cairo: Matba'at al-'Ulūm); al-Sayyid al-Sharīf 'Alī ibn Muḥammad al-Jurjānī, *Sharḥ al-Mawāqif fī 'ilm al-kalām* (Beirut: Dār al-Jil, 1997).

87. For instance, Maimonides, *Guide of the Perplexed*, trans. Shlomo Pines, 2 vols. (Chicago: University of Chicago Press, 1963), 1: 179ff. Pines notes that al-Rāzī's *al-Mabāḥiṭh al-mashriqiyya* was already translated into Hebrew in the fourteenth century and used as a basis for the Hebrew version of al-Ghazālī's *al-Maqāsid al-falāsifa*. See his *Studies in Islamic Atomism*, trans. Michael Schwarz and ed. Tzvi Langermann (Jerusalem: Magnes Press, 1997), 97 n. 152. On the influence of the *Maqāsid* and the *Tahāfut* on medieval Jewish thinkers, see Steven Harvey, "Avicenna's Influence on Jewish Thought" in Langermann, *Avicenna and His Legacy*, 338–339. Cf. Harry Austryn Wolfson, *Repercussions of the Kalam in Jewish Philosophy* (Cambridge, MA: Harvard University Press, 1979).

88. Sabra, "Science and Philosophy," 52. A separate, detailed inquiry is obviously needed regarding late *kalām* influence on the metaphysical foundations of early modern science.

89. On early modern European atomism and occasionalism in relation to *kalām* atomism, see John Lane Bell, *The Continuous and the Infinitesimal in Mathematics and Philosophy* (Milan: Polimetria, 2006), especially Chapter 1, "The Continuous and the Discrete in Ancient Greece, the Orient, and the European Middle Ages," 21–62; James Fredrick Naify, "Arabic and European Occasionalism: A Comparison of al-Ghazali's Occasionalism and Its Critique by Averroes with Malebranche's Occasionalism and Its Criticisms in the Cartesian Tradition" (PhD diss., University of California—San Diego, 1975); Majid Fakhry, *Islamic Occasionalism and its Critique by Averroes and Aquinas* (London: George Allen & Unwin, 1958); and Stuart Brown (ed.), *Nicolas Malebranche: His Philosophical Critics and Successors* (Assen/Maastricht: Van Gorcum, 1991), 4–9, 81–93, and 116–130.

90. For the *kalām* cosmological argument in Christian creationist thought,

6. *Kalām Jadid* and Contemporary Concerns

The broad argument structuring this schematic sketch of the intellectual historical impact and relevance of the new *kalām* seeks to interest thinking Muslims today who are deeply concerned about how to intelligently and effectively engage secular modernity and its intellectually seductive language of discourse. Muslim appreciation of the rich Islamic intellectual heritage is only undermined by the prevailing negative attitude, implicit or explicit, amongst many Muslim academicians, educationists, and intellectuals, toward the contemporary relevance of the seemingly “abstruse” and “error-prone” traditional Islamic philosophies and sciences of those long bygone and forgotten centuries. Quite to the contrary, Hans Daiber asserts that “Islamic philosophy exercises the mind and *trains it to grasp structures and methods revealed through the passage of time. Its comprehension represents a constant challenge to the powers of human understanding and its creative force, the imagination.”⁹¹ If Muslims fail to exert themselves to study and appreciate the achievement of their rich and varied intellectual history, they will thereby fail to comprehend the predicament of their present moment, and in turn fail to take positive action for their future revival as a constructive civilization force for the common good in the postmodern, post-industrial, and post-development world. Intelligent, thinking, reflective, self-conscious Muslims should read their rich classical past as a beacon for the present toward the future: for the past has not really “passed” away into eternal oblivion but is perpetually present as a living tradition from which insights (*tabṣīra*) and lessons (*‘ibra*) can be drawn to overcome the internal and external challenges and crises of the age: *indeed, in their histories is a lesson for a people possessing heart-felt reflection* (Yūsuf: 111).

It has been said by not a few observers that in sheer intellectual range, al-Ghazālī and al-Rāzī stood alone, and the issues they raised and the difficulties they faced gave their thought a character that in many places addresses concerns that we find to be modern and perennial.⁹² A case in point is al-Ghazālī’s overriding concern in the first book of his magnum opus, *Ihyā’ ‘Ulūm al-Dīn*, entitled *Kitāb al-‘Ilm* (*The Book of Knowledge*), and in his introduction to the *Tahāfut*. He argues there against conflating the *form* of knowledge with its *substance* and *content*, for differentiating between true

see the excellent exposition by William L. Craig, *The Kalām Cosmological Argument* (Eugene, OR: Wipf and Stock, 2000).

91. Daiber, “What is the Meaning,” xxxiii.

92. Peter G. Ridell and Tony Street (eds.), *Islam: Essays on Scripture, Thought and Society, a Festschrift in Honour of Anthony H. Johns* (Leiden: Brill, 1997), 11 (paraphrased: said in regard to the *Maḥātib*, but applying just as well to many other major works of al-Rāzī, especially the *Maḥātib*).

and pseudo-sciences, as well as differentiating between beneficial and harmful sciences. These concerns resonate well with current debates in both East and West about the form, substance, methods, and objectives of modern religious and secular education.⁹³ The revival of his and al-Rāzī's intellectual *jihād* in the postmodern dissipative and nihilistic age may well result in the realization of a contemporary, distinctively Islamic counter-science (or counter-system of knowledge and "counter-academia"; see below), "powerful and elaborate enough" to replace a modern, exploitative Western science and civilization that is now speeding headlong into its twilight, "death-bound"⁹⁴ phase.⁹⁵

But what about al-Ghazālī's *Iljām al-ʿawāmm ʿan ʿilm al-kalām*, which seems to bar Muslims in general from indulging in discursive philosophy and dialectical theology, and by implication, proscribe the very kind of close critical engagement with the philosophical and scientific bases of secular modernity here called for? The answer lies in the very title of al-Ghazālī's work, entitled "Barring the (Unlearned) Laity"—not "Barring the (Intellectual) Elite" (*Iljām al-khawāṣṣ*)—a distinction that requires some definition of the laity from the elite. In this age of institutionalized mass public education and electronic mass media—in which the West has become something akin to a disembodied megamachine long cut loose from its original master, a kind of turbo-charged techno-Frankenstein run amok on the world stage⁹⁶—an age when the

93. A good, wide-ranging discussion is Wan Mohd Nor Wan Daud, *The Educational Philosophy and Practice of Syed Muhammad Naquib al-Attas* (Kuala Lumpur, ISTAC, 1998); see also his "Dewesternization and Islamization: Their Epistemic Framework and Final Purpose," paper presented at the International Conference on Islamic University Education in Russia and Its Surrounding Areas, held in Kazan, Tatarstan, Russia, on September 27-30, 2009, published in Noritah Omar, Washima Che Dan, et al. (eds.), *Critical Perspectives on Literature and Culture in the New World Order* (Newcastle: Cambridge Scholars Publishing, 2010), 2–25.

94. Ulrich Duchrow, "Why Capitalism is Death-bound and How People can Opt for Life: A Theological Proposal to Economists," accessible at <http://www.peaceforlife.org/resources/liferesources/2011/11-0325-duchrow-capitalismdeathlife.html>.

95. John Horgan, *The End of Science: Facing the Limits of Knowledge in the Twilight of the Scientific Age* (New York: Addison-Wesley, 1996); James Howard Kunstler, *The Long Emergency: Surviving the End of Oil, Climate Change, and Other Converging Catastrophes of the Twenty-First Century* (New York: Grove Press, 2006); Michael C. Ruppert, *Confronting Collapse: The Crisis of Energy and Money in a Post Peak Oil World* (White River Junction, VT: Chelsea Green Publishing, 2009); and other similar works.

96. Serge Latouche talks about the West's "invention of the megamachine"

West and the East are intermingling in every nook and cranny, strange sciences and stranger ideas that were once only accessible to the relatively few dedicated intellectual *khawāṣṣ* (elite) are now required standard readings for high school students and university undergraduates who may not know why they should be in school in the first place. In an age when the laity are compelled in one way or another, directly or indirectly, to enter the educated and informed elite, it is difficult to find anyone, farmer or professor, for whom a good dose of the Ghazālīan *Tahāfuti kalām*—reexpressed of course in modern idiom—will not be a real remedy for recovering and preserving the health and wholesomeness of their minds and souls.

7. *Kalām Jadid* and the Islamization of *Falsafa*

Hellenizing *falsafa* was in the beginning a largely autonomous (i.e., from traditional orthodoxy), comprehensive conceptual system for relating the absolute to the relative, the transcendent to the contingent, in metaphysical, physical, and mathematical terms by using its own Hellenistic conceptual categories and logico-rational methodology. Moreover, many intelligent Muslims were drawn into that rich universe of intellectual discourse, either directly through studying the philosophical works of al-Fārābī and Ibn Sīnā or indirectly through cultivating the empirical and mathematical sciences generated by that philosophy. That in itself was not a threat to traditional Islamic orthodoxy as represented by the *fuqahā'* and *muḥaddithīn*. But when it became increasingly clear to the defenders of orthodoxy that the language used by *falsafa* to describe the relation between God and the world was compromising the foundational Qur'ānic doctrines of divine omnipotence and omniscience and the absolute dependence of the world on God (*iftiqār al-khalq ilā al-khālīq*), or even effectively denying it altogether, then orthodoxy had no choice but to step in forcefully and decisively for a close engagement with the philosophical truth-claims that seemed to pose a direct challenge to the Sunni theological consensus established by the Ash'arī-Māturīdī-Ṭahawī school. The situation was akin to the predicament faced by Frodo, as it were, who, in order to destroy the Ring of Power, had to bring it out of his home in the Shire and venture far away with it into the infernal depths of Mordor where the Shadow lies.⁹⁷

which uproots and destroys traditional culture. See *Eurocontinentalism Journal* (May 2012), <http://eurocontinentalism.com/tag/common-decency/>; see also his *The Westernization of the World*, 45–46, on how the West is like a machine. Cf. Jacques Ellul, *The Technological Society* (New York: Vintage Books, 1967), especially 133–148 on the “autonomy of technique.”

97. See Stratford Caldecott, *The Power of the Ring: The Spiritual Vision Behind the Lord of the Rings* (Crossroad Publishing, 2005); cf. the Muslim perspective on it by Mahmoud Shelton, *Alchemy in Middle Earth: The Significance of J R*

This long process of close engagement culminated in al-Ghazālī and al-Rāzī, who decided to neutralize the intellectual-theological threat posed by the autonomous status of *falsafa*: not only by refuting some its truth claims (*negative critique*) but also by critically and systemically bringing that whole intellectual edifice within the creedal ambit of traditional orthodoxy (*positive critique*). Henceforth all Muslims, regardless of their particular intellectual inclinations with respect to the traditional and intellectual sciences, would discourse within the ethico-cognitive parameters of the worldview of divine revelation and prophetic tradition.

The Ghazālīan-Fakhrur-Rāzian encounter with *falsafa* can thus be summarized in three words: *engagement, neutralization, appropriation*—in effect, a systemic and *programmatic* Islamization of *falsafa* and all the logical, empirical, and mathematical sciences that were generated from it. In short, *kalām jadīd* was a long-term theologico-philosophico-scientific research program that served its purpose wonderfully in the classical age of Islam. My thesis here is that this research program needs to be vigorously revived and applied to current intellectual challenges, for this is the very “Jihad of the Word” and positive action which the great *mujaddid*/renewer of our age, Bediuzzaman Saʿīd Nursi, calls us to undertake.⁹⁸ There is a real need for Muslim ‘*ulamā*’, intellectuals, researchers, and scientists of today’s age to learn afresh from that rich intellectual historical experience and thereby revive that research program in contemporary terms within a context of close, critical, and self-confident engagement with all aspects of Western science and philosophy now being imbibed by Muslims through their participation in modern academia.⁹⁹

8. “*Kalām of the Age*” (*Kalām al-ʿAṣr*) and the Worldview of Islam

The intellectual challenges to tradition¹⁰⁰ faced and overcome by al-Ghazālī and al-Rāzī close to a thousand years ago have resurfaced in a new form and idiom, in the guise of the modern, secular, Western sciences and philosophies systematically imparted to Muslims in modern mainstream

R. Tolkien's The Lord of the Rings (Temple of Justice Books, 2003).

98. Nursi, *Jihad of the Word and Positive Action: Bediuzzaman Said Nursi's Interpretation of Jihad in the Modern Age* (Istanbul: Sozler, n.d.).

99. Adi Setia, “The Theologico-Scientific Research Program of the *Mutakallimūn*: Intellectual Historical Context and Contemporary Concerns with Special Reference to Fakhr al-Dīn al-Rāzī,” *Islam & Science* 3, no. 2 (Winter 2005): 127–151.

100. Or, scriptural truth as expressed in the Qurʾān and Prophetic Sunnah; for its translation into devotional piety as defining the community, see Christopher Melchert, “The Piety of the Hadith Folk,” in *International Journal of Middle East Studies* 34, no. 3 (August 2002): 425–439.

academia—but with a much more draconian objective, namely, a thoroughgoing disenchantment of the world and the whole of life and existence. Young, intelligent Muslims in their countless millions are unsuspectingly imbuing this secularizing nihilism masquerading as value-free education and knowledge, quite oblivious to its negative cognitive, moral, and actual impact on their belief, practice, and ethics *as Muslims*, in their communities and societies. In the face of this challenge, the relevance and lesson of the Ghazālīan-Fakhrurāzīan encounter with *falsafa* may be encapsulated into what can be called a “*Kalām* of the Age” (*kalām al-‘aṣr* or *Dialectics of the Age*) initiative which pertains to a creative revival of that dialectics for coming to terms with the multifarious challenges of modern Western sciences, ideologies, and philosophies and their impact on our religio-cultural traditions, values, and communities. By “coming to terms,” we mean doing so in such a way that serves rather than subverts the “Worldview of Islam,” which al-Attas has defined as follows:

The worldview of Islam is the vision of reality and truth that reveals to the Muslim mind what existence is all about. It is a metaphysical survey of the visible as well as the invisible worlds, including the perspective of life as a whole. In this holistic perspective of life, the *dunya*-aspect of life is thoroughly integrated into the *akhirah*-aspect of life, and in which the *akhirah*-aspect of life has ultimate and final significance.¹⁰¹

My tone in the following pages will be deliberately personal and directed primarily to a Muslim audience comprised of those who know and care for their Worldview, i.e., the Worldview of Islam,¹⁰² and desire to see it operative in both the private and public domains of life through a proactive, constructive engagement with the dominant modern Western secular worldview—a worldview with which many major Western thinkers, authors, and activists are themselves becoming increasingly disillusioned, as evidenced in the current conceptual and practical experiments with many diverse strands of postmodernism and various “post-isms.”¹⁰³

101. *Prolegomena*, 1–5 passim (abridged and slightly paraphrased).

102. Comprehensively defined and elaborated by al-Attas in his *Prolegomena*. This important and profound book can be read as a guide to the Islamic intellectual tradition, as well as a guide to applying that tradition in navigating ourselves safely through the pitfalls of modernity.

103. That is to say, post-developmentalism, post-industrialism, post-colonialism, post-materialism, post-capitalism, post-rationalism, post-scientism, post-democracy, etc. For a small sampling, see Paul Feyerabend, *Farewell to Reason* (London: Verso, 1988); Christian Comelieu, *The Impasse of Modernity: Debating the Future of the Global Market Economy*, trans. Patrick Camiller (London: Zed Books, 2002); R.

The *Kalām* of the Age (*kalām al-‘aṣr*) is the systemic deconstruction of Western sciences and philosophies and their reconstruction from within the epistemic and axiological framework of the Worldview of Islam—by which, along the way, some of those forms of knowledge may be evaluated to be irrelevant while others modified, restructured, appropriated, and redirected to serve the higher axiological purposes of the divine Law (*maqāṣid al-sharī‘a*),¹⁰⁴ that is, to serve the true purpose of our lives as Muslims in this temporal world that is but the seedbed of the next world of eternal life (*al-dunyā mazra‘at al-ākhirā*).

We should not allow our present preoccupation with the current socio-political upheavals in the Muslim world,¹⁰⁵ or intra-Muslim creedal

Vachon, Ashis Nandy, Wolfgang Sachs, and Raimon Pannikar, “The Post-Modern Era: Some Signs and Priorities,” *Interculture* 2, no. 1 (Winter 1996); cf. Gustavo Esteva and Madhu Suri Prakash, *Grassroots Post-Modernism: Beyond Human Rights, the Individual Self, and the Global Economy* (New York: Peter Lang, 1996); Marshall Berman, *All That Is Solid Melts into Air: The Experience of Modernity* (London: Verso, 1983); G.A. Almond, M. Chodorow, and R.H. Pearce, *Progress and Its Discontents* (Berkeley: University of California Press, 1982); James Bernard, *The Death of Progress* (New York: Alfred Knopf, 1973); Trevor Blackwell and Jeremy Seabrook, *The Revolt Against Change: Towards a Conserving Radicalism* (London: Vintage, 1993); Ivan Illich, *Shadow Work* (London: Marion Boyars, 1981), which helps us to reexamine the past 500 years so as to look afresh to the next 500; B. Ashcroft, G. Griffiths, and H. Tiffin, *The Post-Colonial Studies Reader* (London: Routledge, 1995); Gilbert Rist, *The History of Development: From Western Origins to Global Faith*, trans. Patrick Camiller (London and New York: Zed Books and Cape Town: UCT Press, 2000); Majid Rahnema with Victoria Bawtree, *The Post-Development Reader* (London: Zed Books, 2001); Kothari Rajni, *Rethinking Development: In Search of Human Alternatives* (Croton-on-Hudson: Apex Press, 1989); Colin Crouch, *Post-Democracy: Themes for the 21st Century* (Cambridge: Polity Press, 2004); and Daniel M. Warner, “Post-Growthism: From Smart Growth to Sustainable Development,” *Environmental Practice* 8, no. 3 (September 2006).

104. Muḥammad al-Ṭāhir ibn ‘Ashūr, *Treatise on Maqāṣid al-Sharī‘ah*, trans. Mohamed el-Tahir al-Messawi (Petaling Jaya: IBT, 2006); Ahmad al-Raysuni, *Imam al-Shatibi’s Theory of the Higher Objectives and Intents of Islamic Law*, trans. Nancy Roberts (Petaling Jaya: IBT, 2006); Imran Ahsan Khan Nyazee, *Islamic Jurisprudence (Usul al-Fiqh)* (Petaling Jaya: The Other Press, 2003), especially 195–212; and idem, *Theories of Islamic Law: The Methodology of Ijtihād* (Petaling Jaya: The Other Press, 2002), especially 189–268.

105. Ali A. Allawi, *The Crisis of Islamic Civilization* (New Haven: Yale University Press, 2009).

controversies and sectarian strife, or even commendable inter-religious efforts like the “Common Word” initiative¹⁰⁶ to divert us from the great task of drawing creatively from the profound lessons of traditional classical *kalām* to meet head on the underlying, common challenge of the age—the challenge of a subtle and sophisticated secularism, materialism, scientism, and nihilism surreptitiously and systemically imparted into the minds and hearts of Muslim and non-Muslim students, intellectuals, and scholars in modern universities (including those labeling themselves “Islamic universities”). For there is no war between religions but only between religions and the various modern ideologies. Hence we need a Common Word between Religions in order to effectively engage that common enemy. As Keller puts it,

The real challenge to religion today is the mythic power of science to theologize its experimental method, and imply that since it has not discovered God, He must not exist.¹⁰⁷

This call of the “*Kalām* of the Age” is precisely that which al-Akīti invites us to heed in his important article, “The Negotiation of Modernity through Tradition in Contemporary Muslim Intellectual Discourse: The Neo-Ghazalian, Attasian Perspective”¹⁰⁸—but of course we must learn to know how to negotiate to the advantage of religion rather than to its detriment. Modernity poses a common challenge in that it challenges the conscious human responsiveness to Transcendence that is expressed in all traditional religions. Keller himself has alluded to this:

attacks today on religion by scientism should be met by Muslims as Ash‘arī and Māturīdī met the Mu‘tazilites and Jahmites in their times: with a dialectic critique of the premises and conclusions thoroughly grounded in their own terms. The names that come to mind in our day are not Ash‘arī, Baqillani, and Razi, but rather those like Huston Smith in his *Beyond the Post-Modern Mind*, Charles Le Gai Eaton in his *King of the Castle*, Keith Ward in his *God, Chance, and Necessity*, and even non-religious writers like Paul Davies in *The Mind of God*, and John Horgan in his *The End of Science* and *The Undiscovered Mind*. Answering reductionist attacks on religion is a communal obligation, which Muslims can only ignore at their peril. This too is of the legacy

106. See the official website, <http://www.acommonword.com/>.

107. Keller, “*Kalam* and Islam,” 25.

108. In *Knowledge, Language, Thought & the Civilization of Islam: Essays in Honor of Syed Muhammad Naquib al-Atlas*, ed. Wan Mohd Nor Wan Daud and Muhammad Zaini Uthman (Kuala Lumpur: UTM, 2010), 119–134. See also Adi Setia, “Dewesternizing and Islamizing the Sciences: Operationalizing the Neo-Ghazalian, Attasian Vision,” paper presented at the One-Day Colloquium on Islam and Secularism, Kuala Lumpur, Malaysia, 24 July 2010.

of kalam, or the “aptness of words to answer words.”¹⁰⁹

In light of this consideration, understanding the Ghazālīan *Tahāfut* and the Fakhrurāzīan *Maṭālib* and the creative re-articulation of this understanding in contemporary philosophical, dialectical, and scientific terms should be rendered accessible to all who are studying, teaching, or practicing the Western sciences—those who, by the very fact of their involvement or engagement with the modern sciences, cease altogether to be from amongst the *‘awāmm* but become, whether they like it or not, from among the *khawāṣṣ*. In other words, if one is not prepared to be trained and prepared like Frodo, then one has no business venturing into Mordor.

The real intellectual battleground for Muslims in the modern age is the neo-Dahrism¹¹⁰ of the Western sciences many gleefully imbibe, including those students who might even now be learning the *dīn* at the feet of the great living *shuyūkh* of our time in the Muslim regions and the West, nourishing themselves from the wellsprings of tradition. By “gleefully,” I mean the gleeful innocence or naivety of those who do not have a clue as to what they are actually taking in as “education,” “knowledge,” or “skills” in modern, Western-style universities. It is an apt description because by enrolling in modern academia they are rather unlikely to be able to avoid becoming intellectual victims of that grand, elaborate, and tedious charade called science, technology, and economics, the *funūn al-ẓunūn* (multifarious sciences of conjectures)¹¹¹ of the current age.¹¹²

109. Keller, “*Kalam* and Islam,” 26.

110. Lit. “temporalism/temporalists,” referring to the beliefs of the materialists and atheists who believe in the eternity of the physical world and disbelieve in the Hereafter; see the article “Dahriyya” at <http://www.muslimphilosophy.com/ei2/dahriyya.htm>, and its useful references.

111. Allusion to al-Ghazālī’s use of the term at the beginning of his hard-hitting introduction to his *Tahāfut al-Falāsifa*, intro. Ṣalāḥ al-Dīn al-Hawwārī (Beirut: al-Maktaba al-‘Aṣriyya, 2007), 41. Marmura translates it as “multifarious beliefs,” but it can also be more literally rendered as “the multifarious sciences (or varieties) of conjectures,” in which case then al-Ghazālī is rebuking those so enamored of Greek philosophy—which is but sciences based on conjectures rather than certain knowledge—that they have gone so far as to “belittle the devotions and ordinances prescribed by the divine law.” See also Michael Marmura (trans.), *Al-Ghazali: The Incoherence of the Philosophers* (Provo, Utah: Brigham Young University Press, 2000), 1–2.

112. A very recent case in point is the new religious “Ahl al-Sunnah” university launched to great fanfare in Malaysia, while even a cursory perusal of its poorly prepared brochure shows a lack of any coherent exposition as to how its self-proclaimed foundational Sunni theological framework will be made to bear evaluatively on its selection and conduct of academic

O youth, how many nights have you remained awake repeating science and poring over books and have denied yourself sleep. I do not know what the purpose of it was. If it was attaining worldly ends and securing its vanities and acquiring its dignities and surpassing your contemporaries and such like, woe to you and again woe.¹¹³

The great task of these students and scholars is to see through this intellectual charade and then to systemically construct and elaborate a sophisticated counter-intellectual framework or *dialectics* by which the tradition can be brought to bear critically and constructively on these Western sciences, lest they go on allowing their own knowledge of Islamic tradition to be intellectually impotent or seriously compromised and even corrupted¹¹⁴ in the face of a modern, aggressive, arrogant, and even militant neo-Dahrism reinventing itself as “globalization.” The fault then lies not within the tradition as such but within their own minds and hearts for failing to understand the true nature and purpose of knowledge so lucidly expounded in al-Ghazālī’s *Kitāb al-ʿIlm*,¹¹⁵ and to operationalize that understanding today in their encounter with the modern sciences.

None of these concerns about the negative impact of the modern knowledge system are new, for even many of the conscientious thinkers of the West have been making similar indictments—“and they bear witness

programs, the design of curricula, and the choice of academic faculties or departments. Interestingly, one of the papers presented at the launch (by Tim Winter, no less) actually criticized, albeit indirectly, this thoughtless mimicking of conventional western-style educational structure and content; obviously his message was lost on them.

113. al-Ghazālī, *Ayyuha al-Walad*, trans. G.H. Scherer, *O Disciple* (Beirut: American Press, 1932), 57.
114. A case in point is the Islamic Banking and Finance (IBF) industry, which has been thoroughly coopted and corrupted into serving the neoliberal economic agenda, resulting in the reduction of *shariʿa* (Islamic law) to *fiqh* (jurisprudence) and then to *tamwīl* (finance). The best critique of IBF so far is Mahmoud A. El-Gamal, *Islamic Finance: Law, Economics, and Practice* (Cambridge: Cambridge University Press, 2009). There is now a strong groundswell of systematic response amongst *fugahāʾ* and intellectuals against this subversion of sacred law to the service of Mammon; see Adi Setia, “*Muʿāmalah* and the Revival of the Islamic Gift Economy,” *Islam & Science* 9, no. 1 (Summer 2011): 67–88.
115. The first book of his *Ihyāʾ*. See the splendid English translation in Faris, *Book of Knowledge*. Al-Attas’ philosophy of education and the project of the Islamization of contemporary knowledge is inspired to great extent by the *Kitāb al-ʿIlm*; see the excellent study of Wan Daud, *Educational Philosophy and Practice*.

against their own selves.”¹¹⁶ These thinkers include names such as Martin Heidegger,¹¹⁷ Jacques Ellul,¹¹⁸ Karl Polanyi,¹¹⁹ E.F. Schumacher,¹²⁰ Serge Latouche,¹²¹ Michael Sahlins,¹²² James Howard Kunstler,¹²³ and many others. In fact, an entire century ago, the eminent American philosopher and psychologist William James had already come to the damning judgment that:

The most significant characteristic of modern civilization is the sacrifice of the future for the present, and all the power of science has been prostituted for this purpose.¹²⁴

Similarly, in his important book, *Nature's Economy: A History of Ecological Ideas*, which can be read as an eloquent indictment of the Western technoscientific negative attitude towards the integrity of nature, Donald Worster says:

The sudden acceleration of environmental damage throughout the world since World War Two has been largely the consequence of our scientific enterprise...there can be no getting around the fact that science has made possible the modern devastation of nature.¹²⁵

Without a rigorous “*Kalām* of the Age,” Muslims today cannot be too

116. Allusion to the verse *the life of the world deceived them and so they testified against themselves that they were atheistic* (*wa gharrathum al-ḥayāt al-dunyā wa shahidū ‘alā anfusihim annahum kānū kāfirīn*) (*al-An‘ām*: 130; Cleary’s translation).

117. Martin Heidegger, “The Question Concerning Technology” in his *Basic Writings*, ed. David Krell (New York: HarperCollins, 1993).

118. Jacques Ellul, *The Technological Society*, trans. John Wilkinson (New York: Vintage, 1967), described on the front cover as “a penetrating analysis of our technical civilization and of the effect of an increasingly standardized culture on the future of man.”

119. Karl Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time* (Boston: Beacon, 2001).

120. E.F. Schumacher, *Small is Beautiful: Economics as if People Mattered* (New York: Harper Collins, 2010).

121. Serge Latouche, *The Westernization of the World*; idem, *In the Wake of the Affluent Society: An Exploration of Post-Development* (London: Zed Books, 1993).

122. Marshall Sahlins, *Stone Age Economics* (Piscataway, New Jersey: Aldine Transaction, 1972); idem, *The Western Illusion of Human Nature* (Chicago: Prickly Paradigm Press, 2008).

123. Kunstler, *Long Emergency*.

124. As cited at *ibid.*, 185 (italics mine).

125. (Cambridge: Cambridge University Press, 1988), 343.

sure that they are in fact not being complicit in that “sacrifice of the future for the present.” Knowing the tradition alone is not enough, for the carriers of tradition must also know how to read the “situation of the age” (*aḥwāl al-‘aṣr*), that they may bring the former to bear creatively, evaluatively, and critically on the latter, and, thereby, avoid falling into the pitfalls of nihilistic neo-Dahrism masquerading as evolution, progress, historicism, globalization, science, and technology. By calling it ‘neo-Dahrism’ and thereby harking back to the Dahrism and the *Dahriyyīn* (materialism and materialists) of old, we may be shaken out of our slumber to constructive and proactive intellectual work, and hence social action, and thereby go far beyond the narrow post-9/11 agenda that has been imposed on us. The ongoing challenge is at core intellectual, even if there happens in the near future a complete geo-political reapproachment between Islam and the West.

The problem with neo-Dahrism (*al-dahriyya al-jadīda*) is that it does not ostensibly present itself as heresy, while to see it as such is to revive the *kalām jadīd* of the Ghazālian *Tahāfut*, the Fakhrurāzīan *Maṭālib*, the Taftazānīan *Maqāṣid*, and the Ijān *Mawāqif*. Although we may not be rendered formal neo-Dahrīs (meaning, self-conscious believers in secular progress, historical relativism, and natural and social Darwinism), nevertheless, we are effectually rendered neo-Dahrīs in practice due to the disciplines we imbibe in the universities that are presented as value-neutral. In brief, the heresy of the age demands a “*Kalām of the Age*” to expose its true face to those thinking Muslims who care about *reviving* the wisdom of Tradition, *reorientating* themselves to Transcendence, and *reorganizing* their personal, communal, and civilizational life on the belief in the ultimate life to come. For our identity consists in our service to Transcendence, and not to some fanciful science-fictional, technofuturistic Utopia¹²⁶ or to the nation-state.¹²⁷

It is of the utmost imperative that we master completely not only the Worldview of Islam¹²⁸ but also the various specific contemporary civilizational contexts in which it is to be made *operational*.¹²⁹ for the Worldview of Islam must not only inform but must also transform. We should be able to create for ourselves a world in which that worldview can flourish. Al-Attas describes the nature of this challenge in candid terms:

I venture to maintain that the greatest challenge that has

126. H.B. Franklin (ed.), *Future Perfect* (Piscataway: Rutgers University Press, 1995).

127. See al-Attas, *Prolegomena*, especially the introduction and the first chapter.

128. Al-Attas, *Prolegomena*; idem, *Islam and Secularism*; and idem, *The Concept of Education in Islam* (Kuala Lumpur: ISTAC, 1991). See also Wan Daud, *Educational Philosophy*.

129. See Chapter 5 of al-Attas, *Islam and Secularism*.

surreptitiously arisen in our age is the challenge of knowledge, indeed, not as against ignorance; but knowledge as conceived and disseminated throughout the world by Western civilization; knowledge whose nature has become problematic because it has lost its true purpose due to being unjustly conceived, and has thus brought about chaos in man's life instead of, and rather than, peace and justice; knowledge which pretends to be real but which is productive of confusion and scepticism, which has elevated doubt and conjecture to the 'scientific' rank in methodology and which regards doubt as an eminently valid epistemological tool in the pursuit of truth; knowledge which has, for the first time in history, brought chaos to the Three Kingdoms of Nature: the animal, vegetal and mineral. It seems to me important to emphasize that knowledge is not neutral, and can indeed, be infused with a nature and content which masquerade as knowledge. Yet, it is, in fact, taken as a whole, not true knowledge, but its interpretation through the prism, as it were, the worldview, the intellectual vision and psychological perception of the civilisation that now plays the key role in its formulation and dissemination. What is formulated and disseminated is knowledge infused with the character and personality of that civilisation—knowledge as presented and conveyed as knowledge in that guise so subtly fused together with the real so that others take it unawares *in toto* to be the real knowledge per se.¹³⁰

This rigorous re-articulation of the Worldview of Islam will be the new dialectics (*kalām al-‘aṣr*). It is hoped that through such well-grounded efforts, in collaboration with like-minded scholars, intellectuals, and institutions, Muslim and non-Muslim, and with the guidance of our independent, community-rooted teachers and *shuyūkh*, the Worldview of Islam will once again find *public expression* as a world culture and civilization, thereby contributing to the universal revival of a heart-felt consciousness of the Transcendent in human life and society.

9. *Kalām al-‘Aṣr*, Islamization, and the Comprehensive Critical Mapping of Modern Sciences

Al-Attas defines and elaborates the term 'Islamization' as follows:

Islamization is the liberation of man first from mythological, magical, animistic, natural-cultural tradition opposed to Islam, and then from secular control over his reason and his language. The man of Islam is he whose reason and language are no longer controlled by magic, mythology, animism, his own national and

130. Syed Muhammad Naquib al-Attas, *The De-Westernization of Knowledge*, foreword by Claude Alvares (Penang: Citizens International, 2009), 11–12; see also al-Attas, *Islam and Secularism*, 133–134.

cultural traditions opposed to Islam, and secularism. He is liberated from both the magical and secular world views....since man is both physical being and spirit, the liberation refers to his spirit, for man as such is the real man to whom all conscious and significant actions ultimately refer. The liberation of his spirit or soul bears direct influence upon his physical being or body in that it brings about peace and harmony within himself in his manifestation as a human being, and also between him as such and nature. He has, in liberation in this sense, set his course towards attainment to his original state, which is in harmony with the state of all being and existence (*i.e. fitrah*).¹³¹

In the present context of liberating ourselves from the suffocating intellectual and cultural hegemony of the West and its secularising impact on us, this project of true Islamization entails Dewesternisation. Al-Attas writes that effectively, dewesternisation is a condition of Islamization:

In appraising the situation with regard to the formulation and dissemination of knowledge in the Muslim world, we must see that the infiltration of key concepts from the Western world has brought confusion which will ultimately cause grave consequences if left unchecked. Since what is formulated and disseminated in and through universities and other institutions of learning from the lower to the higher levels is in fact knowledge *infused* with the character and personality of Western culture and civilization and moulded in the crucible of Western culture..., our task will be first to *isolate the elements* including the key concepts which make up that culture and civilization. These elements and key concepts are mainly prevalent in that branch of knowledge pertaining to the human sciences, although it must be noted that even in the natural, physical and applied sciences, particularly where they deal with *interpretations of facts* and *formulation of theories*, the same process of isolation of the elements and key concepts should be applied; for the interpretations and formulations indeed belong to the sphere of the human sciences. The “islamization” of present-day knowledge means precisely that, *after* the isolation process referred to, the knowledge free of the elements and key concepts isolated are *then* infused with the Islamic elements and key concepts which, in view of their fundamental nature as defining the *fitrah*, in fact imbue the knowledge with the quality of its natural function and purpose and thus makes it *true knowledge*. It will not do to accept present-day knowledge as it is, and then hope to “Islamize” it merely by “grafting” or “transplanting” into it Islamic sciences and principles; this method will but produce conflicting results not altogether beneficial nor desirable. Neither “grafting” nor “transplant” can produce the desired result when the “body” is

131. *Islam and Secularism*, 44–45.

already possessed by foreign elements consumed in the disease. The foreign elements and disease will have first to be drawn out and neutralized before the body of knowledge can be remoulded in the crucible of Islam.¹³²

Quite apart from the ongoing foundational work of conceptual engagement and explication outlined by al-Attas, one practical outcome of the *Kalām* of the Age approach will be to design a two-part certificate or diploma course on the Worldview of Islam covering both its “pure” (i.e., conceptual/*mafhūmī*) and “applied” (operational/*ma‘mūlī*, *‘amalī*) dimensions. This will help students or participants engage creatively and closely with both tradition and modernity in a manner that will enable them to bring the tradition to bear critically, evaluatively, and constructively on the sciences of modern academia, differentiating between objective truths and subjective fictions,¹³³ and separating the beneficial from the harmful of those sciences (especially those sciences having general *axiological warrant*¹³⁴ from within the perspective of tradition and local culture). Scholars and students alike are invited to implement an educational and research programme toward operationalizing Keller’s important call to

scientifically literate Muslims today to clarify the provisional nature of the logic of science, and to show how its epistemology, values, and historical and cultural moment condition the very

132. Al-Attas, *Islam and Secularism*, 162–163.

133. Mauricio Suarez (ed.), *Fictions in Science: Philosophical Essays on Modeling and Idealization* (London: Routledge, 2008). I thank my friend Dr. Sachi Arafat of Glasgow University for drawing my attention to this important book. See also Camille Limoges, Simon Schwartzman, et al., *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies* (London: Sage, 1994). Cf. Brian Martin, *The Bias of Science* (Canberra: Society for Social Responsibility in Science, 1979); Karin Knorr Cetina, *The Manufacture of Knowledge: An Essay on the Constructivist and Contextual Nature of Science* (Oxford: Pergamon Press, 1981); and idem, *Epistemic Cultures: How the Sciences Make Knowledge* (Cambridge, MA: Harvard University Press, 1999). For cases in point of “scientific fraud,” see Horace Freeland Judson, *The Great Betrayal: Fraud in Science* (Orlando, Florida: Harcourt Books, 2004); and Marcel C. LaFollette, *Stealing into Print: Fraud, Plagiarism and Misconduct in Scientific Publishing* (Berkeley: University of California Press, 1996). See also the small book by Alan Chalmers, *Science and Its Fabrication* (Minneapolis: University of Minnesota Press, 1990); and also Nancy Cartwright, *How the Laws of Physics Lie* (Oxford: Oxford University Press, 1986).

134. For instance, Archie J. Bahm, *Axiology: The Science of Values* (Amsterdam: Editions Rodopi, 1993), and its useful bibliography on various aspects of the subject.

nature of questions it can ask—or answer.¹³⁵

We should systematically build the intellectual and institutional capacity to apply this deconstructive-reconstructive approach to sciences such as medicine, agriculture, economics, biology, physics, chemistry, engineering, and other disciplines of modern academia (including the humanities) impacting Muslim intellectual, cultural, social, and economic life.

Conceptually, the Worldview of Islam Course (WIC) or Worldview of Islam Intellectual Series (WISE)¹³⁶ shall be offered at two levels. The first is for high school or pre-university matriculation students, that is, before students enroll in modern academia for formal study of the various modern disciplines. The other level targets high school teachers and university lecturers, including postgraduate researchers, working professionals, educational policy-makers, and curriculum-developers, those who teach and/or design the courses in any of the modern disciplines, from preschool to tertiary levels of education. These two levels are conceptually connected but with different immediate pragmatic objectives.

The objective of the first level is to provide pre-university students with a critical survey of the numerous, diverse disciplines on offer in modern academia. This “mapping” equips students to stand back, reflect, and carefully consider the intellectual direction and career they are about to undertake, specifically in its implications for them as Muslims who are self-conscious about their worldview and about their duty to their local communities and the broader cosmopolitan society in which their communities are embedded. This mapping, as a *generative guide* to creative reflection and thoughtful deliberation, will help soon-to-be university students to be more discriminative in the course of choosing their fields of study and their majors; to be very selective in their choice of universities, faculties, or departments; and even to be particular about their choice of professors, lecturers, and academic supervisors.

By means of this critical mapping—which itself is deeply rooted in and inspired by the classical Islamic classification of the sciences¹³⁷—it is hoped that students will be able to opt for disciplines and careers that are truly beneficial rather than harmful, meaningful rather than superfluous, and that are geared toward meeting the real social, cultural, intellectual, or economic needs of their communities, rather than serving narrow corporate greed, disembodied material development, or even idle curiosity.

135. Keller, “*Kalam* and Islam,” 25.

136. Title and acronym proposed by Dr. Mohd Zaidi Ismail of IKIM, and accepted by the management of the course.

137. Osman Bakar, *Classification of Knowledge in Islam: A Study in Islamic Philosophies of Science* (Cambridge: Islamic Texts Society, 1998).

For instance, by means of this critical mapping one may opt for green chemistry¹³⁸ rather than conventional chemistry, natural medicine¹³⁹ or naturopathy over conventional allopathic medicine, cognitive psychology¹⁴⁰ over behavioural psychology, ecological and steady-state economics¹⁴¹ over neoliberal capitalism, organic or permaculture¹⁴² over chemical intensive agriculture, biomimicry¹⁴³ over biotechnology,¹⁴⁴ appropriate technology¹⁴⁵ over high technology, and so on and so forth. Such choices are arguably more in accord with the Islamic axiological principles of not harming (*lā ḍarara wa lā ḍirara*), beneficial knowledge (*‘ilm nāfi‘*), and compassion (*rahma*). Along the way, one is also guided by means of this critical mapping toward unraveling the ideological, methodological, philosophical, and metaphysical assumptions underpinning those disciplines and the often hidden, parochial background of their original development in post-Enlightenment socio-intellectual history, or even

138. Including related areas such as green engineering and green technology; see, for instance, Paul T. Anastas and John C. Warner, *Green Chemistry: Theory and Practice* (Oxford: Oxford University Press, 1998).

139. Leon Chaitow et al., *Naturopathic Physical Medicine: Theory and Practice for Manual Therapists and Naturopaths* (Philadelphia: Elsevier, 2008).

140. Cognitive psychology is on the whole arguably more in accord with traditional Islamic faculty psychology; see Syed Muhammad Naqib al-Attas, *The Nature of Man and the Psychology of the Human Soul: A Brief Outline and a Framework for an Islamic Psychology and Epistemology* (Kuala Lumpur: ISTAC, 1990). Cf. Ray Jackendoff, *Patterns in the Mind: Language and Human Nature* (New York: Harvester Wheatsheaf, 1993); Noam Chomsky, *Language and Problems of Knowledge: The Managua Lectures* (Cambridge, MA: MIT, 1987); Karl Popper and John C. Eccles, *The Self and Its Brain: An Argument for Interactionism* (London: Routledge, 2003); John C. Eccles, *The Human Psyche: The Gifford Lectures* (London: Routledge, 1992); Karl R. Popper, *Knowledge and the Body-Mind Problem: In Defence of Interaction* (London: Routledge, 1994); and Mario Beauregard and Denyse O’Leary, *The Spiritual Brain: A Neuroscientist’s Case for the Existence of the Soul* (New York: Harper One, 2007).

141. Herman Daly, *Steady-State Economics*, 2nd ed. (Washington, DC: Island Press, 1991).

142. Bill C. Mollison, *Permaculture: A Designer’s Manual* (Sisters Creek, Tasmania: Tagari Publications, 1988).

143. Janine M. Benyus, *Biomimicry: Innovation Inspired by Nature* (New York: William Morrow, 1997).

144. On the dangers of biotechnology, see Brian Tokar (ed.), *Redesigning Life?: The Worldwide Challenge to Genetic Engineering* (London: Zed Books, 2001).

145. Barrett Hazeltine and Christopher Bull (eds.), *Field Guide to Appropriate Technology* (New York: Academic Press, 2003).

in the relatively recent post-World War II geopolitical restructuring and readjustments.¹⁴⁶

The objective of the second level is to help working professionals, researchers, and policy-makers to transform both the content and the method of what they are presently doing, so that these will eventually be brought into *axiological accord* with the Worldview of Islam. For instance, as a result of this critical mapping, a Muslim researcher in physics can be more critically aware of the ontic and epistemic limits of the laws of physics,¹⁴⁷ and may thereby opt for the Bohmian ontological interpretation of quantum mechanics over the mainstream Copenhagen instrumentalist interpretation;¹⁴⁸ an education policy-maker may make a course in ecology a prerequisite to an economics programme or even embed economics altogether into ecology and/or sociology, thereby redefining economics and creating what can be termed an *ecologics of economics*.¹⁴⁹ Similarly, a biology school teacher may want to transform his biology course into a true “science of life” by putting the “bio” back into biology through the phenomenological approach to the study of nature by opting, *inter alia*, for the class to study, say, actual living frogs by a pond embedded in the woods, rather than chloroformed or tortured, dead, dissected frogs pinned to a cold lab bench, thoroughly disembodied from any real, living ecosystemic contexts of the natural world.¹⁵⁰ As the Nature Institute puts it:

Many of us were introduced to biology—the science of life—by dissecting frogs, and we never learned anything about living frogs in nature. Modern biology has increasingly moved out of nature and into the laboratory, driven by a desire to find an underlying mechanistic basis of life. Despite all its success, this approach is one-sided and urgently calls for a counterbalancing movement toward nature. Only if we find ways of transforming our propensity to reduce the world to parts and mechanisms, will we be able to see, value, and protect the integrity of nature

146. See, for instance, Christopher Chase-Dunn, “World-Systems Theorizing” in *Handbook of Sociological Theory*, ed. Jonathan Turner (New York: Plenum, 2001).

147. Cartwright, *How the Laws of Physics Lie*; idem, *A Dappled World: A Study of the Boundaries of Science* (Cambridge: Cambridge University Press, 1991).

148. David Bohm, *Wholeness and the Implicate Order* (London: Routledge, 1980); idem and B.J. Hiley, *The Undivided Universe: An Ontological Interpretation of Quantum Theory* (London: Routledge, 2002).

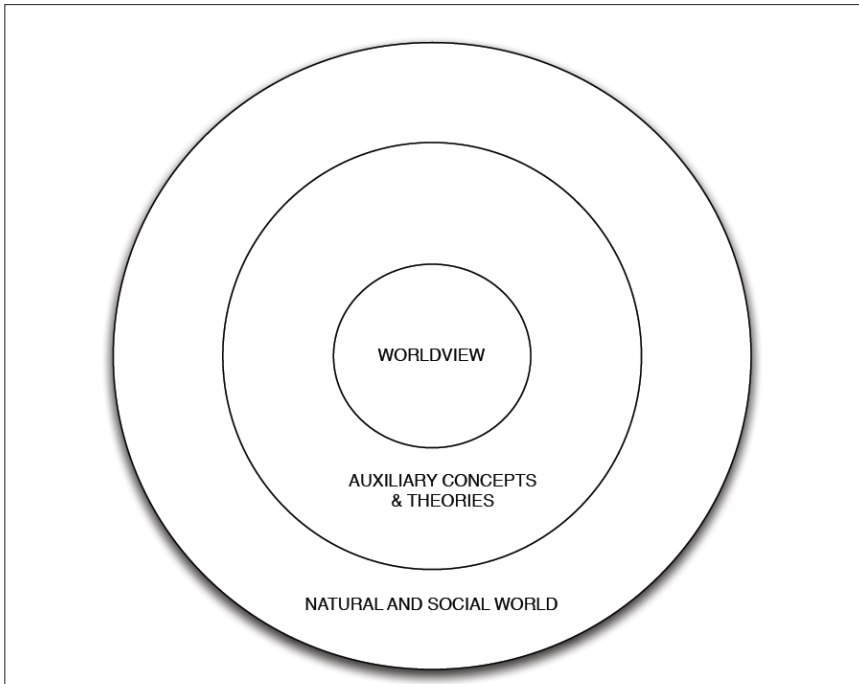
149. Herman E. Daly and Joshua Farley, *Ecological Economics: Principles and Applications* (Washington, D.C.: Island Press, 2004).

150. Erin Radelfinger, “Dissecting Dissection: A Resource Handbook for High School Biology Educators,” accessible online at <http://www.scoe.org/files/dissection.pdf>.

and the interconnectedness of all things. This demands a new way of seeing.¹⁵¹

Such an approach to science and the study of nature is obviously more in accord with the Islamic conception of nature as exhibiting the signs of God (*āyāt Allāh*);¹⁵² as such natural phenomena celebrate, with the tongues of their existential states (*lisān al-ḥāl*), the praises of their Lord: *And there is not a thing but hymns His praise (wa in min shay'in illā yusabbih bi-ḥamdih) (al-Isrā': 44).*

The *Kalām*/Dialectics of the Age approach discussed above may be schematized in the form of three concentric circles as follows:



The inner circle represents the unchanging, permanent metaphysical core expressed as the “Worldview of Islam” (*ru’yat al-Islām lil-wujūd*).¹⁵³ The middle circle represents the network of auxiliary conceptual constructs, theories, and hypotheses, which may be modified or added to from time

151. <http://natureinstitute.org/nature/index.htm>.

152. Schimmel, *Deciphering the Signs of God*; and Adi Setia, “*Taskhīr*, Fine-Tuning, Intelligent Design and the Scientific Appreciation of Nature,” *Islam & Science* 2, no. 1 (Summer 2004): 7–32.

153. Al-Attas, *Prolegomena*, 2.

to time, and may be called the “network of auxiliary theories” (*shabaka al-naẓariyyāt al-mulḥaqa*). This middle circle effectively represents the creative, critical, yet also self-critical “Dialectics of the Age.” The outer circle represents nature (*al-tabīʿa*), the physical, sensible world itself, which may also be extended to include the human, socio-cultural world insofar as it is inextricably embedded in the larger natural world. The challenge of Islamic scientific creativity today lies squarely in the middle circle and consists in the intellectual work of articulating objective conceptual and theoretical frameworks for bringing the worldview of tradition to bear evaluatively, in both the cognitive and ethical senses, on our engagement with and understanding of the natural and cultural world.¹⁵⁴ By “objective” is meant that this dialectics is to be also amenable to participation and scrutiny by non-Muslim thinkers, philosophers, and scientists, if they so wish, even if they do not believe or are not committed to the metaphysical core (i.e., the Worldview of Islam), by common reference to the same physical and social world observationally and experientially accessible to both Muslims and non-Muslims alike and in which they are both embedded.

It is by virtue of this objectivity that Muslim scientists involved in the new dialectics will have little problem recognizing and incorporating certain positive elements of Western and Eastern sciences and insights into their intellectual and practical work. For example, modern permaculture and organic farming can be easily assimilated into classical Islamic *filāḥa* (science of agriculture and animal husbandry), thereby reviving it to play a meaningful and beneficial role in the current worldwide movement for returning to and reviving natural farming without the use of chemicals, pesticides, synthetic fertilizers, and genetic engineering.

To underline this important point about objectivity, it is worth mentioning the recent 72-hour Permaculture Design Certificate course on the science, art, and practice of permaculture and sustainable living that was recently organized by Murujan Permaculture in Kuang, Selangor, Malaysia. Most of the nearly twenty participants from Malaysia and elsewhere were Muslims, but the three non-Muslim participants (from Australia, Poland, and Singapore) also found the course useful and beneficial.¹⁵⁵ Another case

154. Further elaboration in Adi Setia, “Three Meanings of Islamic Science: Toward Operationalizing Islamization of Science,” *Islam & Science* 5, no. 1 (Summer 2007): 23–53. See also idem, “Some Upstream Research Programs for Muslim Mathematicians: Operationalizing Islamic Values in the Sciences through Mathematical Creativity,” *Islam & Science* 6, no. 2 (Winter 2008): 153–196; and idem, “Islamic Science as a Scientific Research Program: Conceptual and Pragmatic Issues,” *Islam & Science* 3, no. 1 (Summer 2005): 93–101.

155. A review of the course is on the website: <http://murujan.com/2012/03/19/>

in point is the recent 5-day Christian-Muslim Interfaith Dialogue on Structural Greed organized by the Lutheran World Federation, in which the roughly fifty participants, Muslims and Christians from Malaysia, Indonesia, Germany, England, United States, Peru, and other countries, succeeded in converging, on the very first day, on redefining economics with respect to its ends as the science of the organization of livelihood for the common good. In the process they all agreed to do away with the conventional obsessive concern with the problem of scarcity and growth.¹⁵⁶

Although further elaboration is needed on the creative nature of the dialectical middle circle, which is where discursive reason (*fikr/naẓar*) and contemplative intellect (*‘aql/wijdān*) mediate between the Book of Revelation and the Book of Creation, a simple general example may here suffice to give some degree of insight into what this creativity entails in *operative* terms. The Qur’ān says that the Prophet was sent by the Creator as a mercy to all the worlds (*raḥmatan lil-‘ālamīn*) (*al-Anbiyā’*: 107). If we, as scientists, are to follow in the footsteps of the merciful Prophet, then the way we study nature and interact with it (*mu‘āmalat al-nās al-tabī‘at*) must be guided by the prophetic ethics of cosmic mercy.¹⁵⁷ This means that much of what we do or take for granted in contemporary science and technology has to be seriously and systemically rethought and reconsidered, since it is obviously unrestrained by the ethics of mercy. Modern science and its technological offshoots are, in many complex ways, destructive toward nature and, by extension, toward humankind as part of nature.¹⁵⁸ If, by definition, science is “the study of nature,” then obviously it is in the interest of science to preserve nature in order to guarantee its continued study by science. Thus, scientific curiosity entails moral responsibility. However, the paradox now is that the more science discovers and knows about nature, the more of nature is devastated, and the less there remains of it to be

permaculture-design-course-review/.

156. The conference findings can be accessed at http://www.lutheranworld.org/lwf/wp-content/uploads/2011/10/DTS-KotaKinabalu2011_FinalDoc.pdf. For a detailed report, see Wan Mohd Aimran Wan Mohd Kamil, Aliff Basri and Adi Setia, “Engaging Structural Greed Today: A Christian-Muslim Interfaith Dialogue, Report and Reflections” in Adi Setia (trans.), *The Book of Earning a Livelihood (Kitab al-Kasb of Imām Muḥammad al-Shaybānī)* (Kuala Lumpur: IBFIM, 2011), Appendix III: 227–288.

157. Umar Faruq Abd Allah, “Mercy, the Stamp of Creation,” Nawawi Foundation paper, <http://www.nawawi.org/downloads/article1.pdf>.

158. See, for instance, Claude Alvares, *Science, Development and Violence: The Revolt against Modernity* (New Delhi: Oxford University Press, 1992); and idem, “Science” in *The Development Dictionary*, ed. Wolfgang Sachs (London: Zed Books, 1992), 219–232.

studied and appreciated. It is as if the modern pursuit of abstract, cerebral science and its manipulative technological offshoots have inevitably to go in hand with the desolation and disappearance of living nature—but that position is unacceptably fatalistic for truly concerned and reflective Muslim scientists. For them, the Qur’ānic ethics of universal, cosmic mercy point clearly toward another way of doing science, namely, one that respects and preserves nature (and by extension humankind) rather than destroys it, and a well-articulated dialectics of science involving the active participation of all thinking, reflective, and self-critical ‘*ulamā*’ and scientists will facilitate realizing that science in practice. The following are some specific examples by way of further illustration.

Vivisection—meaning “to cut alive,” hence the more polite term, “animal testing,” or “animal experimentation” in modern medical academia—is the way Western, business-driven medicine tortures various species of live animals (rats, mice, rabbits, chimpanzees, dogs, cats) to test drugs in order to rid humanity of their ever-lengthening list of old and new diseases. As a method of medical research (specifically testing drugs for safety and effectiveness), it is relatively new (only a hundred or so years old) and particular to modern Western medical culture, which is now hopelessly corrupted, cognitively and morally, by crass commercialism and corporatism.¹⁵⁹ Quite apart from the extrinsic question of ethical concern for the welfare of lab animals, there is also a more fundamental intrinsic question, namely, the question of the scientific integrity (or cognitive value) of the underlying, largely unexamined assumption of a significant degree of biological, biochemical, and physiological parity between laboratory test animals and human beings justifying extrapolations of laboratory data from the former to the latter.¹⁶⁰ The *kalām* dialectical deconstruction and reconstruction of modern medicine for Muslim medical researchers in this regard will be to find systemic alternatives of unquestioned scientific probity and ethical integrity to vivisection, including valid alternatives critically-sourced from presently marginalized Western (e.g., homeopathy,

159. Ray D. Strand, *Death by Prescription: The Shocking Truth Behind an Overmedicated Nation* (Thomas Nelson, 2003); cf. Marc A. Rodwin, *Conflict of Interests and the Future of Medicine: The United States, France, and Japan* (New York: Oxford University Press, 2011); and Maggie Mahar, *Money-Driven Medicine* (New York: Collins, 2006).

160. Pietro Croce, *Vivisection or Science: An Investigation into Testing Drugs and Safeguarding Health* (London: Zed Books, 1999). See also C. Ray Greek and Jean Swingle Greek, *Sacred Cows and Golden Geese: The Human Costs of Experiments on Animals* (New York: Continuum, 2002); and Ray Greek and Niall Shanks, *FAQS about the Use of Animals in Science: A Handbook for the Scientifically Perplexed* (Lanham, MD: University Press of America, 2009).

naturopathy) and Eastern medical traditions (e.g., traditional Chinese medicine¹⁶¹) which could be incorporated into a well-articulated Islamic medicine research program. Some of these alternatives can also be gleaned by undertaking evidence-based medical research into the well-documented but largely neglected vast corpus of the thousand-year-old Islamic cosmopolitan medical tradition.

Modern agriculture, to take another case in point, is overly chemical-intensive, with widespread use of pesticides, herbicides, synthetic nitrogen fertilizers, and other toxic inputs, which poison and degrade the soil, kill rural wildlife, and even toxify harvests and disrupt the health of farmers and workers. Traditional farming methods have been perfectly adapted to local socio-natural conditions, generating a symbiotic, holistic balance between the needs of humanity and the rights of nature.¹⁶² As the word implies, agriculture is a *culture*, a way of life of mutual respect, communal give and take, and cooperative rather than competitive living. Indeed, there are agro-innovations, but innovations within ecological and cultural limits, as the case of Andalusian agricultural science and practice (*‘ilm al-filāḥa*) shows.¹⁶³ It is not a mere business, as the modern corruption of the original word into “agribusiness” would have it—most exemplified perhaps in the infamous case of Monsanto¹⁶⁴—which imposes the *face-less* corporate tyranny of disembedded, impersonal profit-maximization on once self-

161. For understanding traditional Chinese medicine, see the sensitive and deeply reflective book by Stephen Fulder, *The Tao of Medicine: Oriental Remedies and the Pharmacology of Harmony* (Rochester, Vermont: Destiny Books, 1987).

162. Mae-Wan Ho, Sam Burcher, et al., *Food Futures Now: Organic, Sustainable, Fossil Fuel Free* (Penang: Third World Network, and London: Institute of Science in Society, 2008).

163. Abū Zakariyyā Yahyā ibn Muḥammad ibn Aḥmad ibn Al-Awwām Al-Ishbili (ca.12th century), *Kitāb al-Filāḥa*, as described in Toufic Fahd, “Botany and Agriculture” in *Encyclopedia of the History of Arabic Science*, ed. Regis Morelon and Roshdi Rashed (London: Routledge, 1996). See also the website of The Filaha Texts Project: The Arabic Books of Husbandry: <http://www.filaha.org/>.

164. For the case against Monsanto, see Peter Pringle, *Food, Inc.: Mendel to Monsanto, The Promises and Perils of the Biotech Harvest* (New York: Simon & Schuster, 2005); and Marie-Monique Robin, *The World According to Monsanto: Pollution, Corruption, and the Control of Our Food Supply, An Investigation into the World's Most Controversial Company* (New York: New Press, 2010). See also Karl Weber (ed.), *Food, Inc.: How Industrial Food is Making Us Sicker, Fatter, and Poorer, and What You can Do about It* (New York: Public Affairs, 2009), a book companion to the influential film documentary, *Food, Inc.*

respectful, independent farmers and indigenous peoples, reducing them to wage- and debt-slaves, squatters and refugees on the very lands to which they have ancestral and native customary rights but that are now wrested from them by corporations that have coopted the political and legal structures of the state into serving their narrow, self-serving agenda.

It is strange that agricultural food production, which once unquestionably served the well-being of humankind, should now, in the hands of big agrochemical companies like Monsanto, be seen to be working toward destroying the very ecological and cultural basis of that well-being. In order to return agricultural practice onto the ethical and moral path of compassion and service toward both culture and nature, the *kalām* dialectics would work toward rearticulating an authentic Islamic agricultural research program as one that eschews harmful chemicals altogether. It would instead look into the various sustainable organic agricultural methods now available, such as permaculture and natural farming,¹⁶⁵ and develop new ones by, for instance, drawing on the thousand years' accumulated experience of the Islamic agricultural tradition—the original, truly “green” revolution in the history of mankind.¹⁶⁶ In this respect, the “greening the desert”¹⁶⁷ initiative by the world-renowned permaculturist Geoff Lawton and his partners in Jordan is a great inspiration for us all who care deeply about nurturing a healthy relationship with “soil, soul and society.”¹⁶⁸

10. The Worldview of Islam, Counter-Academia, and the Imperative of Scientific Objectivity

Ultimately, all these initiatives toward a constructive *counter-academia*¹⁶⁹ will

165. Bill Mollison, *Permaculture: A Designers' Manual* (Tasmania: Sisters Creek, Tagari, 1988).

166. Andrew M. Watson, *Agricultural Innovation in the Early Islamic World: The Diffusion of Crops and Farming Techniques, 700–1100* (Cambridge: Cambridge University Press, 2008), especially 123–138 *passim*.

167. Access information about this wonderful work at http://permaculture.org.au/project_profiles/middle_east/jordan_valley_permaculture_project.htm.

168. Allusion to Alastair McIntosh, *Soil and Soul: People Against Corporate Power* (London: Aurum Press, 2004).

169. Examples that spring to mind is the Schumacher College in the UK and the networks of permaculture research institutes throughout the world. Another recent and promising initiative in this regard (though as yet not totally independent) is the Center for Advanced Studies on Islam, Science and Civilisation (CASIS), based in Kuala Lumpur, Malaysia, <http://www.utm.my/casis/>. There are also serious plans in place for establishing the Worldview of Islam Research Academy (WIRA) to be based in the state of

have to be systemically consolidated under academic and vocational educational structures quite independent of the mainstream educational establishment. The underlying consideration here is that we really want our students and graduates to be able not only to understand the Islamic tradition and the Worldview of Islam, but also to have careers and make a decent, respectable, and meaningful livelihood for the common good (*al-maṣlaḥa al-‘amma*) by using their knowledge and training to operationalize the Worldview of Islam. Hence, for instance, the HAKIM (<http://www.hakim.org.my/>) initiative in organizing the public educational Worldview of Islam Intellectual Series (WISE) with various partners and supporters, and the Mu‘amalah Research Unit (MRU) at the International Islamic University Malaysia (IIUM) for reviving an economics for the common good. While WISE works toward fleshing out in conceptual and pragmatic terms the operational implications of the Worldview of Islam by formulating and offering curricula, syllabi, and courses for reviving the arts and sciences of responsible intellectuality and sustainable living in the world, the focus of the MRU is to revive the original meaning and purpose of economics. This we have formally redefined as the science of “provisioning and sharing, by mutual giving and receiving, of natural and cultural abundance for realizing material and spiritual well-being for the common good,” or “the science of earning and provisioning for livelihoods” (*‘ilm al-iktisāb wal-infāq*) and, thereby, put into operation the Islamic Gift Economy (*al-iqtisād al-infāqī*) or Common-Good Economics.¹⁷⁰

The question of scientific objectivity (i.e., the question of what should count as objectively-verified knowledge and the research methods by which this objectivity is ascertained and attained) has more to do with the cognitive rather than the ethical values underpinning the *kalām* dialectical approach. In Islamic scientific practice, of course, the cognitive merges seamlessly into the ethical and becomes one with it; hence, the foundational notion of *adab* as knowledge realized in virtue through *ta’dīb* (education as discipline of mind, soul, and body).¹⁷¹ In other words, cognitive evaluation and ethical evaluation are both intrinsic to the success of the scientific enterprise in Islam, as is quite evident in, say, Ibn Haytham’s much studied scientific methodology, which also involved a thoroughgoing “kalāmīc” dialectics

Terengganu in Malaysia.

170. Adi Setia, “*Waqf and the Revival of the Islamic Gift Economy*,” *Awqaf Insights* 3 (2010): 14–15; idem, “*Mu‘amala*”; idem, “*Reviving an Economics for the Common Good: The Science of Earning in al-Shaybānī, al-Ghazālī, and al-Dimashqī*,” *Islam & Science* 9, no. 2 (Winter 2011): 177–184.

171. Al-Attas, *Concept of Education*; see also the elaborate and insightful discussion in Wan Mohd Nor, *Educational Philosophy*.

with Greek physical and optical theories.¹⁷² The realization that scientific objectivity and methodological probity are not possible without concomitant ethico-moral integrity has been growing in the West and is now converging on a position more in accord with that of the Worldview of Islam, thereby allowing much room for mutual constructive engagement on this important meta-scientific issue.

To illustrate briefly how the concept of scientific objectivity actually operates in the *kalām* dialectics with respect to cultivating an intellectually self-competent and self-confident critical attitude toward the Western sciences and disciplines, let us consider the twin Qurʾānic cognitive principles of *tabayyun* (investigation, scrutiny) and *tabarhun* (proof, evidence). Due to the global dominance of Western science, Muslim scientists are continuously bombarded with reports of promising new methods, discoveries, and techniques in prestigious Western science journals like the *Journal of the American Medical Association*, *Nature*, *Science*, *New Scientist*, and *Scientific American*. It is thoroughly irresponsible of them to take these reports at face value without undertaking their own investigation (*tabayyun*) into the often diverse, underlying socio-economic contexts of these reports and ascertaining their *empirical adequacy* (*burhān*) and *epistemic autonomy* (*al-istighlāl al-ʿilmī*) from powerful forces geared less toward global scientific enlightenment than narrow political economic and commercial self-enrichment.¹⁷³ Creative understanding and practice of *tabayyun* and *tabarhun*, as exemplified by Ibn Haytham, will help Muslim scientists to separate the wheat from the chaff of Western science and technology and incorporate it into an integrative Islamic science research program. For instance, in the case of chemistry, the growing field of “green chemistry”¹⁷⁴ is something that shows great promise for eliminating the threat of toxic chemicals from the cultural and natural landscape, thus realizing the foundational ethico-juridical principle of *lā ḍarara wa lā ḍirara* (“no harming and no reciprocating harm”),¹⁷⁵ which is itself derived from the cosmic, prophetic principle of universal mercy.

172. Muhammad Saud, *The Scientific Method of Ibn al-Haytham* (Islamabad: Islamic Research Institute, 1990); and A.I. Sabra, *The Optics of Ibn al-Haytham* (Kuwait: National Council for Culture, 2002).

173. For the case of modern medicine and the structural conflicts of interest plaguing it, see Marc A. Rodwin, *Conflicts of Interest and the Future of Medicine: The United States, France, and Japan* (New York: Oxford University Press, 2011).

174. And related areas such as green technology, green engineering and green architecture (eco-building).

175. Hadith no. 32 in Imām al-Nawawī’s *Forty Hadiths* (*al-Arbaʿīn al-Nawawīyya*).

11. Conclusion: The Question of Viable Structures and Feasible Strategies

As alluded to above, the highly important, strategic question of appropriate higher educational institutional structures needs to be addressed for realizing the Islamic science research program¹⁷⁶ over the long term, especially by educating and training postgraduate researchers (including university professors) to creatively apply its principles (culled from *kalām jadīd* and contemporary history, philosophy, and sociology of science)¹⁷⁷ to their respective specializations. Frankly speaking, I harbour grave misgivings as to whether this vision in the framework of the *Kalām* of the Age can be faithfully and successfully realized within the current restrictive and compromised pedagogic framework of modern academia—including the current “Islamic University” system, which to great extent is coopted into the secular agenda of corporate globalization or into the political economic agenda of the over-centralized state. Under the current circumstances, the way forward may have to take the form of a loose, informal network of autonomous grassroots educational and research initiatives, such as centers, institutes, academies, *madrassas*, and think-tanks, built up by independent, community-rooted scholar-intellectuals of conscience and vision and their student-supporters who know one another intimately through formal and informal venues of intellectual and personal interaction, toward a common educational and civilizational mission. Some of these grassroots educational initiatives, though small and limited in scope and resources, are already well-established and flourishing around the world—some of which I have personally visited to share some of the ideas outlined in this paper and others. Certain of these include the Solas Foundation (UK), the Center for Islam & Science (Canada), HAKIM (Malaysia), Cambridge Muslim College (UK), CASIS (Malaysia), INSISTS (Indonesia), Andalus (Singapore), Waqf Academy (South Africa), and others in their early planning stages, such as the Worldview of Islam Research Academy (WIRA) project to be initially based in Tok Jiring, Terengganu, Malaysia.

Eventually, some form of consensus will emerge on common academic and scholarly standards by which a student qualified in, say, the traditional religious sciences from one institute can be recognized and accepted for a course of study in the intellectual, empirical, and vocational sciences at another institute dedicated to the programme of Islamizing those disciplines that have to do with earning an honourable and meaningful livelihood in the service of the common good—i.e., the *farḍ kifāya* sciences in general. This will entail a critical look at how the concept of *farḍ kifāya* (communal duty realized for the common good) should actually be made operative rather than remaining

176. Adi Setia, “Islamic Science as a Scientific Research Program.”

177. See idem, “Three Meanings,” 23–52.

for the most part a deceptive feel-good slogan, as is largely the case today. As pointed out by S. Nomanul Haq, there is a great need today to revise the way we educate university science students so that they know how to integrate their scientific learning and expertise into the more fundamental and higher goals of human life, and, thus, avoid altogether the destructive, suicidal pitfalls of scientism.¹⁷⁸ True science is beneficial knowledge (*al-‘ilm al-nāfi‘*) resulting in wholesome livelihoods (*al-kash al-ṭayyib*) and beneficial works (*al-a‘māl al-nāfi‘a*) that are geared toward serving rather than subverting these higher, human goals. The highest goal, the *summum bonum*, is, of course, “to bring a sound conscience (*qalb salīm*) to the meeting with the Lord” (*al-Shu‘arā’*: 89) and thereby, to attain His pleasure (*marḍāt Allāh*).

We may finally wrap up these intertwined considerations and reflections with these wise and perceptive words of counsel from al-Attas:

What we need, then, is not a *reconstruction*, but a *restatement* of the statements and conclusions of Islamic metaphysics in accordance with the intellectual perspectives of our times and the developments in the domain of knowledge; and this entails an *realignment*, where relevant and necessary, of the *direction* of developments in the various sciences such that they become integrated with it.¹⁷⁹

Elsewhere, he says:

We must learn from the great of the past their knowledge and wisdom. This does not mean that we ourselves cannot contribute any further knowledge that can be contributed, but it does mean that we must first draw our strength [and] inspiration from their wisdom and knowledge, and that when we do begin to contribute ours, we must recognize and acknowledge them as our teachers. and not disparage and denounce, for *ijtilhad* can be exercised without having to undermine legitimate authority. They are like torches that light the way along difficult paths; when we have such torches to light our way, of what use are mere candles?¹⁸⁰

In short, we all have to learn again how to stand firmly on the shoulders of giants, and reapply their insight, vision and wisdom to engaging the difficult

178. Syed Nomanul Haq, “Science, Scientism and the Liberal Arts,” *Islam & Science* 1, no. 2 (December 2003): 267–271.

179. *Hujjat al-Ṣiddiq*, 465. In a similar vein, Maulana Ashraf Ali al-Thānvi (1863–1934), in his *al-Intibahat al-Mufīda*, trans. Muhammad Hassan Askari and Karrar Husain as *Answer to Modernism*, 2nd ed. (Karachi: Maktaba Darul-Uloom, 1976), has pointed out that such intellectual engagement would require an elaborate reapplication of the “sufficient and comprehensive” principles of traditional *‘ilm kalām* (dialectical theology) to answering the challenge of modern science and philosophy (at 1–5).

180. *Islam and Secularism*, 132.

situation of our age, dispelling its darkness and shadows, and finding the liberating light at the end of the long, winding tunnel. *Wa Allāh a‘lam. yahdi Allāh li-nūrih man yashā’* (Allah guides to His light whomever He wills).¹⁸¹



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181. al-Nūr: 35.

182. Lest the reader feel overwhelmed by the many academic and popular references cited in the copious footnotes to this paper, what follows is a hopefully more manageable guide to what I believe are some of the more accessible principal readings in English pertaining to the paper’s thesis, that can be perused at a steady yet leisurely pace over the course of a month or so, *in shā’ Allāh*.

Institute, 2012.

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