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Abstract

This paper follows the previous one in this study on the relationship between epistemology and science, and contextualises the issue specifically for economics. It demonstrates how the discipline of economics sought to fashion itself as an ideologically-neutral and value-free science when it fell under the grip of logical positivism in the last century. In pursuance of this goal, economists made the assumption that there was no need for the discipline to draw from the insights of other social sciences, particularly from the sub-disciplines of epistemology and ontology. In order to shield its claimed status as an objective science, they proceeded to eschew any critique of their methodology or questions around the hidden assumptions of their discipline. I explain that because of this refusal to countenance any discussion on the relevance of its epistemic and ontological presuppositions, economics eventually became alienated from the reality it purported to explain. The paper elaborates on the profound implications this has had for research, training, and the practice of economics. As in other heterodox traditions, Muslim economists attempted to overcome these limitations by crafting their own discipline. But they retained the view that mainstream economic methodology was neutral and therefore adopted its tools of analyses for their science. As a result, they sidestepped epistemic considerations, despite its significance to their project. The discipline is now facing a crisis of relevance. How this unfolded is detailed. I conclude by reasserting that epistemology is indispensable for science and if considered within a circular causal model, it can perform its desired role by uniting both the *a priori* and *a posteriori* modes of reasoning in a complementary relationship. Islam is well-endowed with a set of rich epistemic concepts to enable it to achieve this kind of integration and thus easily serve the needs of Islamic economists. Their Western counterparts could equally benefit from insights offered by Islam in this regard.

Keywords: epistemology, science, positivism, economics, Islamic economics

1. Review of Part I of the Study

The first part of this study, published in a previous paper in this series (see Mahomed 2016a), outlined the impetus behind the Islamisation of Knowledge (IoK) project that was formally initiated several decades ago. It was further explained that the transformation of economics into an Islamic framework was inspired by this motive. Soon after the process was begun, however, serious concerns were raised about the direction in which Islamic economics (IE henceforth) was headed, but these warnings were largely ignored. The discipline is now facing a crisis, with Islamic economists deeply divided on the reasons for the impasse and, therefore, also on how to revitalise the project. One of the key points of contention is whether IE faltered due to its adoption of mainstream economic methodology.

To unravel some of the debates that have gripped the contending sides on this issue, I set out to explore the relationship between epistemology¹, science, and economics. Several interesting findings have thus far emerged from this investigation. Although epistemology always played a key role in evaluating claims made by the different sciences, the relationship was challenged over the past two centuries — and eventually overturned. It was impugned by the scientific establishment, which sought to unhitch itself from epistemic criteria² set up for the validation of knowledge propositions. The practitioners of science contended that their domain is, and should continue to be, objective and value-free, and therefore independent of any externally imposed rules of conduct and procedure. In order to achieve this state of ethical neutrality and autonomy, the positivist movement began, and persisted with, an agenda to empty the sciences of their *a priori* content. This culminated in the rise of logical positivism (LP henceforth), where every effort was made to reduce all branches of knowledge, including the social sciences, to the logico-empirical method, in order that they be free of metaphysical notions.

Despite the single-minded resolve and effort of the movement, it collapsed spectacularly in the 1960s, unable to withstand the devastating critique against it by even those from within the establishment (see Van Fraassen 1980; Suppe 2000). The attack against the *a priori*, notwithstanding, continued unabated — even after the death of

¹ Simply translated as the theory of knowledge.

² See Eichner (1983) for a useful exposition of some of these rules.

positivist ideology — through some of its empiricist reincarnations, for example, naturalism (Quine 1969), (pan)critical rationalism (Popper 1983; Bartley 1982) and others such as (neo)pragmatism (Rorty 1979). Science continued to be viewed as *the* “holy cow”, an unassailable standard whose methodology and the results it yielded were considered the best (and only) source of credible knowledge that humankind had access to. Any notion that remotely threatened the self-acclaimed status of incontestability was to be jettisoned. This unremitting opposition, consequently, hindered any restoration of the role of epistemology in, and for, science.³

Given that the neutrality thesis holds central position in science’s claim of objectivity, its origins and several counter-arguments against it were examined. One fact that emerges clearly from the many seminal works on this issue, some of which date back to the early 20th Century, is that scientific enquiry has always been metaphysically underpinned by a set of ontological and epistemic presuppositions. Both logically and historically, there was no possible escape for scientists from this denouement. Leading physicists and/or mathematicians — from Einstein (1916), Burt (1924) and Whitehead (1925) to Kuhn (1962), Wittgenstein (1969) and Lakatos (1978) — recognised the necessity for an *ex ante* commitment to some set of *a priori* givens for science to proceed *ex post*. Without these presuppositions, scientific exploration would be practically and logically impossible, for as Wittgenstein (1969: 163, 253) argued: “Whenever we test anything, we are already presupposing something that is not tested ... (a)t the foundation of well-founded belief lies belief that is not founded”.

Although scientists sought to disavow and eliminate all subjective notions from scientific knowledge, it was paradoxically these very discoveries⁴ that exposed the inherency of human subjectivity within its domain.⁵ Other physicists such as Bohr (1958), Heisenberg (1971) and Bohm (1994) grasped their implications and joined the growing chorus for the full re-integration of epistemology within science. However, with the destructive critique of post-modernist/post-structuralist writings that followed the collapse of positivism, the philosophy of science fell into such disarray for the remainder

³ With the coterminous rise of post-modernism and the collapse of all “grand-narratives” (see Lyotard 1984), the quest for any kind of intellectual certainty was considered simply unattainable.

⁴ In quantum physics, for example.

⁵ It thus begs the question as to why all of these developments regarding the subjectivity of science were suppressed and not adequately publicised to the rest of the scientific community and the public at large. See Toulmin (1990) for a possible thesis of the hidden agenda behind this.

of the 20th Century that it was incapable of offering new insights into how to achieve meaningful reintegration (see Agassi 2009).

2. Introduction to the Current Paper

As indicated in the previous part of this study, the positivist project was not merely confined to the natural sciences. On the contrary, it was targeted by its founder, Auguste Comte (1798-1857), specifically towards the social sciences. His declared aim was to transform all of the humanities into “social physics”, i.e. to subject all human phenomena to the positivist methods of science (Overman 1988). Comte’s objective to reduce the humanities to the rationalist methodology of the natural sciences was also not novel. He acknowledged that the seeds of this project were planted by early Enlightenment thinkers, such as Voltaire and others before him (see Mill 1836a; Berlin 1980). But Comte’s achievement was his ability to develop their ideas into a comprehensive philosophy of science (Comte 1853).⁶ By his time, the modernist agenda had reached a level of intellectual maturity where it was ready to use Comte’s writings to impose its ideology onto science itself (see also Wilson 1999).

For the purpose of this study, Comte’s positivism influenced the social sciences in two important ways. The first was his notion that knowledge would evolve over time from the theological to the metaphysical and, finally, to the scientific stage (Giddens 1974). He was convinced that a biblical account of reality would first give way to a (humanly conceived) value-based and morally oriented one (the metaphysical). By virtue, however, of this transition from blind faith to investigative reasoning, even the search for a metaphysical grounding of social laws would be rendered hopeless, so that, ultimately, humankind would turn to the “hard facts” of positive science to allow for a rational ordering of society (Van der Pijl 2009). Secondly, Comte was responsible for the classification of knowledge into disciplinary boundaries and a hierarchical ordering of the sciences according to their degree of complexity and generality (Ward 1898, see also Henderson 1994). At the base was located mathematics and physics, since these enjoyed the highest degree of positivity, and hence they were to serve as the standard by which every other science was to be evaluated. Following on from this classification of

⁶ And from thereon, into an ideology with strong religious undertones (see Comte 1908).

disciplines, Comte is also credited for founding the different social sciences as distinct and separate bodies of knowledge (Urbanowicz 1992).

As these two Comtean theses merged and crystallised, they had a discernible impact on all social sciences, particularly economics. Prior to the 19th Century, economic issues were almost always examined from within the domain of the moral sciences (Alvey 2000). In the early writings of Smith⁷ and Malthus⁸, for example, there was still a very strong characterisation of economics as a moral enterprise. However, the allure of the prestige conferred upon Newtonian science soon thereafter became irresistible for the social sciences, many of which sought to emulate its methodology (Clinard 1966; Cohen 1994).⁹ The intellectual ancestors of economics, recognising what the shift towards this orientation entailed, “wrestled their discipline away from departments of moral and social philosophy” (Fox 1977:33). From Ricardo (1817/1952), Senior (1826, 1836) and Mill¹⁰ (1836b) onwards, one therefore clearly observes an inclination to steer economics towards the direction of a positive science. This trend continued so that by the end of the 19th Century, economists had clearly committed their field of enquiry to the epistemology of the physical sciences (see also Georgescu-Roegen 1971; Mirowski 1984, 1989).

The groundwork was heretofore laid for economics to metamorphose into an exact science. The decision to embrace the epistemic underpinnings of positivism meant, firstly, that economics would have to abandon its intricate web of relationships with the other social sciences and develop into an autonomous and self-contained area of study. Secondly, because it adopted the methodology of the so-called “hard sciences”, an aura was created around economics being on its way to becoming an objective and value-free science. The profession thus viewed any further engagement with the various sub-disciplines of philosophy — such as ontology, epistemology, and ethics — as an exercise in futility. This simultaneous breakdown in the relationship between economics and its sibling disciplines, and with its maternal sciences in philosophy, was to have significant implications for the discipline. It deprived mainstream economics (ME henceforth) from drawing on the immense insights offered by the other disciplines and led, as a corollary, to contestations on how best to approach the study of economic phenomena. The refusal

⁷ E.g. his *The Theory of Moral Sentiments* (1759/2002).

⁸ E.g. his *Principles of Political Economy* (1820/1951).

⁹ As McClelland (1996:314) suggests, “In the Enlightenment, everybody wanted to be the Newton of the social sciences”.

¹⁰ Who was a close associate of Comte.

by leading mainstream economists to engage constructively with their detractors on these issues eventually split the profession into rival groups that formed their own associations and established separate platforms to further their research agendas (Dugger 1979; Reinert 2003).

When Muslim economists observed some of these limitations and outcomes within ME, they aspired towards another conception of economics that was explicitly oriented towards the normative values and legal maxims of Islam. However, like their counterparts in ME, they otherwise accepted the neutrality thesis of science and its related notion of an objective and universal methodology, as discussed in the previous paper (see Mahomed 2016a). By and large, Islamic economists expressed few reservations on methodological issues and saw no need to engage with epistemic or ontological considerations in developing their science. Accordingly, they adopted most of the analytical tools of ME and several of its preconceptions while formulating their economic theories. By neglecting to consider the philosophical underpinnings of ME and assuming them to be uncontentious, they unwittingly grounded their discipline within the axioms of positivism. Consequently, in its current form, IE came to resemble ME and now faces an identity crisis, as has been acknowledged by its proponents (Mahomed 2013).

This paper examines these issues in detail. In Section 3, I show how the importation of (logical) positivist doctrines into economics provided economists with the rationale to ascribe to their discipline the status of objectivity and value neutrality. I elaborate on its interdisciplinary implications, in addition to how they impact upon all aspects of research, training, and practice in economics, and what this augurs for the future of ME. Section 4 relates these issues to IE. I first discuss the importance of epistemology within Islamic scholarship, from both historical and methodological perspectives, and then evaluate the attitude and response of Islamic economists towards this area. I demonstrate how, as a result, IE suffered from the same fate as ME in several areas. Notwithstanding these striking parallels, this section further outlines why IE is more likely to overcome its hurdles than ME. In Section 5, I explain how and why Islamic epistemology is fully endowed with its own intellectual tools to address the methodological needs of IE. The Western tradition can likewise draw from the deep insights that it offers. The last section summarises and concludes.

3. The Impact of Positivist Science on Economics

The influence of positivistic thinking on economics predates that of the logical positivists by well over a century. Many important ideas of the early empiricists, such as Locke and particularly Hume, had already begun to shape both the content and methodology of economic thinking (Coleman 1995; Mahomedy 2016b; see also Hooker 1975). These include the positive-normative, rational-emotive, deductive-inductive, theory-observation, and quantitative-qualitative dichotomies. Comte (1853, 1908) formally inducted most of these dualisms into the positivist scientific enterprise, so that by the time their conceptualisation had become sufficiently developed, they were ready to be incorporated into economics during the Marginalist Revolution of the 1870s. Consequently, even before the inception of the logical positivist movement, economic science had been earmarked as developing into a physico-mathematical science, thus pre-empting several of the tenets espoused by LP several decades later.

3.1 The Alliance Crystallises

In his review of the state and progress of economic methodology, Hands (1990, 2001a, 2001b, 2004) demonstrated in several theses that over the last century several strains of positivist philosophy had become deeply intertwined within debates about political economy and the role of science in economics. The stabilisation of the epistemic order, he argued, was fundamentally linked with views about the stability of the economic order. According to this view, the reigning philosophy of science in this period had a great influence over economics and other humanities. Likewise, it became reciprocally infused with ideas from economics and thereby reinforced the notion of an epistemic affinity between the natural and social sciences (see Eubel 1992; Cartwright et al. 1996). This intermingling and blending ultimately forged an alliance between the positivist movement and the dominant neoclassical tradition in economics.

Given the above, it is therefore not surprising that as LP rose to prominence, both inside Europe and in the rest of the Anglosphere,¹¹ it found a willing ally among mainstream economists who were eager to transform economics into a “pure” science. To varying degrees, leading economists such as Robbins (1935), Hutchison (1938),

¹¹ A term used to describe the comity of nations in which the English language and its cultural values predominate (see Bennet 2004).

Samuelson (1947) and Friedman (1953) became predisposed to the positivist élan, for it provided them with a philosophical base within which to anchor their own project of scientification of the discipline — i.e., to develop it into a strictly empirico-logical science. Up to that point in its history, economics had been inclined towards *apriorism* and the deductivist approach, and was thus closely allied to the intellectualist tradition (see Mahomedy 2016b, 2016c).¹² With the introduction of Hutchison’s (1938) writings¹³ and others that followed, economics was — in the true positivist spirit — now required to become more empirically oriented like the natural sciences, so that its propositions and/or predictions needed, *in principle* at least,¹⁴ to be testable by experimentation and observation.

The pressure to conform to the physico-empirical methodology and the prestige that could be earned in doing so (see Mirowsky 1989) was so overbearing that the “received view of social science epistemology was almost isomorphic with that of the natural sciences” (Novick 1988:546; see also Manicas 1987). The vision that “economics and physics could share the same formal mathematical theorems”¹⁵ (Samuelson 1998:1376) set the stage for economics to be fully subsumed within the domain of the physical sciences and it thereby laid claim to the status of being a true scientific discipline. Its high point was reached with the works of Hicks (1939), Samuelson (1947) and Friedman (1953), all of whom received the Nobel Prize in Economics.

3.2 Economics as an ‘Objective’ Science and Its Inter-Disciplinary Implications

These developments in economics initiated the formalist revolution of the 1950s (Blaug 1999; Hutchison 2000), the implications of which have been enormous for the discipline. These are discussed more fully elsewhere (Mahomedy 2016c).¹⁶ For the purposes of this paper, however, the focus will be on the consequences of one of its most enduring legacies

¹² The profession was, around this time, already deeply divided, consequent to the *methodenstreite* (i.e., battles over method) between the Historical and Austrian schools in Europe, and then between the Neoclassicists and Intuitionists in America (Häuser 1988; Reinert 2003; Louzek 2011). In the case of the latter, it had, according to some economists, such as Knight, almost paralysed the discipline (see Emmet 2009).

¹³ Hart (2002, 2003), meanwhile, has argued against the characterisation of Hutchison’s views as positivist, aligning them instead with the empirical-inductivist approach of the early British empiricists.

¹⁴ This minimalist requirement was imposed to avoid problems associated with the analytic-synthetic distinction referred to previously (see Mahomedy 2016a; Hempel 1959).

¹⁵ Such as Euler’s theorem on homogeneous functions, Weierstrass’s theorems on constrained maxima, Jacobi determinant identities underlying LeChatelier reactions, etc. (see Samuelson 1998).

¹⁶ See also Spengler (1961), McClosky (1985), Debreu (1991), Blaug (1997, 1999), and Düppe (2011a).

on the discipline: the notion that economics is a positive science, free of any normative content and hence, ethically neutral and *wertfrei*. The idea that economics *could* be value-free was, in fact, mooted long before the advent of LP; the early English economists such as Mill (1836b) and Senior (1836) insisted upon the need to maintain the positive-normative distinction. This issue subsequently turned into an acrimonious spat between Menger and Schmoller, when the former insisted that economic science *should* not have any “ethical orientation” at all (Haller 2004:6; see also Häuser 1988; Louzek 2011). Thus, ever since the Marginalist Revolution, it was professed as part of the “official view” that normative considerations were to be banished from economic science (Pigou 1914; Robbins 1935; see also Hodgson 1983).

The issue of economics becoming value-free was crucially important to those who wanted the field to earn its reputation as a scientific discipline; it formed the pivot around which economists turned every argument in asserting the cognitive status of economics as an objective science (see Friedman 1953; Klappholz 1964; Stigler 1965). In contradistinction, it also elicited extensive criticism from its own practitioners and servants (see Myrdal 1958, 1972; Strauss 1959; Boulding 1969; Schumacher 1973; Hodgson 1983, 1988; Sen 1987; Etzioni 1988; Samuels 1992; Choudhury 1993, 1999b; Keita 1992, 1997; Alvey 2000; Fullbrook 2003; Haller 2004; Peart & Levy 2005; Hausman & McPherson 2008; Lawson 2015). Notwithstanding this vehement opposition to the notion of economics as a *wertfrei* science, when LP rose to ascendancy with its claim that the social sciences could be subsumed within the physico-mathematical sciences and hence become objective, it yielded to economists an eagerly sought philosophical haven, from within which they could further their own agenda of scientification.

As Buchanan (1959) and Caldwell (1994) remarked, until the advent of LP, there existed strong elements of subjectivity within economics as a science, which enabled economists to discuss ethically desirable social goals. The positivist revolution, however, so “sharply disturbed this scholarly equilibrium” (Buchanan 1959:124), that economists had to tread very carefully from thereon when pronouncing on several issues. In seeking to elevate their domain of enquiry into “an ‘objective’ science, in precisely the same sense as any of the physical sciences” (Friedman 1953:4), economists were forced to purge from the discipline all of its explicit normative contents. To do so, they had to circumscribe both the scope and methodology of their subject matter to within very

narrow and limited bounds. This had two important implications for any further development of the discipline.

Firstly, economists were thenceforth unable to draw freely from the other social sciences that were integrally connected to economic choices and outcomes, such as history (Hodgson 2001), moral philosophy (Boulding 1969; Alvey 2000), psychology (Samuelson 1938, 1947), epistemology (Shackle 1978), politics (Galbraith 1989), sociology (Schumpeter 1954; Ingham 1996) and jurisprudence (Katz 1996). By emptying economics of all topics from these areas, those elements and factors that originated therefrom and impacted upon economic behaviour were walled off and considered off-limits for the purposes of economic analyses. With the enforcement of this arbitrary boundary between economics and its sibling disciplines, it was assumed that “economics can answer all its own questions on its *own terms* ... [and thus] treat economic affairs, *stricto sensu*, as self-sufficient [and] autonomous” (Shackle 1978:6, i.i.o).

It was from this disciplinary alienation that the narrow conception of *homo economicus* was borne and which became the sole agency of action for economic (theoretical) analysis. In the process of then having to invoke the necessary qualifying assumptions including the *ceteris paribus* principle, economic models became so abstract that all of its “desired results emerge(d) almost as tautologies” (Schumpeter 1954:472-473; Hollis & Nell 1975). This lack of realism underlying economic models itself “led to something of a *methodenstreit* in the 1940s” (Pheby 1988:84) and, despite the defence of the *status quo* mounted by Friedman (1953) and others, it has been a source of intense debate in the profession to this day. Consequently, in its complete acquiescence to the demands of positivist science vis-à-vis neutrality and objectivity, while economics was able to achieve some semblance of scientificity,¹⁷ it did so at the huge cost of losing a trove of insight from the humanities, all of which could have brightly illuminated its field of enquiry.

Secondly, the impression of economics being a value-neutral and objective science cultivated, in the minds of many mainstream economists, the idea that delving into questions concerning epistemology and/or methodology was both sterile and futile (Hands 1990; Caldwell 1993; Lawson 1994a; Hoover 1995; Hargreaves Heap 2000; Frey

¹⁷ That it has achieved even this level of objectivity has been questioned by others such as Schumpeter (1949), Myrdal (1958), Hutchison (1964), Kristol (1973), Hodgson (1983,1988), Heilbroner (1988), and more recently, Nelson (2014).

2001; Boland 2003; Davidsen 2008; Backhouse 2010; Drakopoulos 2014). Economists such as Hahn (1992) exemplified this rejectionist attitude by going so far as to warn that discussion of methodology could positively harm the discipline. This disinterest and, at times, hostility (Caldwell 1990) — even towards any kind of critical analysis of methodological issues — could, in fact, be traced much earlier to Irving Fisher’s remark that:

... students of the social sciences, especially sociology and economics, have spent too much time in discussing what they call methodology... [which is] already so big ... so largely useless ... [and] somewhat unprofitable” (Fisher 1932:1).

This casual dismissal of the importance of this area was subsequently reinforced with the publication of Friedman’s celebrated 1953 essay. Not only did Friedman’s thesis henceforth “excuse the economists’ ignorance about methodology” (Düppe 2011a:169), but it also “provided generations of university teachers with a handy rationalization for the apparent irrelevance (unrealism) of much economic theory” (De Marchi 1989). More seriously, the paper engendered a form of epistemological and ontological agnosticism towards truth and reality (Wible 1984, see also Reiss 2012).¹⁸ It boldly implied that all of the economic postulates of rationality, self-interest, perfect competition, optimisation, and so forth, were hardly worthy of debate: all that mattered was the predictive accuracy of economic theories and not their descriptions of reality (see Friedman 1953:14). By so deriding the need for theoretical assumptions to be realistic, Friedman effectively suffocated whatever enthusiasm remained in the profession for philosophical reflection and debate about the basis of economic theory.

But the most corrosive impact on attitudes towards epistemic considerations in economics, according to Lawson (1994a, 1994b), came from the grip that positivism has had on the discipline. McClosky (1985) and Caldwell (1980, 1994, 2013) have also pointed to this pervasive influence of the movement in imbibing a sense of disparagement and ignorance of alternative methodologies for economics. By being initiated into the belief that the only grounds for practising legitimate science was through the positivistic method, mainstream economists simply saw no need to explore other methodologies, or even to question the relevance of their own. One is thus led to suspect, as Lawson (1994a),

¹⁸ This is apart from the crass instrumentalist approach to science that Friedman’s paper inveighed for.

Frey (2001), Boland (2003) and Drakopoulos (2015) contended, that those who inveigh against methodological critique do so because of their commitment to a particular philosophy of economics, which they wish to insulate against attack and criticism.¹⁹

3.3 Consequences on Economic Research, Training, and Practice

A healthy growth in the economics discipline has been greatly hampered since the second half of the last century, due to the prevailing attitude of dismissal towards epistemic considerations and philosophical enquiry. This has stifled critical thinking on many of the “big questions” that are central to economics, apart from revealing an astonishing ignorance on the part of economic students about the history and tradition of their field of enquiry. This has impacted on various aspects of research, training, and the practice of economists.

Firstly, economists who write on philosophy and methodology are considered “outsiders” to the discipline (see Samuelson 1983; Weintraub 1989; Hoover 1995; Frey 2001; Colander et al. 2004). This ostracism not only hindered their career development in and out of academia, but led to their research being subsumed within the disciplines of philosophy and history, etc., so much so that their work is now viewed as constituting a separate field that is apart from and distinct to ME discourse (see Boland 2003; Düppe 2011b; Yalcintas 2013).²⁰ The aversion of ME towards these areas of enquiry and its insistence that they do not constitute part of the intellectual tool-kit of economists has driven a sharp wedge between economic methodologists on the one hand and theoretical and/or practicing economists on the other. This disconnection has caused mainstream economists to remain largely oblivious to the epistemic concerns that their counterparts have been raising, both about the discipline and measures that are required to reform its perilous state.

This disjuncture has consequently fed into theoretical economics as well. As indicated previously, positivism had all but collapsed during the 1960s, resulting in the current malaise and disarray in the philosophy of science (Hands 2001a; Agassi 2009). In economics, attempts to fill this vacuum with the Popperian and Lakatosian falsificationist ideas by Blaug (1980) and others (e.g. Weintraub 1988) encountered intractable

¹⁹ See also Heilbroner (1996).

²⁰ Disciplinarianisation and professionalisation has also further entrenched this artificial barrier (Hutchison 1996; Wallerstein 1996).

difficulties and therefore failed to make any definitive mark on the discipline (Caldwell 1984; Pheby 1988; Dow 1997). By ruling out any critical discussion of methodological discourse in mainstream circles, any defence of neoclassicism was left “hanging in the air” (Backhouse 1992:58), while the official methodology of ME now firmly remains a relic of the outmoded and defunct positivist philosophy. Even post its eclipse, positivism had played a determining role in shaping the social sciences, particularly economics (Wilber & Harrison 1978; McCloskey 1985; Caldwell 1994; Kincaid 1998), and it continues to exert a ubiquitous influence on these disciplines (Overman 1988; Fischer 1998; Novick 1988; Boland 1991; 2003; Wallerstein 1996; Keita 1997).²¹

Thirdly, at the applied level, the actual practice of economics has shifted away from its positivist preachings and embraced a variety of approaches that, nonetheless, remain disparate (see Blaug 1980, McClosky 1985; Colander 2000, Colander et. al 2004). The grip of positivism has thus loosened somewhat, although not convincingly enough (see Stilwell 2016). Moreover, there still is no consensus on the direction that economics should pursue, vis-à-vis its epistemic and methodological grounding. ME itself has thus fractured along several trajectories. These include: the pure theory vs empirical work dichotomy, based on the long-standing deductivist-inductivist split (see Pencavel 1991, Clower 1995); the formalist vs non-formalist approach to economic reasoning (see Chick 1998; Katzner 2001); the instrumentalist vs non-instrumentalist aims of economic theories (see Mäki 1994; Reiss 2012); and the debate on whether methodology ought to be prescriptive or merely descriptive only (see Weintraub 1989; Backhouse 1992). ME thus appears to vacillate between two extremes: one of narrow, doctrinaire positivism and the other of denying any prescriptive role for the discipline (Dow 1997).

Lastly, mirroring the disarray in the practice of economics is a corresponding tension that has riveted academic departments at several leading universities in the Western world. With the growing critique against neoclassical economics by leading economists (Leontief 1971; Georgescu-Roegen 1971; Myrdal 1972; Worswick 1972; Ward 1972; Phelps-Brown 1972; Schumacher 1973; Hicks 1975; Hollis & Nell 1975; Bell & Kristol 1981; Eichner 1983; Ormerod 1994; Heilbroner & Milberg 1996; Coase 1997; Lawson 1997, 2003; Hodgson 2001, 2006, 2009; Boylan & O’Gorman 2007; Krugman 2009), university students in Australia, France, the United Kingdom, Italy, Spain, and the United

²¹ This is evident given the insistence that economics is, and still ought to be, a positive science, free of ethics and value judgements (Klappholz 1964; Rothschild 1993; Boumans and Davis 2010).

States have been vehemently protesting through several fora against the “repressiveness” and “dogmaticism” of ME (see McIntyre 2003; Fullbrook 2003; Butler, Jones & Stilwell 2009; Yeunglamko 2011; Parrique 2013). This discontent has initiated a global student movement that calls for the “opening up” of the economics curriculum to alternative approaches that presently fall under the umbrella of Heterodox economics (HE, henceforth — see Lawson 2006). It remains a puzzle, though, that despite efforts to dislodge the dominance of neoclassical orthodoxy from university curricula, it still continues to maintain its hegemony.²²

3.4 Current Status and Future Prospects

Considering the various writings and appraisals of difficulties besetting ME on the methodological issue, there seems to be a convergence towards one central problem: an essential disjuncture between professed and practised methodologies. Economists remain trapped within a current of thought that defies any cohesive synthesis between these approaches.²³ Feeding into this disconnectedness and inability to resolve the dilemma is the age-old, classical “dualism: the practice of thinking in terms of mutually-exclusive, all-embracing categories” (Dow 1997:85; see also Bhaskar 2002; Mahomed 2016c).²⁴ Consequently, when other inter-related arguments regarding ontological and ethical considerations are incorporated into the debate (Davidsen 2008; Mahomed 2015a), the challenges facing economics magnify into a *problematique* of serious proportions.

This current state of affairs and lack of integration between epistemics²⁵ and economics have been described by Schumacher (1973), Nozick (1982) and Hutcheson (1997) as being responsible for the dangerous deterioration in the economics discipline, particularly for the purposes of understanding even basic economic theory. Other eminent economists, such as Robinson (1962), Myrdal (1968), Higgins (1978), Heilbroner (1988), Etzioni (1988) and Sen (1987) have also emphasised the importance of integrating

²² This paradox intensifies when one considers the mounting criticism that ME itself is to blame for the repeated economic crisis bedeviling the global economy (see Colander et al. 2009; Lux & Westerhoff 2009; Davies 2012). The answer, as discussed later, lies perhaps beyond the disciplinary boundaries of economics.

²³ This irreconcilability is very much reminiscent of Kant’s dichotomy between his Pure Reason and Practical Reason (see Kant 1929). Not surprisingly, Dow (1997:88) refers to this reasoning process of economists’ as “the classical logic of closed-system analysis”.

²⁴ This dichotomy is then projected onto economic theory via the marginalist hypothesis of economic rationality, e.g. the neoclassical postulates of opportunity costs in which there has to be trade-off between social justice and economic efficiency.

²⁵ See Shackle (1978) for the comprehensive sense in which this term could be applied.

philosophy within economics.²⁶ In earlier times, prominent economists such as Hume, Smith, Mill, Marx, Jevons and Keynes were also leading philosophers. Thus, the profound philosophical and methodological problems of the discipline were authoritatively addressed by them so that a broad but workable consensus, however tentative, was able to emerge (Hutchison 1996). That synthesising process has completely broken down over the last half century, primarily because economists abnegated the need to thoroughly understand and appraise the underpinnings of their science. This neglect has led to much disagreement and ambiguities in the fundamental assumptions of ME, including its central axiom of rationality (see Sen 1977; Duhs 1998; Gerrard 2006).²⁷ Not surprisingly, therefore, Colander et al (2009) and Colander (2013) attribute these academic and methodological failures to a *systemic* breakdown in the economics discipline itself.

Given the above contestations at both theoretical and applied levels, and the growing crisis that they portend in the discipline, one should ask if economics is on the threshold of a Khunian revolution, or if its challenges merely reveal another outburst “of the few hundred-year-old debate between naturalism and non-naturalism in the broader field of the social sciences” (Beed & Beed (1996:1077). Whatever the prognosis, economics is clearly at the crossroads at a crucial stage in its history. Its intellectual standing and legitimacy is being increasingly questioned, more especially because the public feels let down by the failure of the economics profession to predict and prevent the most recent global financial catastrophe (Hodgson 2009; Coyle 2012; Desai 2015). The crisis in economics has clearly spilled over beyond intellectual academic gymnastics into the very body politic of society, through misconceived economic policies that have severely affected millions of people.

With the forlorn outcomes that have emanated from the myopic view of ME towards its subject matter, the clamour from across a broad spectrum of stakeholders for a fundamental re-think on economics and its methodological apparatus grows louder by the day. It has received backing from several recent Nobel laureates²⁸ in economics and other

²⁶ See also Cropsey (1955) in this regard, but within the context of welfare economics.

²⁷ To compensate for this deficiency, verbosity and high-sounding language is adopted to mask this inadequacy of a deeper level understanding (Popper 1994; Krugman 1994). Popper (1994:71) goes on to further complain that “the degeneration into impressive but more or less empty verbalism has gone further [in the social sciences] than in the natural sciences”.

²⁸ E.g. Krugman (2009) and Stiglitz (2010).

leading institutions²⁹ of ME. But whether the *status quo* will change depends, *inter alia* (see below), on how easily the stranglehold can be broken of neoclassicism at universities across the world.

4. Implications for Islamic Economics

As pointed out in the introduction of this paper, the Islamisation of Knowledge (IoK) project was instantiated to bridge the dichotomy between scientific enquiry and the traditional religio-ethical branches of knowledge (Haneef 2005). Given that such an agenda immediately strikes one as epistemological, how did those intent on Islamising economics respond to this particular imperative? Before proceeding to evaluate this issue, it will be elaborated as to why, apart from the relevance of epistemology to science in general, the Islamisation project, in particular, has a fundamental stake in it.

4.1 The Importance of Epistemology in Islamic Thought and Practice

The extensive links and relationships between epistemology and all other areas of the Islamic faith have been recognised from the beginning of Islamic history. Not surprisingly, therefore, for most of the early Muslims, this branch of knowledge was highly esteemed and regarded as a scholarly discipline. As Rosenthal (1970:195) recorded:

The discussion of epistemology thus did not remain restricted to concerned philosophers and professional logicians. It spread to form the foundations of systematic theology and jurisprudence, and in this way penetrated right to the core of Muslim thinking.

He further emphasised that it played such a central role in early Islamic scholarship that *ilm* (an Arabic word normally translated as knowledge), in its classical usage, was equated with episteme itself. The great scholastics of early Islam, such as al-Ghazali (1056-1111),³⁰ ibn-Rushd (1126-1198),³¹ and ibn Arabi (1165-1240),³² thus began writing their *magna opera* with volumes dedicated to epistemology, or wrote extensive chapters on it.

²⁹ E.g. The London School of Economics (2006) and The Center of Religion, Economics and Politics, University of Basel in Sweden (2011).

³⁰ Better known in the West by the Latinised name of Algazel. See his (2008) *Revival of Religious Sciences*.

³¹ Famously known in the West as Averroes. See his (1954) *The Incoherence of the Incoherence*.

³² See his (2004) *The Meccan Revelations*.

Accordingly, it constituted the core of knowledge itself and was not considered extraneous to it.

Secondly, and consequent to the above, *ilm* (in its all-embracing sense) is integrally connected to some of the other most powerful terms in Islam, such as *Tahwid* (Oneness of God), *Taqwa* (God-consciousness), and *al-Haq* (The Truth). It is these fundamental concepts and the nexus of relationships among them that cohere to form the *weltanschauung* of Islam. Because this worldview is shaped and informed by its *a priori* and *a posteriori* content (i.e. learning derived from revelation and the empirical sciences, respectively), these sources, insofar as they yield true knowledge, are never considered as belonging to mutually exclusive or segmented realities. Within the Islamic framework of knowledge, unlike that of Occidental thought, there can be no antinomy between these domains, since all knowledge comes from God and must therefore integrate towards unity. But without a thorough understanding of the epistemic implications and processes involved, it is inconceivable how an integrative methodology can be formally derived to achieve the desired unity in scientific thought.

Thirdly, as the first part of this study explained (see Mahomedy 2016a), attempts to redefine the boundaries of knowledge, identify its sources, derive knowledge flows therefrom and undertake its evaluation constitute the very subject matter of epistemology. The founding fathers of the Islamisation project and those at the forefront of the movement in recent times, such as al-Attas, Al-Faruqi, and Choudhury, have been cognisant of the indispensable need for scholars to engage fully with issues of epistemology and methodology. At inception, they emphasised its importance for any meaningful construal and recasting of the knowledge enterprise anew. To underscore the importance of this area, Choudhury, in particular, dedicated his magnum opus, *Science and Epistemology in the Qur'an* (1995/2006), a five-volume treatise, to this topic. Notwithstanding these more recent contributions, the intense and highly scholarly debates between the intellectual giants of the past, including al-Ghazali, Ibn-Rushd, and Ibn Taymiyya (1263-1328), provided extra insight in this area for those involved in the Islamisation agenda.

Lastly, the aim of all scientific activity in Islam is not limited to understanding merely for its own sake. It has to have among its objectives the *critique* of science, i.e. it must serve a transformative agenda. In this, Islam is at one with both Marxian and Bhaskarian

ideals that science must be emancipatory (see Bhaskar 2011), in the sense that it must be devoted to the reconstruction of an improved social order. Islamic science is therefore unapologetically both positivist and normative, and to serve this unitary function, it must transcend this epistemic duality that has been established since the birth of modern rationalist science. But it can only do so with the construction of an epistemic framework whose concepts and principles are unencumbered by the thought processes and nomenclature of classical dualism that were pointed out earlier. Such an episteme therefore cannot arise through the adoption of a mechanical process involving the amalgamation of existing concepts and ideas to form clones resembling existing paradigms. It has to be a fundamentally “originary” exercise. As Einstein (1946:4) had emphasised much earlier: “[A] new type of thinking is essential if mankind is to survive and move toward higher levels”.

4.2 Approach of Islamic Economists towards Epistemic Considerations

In light of the above and other arguments discussed in previous sections, one would have expected Islamic economists to have actively engaged in and debated upon the type of epistemic paradigm that their discipline required, before beginning to develop subject specific content. The narrative that unfolds, however, is quite disconcerting.

When their project got off the ground, Islamic economists were insistent that there was no need to reconstruct IE *de novo* (Siddiqi 1981, 1994; Naqvi 1981; Mannan 1984; Anwar 1990; Hassan 1998; al-Jarhi 2004, Limam 2004). They were generally convinced that the main problem with ME was that it simply lacked an ethical dimension. Many of them did not have any serious qualms about the axioms of economic rationality and all of its implied postulates of scarcity, self-interest, optimisation, competition and marginalism (Kahf 1992; Hassan 2002, 2005; Ahmed 2014). Some suggested that the commonality between neoclassicism and IE was ample enough for the latter to be subsumed as a special case of the former (Limam 2004). Not surprisingly, therefore, Kahf (2004), Zarqa (2004) and Ahmed (2014) felt comfortable adopting the analytical tools of ME. Al-Jarhi (2004) went so far as to suggest that there was no need to develop a unique theory of IE; all that was needed was institutional changes to distinguish IE from other economic orders. The overall outlook, then, converged towards the idea that with some careful sifting, pruning and sprucing, IE would emerge and take shape (Anwar 1990; Hassan 1998; Zarqa 2003;

Kahf 2003). Moreover, it was assumed that the process was straightforward: a simple transplantation, through a mechanical procedure, of knowledge terms, concepts and values onto the foundations of modern economics.³³

Given this attitude, Islamic economists — with notable exceptions³⁴ — neglected to engage in epistemological and methodological issues (Choudhury 2000, 2007, 2011, Haneef & Furqani 2010; Aydin 2013; Khan 2013; Furqani & Haneef 2015). This was because they had no reservations about the epistemic and ontological presuppositions of ME. In a remarkable and striking echo of Fischer (1932) and Hahn (1992), Kahf (2012:215), considered a pioneer in IE, epitomised this sentiment when he commented:

I do not believe that to spend much time on Methodology is useful ... Methodology does not belong to Economics ... [and] nor is empiricism in contradiction with our religion.

On this aspect, Islamic economists, ironically, were even in agreement with those who were bitterly opposed to the idea of Islamisation, such as Abdus Salam (1989) and Hoodbhoy (1991). They all seemed to concur that epistemological and methodological issues were peripheral to the debate and consequently did not warrant any detailed critique or reinvention.³⁵

The reasons for this aversion of the Islamic economists towards this area are identical to those proffered by their Western counterparts and ME: modern science is an objective and ideologically-neutral enterprise and this applies to all of its disciplinary surrogates. The justification for this inhering belief is similar to that explained in the first part of this study (see Mahomedy 2106a) and therefore does not warrant detailed repetition here. Nonetheless, this rationalisation then served as the basis for their conviction that it was futile to reinvent economic theory for IE “from scratch” or to establish any independent or unique foundation for it. They embraced the idea, and continue to do so currently, that since ME is value free (see e.g. Ahmed 2014), all that is required to render it “Islamic” is for ethical Islamic values to be interspersed within the dominant paradigm.

³³ See also Acikgenc (1996) and Wan Daud (1997) for a discussion of this self-same attitude that might have been prevalent in other areas of the IoK process.

³⁴ Such as Choudhury, among the early economists, and, more recently, Haneef, Zaman, Aydin, and Furqani.

³⁵ See also Furlow (2005) and Radford (2012).

It is indeed strange that Islamic economists adopted this neutrality thesis. When the Islamisation of economics began, the works of Popper (1959, 1970, 1972, 1983, 1994), Kuhn (1962), Feyerabend (1975) and Lakatos (1978) had already been widely publicised in academic circles. As pointed out previously (see Mahomedy 2016a), they argued compellingly that the scientific enterprise was anything but presuppositionless, as it was fundamentally linked to a worldview shaped by ideology. Furthermore, during the period of Islamisation, the post-modernist/social-constructivist movement had gathered momentum and was openly challenging the objectivity status accredited to modern science, inciting the fiery “Science Wars” of the 1990s (see Ashman & Baringer 2001). Despite these extensive critiques, Islamic economists seemed oblivious to them and proceeded with their programme, holding onto a view of science that was already largely discredited.

They might counter that because of ME’s disavowal of explicit value judgments, as a *science* it was still considered neutral to this particular issue, and it therefore made sense to use it as a base to launch their project. While it is correct that ME was, and still is, less willing to concede that it is value laden (see Boumans and Davis 2010), there were, nonetheless, many well-known mainstream economists such as Souter (1933), Hutchison (1938, 1964), Schumpeter (1949), Myrdal (1958, 1972) and Robinson (1962) who comprehensively refuted arguments about the value-free aspect of economics, well before the Islamisation process got underway. Subsequently, there were yet others, such as Hodgson (1983, 1988), Heilbroner (1988, 1996), Lawson (1997, 2003), Mongin (2006) and Hands (2012), who also inveighed heavily against the value-neutrality thesis of economics. To what extent, then, were any of the debates raging in ME taken into account by IE when its agenda was being articulated?

Let us assume, though, that economics was indeed *wertfrei*. For reasons discussed earlier (see Mahomedy 2016a), it is still not logically possible for the discipline to be free of any of its other metaphysical propositions. Thus, despite initial claims of objectivity, several neoclassical economists subsequently conceded that neoclassicism was underpinned by some metaphysical content at the very least (see Boland 1981), apart from the issue of ethics. Others, meanwhile, such as Schumacher (1973), Rosenberg (1995), Lawson (see Fullbrook 2009) and Mäki (2001), have also highlighted the role of these ontological presuppositions in shaping economic thought. Consequently, any attempt to reformulate economic theory requires at least some scrutiny of its ontological foundations

(Dow 1997). Given this connection, did Islamic economists consider whether the materialist *métaphysique* of ME³⁶ was amenable to the kind of enterprise that they aspired to erect and, in addition, whether its closed-system ontology³⁷ could accommodate the conceptual breadth and depth of Qur'anic epistemology?

The requirement for, and appeal to, the Islamic economists to interrogate the modernist paradigm of knowledge at this level of discourse is not novel. Such calls were made, to varying degrees, by many of the early proponents of Islamisation (Nasr 1968; Choudhury 1983, 1986; Sardar 1985, 1988; Bakar 1984, 1991; Nasr 1986, 1991) and others before (e.g. Guénon 1953). One of the chief architects of the IoK project, al-Attas, was quite explicit on this when he implored that Islamisation had to entail:

... a critical examination of the methods of modern science; its concepts, presuppositions, and symbols; its empirical and rational aspects, and those impinging upon values and ethics; its interpretations of origins; its theory of knowledge; its presuppositions on the existence of an external world, of the uniformity of nature, and of the rationality of natural processes; its theory of the universe; its classification of the sciences; its limitations and inter-relations with one another of the sciences, and its social relations (al-Attas 1995:114).

While several of the generalist Islamic scholars on Islamisation, such as Abu Fadl (1988), Ragab (1995, 1997, 1999), Safi (1996) and Wan Daud (1997), pursued what this critique implied, how did Islamic economists in particular respond to this challenge?

Most of the literature on IE excludes discussion and debate on all of the aforementioned issues. To their credit, among the earlier scholars besides Choudhury, Chapra (1992, 2000a) did address some of the epistemic implications of Islamising economics and sought to incorporate ibn Khaldun's³⁸ socio-political model into IE. However, these attempts were too few and far between to render any decisive impact on the discipline. Likewise, any reference to ontology is almost non-existent in early

³⁶ See Mahomedy (2015a) for a fuller discussion of this issue.

³⁷ See Lawson (2003, 2006) for a discussion of the other implications of closed systems ontologies.

³⁸ An outstanding North African, Arab, Muslim scholar of the 14th Century, who wrote extensively on sociology, history, demography, and economics. See his (1967) magnum opus *The Muqaddimah: An Introduction to History*.

writings.³⁹ By and large, the Islamic economists dismissed the need to integrate their economic content with the epistemological and ontological foundations of Islam. As Choudhury (2011: xiii) surmises, because of this neglect, IE “leaned and slumbered in the bosom of the neoliberal paradigm”, so it remains “uncritical and epistemologically barren”.

4.3 Implications of the Dismissive Attitude to Foundational Issues in Islamic Economics

The refusal by the Islamic economists to engage with the various issues relating to the epistemic has been immensely deleterious to the development of the discipline. The mounting criticisms against both IE and its downstream application, Islamic Banking and Finance (IBF henceforth), is well documented, and acknowledged by even the leading Islamic economists themselves (Chapra 2000b; Kahf 2004; Siddiqi 2008, 2011; see also Sardar 2004; Choudhury 2008a).⁴⁰ For the purposes of this paper, I will accordingly focus primarily on the parallels between ME and IE, showing briefly how the same problems that have bedevilled the former are replicated in the latter, because of the same causative factors.

As previously noted, in seeking objectivity within the framework of rationalist science, ME submitted to the strictures of disciplinary classification and professionalization, thereby severely limiting the scope of its subject matter. Inter-and multi-disciplinarity was abandoned. By aspiring to enter the same domain on terms likewise, IE was also forced to abide by its taxonomy and develop within these narrow bounds. In so doing, it not only deprived itself of its rich scholarly heritage from all its diverse fields of intellectual enquiry but it also forsook the holistic methodological approach that is a *sine qua non* for any conception of an Islamic science. IE thus lost the opportunity to develop as a multi-disciplinary enterprise, i.e. as a meta-science firmly grounded within the episteme of its *Tawhidi*⁴¹ worldview.

³⁹ Apart from Choudhury’s works, it is only recently that these terms are beginning to appear in the writings of a new generation of Islamic economists, such as Haneef (1997), Asutay (2007a), Furqani (2011) and Aydin (2013). What remains yet to be formulated is how these areas will form a relational framework that meshes with Islamic economics.

⁴⁰ See Mahomedy (2013) for a comprehensive coverage of this critique.

⁴¹ This concept is normally used to refer to the Oneness of God, but the implications of its pervasive character across all domains of thought and existence is yet to be fully explored by contemporary Islamic scholarship. See, however, Choudhury (2000, 2011, 2013, 2014) and Mahomedy (2015a, 2016b) for some ideas on how the *Tawhidi* worldview may extended into these areas.

Secondly, and consequent to the above, just as ME embraced methodological individualism and then had to contrive the highly abstract *homo economicus*, an epitome of rationality, so too did IE. In adopting the same methodology, it created the fiction of *homo Islamicus*, seen as a paragon of moral perfection (see Mirakhor 2006; Nasr 1991; Asutay 2007a). In both cases, such agents of economic behaviour were rarely, if ever, to be observed in the empirical world. Optimisation models based on rational choice within both frameworks were thus rendered completely disconnected from reality. As a result, they have become irrelevant either for the purposes of explaining or predicting the actual performance of agents, or for effective policy guidance. Due to the unreality of these caricatures, ME theories have been derided as “an intellectual game played for its own sake” (Blaug 1997:3), while IE is now parodied as a “fiasco” (Choudhury 2008a:1) and a “non-starter for truly Islamic economic, social and scientific thinking” (Hoque & Choudhury 2003:4).

Thirdly, the mismatch between an idealised world of pious, well-intentioned individuals and a real, imperfect one with widely divergent behavioural norms, led to a disjuncture between the professed methodology of IE and the actual practice of formulating economic policy.⁴² While all Islamic economists pay homage to the Qur’an and the Prophetic Method (*Sunnah-al-Rasul*, in Arabic), and mostly agree upon a set of principles derived from these sources, their opinions diverge on key economic outcomes and policy prescriptions (see Mahomedy 2013). A similar discrepancy arises between the declared objectives of IBF and the real world of high Islamic finance (El-Gamal 2006; Javaid 2011). These multiple failures in operationalising the stated aims of IE and IBF have been attributed, as in the case of ME, to a methodological breakdown in the discipline and a dissonance between expected and displayed behaviour patterns (Asutay 2007b; Laldin and Furqani 2013). Karwowski (2010) intimates that it is for these reasons the discipline remains indistinguishable in practice from its mainstream counterpart.

Fourthly, when IE uncritically accepted the methodological apparatus of ME, it foisted the dualist mode of thinking, which had already fractured ME (see Dow 1997), upon its own ensemble of concepts and values. This paralysed the nascent field of IE in that it became entangled with having to resolve, within its conceptual scheme, opposing dichotomies that have no origin within Islamic ontology. Further, like ME, when Islamic

⁴² For a classic example of this failure in Iran, which of all the Muslim countries had achieved the political will and independence to implement Islamisation, see Mehrdad (1993) and Behdad (1994, 2005).

economists deprecated the role of methodological enquiry, they failed to explore the relevance of these spurious categories for their discipline. They made no attempt to interrogate these dualisms or to develop an episteme that was able to transcend them. As a result, marginalist substitution⁴³ was incorporated as part and parcel of Islamic economic theory. The fate of IE became sealed as it quickly evolved into a close cousin of neoclassical economics, but clothed in the garb of Islamic terminology. As a direct consequence of this, any attempt at integrating the comprehensive value system of Islam, underpinned by the principles of complementarity, endogeneity, interaction, and inter-causality (see below), was bound to flounder right at the early stages.

Lastly, the lament of Hutcheson (1996, 1997) on the dismissive attitude of the economics profession towards philosophical issues reflects equally well on IE. As in the mainstream, a discussion of these topics in IE is rarely encountered in academic literature and university texts. Only cursory reference is usually given to the importance of adopting an Islamic worldview in evaluating economic issues. Any further elaboration on what constitutes this worldview, how its ontology corresponds and overarches recursively into epistemic and methodological concerns, and why it must then translate into forming the basic axioms of economic thinking is hardly to be found. Without any discussion and clarity on these fundamental considerations, no foundation was laid, and no set of coherent epistemic principles formulated to guide the process of nurturing IE into a mature, self-standing discipline of scientific enquiry. As a result, IE was forced to develop along the lines of the reigning methodology of ME.

With striking similarities in problems afflicting ME and IE, it is not surprising that both disciplines are currently facing a crisis of relevance in their respective constituencies. Their inadequacies and failures are symptomatic of a wider malaise in the profession — a staunch refusal to countenance a critique of the philosophical underpinnings of their discipline in order to address its methodological concerns. Among the Islamic economists, however, the resistance seems to be giving way. A new generation of scholars such as Haneef (1997, 2005, 2007, 2012), Zaman (2005, 2011, 2013, 2015a, 2015b), Asutay (2007a, 2007b, 2008, 2009), Aydin (2012a, 2012b, 2013), Iqbal (2012), Khan (2013) and Furqani (2011, 2015) have recently joined the lone voice of Choudhury and have now begun to challenge the *status quo* and vocalised the need to

⁴³ As opposed to the concept of pervasive complementarities found extensively in the Qur'an.

question the fundamental axioms of the discipline. That the existing paradigm of IE lacks a stable and independent foundation means that it is more likely to yield to a new one, if Islamic economists are able to provide an alternative that comprehensively addresses the various issues raised in this study and elsewhere.

With ME, on the other hand, the situation is vastly different. The dominant framework of economic thought has now entrenched itself for over two centuries. Any attempt to supplant this colossal tradition, which has been built up over time, will require formidable effort. The reason for this is due to the inextricable and symbiotic relationship that has developed between rationalism and its philosophical counterpart, liberalism, both of which have their origins in pre-modernity (see Mahomedy 2015b). Neither of these can subsist without the other. The architectural facade of modern economics is consequently buttressed by these twin pillars of rationality and liberalist ideology. As Kristol (1973:6) reminds us, rationality constitutes:

... not merely the keystone of modern economic thought — it is also the keystone of modern, liberal, secular society itself. This belief [in rationality and free choice] is so deeply ingrained in us that we are inclined to explain any deviation from it as perverse and pathological.

Economics, being the social science *par excellence* of modernist philosophy, may therefore represent the ultimate bulwark against the attack on the Enlightenment project, in which individualism and intellectual emancipation were glorified and deemed its ultimate goal (Kant 1784; see also Friedman 2009). That economics emerged at precisely the height of this rationalist crusade was no coincidence. As Israel (2009:106) suggests, it was developed and used as a “potent ideological weapon, and recourse to which proved the strongest possible reply” to some of intense debates that raged on at the time.⁴⁴ Consequently, despite the devastating critique against the rationalist postulate in economics throughout the 20th Century, from Knight (1921) and Hutchison (1938) to Hayek (1952), Kristol (1973) and Choudhury (2008b), the discipline will not abandon it without a fight, as there is far too much at stake.

The ramifications are immense and extend far beyond the bounds of economics, penetrating into the very heart of science, society, politics, culture, and history à la ibn

⁴⁴ There has always been this deep suspicion throughout that neoclassicism/marginalism was deeply embedded within a socio-political ideology, despite its pretensions to value-neutrality (see Solo 1975; Dasgupta 1985).

Khaldun (1967). Acknowledging the limitations of human rationality now will therefore demand a fundamental shift in thinking about what it means to be human and possibly necessitate a re-evaluation of the values of contemporary society. For if the failure of rationality is conceded, then liberalism is exposed likewise. And with it will crumble the entire edifice of modernism and all of its institutions that were so painstakingly erected to support its superstructure (see also Toulmin 1990, Choudhury 2002).

5. The Way Forward: Turning Full Circle

As this paper has demonstrated, apart from their stated ideological bearings, there are hardly any significant differences between IE and ME in their methodological approach. This is because they have both adopted a common epistemic framework towards addressing economic issues. From across the spectrum of writings in both traditions, one clearly discerns the prevailing disquiet and expression of need for the profession to search within the depths of its intellectual wisdom for a resolution to its difficulties. In what follows, I surmise where the crux of the problem lies, and how, if substantially addressed, it might offer much sought-after relief to both mainstream and Islamic traditions.

The first part of this study showed that the link between the metaphysical underpinnings of science (i.e. its *a priori* content) and its sensate-empirical forms of reasoning (i.e. its *a posteriori* observable relations) was inextricable. This is unavoidable and not to be eschewed either, for as Heilbroner (1996:47) so candidly reminds us:

Ideology enters into analysis as a matter of necessity, not as a corrigible weakness. Ideology is not foreign matter that debases the pure stuff of analysis. On the contrary, political judgments and values are integral to and indispensable for analysis because we could not form the original gestalts without them. They are the raw stuff of our perceptions, which our analytic capabilities can manipulate but not create.

At any rate, this issue is barely contestable any longer, although many practitioners in the scientific establishment have yet to acknowledge it and recognise its full implications (see Mahomed 2016a). The fundamental issue that does remain, however, is how to synthesise these modes of intellection that became partitioned after the birth of the Scientific Revolution and progressed along unconnected and self-determining trajectories. To reverse this bifurcation in the reasoning process, which has so clearly plagued the sciences — including economics — these realms need to be reflexively linked together once again.

How should this occur? Rationalism has patently failed, for, as previously explained (see Mahomedy 2016c), its dualistic/atomistic mode of thought has always prevented any kind of integrative synthesis. Consequently, ever since the inception of the rationalist agenda in the Occidental world, the process of facilitating this inter-causality has eluded the most outstanding minds, from Descartes to Kant to Popper. Other great thinkers have also tried. Intellectualists à la Leibniz (1969, 1981) attempted to overcome this cleavage by reducing all propositions to the intellect; empiricists à la Hume (1739, 1777), on the other hand, sought to do this by confining all knowledge to its sensate ontological origins. Most recently, the (collective effort of the) logical positivists attempted to circumvent this breach by limiting meaningful statements to those that conformed to empirico-logical methodology. In the end, each of these reductionist endeavours had to be abandoned, for they rendered much scientific theorising invalid.

Notwithstanding Kant's noteworthy contributions in this area, his ideas also failed to synthesise these domains of human reason (see Bartley 1984; Israel 2009).⁴⁵ It was Husserl (1931, 1935), through his project of phenomenology, who perhaps came closest to uniting the fields than anyone else in the Occident. Most significantly, he sensed the need for a third entity to bridge the gap, but he was never able to identify the missing link (see Husserl 1935:3). The search for such a unifying premise thus remains an undying quest of contemporary scholarship, expressed by several leading scientists of the world in their pursuit of a "Theory of Everything" (see Barrow 1991, 2007; Weinberg 1994; Hawking 2002). Science, in itself, for reasons discussed previously (see Mahomedy 2016a), simply cannot perform this mediatory role between its own claims and that of its *a priori* categories. It thus remains utterly powerless in bestowing any imperatives on the *a priori* domain (see also Choudhury 1995/2006; Wolff 1973).

What might Islam then offer towards addressing this seemingly insurmountable problem that has vexed the greatest minds of the modern world? Although the dynamics of such a framework of thought and praxis in its entirety is explained elsewhere,⁴⁶ relevant aspects will be summarised here for the purposes of this paper. Islam fully recognises the need and necessity for both the *a priori* and *a posteriori* modes of deriving knowledge.

⁴⁵ At the interstice of these provinces of thought lies an antinomy – identified by Carnap (1967) as the problem of Kantian heteronomy – that reflects this abiding schism in the modern socio-scientific enterprise.

⁴⁶ See Choudhury (2000, 1995/2006, 2011) for detailed textbook treatments, and Mahomedy (2015a, 2016b) for a synopsis.

For example, the Qur'an⁴⁷ enjoins upon people in no less than 750 verses (about one-eighth of the total) to employ their perceptual and intellectual faculties to reflect upon nature (Atighetchi, 2007). Consequently, rational modes of enquiry, such as deduction and induction, have always formed an integral part of scientific enquiry and application in Islamic scholarship, whether they related to either the normative or the positive. Early Muslim scholars — for example, al-Ghazali (2008) and Ibn-Taymiyya (1997) — had no dilemmas about integrating them, for they never viewed these modalities of reason as belonging to discordant domains.

Traditional Islamic scholarship was easily able to avoid this conundrum, principally due to the role of Prophethood in Islamic epistemology. Islam has always been categorical on the indispensability of the prophets of God in explaining and demonstrating the meaning of the Scriptures.⁴⁸ So, while the source of all *a priori* insights is essentially Divine Revelation, it is the practice of these divinely guided men (*sunan al-Rusul*, in Arabic) that function as the carriers of this knowledge onto the phenomenal world, whereupon it decodes or translates into *a posteriori* knowledge. The *lived* experience of these prophets⁴⁹ (P.B.U.T⁵⁰), consequently, provided the conduit for the transmission of Divine Knowledge (*al-Wahy*, in Arabic) to the sensate world. It thereby provides the critical link (missing in rationalist thought), for it subtends the chasm between the *a priori* and *a posteriori*, or à la Kant, between the worlds of *noumena* (things as they are) and *phenomena* (things as we experience them) (see Körner 1955). Without this overarching connection, there is otherwise no conceivable mechanism to bridge the logical gulf between the two domains (see Robbins 1935; Popper 1948).

Meanwhile, contemporary Muslim scholarship (for example, the Islamic economists), while conceding a role for the Prophetic tradition, failed to incorporate it within a relational epistemic framework that was holistic and dynamically oriented. By adopting the rationalist approach of methodological individualism, Divine Revelation (i.e. the Qur'an), Prophethood (i.e. the *Sunnah*), and empirical knowledge were, of necessity, reduced to disjointed components of an otherwise unified structure. The other key

⁴⁷ The final Divine Book of Revelation sent down to God's Last Prophet, Muhammad (P.B.U.H).

⁴⁸ It is instructive to note in this regard that while God had sent unto humankind many a prophet without an accompanying scripture, He had never revealed a scripture except that it was complemented with a prophet.

⁴⁹ From Adam and Noah to Abraham and Moses, and thereon to Jesus the son of Mary, and ultimately to Muhammad.

⁵⁰ An acronym meaning "Peace be upon them".

component of this process, viz. discourse by the learned scholars (*Shura*, in Arabic)⁵¹, was simply discarded. As a result, rationalism was foisted upon Islamic texts, resulting in a loss for even Islamic law (*Shariah*, in Arabic) of its practical, dynamic, and universal function. Most significantly, Muslim scholars neglected to enmesh all of these within the precept of *Tawhid*, which plays the central role in binding them all together. Given these significant oversights on the part of Islamic economists, it is not surprising that IE did not develop into an integrated discipline.

On the other hand, if all of the abovementioned concepts are appropriately assimilated within a unitary model, this enables a circular causality to recursively integrate them together, in order that the inhering antinomies bedeviling contemporary human thought be dissolved (see Choudhury 2012). By this means, there is also no necessity for a hierarchical relationship in which one sphere is utterly subservient to the other. The *a priori* and *a posteriori* domains can be both rendered endogenous within such a relational world, so that each “learns” from the other. But it requires, fundamentally, the acknowledgment of, and a central role for, an “Exogenous Being that must singularly define the premise of creation” (Choudhury 2000: xviii), as for example, through Divine Revelation. From this supra-mathematical and supra-materialistic ontology, viz. Divine Unity (*Tawhid*), a corresponding episteme of unity of knowledge is sequenced and then mapped onto the world of being and existence, which is seen likewise as a united whole (see Mahomedy 2016b:29-32). Ontology and epistemology thereby harmoniously blend into each other. *Tawhid* reigns and manifests itself supremely across all of the created orders of matter, action, and thought (*Aalameen*, in Arabic).⁵²

With the worldview above, the scientific enterprise is now reconceptualised as an inter-systemic learning framework that smoothly evolves over time. It is spared the type of crises and revolutions à la Kuhn, or programme degeneration à la Lakatos. Transitions to new learning states by virtue of being continuous and recursive are seamless and avoid the negative outcomes of dualism inherent in positivist/rationalist science (see Mahomedy 2016c). Within such a meta-paradigm, any potential conflict between epistemology and science is thus averted. Together they would form an integrated nexus in which they draw from, and bestow upon each, other knowledge flows through perpetual feedback loops of

⁵¹ See al-Qur’an (Ch. 3, V.159; Ch. 42, V.38).

⁵² See al-Qur’an (Ch. 42, V.53).

evolutionary learning. The co-extensive nature of this relationship was perhaps best articulated by Einstein, when he remarked:

The reciprocal relationship of epistemology and science is of noteworthy kind. They are dependent upon each other. Epistemology without contact with science becomes an empty scheme. Science without epistemology is — insofar as it is thinkable at all — primitive and muddled (Einstein 1949:683-684).

6. Summary and Concluding Remarks

From its inception as a formal discipline, both critics and proponents of IE have been sceptical of its capacity to grow and develop as a unique and distinctive area of scientific enquiry. This has been largely due to concerns about its epistemic orientation and uncritical adoption of the methodological apparatus of ME. Islamic economists, meanwhile, have always insisted that ME methodology and scientific discovery generally are impartial processes and serve merely as vehicles towards achieving desired ends. Just as a car cannot conceivably be transformed onto an *Islamic* car, whence, they ask, the insistence on an *Islamic* methodology?

Given this impasse in the debate, this two-part study enquired into the validity of this neutrality thesis by examining the relationship between epistemology, science, and economics. In the first part of this study (Mahomedy 2106a), the role of epistemology within scientific enquiry was examined. It was found that the nexus between these areas was disturbed when the scientific establishment sought to banish all *a priori* and metaphysical notions from within the domain of justified knowledge. This was motivated by the agenda, driven primarily by the positivist movement, to render science into an objective and value-free enterprise. As a consequence, epistemology came to be seen as superfluous and archaic. Despite all of the extraordinary efforts made by positivism, however, the project failed dismally when it was realised that there would always be an “unavoidable *a priori*” in scientific enquiry, since “there cannot be a view except from a viewpoint” (Myrdal, 1968: 24, 32). Leading scientists were forced to acknowledge that science, therefore, would always be embodied within a particular *métaphysique* and could never *tout court* unhitch itself from its philosophical moorings.

Long before this, however, the social sciences had latched onto the neutrality thesis. The allure of turning their disciplines into “hard sciences”, such as physics and chemistry, was irresistible and it appeared there would be no turning back. In this paper, these issues

have been contextualised for the economics discipline. It shows how the profession succumbed to the anti-metaphysical/positivist spirit of the time and thereby transplanted its doctrines almost entirely into economics. In the rush to earn the prestige of being an exact science, economics was wrestled away from the domain of the social and moral sciences and forcefully aligned with a mechanical conception of nature that was resonant with Newtonian physics (see Mahomedy 2015a).⁵³ As part of this process, economists strove to fashion their field as a *wertfrei* discipline, so isolating it from all of the other fields of enquiry that impinged upon its outcomes. The link between epistemics and economics was then significantly weakened when the “certainty of knowledge” principle⁵⁴ was included as a central axiom in economic analysis. Its implications were far-reaching for the future development of the field.

In seeking scientification, economists incorporated the positivist-inspired principles of operationalism and instrumentalism, à la Samuelson and Friedman, respectively, into hard-core of economic theory (see Hands 2004; Pheby 1988). They constructed deterministic models of economic behaviour using assumptions of full rationality, static equilibrium, optimisation, etc., all of which were far too reductionist for the complex world of economic phenomena. Thus began the fracture at the second tier between economic science and the reality it purported to explain. At each of these stages in the breakdown of the relationship between epistemics, science, economics and society, all of the critical links between them were rent asunder. Philosophy, economics, psychology, sociology, anthropology and politics were each confined to their academic departments with little or no interaction and communication between themselves.

As the goal of “objectivisation” was pursued with a concomitant appeasement to the rigours of scientific nicety, the scope and tools of economic analyses narrowed so that it became ultimately reduced to a system of trivial tautologies. Many within the profession sensed a loss of relevance for economics and reacted to these developments. The glue holding the discipline together dissolved and evaporated, and economics split into several trajectories — economic science, political economy, economic philosophy, history of economic thought and, more recently, socio-economics. Several attempts have been made to bridge the gulf between these sub-fields, but deep divisions persist because economists

⁵³ Physics, however, by the early decades of the 20th Century, had already moved on from its previous conception of Newtonian mechanics, but the social sciences did not advance beyond the old paradigm (see Capra 1982).

⁵⁴ See Hutchison (1998) for an incisive critique of this principle of perfect knowledge.

have not been able to transcend the reductionist mode of thinking that underpins their field. This failure to provide a unitary framework for the discipline has had deleterious effects for both theoretical and applied economics, at times even paralysing the profession when its expertise was most urgently required.⁵⁵

There is now, broadly, a dominant convention of neoclassical economics in ME and an alternative tradition of HE representing a motley of dissenting voices that roughly coalesce to form alternative canons to ME. Coterminously, while questions of methodology are openly debated outside the mainstream, there is still a strong resistance within ME to do likewise. Consequently, the epistemic and ontological foundations integral to ME continue to lie concealed beneath the labyrinth of economic theories expressed as complex mathematical models.⁵⁶ In this way, the hidden presuppositions that shape these theories remain undetected and have thereby escaped critique. The discipline, meanwhile, continues to splinter into several contesting schools, sub-disciplines, specialties and contrasting approaches. Hutchison, one of the most prolific contributors to the field of economic methodology during the last century, and several other eminent economists such as Schumacher, Nozick, Sen and Lawson, have squarely blamed this state of affairs to the dearth of philosophical debate and enquiry among economists.

Against the backdrop of these developments, IE emerged and took centre stage in the Muslim world, aspiring to supplant ME with a more authentic alternative for the faithful. Yet Islamic economists identified only the lack of an explicit ethical dimension to ME and hence attempted to infuse the moral values of Islam within it. Like their counterparts in ME, they subscribed to the notion that the modernist approach to science (including economics), its methodology and tools of analyses were value-free and objective and further, therefore, that engaging in epistemological issues served no useful purpose for economics. On this pretext, they embraced the methodology of ME and then set about erecting their science without first laying the groundwork and underpinning it with a foundation that was apposite to the kind of superstructure they wished to construct. A number of scholars detected this early on, but when they highlighted these weaknesses in

⁵⁵ See also Emmet (2009), for Knight's concerns in this regard.

⁵⁶ As Heilbroner (1996:49) quipped, "a Martian who came across a copy of the *American Economic Review* might be forgiven for concluding that it was a journal of physics".

the discipline, they were pejoratively labelled as “philosophers” and/or criticised for setting up a “straw man argument”.

That Islamic economists chose to disregard the role of epistemology and discounted its relevance for their project was indeed surprising. Historically, it has always played a pivotal role within Islamic scholarship and its rich traditions bear this out. Secondly, given the disciplinary objectives of Islamic economists, discourse and debate on methodology was indispensable, for their mission was fundamentally epistemological. Thirdly, at the time that IE was being crafted, the challenge to ME was already at an advanced stage. From its scientification, mathematisation, quantification and theoretical unrealism, to its predictions and relevance, all were being criticised on several fronts (see Mahomedy 2016b).⁵⁷ Islamic economists were hardly ignorant of these developments, for they often used the failures of ME and its escalating crisis to justify the need for an alternative paradigm. Therefore, to avoid repeating the pitfalls of the dominant neoclassical approach, they ought to have confronted these issues openly and extensively, but they failed to do so.

On the contrary, when Islamic economists adopted the epistemic and methodological approach of ME, they replicated within IE many of the key problems that had beset ME and therefore failed to overcome its shortcomings. Not surprisingly, many have commented that no significant differences exist between the two paradigms. This is despite the fact that one is conjoined to liberalism, while the other is committed to the ideals of the Islamic faith⁵⁸. How is it possible, then, that two disciplines with such disparate points of departure have both ended up closely resembling each other and experiencing a coterminous crisis of relevance? The reason is because they used a common platform (rationalism) and framework (marginalism) around which to shape and mould their science.⁵⁹ Both of these doctrines, with their high levels of abstractions, are now collapsing under the weight of the structure they can no longer support.

More generally then, the challenges facing economics as a discipline will not be resolved as long as its servants and practitioners remain trapped within what Dow

⁵⁷ See also some of the other writings contained in this reference list on this issue.

⁵⁸ Which in many respects, is at variance with a liberalist philosophy.

⁵⁹ Islamic economists ought to have been all the wiser; over a thousand years ago, when some of the early Muslim scholastics such as the *Mu'tazilites* (Arabic: those who withdraw) attempted to integrate rationalist principles within Islamic theology, it threatened to tear apart the very fabric of the Islamic creed (see Fakhry 1983).

(1997:80) refers to as “the old orthodoxy [of] dualism”. Because of this adherence to classical logic, economic issues are examined using closed-systems analyses, stable equilibriums and linear causality, all of which hardly reflect the complex world of economic reality. Increasingly, therefore, many calls have been made for a paradigm shift in human thought itself, advocating for an approach that adopts an “open systems” methodology (see e.g. Prigogine & Stengers 1984, Stacy 2009, Lawson 2003). Systems so conceptualised generate learning endogenously so that they continuously evolve in response not only to external forces but also to their own internal dynamics. Economics, being fundamentally a study of process-oriented activities, would be profoundly implicated in this epistemological shift. This switch from the notion of static states to deeply interconnected processes that spontaneously change and adapt, however, requires a different kind of logic altogether.

In this regard, Islamic epistemology has a valuable contribution to make. I explained that with the richness and depth of epistemic concepts that Islam offers, it allows for a circular relational process whereby the different domains of human intellection can integrate and continuously interact and evolve thereafter towards higher states of learning. Within such an organically connected model, knowledge flows regenerate and bestow insights both intra- and inter-systemically. This dynamic approach thereby transforms mutually exclusive static conceptions of knowledge into an interconnecting web of process-oriented learning outcomes. Furthermore, it then also enables ontology and epistemology to synergise so that neither is seen to be emphasised at the expense of the other (see Lewis 2003). Complementarities from the one feed into the other in mutually reinforcing ways, which then find practical expression in economic choices, actions, and outcomes. The relationship between ontology, epistemology and science cohere once again to form a unitary paradigm. Finally, therefore, it is only when the Islamic economists are able to realise these forms of extensive complementarities within their epistemic and ontic schemata that the Islamisation of their discipline can proceed without any of the encumbrances mentioned in this paper. Otherwise, for as long as they remain enamoured by rationalism and all of its related axioms of utilitarianism and marginalism, IE will find itself paralysed by concepts and notions that have no bearing on its worldview.

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