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The Enlightenment and its discontents

Antinomies of Christianity, Islam and the calculative sciences

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Abstract Capitalism, religion and science (including calculative sciences such as accounting) have a long and turbulent relationship that, today, is manifest in the "War on Terror". As social ideologies, religion and science have played a sometimes decisive influence in the history of capitalism. What can one learn from these past encounters to better understand their relationship today? This paper explores the historical origins of this relationship as a struggle over the ideals of the Enlightenment: – as decline of the modern and the rise of the postmodern. The paper begins by tracing the evolution of Christianities and their different potentials in both resisting and accommodating the extant social order. Islam, in contrast, has, until recently, enjoyed a relatively sheltered existence from capitalism, and today, some factions present a militant stance against the market and the liberal democratic state. Overall, the Enlightenment and modernist projects are judged to be jeopardy – a condition fostered by orthodox economics and accounting ideology, where it is now de rigueur to divide the secular from the non-secular, the normative from the positive, and the ethical from the pragmatic or realist. Finally, the mechanisms behind this Enlightenment regression are examined here using literary analysis, as a modest prelude to developing a new politics for a progressive accounting; one that seeks to restore the integrity and probity of the Enlightenment Ideal.

1. Introduction

Christianity, Islam and accounting[1] each constitute a social ideology in the sense that they are systems of beliefs that inform conduct in everyday life (Althusser, 1969; Cleaver, 1979; Aronowitz, 1981; Eagleton, 1991)[2] This paper reviews their development since the Enlightenment, and their differential capacities to accommodate or subvert the Enlightenment project, and thus the extant social

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system (e.g., feudalism and capitalism). It is within this broader modernist struggle, that sections 2 through 7 undertake a historical reflection that paves the way for examining the integral relation between the “external” War on Terror, and “internal” domestic crises of racism, audit failures and corporate fraud.

The discussion begins by tracing the dynamic evolution of Christian ideologies (sections 2, 3 and 4). This includes their dialectical interpenetration of pre-Christian, mythological belief systems and the rise of science; including the calculative/accounting sciences. The analysis in section 5 extends to “The insurgency of Islam”, that provides some vivid contrasts with particular Christian ideologies. “The Rise of calculative sciences” (section 6) takes accounting as its center piece. Accounting (calculus, and other computational sciences) are construed as different terrains over which the struggle for Enlightenment ideals are fought. This section traces accounting’s complex ideological lineage to philosophy, calculation, economics, and culture. This thematic focus – on the ideological milieu of accounting – continues in section 7 (“Obstacles to the development of a progressive politics”) and Section 8 (“Implications”).

2. Enlightenment

Marx notes in the eighteenth century Brumaire that, “... all facts and personages of great importance in world history occur, as it were, twice ... the first time as tragedy, the second as farce”. (Marx, 1990, p. 15). As such, we might characterize the complex movements of the social history of the Enlightenment – as a dialectical transformation from tragedy (crisis) to farce (an unstable unity-of-opposites). The forlorn condition of the Enlightenment is postmodernity – the degraded state of modernist ideal, that today presents itself as a series of spurious dichotomies between the secular and the non-secular, between the normative and the positive, between the theoretical and the practical (or empirical), and between the ideal and the real (Tinker *et al.*, 1982)[3]. But what were the Enlightenment’s antecedents? As a departure from (a largely Catholic) order, into an emergent form of capitalism, were they inevitably flawed from a bad seed?

Variously called “The Age of Reason”, or by some British historians, “The Illumination”, the Enlightenment is usually dated between 1650 and 1800 (Snyder, 1955, p. 7). Kant expressed its decisive historical character and mission in a famous passage in his “Response to the question: what is Enlightenment?” (1784):

Enlightenment is the liberation of man from his self-caused state of minority. Minority is the incapacity of using one’s understanding without the direction of another. This state of minority is self-caused when its source lies not in a lack of understanding but in a lack of determination and courage to use it without the assistance of another. *Sapere aude!* Dare to use your own understanding! is thus the motto of the Enlightenment.

In retrospect, such sentiments seem intellectually chauvinistic. The antecedents to Kant’s bravado were a complex of economic and political upheavals in the times in which he lived. They included improvements in agricultural productivity that led to surpluses, gluts, and price collapses in the rural economy. These and other stresses prefigured the eventual decline of the manorial system, a mass migration of dispossessed farm labor from country to town, the reconstitution and concentration of labor into town guilds, the rise of the burghers and the bourgeoisie class, etc (Dobb, 1973; Hunt, 1986). The growing consciousness that Kant embodied owes much to a

revolution in these prior materialistic conditions (Cornforth, 1973)[4]. Kant's narrow cultural and philosophical focus begs the question: "What were the different ideological forms that both confronted and galvanized the Enlightenment?". Catholicism, or Church absolutism, was the first of a series of ideological opponents that resisted the incipient forces of capitalism, and thus much of the Enlightenment movement itself (Ravetz, 1973).

3. The Christian dialectic

Catholic paternalism

The ideology of medieval Catholic paternalism marshals the full symbolic authority of an earlier, Aristotelian view of society "... the Christian corporate ethic, reflecting the fact that all of society was considered a single entity or corporation" (Hunt, 1986, p. 5):

This is a cosmic and a hierarchical understanding of society that runs from matter to the foot of God. At the center is the Earth, and centered upon Earth was man, and all the contents of the Universe are ordered around him and for him. In this fashion, all of the powerful ideological precepts from Aristotelian slave society were resurrected into the culture of early Christendom (Hunt, 1986, p. 5).

The early Catholic regimen of Christian paternalism stressed stability and order. Duties and responsibilities were clearly defined; with compliance required of all orders. Hence, "The Old Testament Jews quite literally regarded themselves as the children of one God" (Gray, 1963) and "The teachings of Christ in the New Testament carry on part of the Mosaic tradition ..." (Hunt, 1986, p. 5).

Hostility to wealth accumulation is frequently cited as a Catholic obstacle to the development of capitalism. This is clearly evidenced in the gospel according to Luke. Known as the "leveller among the apostles", Hunt claims that Luke shows that Christ condemned the rich simply because they were rich and praised the poor simply because they were poor: "Woe unto you that are rich! ... Woe unto you that are full! for ye shall hunger. Woe unto you that laugh now! for ye shall mourn and weep". (Hunt, 1986, p. 6).

Duty rather than wealth was the main concern in the medieval world. As Aquinas notes, "The rich man, if he does not give alms, is a thief" (Gray, 1963). Catholic paternalism could be, and was, used to "defend – as natural and just – the great inequalities and intense exploitation that flowed from the concentration of wealth and power in the hands of the Church and nobility" (Hunt, 1986, p. 9). Catholicism was founded on an economy that, in the Middle Ages, encompassed one third of the lands of Europe. Feudal ties, taxes and tribute formed an economic base for a superstructure of religious beliefs that, as Galileo among others discovered to their cost, posed a formidable adversary for Enlightenment thinkers (Tigar and Levy, 1977; Snyder, 1955, pp. 22-5).

Antinomies of Catholicism

By the sixteenth century, Catholic paternalism was showing signs of strain from within and without. From within, the Church's own economic hypocrisy was all too evident. It preached a personal gospel of severe proscriptions on money-lending and charging interest on loans, yet the economic excesses of the Vatican and many of the clergy belied this. The Church's highly personalized system of economic ethics was increasingly out-of-sync with an emerging system of inter-regional and inter-national

finance, and a Europe seeking to raise itself out of the Middle Ages and the effects of the Black Plague which devastated one-quarter of its population.

On top of its own internal failings, Catholicism was under increasing pressure from without. The secularization of Church functions under Henry VIII meant that the state, in the form of God's monarchy, assumed the role and functions of the old universal church. In the Glorious Revolution of 1688, the medieval worldview that underlay the Christian paternalist ethic was eclipsed. The disposal of monastic lands by the British Crown in the wake of the Anglican revolt against Rome unleashed a wild spate of land speculation, spiralling rents and land prices. Although peasants heavily protested these developments until the seventeenth century, this victory of rural depopulation and the privatization of public lands signalled the institutionalization of the inalienable right to private property.

The English revolution in agricultural technology of the fifteenth and sixteenth centuries also precipitated the demise of Catholic morality. Generally, this foreshadowed a destruction of localized, self-sufficient communities, and a massive increase in physical and temporal interdependence, first through mercantilism, and then via capitalism (Smith, 1990). The explosion of export trade in wool from England and cost inflation at home led to the seizure of land for profitable redeployment to new forms of industry. Public fields and forests (commons) previously used for collective farming and fuel were fenced off and converted into pasture for sheep grazing. Landowners, themselves beset by financial pressures, reneged on ancient understandings, and drove peasants from their lands (only later to re-instate a few as renter-farmers, under the newly constituted "land-lords").

As Tawney (1937) notes, these changes marked a turn in ideology, "away from that of the village based on a fellowship of mutual aid and a partnership of service and protection . . . to the pecuniary interests of a great proprietor" (Tawney, 1937; Smith, 1990). In this manner, a mechanistic law from without superseded the traditional balance of quasi-legal rights and obligations in communities. While focusing on individual rights, this law neglected the moral claims of the larger community to monitor and to exact common duties from individuals. A paramount shift is marked here in Western Society; from a society that is a synthesis of cooperative rights and obligations, authorized internally by common consent, to a society composed of a collection of individual interests, where rights and duties are warranted from without by a mechanistic law.

The Protestant synthesis

The inner contradictions of the medieval order, including the incongruities of Catholic paternalism, culminated in the Reformation; a movement by religious people, who shared with Enlightenment thinkers, a dislike of the Church's monopoly over the individual's access and communion with God, and who could no longer tolerate Catholicism's anachronistic hypocrisy.

The emergence of competing Protestant world views ended the monopoly of Catholicism's unified spiritual vision of society. Protestantism, at the beginning of the Reformation, did not offer a new *carte blanche* attitude towards individual involvement in economic matters. On the contrary, the two great Reformation leaders, Luther (1483-1546) and Calvin (1509-1564), sought purer forms of the Christian cosmic order, which they felt, had been debased by the Roman Church. Luther and Calvin were

totally behind Paul's affirmation in Romans that "*sola fide*" or faith alone could secure salvation. Any intervention on the individual's part could effect nothing to secure salvation. Calvin added to this a definite lurch towards predestination which would still be part of the Evangelical tradition (Apocalypse is used to support this contention). A Catholic version of this "heresy" can be found in Jansenism which dates from the eighteenth century French theologian, Jansenius[5].

Luther's vision sought a return to a divine past that pre-existed those institutions of Roman Catholicism that had usurped the individual's opportunity to find a divine union with God[6]. This return to a simpler agrarian order, was based on individual asceticism and commitment to God, and necessitated the abolition of all barriers between the ordained and the laity. The Bible and one's conscience were all that was needed[7].

Calvin, like Luther, envisaged a purer, unified social order, in which all human activity came under the guidance of Divine Law. Unlike Luther, and the Roman Church, Calvinism came to terms with extant social realities and the emergent social order. It accepted the new role of business as a legitimate aspect of human endeavor. As Tawney (1937) notes, "Its enemy was not the accumulation of riches, but their misuse for the purposes of self-indulgence or ostentation" (Tawney, 1937). In this way, Calvinism sought to reintegrate the increasingly alienated spheres of economy and religion. It gave moral sanction to the freer movement of the market principle, yet still attempted to keep the market's most destructive tendencies under tight control. The new businessman's activities were never "for himself", but were always sublimated to a religious zeal that his work was to manifest devotion to God through selfless diligence. This original vision spoke more of a collective identity of followers under a communal order – with rights and responsibilities – than free-market individualism often attributed to late Calvinism. In this sense, Calvin's theology, like Luther's, probably inadvertently, helped secure the hegemony of modern capitalism.

Puritanism constituted an even deeper fusion of the Christian and an economic spirit. At its root, it rejected the theses of Luther and Calvin that good works could gain God's grace. Emerging from Calvin's interpretation of the Protestant idea of pre-destination, Puritanism held that one's ultimate salvation is already predestined at birth. With such a contingency, life then becomes a trial of faith in discovering and manifesting one's destiny – as one of the chosen, or as one of the damned. That aim is not personal salvation, but the glorification of God – sought, not by prayer alone, but by action; the sanctification of the world by strife and labor.

Such a world view fermented a group of followers described as "an earnest, zealous, godly generation, scorning delights, punctual in labor, constant in prayer, thrifty and thriving" and believing "that labor and industry is their duty towards God" (Jennings and Doddridge, 1810). Further, they were economically independent, educated and having "a certain decent pride in their status, revealed at once in their determination to live their own lives, . . . and in a somewhat arrogant contempt for those who, either through weakness of character, or through economic helplessness, were less resolute, less vigorous and masterful, than themselves" (Jennings and Doddridge, 1810).

The Puritan vision was well suited to the new individualistic economic order emerging in the seventeenth century. As part of the initial Protestant urge, Puritanism sought to terminate any external mediation between a person and God. Additionally, "the moral self-sufficiency of the Puritan nerved his will, but it corroded his sense of social solidarity" (Jennings and Doddridge, 1810). The Puritan as an individual and as

a collective group saw the rest of the world as hostile to their religious strivings and vision. Further, their enduring quest to prove an already pre-determined salvation led Puritans to view failure and poverty as manifestations of damnation. This not only promoted a competitive instinct through fear of failure, but also an inclination to be, “moved less by compassion for his erring brethren than by impatient indignation at the blindness of others” (Jennings and Doddridge, 1810). In the final analysis, Puritanism is Christendom’s “coming home” for capitalism: it supplies a deep union of the Christian vision with market principles of competition, self-interest and financial success.

4. Catholic mythology in capitalism

The historical travails of Christian institutions betray a complex of dialectical progressions. This is not a narrative of “progress” of equilibrium-prone movement, but an unstable trajectory of disequilibriums, best portrayed in dialectical terms. This formulation construes the socio-history of capitalism and christianities as a evolving identity, composed of contradictory elements from the past and present. At each point in time, this precarious synthesis is an unsteady “interpenetration of opposites” or “unity of difference” (Adorno and Horkheimer, 1979). A dramatic illustration of these dialectical shifts may be found in the mythological legacy that Roman Catholicism has bestowed on the everyday life of modern capitalism.

Catholicism itself never escaped from its mythological ancestry. Indeed, even today, it continues to deploy pre-Christian mythological symbolism to great effect. In anthropological terms, Catholic dogma regarding papal infallibility retains elements of God-King religions, such as that practiced by some Egyptian pharaohs[8]. Authority under such belief systems is embodied in the Almighty here on Earth; a supernatural being that supplies a terrible and divine presence[9]. Protestantism dethroned Catholicism’s infallible Shepherd of the Lord, and (modestly) crowns man [sic] as maker of his own destiny. The mythological crowning of man is the final chapter where he becomes the master of his own destiny (Tawney, 1937)[10]. This metamorphosis of Christianity into Protestantism is the quintessence of Kant’s dictum: “Dare to use your understanding”.

Center-stage in this anthropology is the evolution of human control over the conditions of existence; beginning with control over Nature, but then broadening to include control over the populace (Adorno and Horkheimer, 1979, p. xviii, pp. 3-42). Instruments of social control include mythology, religions, languages, cultures, histories, and institutions. The Judeo-Catholic allegory of The Fall, and man’s expulsion from the Garden of Eden, is the mythological explanation of the estrangement of man from God; the first step on Kant’s path, away from a “state of minority” and blind-faith in a Benevolent Almighty. Adam and Eve disobeyed God, and – in following the serpent – relinquished God’s paradise in favor of the tree of knowledge; a path of growing independence that culminates in modern science and technology.

Certain patterns of control repeat themselves across time and civilizations. These patterns cluster into two primary forms: reciprocity and mimesis (Adorno and Horkheimer, 1979)[11]. The prayer-penance levied at the Confession is, for instance, part of a reciprocal relation: the sacrifice (prayer) is given to obtain a reciprocal absolution and forgiveness of sins[12]. In Christian ideology, God-the-Father sacrificed his Only Son (symbolized in Catholic phraseology as, “The Lamb of God”) because the

death of God is sufficient reciprocally equivalent-in-exchange to expunge the stain of Adam and Eve's Original Sin[13]. In his own sacrificial crucifixion, the Redeemer restored to humankind the possibility of salvation. In the modern Catholic mass, this sacrifice is re-enacted in the sacrament (and miracle) of The Eucharist. On each occasion of this "Offering", the priest tenders "Christ's body and blood" in exchange for humankind's absolution. In Catholic ideology, the transformation of the bread and wine into Christ's body and blood is a miracle repeated at every mass. The mass-sacrifice, as a form of reciprocity, seeks forgiveness and absolution. It assumes that, "... everything that happens must atone for having happened" (Adorno and Horkheimer, 1979, p. 12).

Religions in antiquity contained a special notion of control that only partly presaged that found in science today. Reciprocity, absolution, atonement, and retribution are rituals that aspire to control-the-uncontrollable; they are pervasive across time and different communities. The deities that inhabited the forces-of-nature were not subdued by man with a Kantian audacity, but were invariably feared, treated guardedly, known to be fickle, unpredictable, mischievous, and even malevolent (Levi-Strauss, 1963; Fitzpatrick, 1992). Spirits weren't conquered, but quieted by duplicity, compromise, humor, and placation. Mimical practices controlled by assuming the semblance of a threatening part of Nature (the spirits of sickness, the weather, pestilence, death, etc). Sacrifice, repeated identification, incantation, prayer, and recurring pictorial and hieroglyphic patterns, are all persistent mimical motifs that aim to control the uncontrollable by appeasement. Thus, the magician "... imitates demons; in order to frighten them or appease them, he behaves frighteningly or makes gestures of appeasement ... his task is impersonation" (Adorno and Horkheimer, 1979, p. 9).

The Enlightenment and Catholic campaign against myth sought to abolish superstition, exorcise the gods, and erase magic. Yet both Catholicism and science proceeded by taking-on the methods of myth (and in doing so, they eventually revert to myth). The continuity between myth and science is reflected in their common pursuit of control, and the means for accomplishing control. Science inherits from myth its reliance on repetition, shown today in techniques of correlation analysis, pattern recognition, regression analysis, analysis of variance, etc. The search for repetitive patterns, regularities or order, epitomizes the scientific method, and were central to Bacon's characterization of his experimental method (the precursor to modern Empiricism):

Man, who is the servant and the interpreter of nature, can act and understand no further than he has observed, either in operation, or in contemplation, or the method and order of nature (Snyder, 1955, p. 26).

Bacon, who Voltaire described as, "the father of the experimental philosophy", expressed a clear vision of the potential of this new knowledge:

Knowledge and human power are synonymous, since the ignorance of the cause frustrates the effect; for nature is only subdued by submission, and that which in contemplative philosophy corresponds with the cause in practical science becomes the rule (Snyder, 1955, p. 96).

Science and its early discontents

Even the early luminaries dimly understood the darker side of subjugating Nature to human ends. Their reservations reflect a mixture of nostalgia and prescience. Bacon and Descartes, although disbelieving in magical powers, retained a moral sense. In his

Utopian “New Atlantis”, Bacon had the sages of Solomon’s House decide which secrets they would reveal to the State, and which they would not. With some foresight of problems to come, Descartes offered science a “scientist’s oath” of classic simplicity: that, “I would not engage on projects which can be useful to some only by being harmful to others” (Ravetz, 1973, p. 63)[14].

It was Francis Bacon, remembered in rather vulgar terms for his equation of power and knowledge, who offered a most sober warning:

Lastly, I would address one general admonition to all; that they consider what are the true ends of knowledge, and that they seek it not either for pleasure of mind, or for contention, or for superiority to others, or for profit, or fame, or power, or any of these inferior things; but for the benefit and use of life; and that they perfect and govern it in charity. For it was from lust of power that the angels fell, from lust of knowledge that men fell; but of charity there can be no excess, neither did angel or man ever come in danger by it (Bacon, 1825).

Other critics shared these concerns. Edmund Burke voiced his doubts and disgust at the excesses of the French Revolution. Malthus, in countering Condorcet’s optimism, argued the impossibility of escaping the limits of natural scarcity and wants (Harvey, 1989, p. 15). Weber has argued that:

... the hope and expectation of the Enlightenment thinkers was a bitter and ironic illusion. They maintained a strong link between the growth of science, rationality, and universal human freedom. But when unmasked and understood, the legacy of the Enlightenment was the triumph of... purposive -instrumental rationality ... [that] ... infects the entire range of social and cultural life, encompassing economic structures, law, bureaucratic administration, and even the arts ... [leading to] ... an “iron cage” of bureaucratic rationality from which there is no escape (Bernstein, 1985, p. 5).

Why did the best laid plans of Bacon and Descartes, architects of the Enlightenment, regress into new forms of barbarity? For Adorno and Horkheimer, “... the sanction of fate is that, in retribution, it relentlessly remakes what has already been” (Adorno and Horkheimer, 1979, p. 12). Why did the quest for freedom from want revert to a subordination of nature; including human nature? The answer lies, in part, in the partial manner in which modernism itself has appropriated myth.

Science’s regressions to myth

Labor process theorists hold that the first step in the division of labor is that between thought and action, head and hand, or planning and execution (Pollard, 1965; Braverman, 1998). Yet, this division is predated by a more fundamental schism in mythology: between logos and reality, subject and object, (the latter being the target of the subject’s attention) that has had an even more deleterious impact on post-Enlightenment, post-modern science (Tinker *et al.*, 1982):

The separation of the animate and the inanimate, the occupation of certain places by demons and deities, first arises from [this] pre-animism, which contains the first lines of the separation of subject and object. When the tree is no longer approached merely as tree, but as evidence for an Other, as the location of mana, language expresses the contradiction that something is itself, and one and the same time something other than itself, identical and not identical (Adorno and Horkheimer, 1979, p. 15).

Cartesian classification, and the search for relations across categories, represents an important departure from these prior forms of knowledge (Tinker *et al.*, 1982; Tinker

and Yuthas, 1995). Items that are assigned to classes obtain a universal interchangeability with other members of the class. "... nature becomes the chaotic matter of mere classification" (Tinker and Yuthas, 1995, p. 10). Atoms, entrepreneurs, voters, trees, patients and dogs lose their uniqueness; they become, by definition, fungible within their groupings[15]. This obliteration of "difference" – otherness – is what Derrida noted (much later) to be the tyranny of logos – the sovereignty of ideas (Derrida, 1978; Ryan, 1982):

Laboratory research instances Derrida's "tyranny of the logos". It offers an illusory controllability by positing a clear separation between the observed and the observer. In reality, there is no separation between subject and object because the existence of object includes how we see it and how we construct our consciousness from our experiences. Research therefore requires a cognizance of this understanding, and the understanding of others of different objects. There is no opposition between object and subject – one is embedded in the other (the subject is in the object). There is no "control" of objects in a conventional sense; but only a mutual transformation of self-and-other (Chabrak, 2002).

The distancing of subject and object in science is a bifurcation that is ultimately self-defeating. Normal science rarely heeds this epistemic caution. Cartesian dualisms (either/or classification) typically ignore internal or implicit relations, and hence interdependences that, in reality, may eventually erupt into second-order effects and unintended consequences (Ollman, 1976). In contrast, dialectical analysis and magical practices take these cautions very seriously: While magic and science aspire to forms of control, "[M]agic pursues aims ... by mimesis – not by progressively distancing itself from the object." (Adorno and Horkheimer, 1979, p. 11). In dialectics, Hegel dramatized the importance of integral (dialectical) relations in discussing the master-slave relation, showing the integral dependence of the master on the slave just as much as the reverse (Hegel, 1977, pp. 104-38). The repression of the slave – beyond the limits and entitlements of a slave – eventually leads to the master's own self-repression.

The Cartesian fallacy of universal commensurability, and its struggle to abolish difference, underlies the Enlightenment's reversion to myth. This Cartesian estrangement between Self-and-Other in the philosophical realm, has blood brothers at the materialistic level; in the social system of capitalism. Specifically, there is a direct correspondence between the levelling of difference by Cartesian thought, and levelling in the economy, first in the condensation of value into the money-form, and second, in the reduction of labor to labor power in the capitalist labor process (Braverman, 1998; Fromm, 1973; Marcuse, 1964).

Traditionally, value was not seen in merely quantified terms; as the exchange rates between objects transferred at market. It also contained a qualitative worth of a person's skills and abilities. Value always had a wide variety of subjective meanings, from the pretty (precious stone) to the useful (a carpenter's skill). When one traded and bartered, a qualitative as well as quantitative exchange occurred. Beginning in the sixteenth century, price marking systems transformed both products and factors of production into commodities, or objects of value quantifiable by money. As labor and capital markets evolved, money served as a homogenizing force for transforming all value into an objective quantification. Hence, the precious stone becomes commensurate with three weeks of the carpenter's skilled work; all other qualities – the variegations in class, religion and ethnicity, slip from view. Money assumes a

presence that is synonymous with wealth and power and eclipses all other qualities that may be essential to a fully-lived experience.

Nowhere is this regression more dramatically evident than in regard to work and the labor process. “Labor” embodies the full rich complexity of humanity. “Labor-power”, in contrast, is that shard of humanity that is “productive” in a surplus value generating sense. Under capitalism, accumulation through competitive market processes elevates labor power (abstract labor) to overshadow labor (Elson, 1979). As such, it defaces, mutilates, and erases all other human qualities and potentialities that compose a full person.

Accounting is Descartes’ comradar in the growing sphere of capitalist commodity production. The privileging of profit (the phenomenal form of surplus value) in financial statements is the practical means by which capital accumulation subordinates labor. Hence, that slice of human activity that is most “efficient” and “productive” (labor power) belittles all other human qualities and potentials (labor). Accounting is the instrument of Cartesian selection and exclusion at its most potent. As Enlightenment’s ambassador in modern capitalism, accounting is the market executioner of systemic repression. In the tradition of the Enlightenment reversion into self-repression, labor power – aided and abetted by accounting – cannibalizes its own foundations in labor, and thus maims human growth and potential (Braverman, 1998, ch.1; Tinker, 2002).

This treachery of labor power manifests itself through the spectrum of crises that typify capitalism. In the workplace, the alienation of labor power from labor manifests itself in the subordination of labor to efficiency and productivity (for producing surplus value in its phenomenal form of profit) (Allen, 1975; Braverman, 1998; Cleaver, 1979). Beyond the workplace, the imbalance engendered by the pursuit of efficiency results in a consumption crisis, expressed in periodic gluts of overproduction, and intense pressure to dispose of surpluses with Veblen’s publicity engineers; a “culture industry, and a ubiquitous cult of consumerism” (Illich, 1971; Scitovsky, 1975). “Efficiency” underpins the environmental crisis, induced by an imprudent and ruthless exploitation of natural resources – a domination of “The Other” – where Nature’s revenge looks increasingly imminent (Tinker and Gray, 2002). There is no better demonstration of the self-destructive propensities of Cartesian analysis than in the rapacious treatment of Nature[16]. Such conduct is only possible when Nature is treated as “The Other” and thus free for humans to exploit with impunity.

Finally, the appetite for surplus expropriation by capital has made possible (and necessary) a massive expansion in, what Mandel (1975) terms, “the fourth department”: a military industrial complex in Europe and the USA, that completely fulfills Eisenhower’s cautionary words some 40 years ago (Eisenhower, 1961)[17]. This coercive apparatus (understood in its widest sense) has become vital for regulating dissent at home and abroad (Kidron, 1974; Chwastiak, 1996, 1998).

Christianity has long-been in the forefront of religious engagement in the formation of capitalism. Recently, Islam has enjoined the struggle against capitalism in a visible and sometimes dramatic manner. Unlike Christianity, Islam is not so directly concerned directly implicated in defending the ideal of the Enlightenment (the latter being commonly understood as European in time and space, notwithstanding the non-European antecedents). Nevertheless, I will argue that there is some commonality between Christians and Muslims in resisting Capitalism’s assault on the Enlightenment project.

5. The insurgency of Islam

Like Christianity, Islam is not monolithic: they each exhibit a diversity of postures towards capitalism, ranging from militancy to acquiescence[18]. Islam's historical and dialectical development follows a quite different path from that of Christianity and Catholicism. Capitalism has quelled the Protestant rebellion, and has sought to marginalize the Catholic orthodoxy and absorbed its mysticism into its scientific practices. This "interpenetration-of-opposites" reflects the partiality of the "resolution" on all counts. Catholicism, for instance, has seen the rise of liberation theology from within its own ranks. Islam, has, until recently, managed to stand apart from capitalism, and has thus preserved some independence and identity[19]. This capacity to resist assimilation poses a special threat to capitalism, and thus its demonization is predictable. So too is the upsurge in racism and discrimination directed at Arabs and Muslims.

While hostility to Islam and Muslims often operates at a visceral and intuitive level, there are also objective reasons for capitalism to treat Islam as an insurgency. Ironically, many of Islam's traditional values are the same ideals as those cherished in the original Enlightenment. Capitalism is therefore returning to an old battleground; one on which it sought to overthrow[20] the early Enlightenment. We find these "early" Enlightenment values nurtured in mainstream Islam (that is, an Islam that relies only on a direct reading of the Koran, of the kind offered here). First, Islam is a religion that privileges "the innate" moderate and positive qualities of Man, and the importance of knowledge in their development. Material and spiritual life are not bifurcated; they form part of an essential unity. Knowledge is privileged because it fosters human integrity. This knowledge is neither cerebral nor practical, but composed of a holistic relation between belief and behavior, that gives pride of place to a civilized development of humanity. Such notions contrast with priorities of capitalism (to accumulate capital) and Judeo-Christianity (to serve a reified deity).

Islam is "Enlightenment", and for capitalism – revolutionary – in that it rejects the division of the secular and the non-secular, and more generally, the separation between church and state. Indeed, Islam is not merely a "personal" religion; but, as the Koran shows in great detail, is also an organization for society, its institutions, as well as a guide for conduct of individuals within that institutional and social context. Consequently, the Koran itself is the authority for resisting the kind of ceasefire-agreement with the state that Christianities in the West have acceded to, where the secular has surrendered to the non-secular the realms of politics, education, the workplace, and economic relations.

In the realm of science, Islam remains holistic or dialectical, where, for instance, the health of the spirit and body and mind are treated as a unity[21]. It thereby stands against many of the Cartesian dualisms that typify the Enlightenment's regression under capitalism – with the attendant subordination of man. We consider each of these areas in greater detail below.

The importance of knowledge in Islam

Islam's divergence from capitalism and Catholicism is evident from the very outset in their differing accounts of "The Fall". The view of man in the *Qur-an*, man is that of someone tainted by an Original Sin that requires repentance and atonement; but a person made in God's likeness. These are sentiments shared by Islam and the humanistic impulse of the early Enlightenment (Novack, 1966). Knowledge is the keystone to forming beliefs and establishing reflectively mediated behavior.

The Islamic positivity towards knowledge also exists in progressive strands of Catholicism, however the institutionalized variant confronting the early Enlightenment tended to view knowledge as either a poisoned fruit or having a cautiously contingent status. As Landes (1998), notes, the reactionary response of the Church in Spain to the challenges of Protestantism led to slower economic growth than in Northern Europe. The Church not only denounced Luther, it prohibited reading and publishing heretical texts, and introduced the death penalty for reading foreign texts. After 400 years, Rome has still to rehabilitate Galileo [22].

In Islam, knowledge – especially self-knowledge – has first priority. A Jihad has been scandalized by some Muslims and Christians as a “Holy War”, however for many moderates, and in the Koran itself, pre-eminence is given to knowledge and the integrity of conscience. The “Big” Jihad is the struggle against oneself and one’s passions. It is an effort to foster a conscience to control against corruption. The “small” jihad (*Aljihad alsghar*) consists of repairing an injustice (at the limit, war), but even here, there is a religious prohibition against aggression because life is sacred (Surat Al-r’ad, 11, Surat al-maida, 32). According to these respected, authoritative, and thus widely accepted readings of the Koran, the representation of the Jihad – as a war to convert people to Islam – is completely false.

The Western reconstruction of the idea of Islam bares little resemblance to Islam as practiced by millions of Muslims. It is instructive to recount the West’s ideological reconstruction of Islam through the anticipations of George Orwell’s book, *1984*. In an Orwellian world, Islam has become a nightmarish composite of Oceania’s mortal enemies: Eurasia and Eastasia. In modern America’s “Ministry of Fiction” (the spin-doctored media) Bin Laden stars as Orwell’s “enemy of the people”: Emmanuel Goldstein. Like Emmanuel Goldstein, Bin Laden’s actual existence has become quite irrelevant to his symbolic appropriation:

He was the primal traitor, the earliest defiler of ... purity. All subsequent crimes ... all treacheries, acts of sabotage, heresies, deviations, sprang directly out of his teachings. Somewhere or other he was still alive and hatching his conspiracies; perhaps somewhere beyond the sea, under the protection of his foreign paymasters; perhaps even ... so it was occasionally rumored ... in some hiding place in Oceania itself (Orwell, 1950, p. 14).

Paradoxically, the Islamic Jihad protects religious, constitutional, and legal rights and those freedoms that today have little more than rhetorical status in Western capitalism. Freedom under capitalism, was always ambiguous. It began with making “free-men” (free from the feudal ties and serfdom) who then became “unfree” wage labor in that they were now deprived (freed) of all their feudal entitlements (and thus were free to “starve under the bridges of Paris”). In contrast, in Islam, it is freedom and justice for the development of innate capacities that is sought, not freedom to be bought as wage labor by capital. Again, these subversive possibilities of Islam – shared with some Judeo-Christian religions – are evident in the importance it attaches to the moral, conscious, and practical ennoblement of individuals and the community. This is the early Enlightenment project that, in postmodernism, is in peril.

Islam as a social constitution

Islam is simultaneously a religion, and a social constitution, because instructs Muslims in both how to worship and how they should conduct themselves with others (individuals, group, family, nation). The West has borrowed these precepts liberally

(but usually unacknowledged) from the centuries old traditions of Islam: the principles established by the League of Nations in regulating relationships between nation states, and the ideals of the French Revolution (freedom, equality and fraternity) derive from experience from previously functioning Islamic societies. Many institutions established in Europe under Napoleon I was similarly inspired after his Egyptian campaign. There is no explicit prohibition against private property or capitalism in an Islamic social order, although many of its excesses would be deemed unacceptable[23].

Holistic analysis

Bifurcations inspired by Cartesian analysis have aided in compromising the Enlightenment project. The scientific process of classifying, equalizing, levelling, and then privileging certain qualities, while silencing others, is the poison chalice of the Cartesian legacy (Ryan, 1982). Labor power evacuates labor, the economic represses the social, logos ejects language, money replaces values, normality humiliates the deviant, efficiency extinguishes beauty, "skill" drives out craftsmanship, cost precedes quality, and instrumentalism eclipses affection. In each case, Cartesian exclusion and privileging forms an unholy alliance with repressive social interests (Ryan, 1982). Islam, in its blissful innocence from negligible exposure to capitalism, retains an affinity with religions of antiquity and their practices of specific representation, which preserve the specificity of the individual. Islamic law is a process of resolving disputes by preserving uniqueness of each case. The process is "casuistic" in that it privileges individuality (Chabrak, 2002).

A commonplace lament in modern science is with the dysfunctional schism between "fact and value", a distinction that, in recent months, accountants, with their own nomenclature of normative and positive, are coming to regret (Gouldner, 1975). This schism reaches to the highest level. The division of labor of conventional philosophy, into language, mind, ethics (axiology) and practice (pragmatism) ensures that none are adequate to Aristotle's invocation to, "live an ethical life" (Pirsig, 1974; Caws, 1965). However, this dualism pales by comparison with the grander version that has played on the stage of capitalism: the triumphant de-secularization of the state, ushered-in by Henry VIII, and its successful enshrinement in the American constitution. Islam, in contrast, has so far, largely escaped such history; the Koran elevates both the unity of the spiritual and material character of people. It is "moderate" in its recognition that does not ordain either a purely ascetic, or an essentially materialist life. It seeks a virtuous conduct that, on one hand, must be principled, and on the other, must be practical. These qualities are disengaged in market capitalism: principles are for the home, and practicalities are for work.

Finally, the civilizations incorporated under the Islamic empire celebrated unity in diversity by drawing from all sources for their development. This tolerance of difference stands in contrast with the totalizing mission of Western capitalism (although not all forms of Christianity) where colonized identities are viewed as "primitive" and in need of "civilizing" (as under such ideologies of "Manifest Destiny", and the "White man's Burden"). In contrast, in Islamic architecture, mosques are constructed in a style that honors local traditions (Indonesian, Tunisian, Egyptian, etc). Similarly, knowledge vital to the development of science in the Islamic empire harnessed the efforts of scholars from all religions – Christians, Jews, Indians and Muslims – who were all supported for their contributions to the human advancement.

It would be naïve to assume that such benign tolerance was total; just as it is also important to remember that Muslim's didn't instigated the crusades.

For reasons of history, Islam – as a system of beliefs and an everyday practice – has avoided being engulfed by capitalism. Yet already the Muslim and Arab world is now under siege and seriously divided. Pressures from within and outside Turkey and Iran instance this. The intervention in local politics to change juridical systems, the de-secularization (or Christianization) of education, attempts to supplant Arabic (the language so important in preserving the unity of Arab world and the understanding of *Qur-an*), and the undermining of extended family, all compound to make Islam today strange to Muslims themselves, and combine to incline Muslims towards terrorism. In such a manner, some in the West have invented their own *Cause Celebre* for a New Crusade. The challenge to Muslims is to devise a political stance that is capable of withstanding the forthcoming assault on their way of life.

Muslims must prepare themselves for this attack. Central to this effort is knowledge; that quality so highly prized in Islamic tradition. However, what is required is not a technical or commercial knowledge, but social knowledge of the anatomy of capitalism – as a social system and a force. The analysis of capitalism today, and its instrumental sciences in particular, is an important precursor to devising effective political tactics. The naïveté (and brutality) of some responses to capitalism underscores the urgency for developing such intelligence. For the same reason, Marx, and serious Marxism, is first and foremost concerned with an analysis of “the anatomy of capitalism” (and very minimally about a communist Utopia). The example below, like the previous historical review Christian experience, follows in this tradition. It extends the examination to the record of the calculative sciences – including accounting – as a necessity for developing challenges to capitalism.

6. The rise of calculative sciences

Logocentric history of ideas

Quantitative methods, including accounting, have assumed great prominence in the social sciences, the world of business, and in everyday life under capitalism. These developments – augured in Descartes celebration of quantitative and mathematical methods – have formed the vanguard in regressing the Enlightenment back into myth. The totalizing pall of quantification and accounting was anticipated by Descartes, but with innocent optimism:

... which if properly used, is capable of leading to certainty. At the basis of his thought is the notion of the unity of mathematics, and by extension, the unity of all the sciences (Sutcliffe, 1968, p. 16).

In the Second Discourse, Descartes notes that:

... all those particular sciences which come together under the name of mathematics, and seeing that, even though their objects are different, they are all concordant ... I would borrow all the best from geometric analysis and from algebra, and would correct all the defects of the one by the other ... the method which teaches one to follow the true order and to enumerate exactly all the factors required for the solution of a problem, contains everything which gives certainty to the rules of arithmetic (Sutcliffe, 1968, p. 42-3)[24].

As with Catholicism, Aristotelian physics provided Descartes with a vital orientation. Aristotle's Nature possessed forces and qualities that could be discerned through sense

perception. His cosmic view and hierarchy, overseen by the Almighty, gave pride of place to Earth and man, with the remainder of the Universe arrayed around them. For Descartes, this entirety was reducible to a mathematical expression. "Descartes ... ruins the very notion of the ancient cosmos" (Sutcliffe, 1968, p. 20):

Henceforward, the only spectacle which presents itself to the inquiring eye of man is that matter agitated by movements according to mathematical laws. God is no longer present in the world and neither is man in the sense that he no longer has an assigned place. As mind, infinitely separated from a world which is matter, the role of man can only be that of dominating his surroundings, of becoming master and possessor of Nature (Sutcliffe, 1968, p. 20-1).

Kant and Bacon represent seemingly opposing visions for human knowledge and control. Bacon's focus on the experimental method represents a movement from "Reality" to "The Idea", whereas Descartes' quest to unify science within mathematics represents a movement from "The Idea" to "Reality"[25]. These early philosophical schisms threaten the Modernist Ideal, by misconstruing movement in reality in an either-or (Cartesian) manner (for instance, by reducing choice to either induction or deduction)[26].

Far more important than epistemic distortions are the shared social (materialist) precepts of Kant and Bacon: the dethroning of God, the demolition of his institutional and political (Catholic) arsenal on Earth, and the "Ascent of Man". These antinomies at the level of the "Haut Science" of Bacon and Descartes, percolated through to the practical knowledge of algebra, geometry, and accounting to further unsettle the balance between the secular and the worldly.

The dialectics of the calculative sciences

The fall of the Enlightenment is the other side of the coin of the rise of the postmodern. As a form of relativism, the latter brazenly rejects any role for philosophy in providing an ethical and moral compass (as instanced in accounting by the rise of positivism and the devaluation of the normative). Such tendencies were evident in the early calculative sciences (including mathematics and accounting). The history of mathematical inventions is usually portrayed in either logocentric (philosophical) terms, or as a Eurocentric process of personal inspiration and genius. A more complex and realistic picture emerges from a dialectical formulation of this historical process, which is vividly illustrated by the development of the calculus[27].

Calculus did not drop out of the sky; nor was it a purely a Western invention[28]. In the West, it appeared with the advent of modern science, and followed closely on the rise of capitalism. The Great Renaissance and the emergence of European industry and the capitalist class in the fifteenth and seventeenth centuries had a tremendous influence on the development of mathematics. With the discovery of analytic geometry and the invention of calculus, mathematics was transformed from a science of constant quantities into the mathematics of varying quantities (calculus).

The dialectical materialist foundations of these ideas sometimes merit less attention. The introduction of mechanical tools of production, from windmills and cranes to water pumps and machines to drill stones, the development of oceanic navigation, new military techniques, and the natural sciences in general, demanded new knowledge – necessitating means of analyzing and calculating motions (projectiles, free fall, planetary motion, accelerated motion, etc.). The mathematics of varying quantities constituted the mathematical response to this external stimulation, further enriched by the study of

problems arising from the technical, inner development of mathematics, such as the study of abstract curves and surfaces, including the so-called tangent problem (Gerdes, 1985). The mathematics of varying quantities represents the response of mathematics to a profound problem – the analysis of motion.

This socio-economic grounding for the rise of mathematical methods provides an important antidote to those asocial and a-historical accounts that privilege isolated genius as the source of inventions. Calculus was the culmination of the work of four generations of mathematicians from various countries: the Italians Federigo Commandino (1509-1575), Luca Valerio (1552-1618), Galileo Galilei (1564-1642), Bonaventura Cavalieri (1598-1647), and Evangelist Torricelli (1608-1647); the German Johannes Kepler (1571-1630); the Swiss Paul Guldin (1577-1643); the Belgian Gregoire de Saint-Vincent (1584-1667); the Dutchman Christian Huygens (1629-1695); the Frenchmen Antoine de Lalouvere (1600-1664), Cue de Roberval (1602-1675), and Pierre Fermat (1601-1665); the Englishmen John Wallis (1616-1703) and Isaac Barrow (1630-1677); the Scot James Gregory (1638-1675); the German-English Nicolaus Mercator (1620-1687); The Englishman, Isaac Newton (1643-1727) and the German Gottfried Wilhelm Leibniz (1646-1716) (Gerdes, 1985).

It was through joint work and mutual discussion that they created the differential and integral calculus, which, in the words of the physicist John D. Bernal, may be considered on par with the telescope as an essential instrument of the new science. This mathematical “telescope” rapidly won successes in astronomy and many practical applications. As an analytic tool for predicting and analyzing movements and equilibriums, calculus was especially attractive for early economists[29].

The Eurocentric erasure of Islamic science

The previous cultural materialist account of the development of the calculative sciences is deficient in one important respect. European historians too often make Europe the Archimedean point of creation, and are grudgingly silent about the contributions from other cultures; notably those of India, Persia, and Islam. Such oversights are not always innocent. Acknowledging such legacies can lead to troubling questions about the moral foundations of the West’s missionary and civilizing role. The West’s conceit, as to its “advanced” status relative to “primitive” societies, continues to ease the ideological path to colonization.

Persian, Indian, and Islamic cultures made invaluable endowments to the West’s Renaissance. Mathematics and algebra were developed in Arabia before the ninth Century by al-khawarizmi, and subsequently by Al-farabi in the tenth century, Avicenne in the eleventh century, and then by scholars of various ethnicities, all of whom wrote in Arabic (from the ninth to sixteenth centuries). Hellenistic mathematics was translated into Arabic in Baghdad; Christians played an important role because they knew both Latin and Arabic (Amin, 1980; Young, 1975).

Islamic scholarship pioneered work in a variety of fields: in astronomy, since 771, Arabs translated Indian works. They improved the Ptolemaic theory and prepared the way for the Copernican Revolution. (Indeed, Ibn-alshatir in the fifteenth century described the movement of planets before Copernicus). Arab philosophers developed Indian, Greek and Persian astrology and gave it a scientific basis founded on mathematics. In optics, the physicist, Ibn-al-haytham (known in the Occident as Al-hazen) is considered to be the originator of the optics used subsequently by Kepler and Descartes.

Arabs translated Hellenistic mathematics, but they also developed their own: especially in Bagdad's Wisdom House. Muhammad Ibn Mussa al-khawarizmi developed algebra (his book appeared between 813 and 830). Arabs applied arithmetic to algebra, algebra to arithmetic, both to trigonometry, algebra to Euclidian theory of numbers and to geometry. These applications fostered new disciplines, including polynomial algebra, combinatorial analysis (eventually leading to applications algebra, linguistics, and even metaphysics), numerical analysis and numerical resolution of equations and finally, a new elementary theory of numbers. Others studies of infinitesimals determinations led to advances in geometry, conic sections, and mechanics, music and astronomy. One consequence was a basic text for the determination of areas and volumes, which were translated from Arabic to Latin by Gérard de Crémone in the twelfth century.

Discontent with the calculus in economics

These early developments in scientific and mathematical competence provided an intellectual and methodological reservoir to be drawn-on by economists and accountants. However, mathematical tools make good servants but poor masters when adopted in an uncritical manner (Ravetz, 1973). And the servant certainly became a tyrant in the case of calculus's influence on the development of the subjective value theory in economics and finance. As Dobb (1973) notes, calculus was a vital ingredient in the shift away from a production or labor-based theory of value, towards a utility-based (neo-classical) theory of value; a theory more conducive to sanctifying the market system and capital accumulation as a desirable economic and social order. Hence:

... from conditions of production, towards demand and to final consumption ... placing the stress on ... the satisfaction of the desires, wants, needs of consumers ... derived from a certain individualist or atomistic bias of modern economic thought ... rendered intellectually possible by discovery (via application of differential calculus) of the notion of marginal increments of utility (Dobb, 1973, pp. 167-8).

This change of direction, aided and abetted by calculus, was of tremendous significance for the ideological trajectory of economics. Jevons – a progenitor of neoclassical economics – declared his mission to “shunt economics back onto the right track” after the Ricardian diversion (Dobb, 1973, p. 166). For Neoclassicists, the source of value (the means of life) no longer originated in the labor of production but in demand, the market, and (as profit is the figure of merit of market performance) in capital accumulation – capital (Meek, 1975). In this sense, neoclassical economics becomes a prime example of Enlightenment regression: it subordinates the development of humanity to the imperative of the market and capital accumulation. In this scheme of things, humanity – labor – becomes a means – a resource like land – to be “allocated” in any kind of brutal arrangement that is conducive with efficiency and the valorisation of capital.

As with the Enlightenment philosophy, there were notable detractors in economics who questioned the innocence and neutrality of calculus. Keynes, in his General Theory, rejected “the calculus of variations”, and returned to the use of absolute quantities. From a narrow, technical (mathematical) viewpoint, he rejected a ratio scale of measurement (that may have a relative zero, but not an absolute zero) for a cardinal scale of measurement (that does) (Dobb, 1970, 1973; Sraffa, 1960)[30]. But Keynes realized that more than “technical” issues were involved here. He understood that near

full employment was vital for social stability, and that an equilibrium expressed in ratio terms using calculus, said nothing about the absolute level of economic activity (and thus the employment level). Thus differential calculus could produce a “stable” equilibrium in marginal terms that, in absolute terms, represented, 20 percent, 50 percent, 75 percent, or 100 percent level of (un)employment (Keynes, 1936; Dobb, 1963)[31]. What was an equilibrium for neoclassical economics could be a serious disequilibrium for society[32]. This particular regression from the Enlightenment ideal is represented by the triumph of a neoclassical doctrine that eradicates employment and other indices of a decent life from the economic agenda; considerations that, in classical formulation, are central.

This Enlightenment struggle in economics extends into Sraffa’s (1960) theoretical demolition of neoclassical economics in his *Production of Commodities by Means of Commodities*. Sraffa, like Keynes, was conscious of the subtle biases introduced by calculus (Sraffa, 1960; Dobb, 1970). His seminal work reinvigorated classical (including post-Keynesian) analysis, and its critique of neoclassical work (Kregel, 1972, 1973, 1976). Sraffa’s modest subtitle, *A Prelude to a Critique of Economic Theory*, undersells the importance of this work. Paul Samuelson was to later describe Sraffa’s 80-page book as, “the most important contribution to economics in the last 70 years”. Sraffa’s work was the first salvo of the Cambridge Controversies, a debate that spiralled into a rout of the intellectual foundations of neoclassical economics (Harcourt, 1972; Harcourt and Laing, 1972). In essence, Sraffa’s critique built on the final works of Ricardo (especially a late manuscript that remained undiscovered for many years) to expose the circular reasoning behind the neoclassical theory of value (Harcourt, 1972; Tinker, 1980; 1987). This led to the conclusion that any grounds for crediting capital with the qualities of efficiency and marginal productivity were spurious. Rather, returns to factors of production are determined from outside the realm of economics, on the terrain of social struggle between classes (Dobb, 1973). The foundations of economics therefore are neither economics, logic, or mathematics; they are moral, sociological, historical, and institutional:

... what is of substantial importance here is that ... a social datum is introduced from outside ... [beneath] the market process. Thus the boundaries of economics as a subject are ipso facto drawn differently and more widely; they are drawn so as to include social, and moreover institutional and historically-relative, changing and changeable, conditions that were excluded from Economics as viewed in the post-Jevonian tradition (Dobb, 1973, p. 261).

Hence, these skirmishes between neoclassical and classical economics foreshadow an even greater schism for the Enlightenment project itself. The restoration of distributional questions by Keynes and Sraffa (and Ricardo, for whom, “Distribution precedes all”) contains a potent reprimand. In destroying the wall between distribution and production (indeed, showing the primacy of the former), classical economists had successfully taken an even more worthy prize: they destroyed the tenability of dividing fact from value, the real from the ideal, the positive from the normative, the ethicist from the realist and - most devastating of all - the secular from the non-secular. They therefore opened a vent for putting morality and ethics back into science.

Mythical regression as cultural subordination

Notwithstanding this devastating theoretical critique, neoclassicism still remains *de rigueur* in economics and in its derivative fields of business, finance, and

accounting, where the mainstream remains blissfully ignorant of the shaky theoretical foundations of their economic precepts. As Kuhn (1962) has shown, the material interests that underpin ideological roots of paradigms frequently give them life beyond any logical justification (Barnes, 1982; Kuhn, 1962, 1970a, b)[33]. But how has neoclassicism been able to withstand such a devastating theoretical assault? What were the (sociological) conditions that held it in place? Such questions must be treated with utter seriousness if our political engagement is to be intelligently informed.

The reasons for ideological resilience to change in scientific and popular understanding may be found in understanding how market capitalism reconstructs its culture milieu to facilitate its own reproduction. capitalism's contribution to the Enlightenment's reversion was not restricted to subjugating Nature and physical labor; it extends to the subordination of human nature itself by attacking the cultural, psychological and ideological makeup. Here, accounting assumed a pre-eminent role: it is a public mentality for efficiency and control, through which the dictates of capital accumulation are interpreted and imposed. This encompasses all commodified areas of daily life, and indirectly, all pre-commodified and ancillary experience that is necessary to reproduce market relations (especially the home, the family, education, spiritual life, and personal life (Zaretsky, 1976; Braverman, 1998; Cleaver, 1979; Laing, 1961, 1965)[34].

Accounting's complicity in these processes is multifarious. It intrudes into the operations of the workplace (management and cost accounting), into locating and shaping that workplace (financial accounting, tax regime analysis, mergers and acquisitions consulting), the quality and quantity of products that are generated by the workplace (budgeting, forecasting, planning), identifying more lucrative consumer segments and appraising strategies for reconstructing consumers and their tastes (market analysis), and the audit process that monitors the integrity of information and decisions operating at all these different levels, etc.

In all these fields, in a seemingly innocuous manner, accounting calculation proselytize the market imperative, and thus the imposition of efficiency and economy on all realms of daily life. In short, accounting ably perpetuates the separation between the secular and the non-secular, notwithstanding "logical" broadsides from classical economists. We still need to answer those earlier questions as to the reasons for accounting's tenacity as an ideological instrument in the face of such strong "logical" rebuttals? Some headway may be made in deploying literatures that allow us to explore the powerful resonance between accounting and its cultural milieu (especially a milieu that approximates to Bush's America)[35]. It is in this kind of context that accounting, as an ideological form, comes to the fore.

Accounting as cultural subordination

George Orwell's 1984 foresaw a world of relentless hopelessness and futility – a futuristic totalitarian state called Oceania. His work belongs in the literary genre of "Negative Utopias"[36]. The Orwellian genre augured – back in 1948 (84 is a transformation 48) – the eclipse of the optimistic project of "The Modern". With it has dimmed faith in progress towards a world of justice and peace that is rooted in Greek and Roman thinking and the Messianic concept of the Old Testament prophets, that passes on through Christianity, the Enlightenment, and today's scientific method. In

this sense, *1984* does what literature does best: envisage a future that may be unspeakable in the present (for us: the death of the Enlightenment).

1984 (like Huxley's *Brave New World* is a vision of a completely bureaucratized society that establishes control over people with a brutality and intimidation. Orwell's terror state of Oceania controls the citizenry with a Thought Police, a Ministry of Truth, and an ongoing reconstruction of language into Newspeak. Already established in Oceania is a commonsense ideology of double-think: "War Is Peace, Freedom Is Slavery, And Ignorance Is Strength" (Orwell, 1950, p. 7). This is a society organized in the presence of a permanent state of terror (weapons of mass destruction) that demands unquestioning loyalty to finding the means of annihilating an enemy that is equally committed to annihilating you. The purpose demands an obliteration of all forms of resistance, from deviant forms of language and thought to any kind of real history, solidarity, and social empathy. It is hard to miss the parallels with today.

It would be a mistake to read Orwell's *1984* book as a prognosis of resignation and despondency. His main character is Winston Smith (a choice of name that reflects the socialist Orwell's ambivalence toward Winston Churchill)[37]. Winston Smith finds refuge (and resistance) in recollections of a nursery rhythm, and – with echoes of Juliette in the Marquis de Sade – a sexual escapade. Unlike Foucault's notion of sexuality as an externally constructed process, Orwell, Adorno and Horkheimer view sexuality as encoded in human nature. Like "labor" in Marx; it is ultimately irrepressible.

This radical reconstruction of society and popular subjectivity (ideology) is a topic that has re-appeared in a range of literary, artistic and "scientific" works since Orwell, that shed more light on the function of ideological tools such as accounting. These works explore the manner in which modern ideology is prosecuted. Orwell's overthrow of "Utopia" with his "Negative Utopia" is a motif that is developed in more recent critiques of postmodernist analysis; especially in literature that exposes how postmodernist ideology has evolved its own Newspeak in trying to erase Enlightenment notions of Truth, Value, or Right (see, for instance, Harvey, 1989; pp. 66-99; Jameson, 1984, p. 83)[38].

7. Obstacles to developing a progressive politics

Progressive politics has been sabotaged by its own illusions, and these illusions are rampant in accounting. First, there is the allure of personal, identity, and issue-politics, that are frequently conducted on territory "outside" the market (the family, street protests, etc). This kind of activism has been spurred-on by the insecurities and anxieties that become acute in living in a postmodernist society (Harvey, 1989)[39]. Second, following the triumphs of the 1933-1934 US Securities Acts, and 1948 Companies Acts, reformist accountants today continue to favor such legislative remedies for contemporary ills, long after circumstances have rendered the elixir impotent. The latest US panacea is the Public Corporate Accounting Oversight Board (PCAOB). This invention of Sarbenes-Oxley is intended to shore-up a discredited FASB and SEC (who slept through the rise of Enron, WorldCom, etc) yet the lessons to be learned from the failures of these regulatory authorities have yet to be learned, either by accountants, or by legislators.

The SEC and the FASB were victims of the commodification of politics; they were captured by the industries they were designed to regulate. These were corporate and

accounting casualties in the struggle between the market and the social, and between the modern and postmodern. The PCAOB is exposed to the same susceptibilities. But before we consider further the specific accounting concerns, we must inquire more deeply into what precedes them: the postmodern assault on personal identity and its accompanying, pervasive sense of resignation and helplessness. Recalling that “all politics are personal”, the struggle for personal identity is a key impediment to accounting in recovering its share of the Enlightenment ideal.

Nostalgia and the politics of personal life

Today’s instabilities in personal life under capitalism are unprecedented. The destruction of self-sufficient extended families and local communities, that nurtured, fed, consoled, clothed, moralized, educated, married, revered (their old), and cared-for their sick, is a direct consequence of the “freeing” of labor, to migrate across borders and continents, to reassemble as estranged beings in foreign cities of production[40]. This migration is now of a scale that is unmatched in the history of capitalism. This severing of connections from traditional roots – roots that have themselves been destroyed by colonialism or “trade” – introduces instabilities and anxieties into modern life, that destroy identity and the capacity to reproduce identity (Laing, 1961).

One response to personal stress and crisis is a retreat into an illusion of the past: the nostalgia of a heritage industry (in Britain), religious revivalism (and Christian fundamentalism), the search for “roots” (family trees), and a wholesale retreat to “traditional” ways of life (Harvey, 1989). The recoil into a-world-that-never-was, covers the full sentimental spectrum. In the US, Hollywood re-run movies like, *Christmas on 42nd Street* and *It’s a Wonderful Life* are standard fare at Christmas, when the absences of love-ones are felt most acutely.

Others seek recourse to “traditional” ways of life. Consider the revivalist balm from Alfred Lord Tennyson:

Man for the field and woman for the hearth
Man for the sword and for the needle she:
Man with the head and Woman with the heart:
Man to command and Woman to obey;
all else confusion.

And of course, “confusion”, chaos, and anxiety, are what define this moment of postmodernism.

It is understandable that Orwell, Adorno and Horkheimer should seek refuge in areas outside market commodity production for a locus for resistance[41]. The family and sexual life, are viewed as final and unassailable bulwarks against assimilation into commodity production (Zaretsky, 1976; Knights, 1997, 2000; Tinker, 2002). In the same vein, Marcuse (1964), whose omnipresent technocratic consciousness complements Orwell’s Oceania, placed his hopes on a lumpen-proletariat, student dissidents, and revolutionary movements, who exist on the periphery of capitalism[42]. Similarly, a deep political pessimism is also found in the “*Nouvelle Philosophie*” in France, with its retreat into subjectivity, and disenchantment with formal Left institutions since the betrayal of 1968 (Dews, 1979; Foucault, 1980; Rowlinson and Carter, 2002).

In confronting the postmodern assault on the self, and more generally, the modernist ideal, these tactics suffer from a serious flaw: by vacating the field of battle to life-areas that have evaded commodification, they surrender control over the

division of labor and the market. Accounting has its own special retreats – notably its reformist notions of the state – that are examined below, before we explore an alternative to this politics of resignation.

Accounting's romancing of the state

Nowhere is “ignorance of history” more injurious to accounting politics than in its current precepts about the state and liberal democracy. This misunderstanding dates back to the high-point of the liberal-democratic state. In Europe, the period immediately after the Second World War is remembered for extensive nationalization, and safety nets regarding unemployment, pensions, and health. The triumph in social welfare programs in Europe (matched by Johnson’s “Great Society” in the US) is venerated and sanctified in Left-history. For accountants, the US, the Securities Acts of 1933-4, and the UK Companies Acts of 1948, provided a “chartering” jobs-bill for auditors, and baptized accountants with a public-interest mandate. Today however, these accomplishments stand as monuments to reification, that are taken out of their time, detached from their historical and social specificity, in futile attempts to eternalize them into the present and the future[43].

The nostalgic mystification of politics is nowhere more prevalent than in the regulation of accounting by the state. Even neo-conservative commentators forewarned about the tendency for regulators to become captive of the industries that they regulate (where lobbying Congress becomes another “cost of production”, much like the advertising charges of Madison Avenue (Stigler, 1961, 1964, 1971)[44]. The big accounting firms are quintessential forms of Stigler’s capture thesis (Rankin, 2002). Campaign finance reform has become Washington’s longest-running soap opera. This project is flawed to its very root[45]. Leading the campaign is Senator John McCain. As a fox that turned bloodhound, McCain is infamous for his involvement in the Lincoln Saving & Loans fraud in the late 1980’s. Similarly, Senator Oxley – of Sarbenes-Oxley – fiercely led the opposition to accounting reforms that would have reign-in the executive compensation excesses at firms like Enron. Senator McCain (member of the so-called “Keating 5”) allegedly obstructed regulators in pursuing his major campaign donor – Lincoln Savings & Loans. McCain and three other Senators (including John Glenn, the astronaut), offered in their defense, reliance on a Big 8 accounting firm, and Alan Greenspan. McCain said, “You wouldn’t expect a Big 8 accounting firm to perjure itself; would you?”. Lincoln cost American taxpayers \$4 billion.

In 2001, the McCain-Feingold Bill for campaign finance reform passed Congress. The bill’s protections have already been breached. Both major parties have devised schemes for circumventing the bill, and are already amassing millions of dollars of soft-money from special interest groups[46].

The subsumption of the political process by accounting firms and other institutions, in their pursuit of the market imperative and their accumulation appetites, is a further breach of Enlightenment ideals that extends to transnational authorities. The WTO is an intergovernmental body, yet its dispute resolution panels are closed sessions where national governments had no decision-making powers. Direction comes from companies and industry bodies; such as the International Chamber of Commerce (ICC) and the Trans-Atlantic Business Dialogue (TABD). Industry lobbying dwarfed anything achieved by the NGO lobby in a wide range of ecological and social problems, such as the plunder of ancient forests to the ravages of storms driven by climate

change[47]. In short, the scope of the market's subordination has indeed become global, and to be adequate to this reality, politics (including a critical accounting politics) must also match that scope.

8. Implications: the politics of production

The assault on the modern and its progressive Enlightenment precepts, has gained impetus from the rise of market capitalism, and the reduction of Man to a commodity (labor power) for the alien purposes of accumulation. Subordinated to this alienated process are all other spheres of life: politics, morality, education, health, work, entertainment, etc. There is an integral relation between these fields of domestic policy, and the foreign policy of the "War on Terror". The "evil doer" demons provided the license for an unprecedented curtailment of civil liberties. The first Patriot Act allowed US authorities to detain even US citizens indefinitely, without charges being filed, without explanation, without access to a lawyer, and without notification of one's family members. The second US Patriot Act promises even more draconian powers. Minorities (especially Muslims) have been the main targets for the authorities. As Cox (2002) has noted, this kind of discrimination is an active bourgeois strategy for managing the exploitation of labor. He defines racial prejudice as, "a social attitude propagated . . . by an exploiting class for the purposes of stigmatizing some group as inferior so that the exploitation of either the group itself, or its resources or both may be justified".

The struggle against Enlightenment regression cannot be confined to the traditional class concerns of the workplace. There is an integral relation between these issues and religion, race, gender, foreign policy, and uncommodified fields of experience (Elson, 1979). A "politics of production" includes not just the factory, but all activities that contribute to the reproduction of the factory in the home, in spiritual life, at school, in the theatre, in places of consumption, in parenting, etc. This is what Cleaver (1979) terms "the social factory".

Religion figures prominently in this paper, and it therefore appropriate that we begin with the challenge that the paper presents to religions (Christianity and Islam). More than ever before, religion and Marxism need to suspend their mutual suspicion and join in a careful, interrogation of capitalism. If there is an "idealism" in Marxism, it is something shared by some Christians and Muslims – the ennoblement of Man-on-Earth. What is solidly central in Marxism (sometimes more in the text more than in its "living practice") is Marx's socio-politico-historical method of analysis. Marx's opus, Volume I of *Capital*, is, after all, not a diatribe against Christianity or capitalism, but, as Mandel (1975) notes, its "fundamental aim was to lay bare the laws of motion which govern the origins, the rise, the development, the decline and the disappearance of a given social form of . . . the capitalist mode of production . . . (p. 12) . . . the unfolding of the inner contradictions of that structure that define its very nature" (p. 18). This is an urgent project for all concerned.

The politics of accounting reform can also be construed in a correspondingly broad manner. They are not limited to self-and-state regulation, but also to continuing education, employee selection, the composition of educational programs, the judicious screening of new clients, the organizational structure of firms, the training of educators, the range of permitted products and services that firms can offer, the

research undertaken by educators, policies affecting the recruitment and selection of both students and faculty, etc. etc.

These issues fall squarely within the thematic of this paper. The charge of progressive accounting in the Modernist project is to promote individual and social development by enhancing the integrity of accounting information. A moments reflection on the ramifications of this rubric would show that we have hardly begun work on this task. Here, we can begin outlining some of the possibilities for this new politics of accounting. Consider, for instance, the kind of educational curriculum for a properly priming of undergraduate students for the progressive work. First, the use of “live” case studies, drawn from the litany of accounting and audit failures from the last decade, To obtain this material, Big firms need to be pressured (shamed) into abandoning their practice of sealing court records of cases as part of their settlements. This evidence should be available for incorporation into the accounting educational experience such that students can appreciate a “corporate world upside down” (Chabrak, 2002). These cases would add contemporary urgency to the curriculum; providing an (ethnographic) empathy with the victims of efficiency (rather than just with its proponents). This “history” could be told for each accounting specialization (financial, managerial, tax, information systems, social accounting and auditing, auditing, environmental accounting, internal auditing, qualitative and quantitative data analysis, etc).

Second, an introduction to philosophy and philosophical criticism – dialectical analysis and praxis – that endow students with political acuity and philosophical skepticism as to the conservative precepts of Cartesian and empiricist analysis. (It is tempting to add the ultimate heretical suggestion in Bush’s America, that a deeper appreciation of Islam, on its own terms, should be a central part of this philosophical initiative.) Lastly, a primer in social analysis, and the manner in which “the social” preconditions phenomena covered in each of the disciplinary areas.

Finally, there is an integral connection between Islam and accounting today, that underscores the exigency of broad historical, multicultural, social, and political studies – within accounting education itself. Alvin Gouldner once quipped that, “sociology and employment were functional alternatives” (that sociology is a way of placating the unemployed; a substitute for giving people decent work). So it is also the case for American militarization in the Middle East – a savage political diversion from an economic depression; a depression triggered by corporate and accounting criminality. Islamic demonization is key to this political legerdemain. It is a cruel excursion into a racist video-game war, where bombs were delivered from ten-miles high. Conveniently blocked from view was the gruesome carnage. In Bush’s Hollywood, real people die. But he has a mesmerized audience, whose feelings have been numbed by innumerable reruns of *Rambo* and *Terminator*, who are informed by Pentagon-embedded poodle-reporters, and who are no longer capable of distinguishing between fact and fiction.

It is a responsibility of critical accountants to alert people that this is a ruse to divert attention from their own critical agenda and the problem’s engendered by this destructive social order. Home and abroad are part of the same seamless cloth; progress is only possible by recognizing this interdependency. “Abroad” includes the ongoing carnage in the Middle East. “Home” includes the diversionary tactics that aim to bury the anxiety about employment, health care, and stock-market-tied-pension-benefits, and all-time record high bankruptcy levels. Even the tepid accounting reforms

proposed by the Bush Administration have stalled, and most corporate villains who looted billions still remain at-large. (CNN news reported on January 23, 2004 that Ken Lay, Chairman of Enron, may not be prosecuted because he was “out of the loop” on the golf course). If accountants in particular, and Americans in general, were less ignorant about such matters, they might be less inclined to be suckered into such a vile complicity.

Notes

1. For convenience only, we will frequently refer to “Christianity”, “Islam”, and “accounting”, as if they were singular entities. Generally, however, this is not the case. Indeed, it is the political plurality of different Christianities, Islams, and Accountings – in retarding or advancing the Enlightenment project – that is the main concern in this paper.
2. This definition of ideology stresses its productive aspect as a form of commonsense that undergirds conduct in everyday life. While this notion of ideology retains the possibility of “false” beliefs, it also admits that beliefs must be viewed as “true” and “valid” by the social subject.
3. “The normative origins of positive theories” paper is mentioned here, simply as a reminder of the longstanding nature of these concerns about false dualisms in accounting and economics, and that morality and the secular are important, even for Marxists.
4. Such a critique mirrors Tawney’s 1926 challenge to Weber’s thesis, who cites Calvinism as an important cultural trigger for the inception of capitalism. Tawney, in contrast, asserts that economic change was the instigator of religious changes (Tawney, 1937). This paper posits that the cultural and economic [sic] are mutually constitutive.
5. Correspondence with the Rev. Dr Julius Randel, University of St Andrews, January 14, 2004.
6. The Protestant doctrine of justification by faith asserted that motives were more important than specific acts or rituals. “Faith was nothing else but truth of the heart ... private conscience” (Hill, 1966, p. 43).
7. Luther’s attack on Church authority became self-defeating in that it fostered a flowering of viewpoints, which got further away from his romantic vision of a unified pre-modern society. His religious justification for breaking Church authority aided Enlightenment thinkers who sought the end of religious interference social mechanics. Luther would certainly have been displeased with the Church’s replacement – the market engineering of human appetites.
8. The Pope, throughout Christian tradition, has worked with Councils of the Church but he alone could call such Councils. Over the Middle Ages the practice of promulgating Papal Bulls became custom and practice in the Church. These could be similarly binding on the faithful. Such an edict was issued by the Pope in 1588 entitled *Gloria in excelsis* which absolved English Catholics from allegiance to Queen Elizabeth I. Papal infallibility was not defined until the First Vatican Council in 1870 when the Pope was defined as being able to declare on matters of faith and morals *ex cathedra*. This has only been done, once, by Pius XII in 1950 when he declared that the Blessed Virgin Mary was assumed body and soul into Heaven (the feast of the Assumption). Normally, today, Popes issue Encyclical letters, which develop Catholic teaching in different areas relating to the faith. These letters are always referred to by their first three Latin words, e.g. *Pacem in terris* (John XXIII), *Mater et Magistra* (Paul VI). Sometimes such letters contain clarification of matters under debate within or outside the Church and then it is a moot point whether such letters are regarded as binding on the conscience of Catholics or not (Correspondence with the Rev. Dr Julius Randel, University of St Andrews, January 14, 2004.)

9. "Human", rather than "Man" is used wherever possible; although no change is made in original quotations. Rather than repeatedly signifying the authors' dissent from the use of the term "Man" with "sic" (that would clutter the flow of an already complex argument). The reader is asked to accept this footnote as a global qualification and apology.
10. In the secular realm, Alexander Pope's injunction expressed parallel sentiments: "The proper study of mankind is man" (Harvey, 1989, p. 13).
11. The divergence between the account of The Fall, found in Catholic scripture (enshrined in the canonical four gospels) and the contrasting record of this event, found in Islam, Gnostic literature, and the "Forgotten Books of Eden", serves to remind us that even the anthropological categories of mimesis and reciprocity are not trans-historical universals, but are socially mutable weapons of control (Crane, 1926; Robinson, 1999; Hoeller, 2003).
12. Wishing that someone "break a leg" is a modern-day variant: by wishing that something ill will happen is intended to elicit good fortune.
13. In anthropological analysis, offering a lamb is a traditional form of specific representation in sacrifice rituals where the lamb "stands-in" for a newborn child. Offering the child's "representative" (the lamb) is often intended to secure a blessed life for the child. In the same fashion, God offers his "only son, Jesus", to stand-in for Man in the crucifixion sacrifice.
14. It was probable that Descartes believed that God's truths, which he was espousing, could not be harmful. In practice, he was demanding the influence over men through his pronouncements, while denying responsibility for the consequences of his actions (Ravetz, 1973, p.63).
15. In contrast, in magic, there is specific representation. "What happens to the enemy's spear, hair or name, also happens to the individual; the sacrificial animal is massacred instead of the god . . . the holiness . . . the uniqueness of the chosen one into which the representative enters, radically marks it off, and makes it unfit for exchange. Science prepares the end of this state of affairs. In science, there is not specific representation . . . but a specimen" (Adorno and Horkheimer, 1979, p. 10).
16. Even 150 ago, Marx wrote about the deleterious effects of post-Enlightenment capitalism on Nature and identified basic concerns that today are prevalent among those seeking sustainability and sustainable growth: "Capitalism production . . . concentrates the historical motive power of society; on the other hand it disturbs the metabolic interaction between man and the earth, i.e, it prevents the return to the soil of its constituent elements consumed by man in the form of food and clothing; hence it hinders the operation of the eternal natural conditions for the lasting fertility of the soil". If "soil and earth" in these paragraphs are re-read with today's eye, to include fossil fuels and fish stocks, then the warning is apt today with equal force.
17. In the tradition of repentant military leaders, General Dwight Eisenhower observed, "Every gun that is made, every warship launched, every rocket fired signifies, in the final sense, a theft from those who hunger and are not fed, those who are cold and not clothed. The world in arms is not spending money alone, It is spending the sweat of its laborers, the genius of its scientists, the hopes of its children . . . This is not a way of life at all, in any true sense. Under the cloud of threatening war, it is humanity hanging from a cross of iron".
18. The reader is cautioned that, in contrast to the "historical" focus in the review of Christianity, the following discussion of Islam errs on the side of textual and canonical sources. The caution is twofold: first, that the most recent empirical history is incomplete because it is still underway, second, there are often sharp divisions even between different canonical texts (as shown by the controversies involving the *Satanic Versus* for instance).
19. These distinction are drawn sharply for rhetorical purposes; but the reality is more complex. There are Muslims today who seek a rapprochement with capitalism (Turkey, Iran, Saudi

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- Arabia, Kuwait) and there are Christians who steadfastly resist assimilation in capitalism (Shakers, Quakers, etc.). What is undeniable is that, today, some Muslims who are pitted against capitalism in violent resistance. This is not true of Christians.
20. The market imperative – of competition and capital accumulation – is diametrically opposed to the sentiment, shared by many Enlightenment, Christian, and Muslim thinkers, that “the proper study and purpose of man is man”. Its annihilation (or overthrow) is not prosaic, but a necessity for capitalism’s existence.
 21. Early versions of this paper contained the page references to the Koran, and the various Sarats, that support the interpretations in this text, however they were removed because they risked overwhelming the average reader with detail. The problem now is that the text may appear like a series of bald assertions – giving the impression of a rather dogmatic, idealistic, or perhaps unsupported reading of Islam. Any reader wishing for the supporting references is invited to contact the author.
 22. In a recent econometric study, Barro and McCleary (2003) affirm the thesis of the differential impact of different Christianities on economic development. Catholicism is, of course, not synonymous with Christianity (although it is rather a large part).
 23. The kind of private property encouraged under Islam is of an individualistic, personal kind. Accumulation, at this level is acceptable. This, however, would be a simplistic characterization of modern capitalism, akin to what is termed a Robinson Crusoe picture of private property (deferred consumption so as to “invest” in producing capital in the form of a knife, bow, arrow, etc.), and a free exchange between consenting individuals. This fictive notion of capitalism bears no relation to today’s abomination: that abusive juggernaut of private property – global market capitalism. To focus on Islam’s prohibition against the payment of interest (and how to permit profit) is to miss the point completely. Interest and profit are obtained today by dehumanizing working conditions, paying below subsistence wages, bribing politicians to allow deforestation, investing in brutal factory enterprise zones, breaking strikes with scabs, forcing the displacement of indigenous people from their agricultural ties, etc, etc. This is the other side of the coin of interest and profit that gets short shrift in Islamic texts.
 24. Descartes deliberately chose to write in French rather than Latin, and offers astute political reasons for the choice: “... if I write in French, which is the language of my country, rather than in Latin, which is that of my teachers, it is because I hope that those who use only their pure natural reason will be better judges of my opinions than those who believe only in the books of the ancients ... I ... wish ... my judges will [not] be so partial to Latin that they will refuse to hear my reasons because I express them in a vulgar tongue” (Sutcliffe, 1968, p. 91).
 25. In their most vulgar forms, these are philosophies of empiricism and idealism (or in accounting parlance: positive and normative research).
 26. For instance, Yamey’s rejection of Sombart’s thesis (that accounting was necessary for the rise of capitalism) is based on the timing of first changes in accounting etymology. This is a rather simplistic conception of cause-effect that seeks a “primer-mover” as an explanation, rather than an evolving interactive relationship that unfolds over time (Yamey, 1949, 1964, 1975).
 27. This technique’s importance is underscored by its widespread application in equilibrium analysis in modern economics and finance.
 28. The important definitional quality of calculus for the purpose of this paper is the way it permitted the calculation of change or movement over time, and thus (differential) rates of speed, acceleration, gravitational movement, financial return, etc.
 29. In a subsequent section, we see how this allure opened the door to a conservative, counterrevolutionary movement in economics.

30. Ratio measures rank below cardinal measures in measurement theory terms, because the latter permit more logical operations to be performed on data (i.e. identity, transitivity, and equivalence. Arthur, 1979).
31. It would appear that, because calculus preceded developments in linear algebra in providing economics with the capacity to make unique predictions in equilibrium analysis, it stole a march on the latter. However, subsequent developments in linear programming and its optimization potential, have more than restored the balance; especially as the cardinal based measures used in linear algebra offer a wider range of mathematical-historical inferences (Arthur, 1979).
32. Discontent with the direction taken by Enlightenment-inspired calculus is also registered in the "Mathematical Manuscripts" of Marx. His initial fascination with calculus, as a device for modeling economic dynamics (the movement of economies over time) was subsequently tempered by efforts to utilize the methods to model dialectical relations (Gerdes, 1985).
33. The Copernican Revolution, and the protracted discovery of Uranus were two cases in point. Even more self-aware economists find "illogical" grounds to resist unpalatable changes: As Ferguson notes, "Economics is ultimately a matter of faith; and I have the faith" (Harcourt, 1972).
34. It is part of the ideology of capitalism (and vulgar forms of Marxism) that "private life" and family life remain peripheral and impervious to the economic world. This fails to acknowledge that the modern nuclear (and single-parent) family is heavily conditioned by modern capitalism, as are many extant pre-capitalist family structures in so-called developing countries that are currently under assault from the ravages of the market (Zaretsky, 1976).
35. The same caveats of dialectical materialism also apply to cultural materialism: that this is not an unmitigated domination of Human Nature. Rather; it always has "remainder" (Adorno and Horkheimer, 1979, p. xi), "unintended consequences" (Allen, 1975), or "second-order effects", that form a repository for resistance.
36. This contrasts with more celebratory pre-Enlightenment predecessors, such as Thomas Moore's UTOPIA, that helped usher-in the Renaissance (Fromm, 1950).
37. Orwell was aware that Churchill had called for the use of lethal gas against Arabs in the 1920's, and promoted a not-so-veiled racist, imperialist British foreign policy right up to the independence of India. In regard to the miner's strikes in the 1940s, he observed that, "A little blood wouldn't be out of hand here".
38. Accounting performs the same role by extracting-away market prices from their social moorings, and reifies them in financial statements.
39. E.P. Thompson's *Making of the English Working Class* is an authoritative reminder that the present-day retreat of the populous, into the ferment of religiosity, is a recall of similar behavior in England, prior to the Industrial Revolution, when repression and apprehension were also widespread.
40. The market mechanism reduces Man's irrational but natural desires to the quantifiable sum of his appetites. Man is relegated to a set of physical and emotional needs; he becomes estranged and fragmented into a "divided self" (Laing, 1961, 1965). "Freedom" as labor, comes at a price: of losing the support of traditional networks and communities.
41. Winston Smith's tryst in 1984 is matched by Adorno and Horkheimer, Julianne and the Marques de Sade.
42. Street protests have lost much of their potency as factors in social change. Permit applications and preplanning negate the eruptive spontaneity of the classic mob (Gurr, 1976). The anarchists rightly resist such arrangements. Police and military technology, together

with the choice of meeting locations that are defensible and inhospitable to protest (the Canadian Rockies, Qatar, Singapore, and Washington DC) have taken the sting out of street demonstrations. In New York, demonstrations have become ritualized into a theatre of the absurd. An understanding between the New York police and the protestors provides that, sit-down protestors wishing to avoid arrest and overnight detention in prison, must sit at the back. In an attempt to compensate for the absence of newsworthy spontaneity, demonstrations now resort to infantile politics of cheerleaders and importing celebrities to gain media attention.

43. The anachronistic and visceral attachment to outmoded solutions is revealed in the opposition to the Ronald-Thatcher privatization; where nationalized entities were viewed as sacred and beyond social self-criticism. Certainly these initiatives were assaults on union protection and the standard of living of union members, but other aspects of present reality were neglected. Many nationalized institutions had mutated into impersonal and alienating bureaucracies, remote from the community they were originally intended to serve. In the UK, the nationalization of railways, health, and other public services faltered, in part, because of the complacent (and fallacious) assumption that transferring of ownership of the means of production would be sufficient to inaugurate a new social order, without also socializing these institutions in a fully democratic and cultural manner. Furthermore, the hollowing out of the state and its finances had pushed these entities into quasi-market (yet still monopolistic) forms. Privatization was *de jure* recognition of a *de facto* transformation.
44. Nativist prejudice might lead one to dismiss this as a purely American disease. However to do so would be to allow jingoism to obfuscate the analysis of market capitalism. The recent parade of influence-peddling scandals in the UK, Australia, Germany, France, and the US, and nagging statistics on low-voter turnout, give fair warning that "democracy" is on the ropes.
45. Notwithstanding the blight on financial markets and the economy, even the luke-warm reforms of the Bush administration, that have been watered down to a secretive, non-public peer review, and remain unimplemented. "No change in the Securities Law has ever had a slower or more inept start" (Norris, 2002).
46. Bloomberg, the New York billionaire Mayor (and one-time Democrat-turned-Republican) spent \$70 million of his own money to secure the election. Self-bankrolled campaigns are increasingly common in the US. The monies are exempt from any legal limits (presumably on the grounds that it is "The American Way" that self-made billionaires be allowed to use "personal" fortunes to buy elections). A total of 50 percent of the November 2002 crop of new entrants to Congress are millionaires.
47. American corporate executives led in showing how to deploy the democratic process to best effect. Boeing, for example, is a major benefactor from the increasing international air freight trade that currently nets the firm \$40 billion a year and is expected to triple in the next 20 years. Boeing's CEO, Phil Condit, co-chaired the Seattle Host Organization that sought out corporate sponsorship for the opening session of the talks. Boeing itself contributed more than \$250,000 – and thus obtained five seats at the top (dinner) table with trade ministers. Monsanto is also a major benefactor of increased trade and a stronger WTO. Monsanto's chairman, Robert Shapiro, is the chair of the US President's Advisory Committee for Trade Policy and Negotiations. Mickey Kantor, US trade representative for much of the Uruguay Round of GATT talks, and the person responsible for leading WTO assault against the EU ban on beef hormones, is a board member of Monsanto. He served as the trade counsel for the US wheat industry at the Seattle talks (Juniper, 1999, p. 12).

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