Islam And The Principle Of Freedom

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M.B. Foster in three celebrated articles appearing in Mind in the 1930's argues persuasively that the sciences of nature which arose in the seventeenth century, what is generally called “modern science”, and the philosophy which arose almost simultaneously, that is, “modern philosophy”, have their origins in the Christian religion.¹ This position is in no way novel. What is especially valuable are the links he establishes between the two and the clarity with which he does this: first, that modern philosophy, insofar as it was concerned with a theory of nature, devoted itself to establishing the possibility (as in Descartes) or justifying the presuppositions (as in Kant) of that modern science of nature; and second, that in these modern doctrines of nature, the element in them which was alien to the Aristotelian doctrine of nature maintained by the Scholastic philosophy, is precisely the ground of the characteristics in which modern science is distinguished from the older science. Among those characteristics are the emergence of empirical methods in the modern science of nature, as well as the affirmation that its laws are fulfilled without exception and that only efficient causes are operative in nature.

What, he asks, is the source of these unGreek elements which constitute the “modernity” of modern philosophy and the consequent “modernity” of the modern science of nature? “The answer to the first question is: The Christian revelation, and the answer to the second: The Christian doctrine of creation.”² That Foster is on the whole quite correct in his assessment with respect to the science of nature could perhaps be illustrated initially by a consideration of one who is called the “father of modern philosophy”, and by some the “father of modern science”, René Descartes. Descartes’ Meditations on First Philosophy are the foundation, among other things, for a doctrine of nature on which the modern sciences of nature can be erected. Writing before the appearance of, say, Newtonian physics, this work establishes the possibility of a science of nature, and mutatis mutandis when Kant turns to the Newtonian physics already established to ask how it is possible, he in turn identifies those elements which Descartes had put there.

But there has been a considerable shift in position nonetheless. Descartes easily appeals to theological presuppositions in setting out for himself what exactly is required when he shall turn his attention to the philosophic foundations for that modern science of nature. Those

¹ The first of the three articles is “The Christian Doctrine of Creation and the Rise of Modern Science” (Mind, 1935, 446-69)
² Ibid., 448.
theological issues are at the heart of the enterprise itself, as we shall see. Kant on the other hand can look at an extant science of nature and does not find there any of those theological difficulties that had occupied Descartes, and certainly does not find as among the elements which makes a modern science of nature possible the Christian doctrine of creation. What has happened? Has Newtonian physics, by the time Kant reflects on it, gained such autonomy that, however much it might have owed to the Christian religion in its inception, it has cut itself free from those theological presuppositions and enjoys such independence that skeptic and atheist, and more to the point for this essay, that Hindu, Jew or Muslim, can prosecute it without inconsistency.

But if that is the case with respect to a modern science of nature, what about other consequences of modern philosophy? Again it is well established that modern presuppositions of equality, and specifically equality regardless of race, gender, religion, that modern doctrines of human freedom, together with democratic institutions, have the Christian religion at their origin. Have those doctrines so established themselves that they too can be affirmed by the secular world? Have they become so autonomous that their attachment to the Christian religion is hardly a memory anymore?

Much depends on whether and in what sense these principles concerning human freedom have achieved emancipation from the Christian religion. On the one hand, if the connection between the two is maintained, if liberal democracy is sustained by its attachment to the Christian religion, then for those who espouse a different religion, almost inevitably contrary in some respects to the Christian religion, there are perhaps untoward consequences which must be acknowledged. But if the emancipation is now complete, then it would seem that there is no impediment to Jew, Muslim, Buddhist remaining true both to his religion and the democratic state, no impediment, that is, except that which his own religion might erect against his loyalty to that state.

In a previous volume of Animus I published an essay, “Peace with Islam”3, which could as well have appeared in this volume on the theme of “War”. That paper argued in part that democratic institutions, on which the peaceful coexistence of the citizens of a modern state is thought to depend, and the universal principle of freedom from which the relations of all men flow, have their origin in the Christian religion and specifically in the Reformation of the sixteenth century. It would be redundant to repeat that argument here. In this paper I shall pursue in detail the examination of the relation of the Christian religion and the modern science of nature, as prototype so to speak, for whatever light it might shed on the possibility of achieving complete autonomy from the Christian religion at the origin of both modern science and the modern democratic state. Then I shall address the question of the emancipation of democratic institutions from the Christian religion with specific reference to Islam.

A. The Emancipation Of Modern Science From The Christian Religion

We begin with Descartes who himself begins with theological preoccupations which determine how he shall pursue his scientific studies. Only subsequently is he able to find his way to a properly philosophical statement of establishing the grounds for the foundation of a modern science of nature. It is a statement still attached to that trinity of ideas (God, self, nature) which Kant rejects, at least in the form in which they occur and the use made of them in the 'dogmatic' philosophy of Descartes. Kant seems to be able to find the grounds of the modern science of nature in the human understanding itself. Whether and in what sense this is the emancipation of modern science from the Christian religion is our primary question.

1. Descartes’ Theological Preoccupation: The ‘Creation Of Eternal Truths’

Descartes’ early work, Regulae ad directionem ingenii, is concerned simply with certainty, to be achieved through clear and distinct ideas. Its abandonment in the late 1620's (and he never returns to it again) reflects an impasse he had reached, a recognition that such certainty was not enough. Beeckman reports that when Descartes visited him in October, 1628, Descartes said that he had nothing more to accomplish in arithmetic and geometry, having done in the previous nine years all that was humanly possible.[AT x, 331] And on 15 April 1630, he wrote to Mersenne, "As for Problems [i.e. mathematical problems], I would send you a million to propose to others if you desire it; but I am so tired of mathematics and now hold it in so low esteem that I could no longer bother to solve them myself."[AT i, 139] The "way of clear and distinct ideas" was not a sufficient foundation for his scientific work, both because its uncritical application to a natural world with an empirical element did not work, revealing the need for a firmer foundation than mathematical certainty, and because a mathematics grounded in the imagination failed him, undermining his confidence and interest in what formerly had been the paradigm of clear and distinct knowledge. Descartes was now confronting the empirical, and would soon recognize that mathematical certainty was itself not enough for truth. Perhaps he was already in the grips of the theological preoccupation.

The initial statement of the theory of "the creation of eternal truths" in a letter of 15 April 1630 to Mersenne reflects on God as lawgiver: God establishes mathematical truths in nature after the manner of a king laying down laws for his kingdom. They depend on Him no less than the rest of his creation. But our relation to these truths is quite otherwise: there is no single one that we cannot grasp if our minds turn to consider it, for they are all inborn in our minds, much as a king would imprint his laws in the hearts of his subjects if he had the power to do so. "But" one might ask "could He not change these eternal truths as the king might change the laws of his kingdom?" Only if God's will can change, and we understand God's will to be eternal and unchanging. God's will is indeed free and his power beyond our grasp.[AT i, 145-6] In this first statement mathematical truths are understood as the products of God's absolute power. Taking this element by itself, one might conclude that Descartes was a voluntarist. But such an

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3. The Regulae, it is now conceded, was composed in stages between 1619 and 1628, stages in the text corresponding to the development of Descartes' thought requiring modification and reformulations of the text itself. The later modifications reflect a growing concern with a "universal mathematics" which would comprehend not only mathematical interests but "physico-mathematics" involving objects of his corpuscular-mechanical philosophy.
interpretation is hard to sustain in the face of the other side, for the eternal truths are wholly necessary for our understanding, and possess an immutability and eternality from the divine immutability itself.

Descartes calls the doctrine ‘metaphysical’, presumably as an element of natural rather than revealed theology. It is an explicit reaction to positions concerning eternal truths which were then current and known to him. The Augustinian position was that mathematics and eternal truths, nearer to God’s mind than human understanding, emanate from God as rays from the sun. In the subsequent letter to Mersenne, Descartes expressly rejected that position: "I do not conceive [eternal truths] as emanating from God like rays from the sun."[To Mersenne, 27 May 1630, CSMK 25; AT i, 152] It is abundantly clear why he must reject this view when his thoughts achieve philosophical expression, for eternal truths depend on God for their truth and could never themselves be used, as they were in St. Augustine, as grounds for affirming God's existence. As he explained in the same letter, eternal truths are true or possible only because God knows them as true or possible; they are in no way true independently of Him. Then he adds the rich theological statement that in God will and knowing are one thing "in such a way that by the very fact of willing something [God] knows it, and it is only for this reason that it is true."[To Mersenne, 6 May 1630, CSMK 24; AT i, 149] "In God willing, understanding and creating are all the same thing without one being prior to the other even conceptually."[CSMK 25-6; AT i, 153] This being the case, the immutability of the eternal truths is well-founded: if God's will could change, then the divine understanding, one with the divine will, would also change; that is, the divine understanding would have earlier been in error, or at least incomplete.

Mathematical truths are described as perfectly comprehensible to a finite understanding, thus not in content superior to human thought. But God, infinite, eternal, immutable, creator of all things, is spoken of as "cause whose incomprehensible power surpasses the bounds of human understanding". This recognition of the complete disparity of eternal, mathematical truths and the divine "cause" of those truths signifies an absolute break with the Neo-Platonic past which saw essences of created things as ‘participations’ of the divine essence and these truths as ‘attenuations’ of the divine understanding, where God, in contemplating them, does nothing but contemplate Himself.

What is the significance of this theological position on the creation of eternal truths? It is universally agreed that the doctrine is original to Descartes. The logic of the situation is clear enough: the impasse he had reached in his mathematical and methodological studies is enveloped, comprehended and overcome in the doctrine of the "creation of eternal truths", in his religious or theological consciousness. God who freely creates all things – the universe and mathematics which embodies its truth – has also freely created finite minds to understand those very truths. All the elements of a foundation for a Cartesian science of nature are there, but in the form of theological doctrine and faith. How shall they achieve philosophical form? The doctrine of the "creation of eternal truths" is a true revelation for him after he was forced to abandon the naive confidence of the Regulae. That same doctrine is the problematic which he must address philosophically in the Meditations. In doing so, Descartes established the possibility of a new science of nature.
Descartes knew that he must address these issues philosophically and had even begun a treatise on metaphysics to do just that as early as 1629. With these new insights into the relation of God to eternal truths and to nature, he turned his attention immediately to the treatise on physics incorporating these insights, if not appealing to them directly, *Le Monde ou Traité de la Lumière*. In the early chapters of the work one finds a direct attack on the assumptions and methods of the Scholastic philosophy of nature, substantial forms and the search for final causes. But in Chapter 6 he begins a first description of his mechanistic universe presented to the reader as a fable:

For a while, then, allow your thought to wander beyond this world to view another world - a wholly new one which I shall bring into being before your mind in imaginary spaces. The philosophers tell us that such spaces are infinite, and they should certainly be believed, since it is they themselves who invented them. But in order to keep this infinity from hampering and confusing us, let us not try to go right to the end: let us enter it only far enough to lose sight of all the creatures that God made five or six thousand years ago; and after stopping in some definite place, let us suppose that God creates anew so much matter all around us that in whatever direction our imagination may extend, it no longer perceives any place which is empty. [CSM I, 90]

Since he is at liberty to construct this imaginary world just as he wishes, he proposes that it be perfectly intelligible to everyone, and so he imputes to it the simplest structure, conceiving it as a perfectly solid body filling uniformly every part of this huge space he has imagined, thus where each of its parts could neither fill a larger part of this space nor be squeezed into a smaller part. Then, in the manner of a lesser god over this universe of his creation, he supposes it divided into parts of all sorts of shapes, not in such a way that there is empty space or void between the parts, but parts differentiated by motions which God gives variously to the parts, some fast, some slow, and in all directions: the primeval chaos or ‘formless void’ of the first act of the ‘first day’ of creation.

Descartes expresses in the image of fable, partly also in the image of religious language, elements of his philosophy which receive a pure intellectual expression later in the *Meditations*. Here the world he describes is a fantasy, but insofar as it possesses no hidden obscurity or contradiction (what it is is perfectly clear), it is a ‘possible world’, and God could therefore, as he says, have created such a world, "for it is certain that he can create everything we can imagine."

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5 To Gibieuf, 18 July 1629, AT I, 17. At the time he did not expect to finish it for two or three years, but as it turned out he never finished it unless, perhaps, we regard the *Meditations* as its completion.

6. The word is Descartes' own: he has no other intention, he says, than 'raconter une fable', *Le Monde*, Chap. 7. For an excellent discussion of its character as a 'fable' or 'tale' for the skeptics, see James Collins, *Descartes' Philosophy of Nature*, Oxford, 1971, pp 5-9, a work on which I rely heavily for this part of the paper.

7 *Genesis*, 1:1.
He will argue in subsequent chapters that ‘Nature’ can itself untangle the chaos of this first act of creation. What is ‘nature’ in such a world, nature which has such powers?

First, what it is not: "I do not mean some goddess or any other sort of imaginary power." It is not a realm of ‘occult causes’, magic or miracles. As he will say later, it is not a realm of final causes: there is, he says, "considerable rashness in thinking myself capable of investigating the impenetrable purposes of God." Rather, ‘nature’ is "matter itself, in so far as I am considering it taken together with all the qualities I have attributed to it, and under this condition that God continues to preserve it in the same way that he created it." ‘Nature’ is this nexus of extension, motion and God's creative and conservative action. We might ask how it is possible for God to create, that is, to bring forth from nothing something different from Himself, and then, because of His own immutable nature, to preserve what is different, hence mutable, just as He created it? This requires that motion itself have a kind of immutability, that is, that it be under ‘law’. Descartes is able to specify three of these ‘laws of motion’, since they come from the immutable God, and themselves have the stamp of that immutability. These are the principle of ‘inertia’, the principle of the "conservation of motion", and the principle of ‘rectilinear motion’. The ‘laws of nature’ must be conceived as ‘laws for nature’, in total dependence on God. Yet these laws are not so arbitrary as to be incoherent - they do provide us with an understanding of nature, and they possess a self-evidence emanating from the immutable nature of their creator.

In this same chapter, Descartes tells us that he need not suppose any other laws except those "which follow inevitably from the eternal truths on which mathematicians have usually based their most certain and most evident demonstrations - the truths, I say, according to which God himself has taught us that he has arranged all things in number, weight and measure." What is significant here is the indirect reference to Descartes’ doctrine of the ‘creation of eternal truths’, for God not only creates nature, that is, matter and the laws of motion, he also creates the truths of mathematics, of arithmetic and geometry.

*Le Monde*, in summary, presents a fable about ‘nature’: it is a hypothesis, a theory of nature. This is in part because nature is freely created, hence contingent, not something we could know through final causes. Yet it is also immutably created, hence under laws that are both self-evident to us and that admit of no exceptions. Descartes says of both these laws and the eternal

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8 "Each individual part of matter continues always to be in the same state so long as collision with others does not force it to change that state." *Ibid.*, 93.

9 "When one body pushes another it cannot give the other any motion unless it loses as much of its own motion at the same time; nor can it take away any of the other's motion unless its own is increased by as much."

10 "When a body is moving, even though its motion for the most part takes place along a curved path and, as we said above, it can never make any motion which is not in some way circular, yet each of its parts individually tends always to continue moving along a straight line." *Ibid.*, 96.

truths that they are created, and thus need not be true; still when we conceive them distinctly, we could not doubt them. The work suffers from an incoherence in the thought of the ‘laws of nature’ and ‘eternal truths’ as both contingent in some radical sense, and at the same time self-evident to us. It suffers further in its fabular and quasi-theological presentation, not having achieved a philosophic form. Both of these deficiencies, as we shall see, are addressed and corrected in the *Meditations*, a work which provides the philosophical foundation for the physics of *Le Monde*.

The difference between the Cartesian and late medieval Aristotelian concepts of ‘nature’ is so great as to cause Étienne Gilson to remark that Descartes eliminates nature altogether, that older sense of nature where natural beings had within themselves principles of change¹². There is no room in the Cartesian philosophy for ‘substantial forms’, the source of activity in the natural being. In conceiving matter as extension, denuded of form, matter which depends at each instant on the continuous creation of God conserving it in each of its successive states, body is entirely passive with respect to motion. Bodies do not move themselves. Rather, God is the primary cause of motion, as Descartes says in many places, but no more eloquently and speculatively than in this passage from *Le Monde*:

> According to this rule [Law of rectilinear motion], then it must be said that God alone is the author of all the motions in the world in so far as they exist and in so far as they are rectilinear; but it is the various dispositions of matter which render them irregular and curved. Likewise, the theologians teach us that God is also the author of all our actions, in so far as they exist and in so far as they have some goodness, but it is the various dispositions of our wills that can render them evil.¹³

The elements of a new science of nature are present in this work of Descartes, finished in 1633. It is the hypothetical-deductive method of modern science, mechanistic, mathematical and exhibiting laws which admit of no exception. The empirical entered into this new science in the thoroughly modern sense of providing evidence to test its theories.

2. Establishing The Possibility Of The New Science Of Nature In *Meditations*

The difficulty Descartes faced in 1630, that mathematical certainty was not enough for indubitability, he now expresses in the hypothesis of the Evil Demon. The further difficulty of the relation of indubitability to truth will require an argument not only that God exists but that he is not a deceiver or an arbitrary will, neither creating us with inevitably faulty intellectual faculties nor intruding into nature, by miracle or whatever, to thwart its laws. It is in this form that the *Meditations* addresses those theological problems associated with the doctrine of the

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¹² Étienne Gilson, *Discours de la Méthode, texte et commentaire*, 1925, 243.


¹⁴ What is indubitable is what cannot be conceived as false, even should there be a power exerting all efforts to undermine our thoughts. The mark of the indubitable is the ‘clear and distinct idea’.
“creation of eternal truths”. Moreover, what is known about ‘nature’ in these Cartesian reflections is not ‘nature’ in itself, apart from the mind, but the “other” for mind, thought’s own nature which in knowing we come to know ourselves. Thought thinking itself, spirit taking possession of itself, becoming what it is, has its proper beginning in the Cartesian philosophy and is the foundation for the modern science of nature.\textsuperscript{15}

The doubt of the First Meditation, which extends even to ‘eternal truths’\textsuperscript{16} through the hypothesis of the malin genie, is directed against all externality.\textsuperscript{17} The Aristotelian-Scholastic criterion of ‘truth’ as agreement of the mind with such externality is overthrown. There is no presupposition which can withstand this doubt, the doubt of the autonomous thinking self. This fresh beginning with a thinking that determines itself, alone with itself, is in philosophy what was first present in the Reformation, where Christian men and women attained their majority and knew themselves as free. There too all externality was banished. The authority of the priest was replaced by the inner authority of conscience, good works as things external counted for nothing without inner conviction, the mediation of saints and the absolution of priests were superfluous, for only in his presence to himself could the Christian find relation to God. Descartes begins his philosophy with that absolute reliability only on himself. In doing so, he is but anticipating the Kantian proposal in the Preface to the second edition of the \textit{Critique of Pure Reason}: “Hitherto it has been assumed that all our knowledge must conform to objects ... We must therefore make trial whether we may not have more success in the tasks of metaphysics if we suppose that objects must conform to our knowledge.”

That doubt exercised with such thoroughness inexorably discloses the thinking subject exercising the doubt, the thinking that is not external to itself, or as Hegel expresses it, “is at home with itself.”\textsuperscript{18} This is the moment of certainty, of indubitability, prior to the knowledge of the truth, for the \textit{cogito} is certain only while I think it. This would not be enough for the systematic knowledge of a discursive thinking which must pass from thought to thought. How

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\item[\textsuperscript{15}] This is in the most thoroughgoing image of the divine life: “The eternal life of God is to find himself, become aware of himself, coincide with himself. In this ascent there is an alienation, a disunion, but it is the nature of spirit, of the Idea, to alienate itself in order to find itself again.” Hegel’s Introduction to Lectures on History of Philosophy, Knox translation.
\item[\textsuperscript{16}] These include not only basic mathematical propositions, e.g. $7+5 = 12$, but those principles employed in mathematical proofs (e.g. “Things equal to the same thing are equal to each other.”) and in physical proofs (e.g. the principle of inertia).
\item[\textsuperscript{17}] Descartes describes the scope as “everything that comes from the senses or through the senses”, that is, from observation or by way of reading, hearing and instruction.
\item[\textsuperscript{18}] Hegel expresses the same with regard to the Christian freedom of the Reformation: “Within the inmost aspect of the human being, therefore, a place was posited that is all that matters and where a person is present only with self and with God; and one can only be with God when one is at home with self. I must be at home in my conscience; this right of mine as the householder is not to be disturbed, no one else shall presume to have a say in it.” \textit{Lectures on the History of Philosophy: The Lectures of 1826-1826}, vol III, Robert F. Brown, ed., 1990, 96.
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can we be assured that what is certain, that is, clear and distinct, can be an element in a proof or what was proven yesterday can be used today? If science is to be well founded there must be this passage from certainty to truth. The way to that result is through a knowledge that God exists and that he has created us on the one hand and nature on the other in such a way that our understanding is perfectly suited to come to the truth about nature. The manner in which Descartes goes about this argument is well enough known and has appeared elsewhere in this journal. Some remarks about the development of the three elements, God, Self and Nature, and their relations in the Cartesian philosophy are in order here. Just as doubt leads ineluctably to the *cogito*, doubt being itself but a form of thinking, the *cogito* produces from itself the idea of God, for in searching for an idea not of its own creation, not even possibly a fiction or merely subjective, it inevitably comes to the idea of the ‘self-given’, *causa sui* – the idea of God which Descartes possesses in thought but cannot be thought to have caused. It is a presupposition of his thinking, “innate in me just as the idea of myself is innate in me.”

Again, as with the *cogito*, there is an immediacy about the union of thinking and being in this idea of God, for that is precisely what the idea is, this idea as alone having utterly necessary and eternal existence within it. God known then to exist, it is God’s veracity, ultimately God’s infinite goodness, that is the assurance that finite thinking exercised in accordance with the principle of finite understanding, that “what is clear and distinct is true”, will not be thwarted. When therefore Descartes turns to the finite world in the role of scientist, it is with the confidence of one who knows that ‘nature’ coincides with his clear and distinct ideas concerning it. He finds in “extension” the perfect ‘other’ for his thinking: it is what is outside itself (thus “not at home with itself”) and under laws admitting of no exception (thus, not free). Moreover, “extension” has the properties of number and measure, properties wholly appropriate to sensibility and imagination which he finds in himself, faculties which would be superfluous were there not an extended realm to engage him. But ‘nature’ is more than simply extension. To pass from metaphysics to physics, to a world of particular bodies, Descartes must hypothesize motion externally given to matter, a step he does not take in his *Meditations* which is not physics but the foundation of his physics. That step we have seen already in *Le Monde* and it appears subsequently in his *Principles of Philosophy*. Descartes as a practicing scientist makes wholly appropriate use of experience and experiment, as is clearly evident in his scientific works.

Descartes hypostasizes the three elements of his philosophy, God, Self, Nature, characterizing them as three substances. For this he will be criticized and corrected. But as providing a philosophical foundation for the modern science of nature, his place in the histories of

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20. It is not adventitious since Descartes can think it up at will; it is not a fiction since he cannot add to it or subtract from it. It is the paradigm of the “innate idea”.

21. In *Les Meteore* and *Dioptriqques* for example and in numerous letters. The “Treatise on the Rainbow”, Discourse 8 of *Les Meteore*, is a model of the hypothetical-deductive method of modern science, for example.
philosophy and science is assured. The foundation for the science of nature is in close harmony with the Christian religion, specifically the Christian doctrine of creation, as the movement in Descartes’ own thought from the Regulae to Le Monde and then to the Meditations has shown. We turn to Kant to raise the question whether this modern science of nature can achieve an independence of the Christian religion.


Kant’s Critique of Pure Reason and its interpretation in the Prolegomena to any Future Metaphysics are primarily concerned with metaphysics, not natural science. But natural science was the paradigm, the standard against which metaphysics would be measured. It had achieved remarkable success since the time of Bacon and Galileo, possessing a method to which its practitioners all adhered, creating an ever expanding body of knowledge built from one generation of scientists to the next. When Kant asks “How is pure natural science possible?”, it is the question of one who admires its achievement, and contrasts it with the obvious failure of metaphysics to ‘enter upon the secure path of a science’, unable to obtain such universal and productive agreement. In part, natural science succeeds because its theories and hypotheses admit of confirmation or refutation by experiment, a method Kant recommends mutatis mutandis in metaphysics. But more critically, reason in natural science “has insight only into that which it produces after a plan of its own ... constraining nature to give answer to questions of reason’s own determining.”

The natural scientist from his own thinking produces the theory or hypothesis which guides the questions proposed to nature, and as an “appointed judge” compels nature to confirm or refute that hypothesis. This implicitly is the answer that Kant will give to the question “How is Pure Science of Nature possible?”

Natural science is a body of knowledge, a system of hierarchically ordered syllogisms, as it were, and the work therefore of “reason” in the scientist or, more significantly, in the scientific community. But at its root are those empirical judgments which are produced by the understanding, the faculty of judging, the faculty of truth. Science depends on empirical judgments possessing objective validity, what in the Prolegomena are identified as “judgments of experience”, as distinct from “judgments of perception” which are only subjectively valid. “All our judgments are at first merely judgments of perception”, holding only for us, and only subsequently do we give them a new reference, to an object, and declare they shall always hold for us and for everybody else. (Proleg. §18) Objective validity and necessary universal validity are thus equivalent. When we consider a judgment as possessing universal, necessary validity, it is not then a mere association of ideas in a perceiver (an empirical ego), but a characteristic of the object, valid for all. The mere validity for a consciousness ceases and is superceded by the transcendental Ego having as its content not merely finding-together but putting-together as in the spontaneous activity of the understanding, the change from “I feel” to “I think”. Scientific

22 Preface to 2nd ed., CPR. Note the coincidence here with the Cartesian rejection of the Scholastic definition of truth as “agreement of the mind with reality”.

23 It is Kant who distinguished “understanding” (the faculty of judgment) from “reason” (the faculty of syllogisms). Aristotelian logic had long before made the distinction between “judgment” and its logic of the proposition and “reasoning” which produces the syllogism.
judgments are just such judgments of experience, asserted as objectively valid, not in the sense that they are true independently of all thought, of all subjectivity, but as true for all.

How does this happen? What has been at work in the understanding to enable this transformation from judgments of perception to judgments of experience? What concepts has the understanding brought to the judgment of perception to connect subject and predicate universally and necessarily? These are the “categories”, an ancient term with new significance. “Now the essential point in this new system of categories, which distinguishes it from the old rhapsody which proceeded without any principle and for which alone it deserves to be considered as philosophy, consists in this: that, by means of it, the true significance of the pure concepts of the understanding and the condition of their use could be precisely determined.” (Proleg.§39). This “true significance” is of utmost importance to the question at hand, “How is Pure Science of Nature Possible?”: these pure concepts of the understanding are “but logical functions” and as such do not themselves produce the smallest concept of an object; rather they serve only to determine empirical judgments, “thereby procuring them universal validity and, by means of them, making judgments of experience in general possible.” The Kantian categories, which are essential to the pure science of nature, have no application beyond experience. Thus, just as no perception can ever arise which is not temporal, so no experience can ever arise which does not fall under the categories. In particular, no experience can ever clash with the principle of causality or any of the other universal principles of the science of nature24, for only through the categories is there experience at all. But it also follows that the categories can only be applied to phenomena. To use the principle of causality to reason from the idea of God in the cogito to God’s necessary existence, as Descartes did, would on this account be an illicit use of the principle.

Kant’s critical philosophy, it should be noted, has widened the scope of subjectivity. The two elements in experience are the sensible element, given in perception, whose essential feature is its “being outside itself” in space and time, and the “I” of thought, at home with itself, drawing into unity with itself whatever it encounters. Kant identifies perception as the subjective element, since with regard to it the “I” is purely receptive, the “I feel” of an empirical ego. He calls the categories introduced by thought “objective” because they are the universal and necessary element in experience. But they too are something subjective – not because they belong to my feeling but because they belong to the pure I of self-consciousness. There is no objectivity apart from self-consciousness which, by the measure of an earlier philosophy is not objectivity at all. When Descartes sought for an escape from himself and his ideas, he sought for something outside his thinking, something true whether he thought it or not.

Neither mathematics nor natural science stood in need of an answer to the two questions Kant posed concerning them, for both, as he observes, have established themselves without any inquiry into their possibility. This is a strange statement in view of all the centuries between Aristotle and Newton when natural science was pursued using an entirely different methodology. The modern science of nature so established itself for Kant that what was practiced as natural

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24 These are rules for the objective use of the categories. Since they cannot be deduced from higher rules, they are “principles”; because they represent the union of phenomena necessarily, they are a priori.
science in former centuries was not science at all: “Newton’s method in the natural sciences transformed the confusion of physical hypotheses into a sure procedure guided by experience and geometry.”\textsuperscript{25} In this Kant is a true man of the Enlightenment, without apparent interest in the theological questions that moved Descartes. The science of nature, as mathematics, were immune alike to Humean skepticism and religious censure. He saw a need to move beyond Humean skepticism, not as though it would have any effect on the forward march of Newtonian science, but concerning the question of metaphysics.

Kant describes the "root and peculiarity of metaphysics" as the occupation of “reason” with itself. Reason, he says in \textit{Prolegomena} §40, is the source of certain Ideas, certain necessary concepts whose object cannot be given in any experience. Earlier Hume had been occupied with a related set of such ideas. When he formulated his account of where our ideas come from, he stated "All ideas are derived from impressions" (which are sensuous or introspective perceptions); further, he recommended, "When we entertain, therefore, any suspicion that a philosophical term is employed without any meaning or idea (as is but too frequent), we need but enquire, from what impression is that supposed idea derived." The three which greatly interested Hume, and are of great interest to Kant, are the ideas of Self, Material Substance and Cause.\textsuperscript{26} Not only are these first two ideas difficult to reduce to impressions, they actually seem inconsistent with such impressions. We attribute to the Self an identity in spite of the never-ending flux of psychical events which any introspection into this purported Self reveals. Similarly, we attribute to Material Substance the character of self-identity and permanence when all impressions are of diversity, difference, change. If we insist on the empirical principle that all ideas are derived from impressions, these two ideas seem to be employed without meaning.

But it is the idea of Cause that triggers Kant’s reflections in the \textit{Prolegomena}:

Hume started chiefly from a single but important concept in metaphysics, namely, that of the connection of cause and effect ... He challenged reason, which pretends to have given birth to this concept of herself, to answer him by what right she thinks anything could be so constituted that if that thing be posited, something else must also be posited; for this is the meaning of the concept of cause. He demonstrated irrefutably that it was perfectly impossible for reason to think \textit{a priori} and by means of concepts such a combination, for it implies necessity. We cannot at all see why, in consequence of the existence of one thing, another must necessarily exist or how the concept of such a combination can arise \textit{a priori}. [Introd.]

Kant’s success in using the species of judgment, already established by long tradition, to derive the concepts of the understanding (the “categories”) suggested to him an analogous procedure

\textsuperscript{25} From the exposition of Kant’s “The Only Possible Basis of Proof for a Demonstration of God’s Existence”, quoted in Ernst Cassirer, \textit{Kant’s Life and Thought} (trans. James Haden), 1981, 67.

\textsuperscript{26} These are, of course, forms of the fundamental trinity of God, Self, and World which engage any philosophy. Here the forms have a decidedly empirical character.
when he turned his attention to reason, to inquire about its “ideas”: he looked again where the traditional logic suggested, to the products of reason. Thus, he says, "As I had found the origin of the categories in the four logical forms of all the judgments of the understanding, it was quite natural to seek the origin of the Ideas in the three forms of syllogisms" [§43], i.e. categorical, hypothetical and disjunctive.

Corresponding to the three types of syllogisms, there are three kinds of unconditioned unity postulated or assumed. Systematising through categorical syllogisms, reason tends toward something which is always subject and not the predicate of some further syllogism. Ascending by hypothetical syllogisms, reason tends toward an unconditioned unity in the form of presupposition which itself presupposes nothing else, an ultimate presupposition. If we ascend by disjunctive syllogisms, reason moves toward an aggregate of the members which makes the division complete. Thus, if the logical maxim becomes the “fundamental principle of pure Reason”, there is the demand for three kinds of absolute or unconditioned unity, three Transcendental Ideas: (1) the absolute unity of the thinking subject (Self) (2) the absolute unity of the totality of appearances (World) (3) the absolute unity of the condition of objects of thought in general (God).

There arise from these three Ideas the three branches of speculative metaphysics (in the Wolffian classification): speculative psychology; cosmology; theology. But instead of producing three new sciences, since reason produces these Ideas illicitly by unifying the conditions of experience all the way to the unconditioned, it proceeds to paralogisms (logically fallacious syllogisms, a four-term syllogism, for example, in rational psychology); produces antinomies (where a thesis and its antithesis can both be proved, as in cosmology); and brings forth fallacious arguments for God's existence. In short, reason produces results which are dialectical and illusory.

The Transcendental Ideas of Reason, illicitly explored as objects in metaphysics, "express the peculiar vocation of Reason as a principle of systematic unity in the use of the understanding." (Proleg. §56) These Ideas turned into Ideals are “regulative”, and in this proper employ are of the highest use. As Kant says, "Although an absolute whole of experience is impossible, the Idea of a whole of knowledge according to principles must impart to our knowledge a peculiar kind of unity, that of a system, without which it is nothing but piecwork

There are three acts of the mind in traditional logic: (1) simple apprehension, the product of which is the concept; (2) judgment, the product of which is the proposition; (3) reasoning, the product of which is the syllogism.

'Dialectic' for Kant is the 'logic of semblance (illusion)'. The "Transcendental Dialectic" is the critical treatment of the sophistical, illusory reasoning involved in metaphysics as actually practiced.

The categories (and principles) of the understanding are ‘constitutive’ and make possible a knowledge of Nature. The three Ideas of reason are not ‘constitutive’, they give us no knowledge of corresponding objects, and do not increase our knowledge. But they do stimulate us to an ever greater systematization of phenomena.
and cannot be used for proving the existence of a highest purpose (which can only be the general system of all purposes) ... the highest purpose of the speculative use of Reason." (Proleg., §56)

Kant has examined what is required for the modern science of nature with great precision and has found there no need to affirm the existence of God, human immortality or a created world. “...these Ideas of reason”, he states “are of no service to the use of our understanding in experience, but quite dispensable, and become even an impediment to the maxims of a rational knowledge of nature.” (Proleg. §44) He makes this indifference explicit: since we cannot render the concept of a simple substance empirical, the human soul is void with regard to the cause of experience. Similarly, whether the world is eternal or had a beginning is of no significance in explaining any event in the world itself. “And finally we must, according to a right maxim of the philosophy of nature, refrain from explaining the design of nature as drawn from the will of a Supreme Being, because this would not be natural philosophy but a confession that we have come to the end of it.” How different from the position of Descartes who says in several places that an atheist cannot be a scientist because at any time doubts could assail him about his method, doubts which cannot be resolved without knowing that God exists!

Natural science, taking Newtonian mechanics as its model, is properly the result of the right exercise of the understanding. Understanding bestows universality on its content, and without its activity there is no fixity or determination. It separates and abstracts, brings to its objects clarity, distinctness, order. Through its ‘categories’ it elevates perception into objectivity, into ‘experience’. But pushed to its extreme, as when it considers properly dialectical concepts, it confounds itself. The three Ideas of Reason exhibit just such a nullification, for it is the application of the categories of the understanding to the ideas of reason which produces antinomies, contradictions and four-term syllogisms when it reflects on God, Self and World. Kant characterizes dialectical results as “illusory”, which from the side of the understanding so they must appear. But that is simply the limit of the understanding itself which in its abstract determinations, taken as such, turns into its opposite. We owe to Kant the definitive proof that the categories of the understanding are unfit determinations of the ‘unconditioned’, establishing the limits of the understanding to ‘experience’ which has appearances or phenomena as its content. If Kant recognizes only the negative outcome in his philosophy, that is, that understanding does not know the thing-in-itself, and can have no knowledge of infinite objects, his philosophy does not have the last word with regard to the Ideas of Reason. But this development of the speculative philosophy of Hegel lies outside the scope of our interest here.

B. The Emancipation Of Democratic Institutions From The Christian Religion

It is not difficult to understand the consequences for secular life when, at the Reformation, men repudiated the external authority of bishops and priests, together with all its trappings, and looked within for their relation to God. The corruption of the Church was by that

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30 There could have been another subjective approach to nature in addition to the mechanistic account, as Hegel remarks: a teleological view compatible with the principle of purposiveness. [Encyclop. Logic, §58] But this would not have fit the Kantian argument which required an extant science of nature, recognized as such.
time so thorough that it took only the final absurdity of selling indulgences to finance the building of St. Peter’s to bring down the whole edifice. The sheer hypocrisy, deception and superstition men had lived under were recognized at the same moment and in the same realization that men knew their inner freedom, their self-determination, expressed as interior faith – not a belief in particular things, in something absent and in the past, but that Christ is an actual presence in faith and in Spirit. This called forth more than just the reform of the Church, but the transformation of the whole secular order as well – law, morality, government, the social order – in conformity with this new principle of freedom.

The first manifestations involved the overthrow of monastic life and the disappearance of all distinction between clergy and laity, but by no means the Christian principles espoused there. The three vows of poverty, chastity and obedience were now demanded of all the laity, but in a new form: marriage, wherein the family introduces children to the community, was thought holier than celibacy, and further it removed the distinction between clergy and laity; it was more commendable for men by their industry and labour to be independent than from a vow of poverty to depend on others; and obedience to the laws of the state, as following from the consent of the governed, was more properly the principle of conduct than obedience to the abbot. 31 In short, Christian conduct now proceeded from the principle of freedom.

It would be tedious and redundant to trace the subsequent history of western civilization through the establishment of constitutional monarchies and the settlement of the New World to demonstrate what has been shown elsewhere and in much detail that from the principle of freedom there arose a secular order which, by the time of the Enlightenment, had become so well established, so universally accepted, that, as with the history of modern science, it achieved its own autonomy from its Christian roots. Indeed, the separation of Church and state was itself a consequence of that principle of freedom, an assertion on the one hand that nothing presupposed can hold authority over the consent of the governed, and on the other hand that one is in no way coerced in the matter of religious practice. 32

Even if a free society has achieved autonomy after a period of time from the creed which brought it forth, still this principle of freedom now thoroughly secular and the democratic rights and institutions it has established do not enjoy the universal approbation that its counterpart, the modern science of nature, seems to elicit. There are reservations expressed in other cultures, not very different from reservations expressed in the West, about this mechanistic science and its technology, especially as environmental concerns grip the world. But these are mild in comparison with the deeply felt resentment when we in the West criticize others across the globe


32 Some scholars who are Muslim do not see this separation as the consequence of the Christian religion but rebellion against it. Cf. Mohammed Arkoun, *Rethinking Islam: Common Questions, Uncommon Answers*, Boulder Colorado, 1994, 18-19, which leaves that impression, but also his *The Unthought in Contemporary Islamic Thought*, London, 2002, Chap.8, esp. 324, which sees the necessity of getting beyond the “binary thinking of religion versus secularism”; Seyyed Hossein Nasr, *The Heart of Islam*, San Francisco, 2002, 116-118. That secularism stands opposed to religion is a common enough position of many Christians also.
concerning human rights and political freedom. The cultural differences between East and West are most strongly and vehemently expressed over political differences, the “clash of civilizations’ most evident over such issues. We in the West think that peace with Islam depends on the emergence of liberal societies in Muslim countries, and Muslims are astonished that we insist on making our own laws rather than simply following the divine law, God’s will, revealed to the prophets and codified in the Shari‘ah. The West sees the countless human rights abuses in Muslim countries and is horrified, and the East observes the debauchery and material excess in the United States and is appalled. As recent events in Iraq and Afghanistan demonstrate, there is little appetite for what we in the West most cherish and offer freely to others, frequently at great cost and sacrifice to ourselves.

The Qur‘ān is for Muslims the “uncreated word of God”, the divine word literally revealed, in a stronger sense than probably any other religious document, to the Prophet in the first quarter of the seventh century. Even the language, Arabic, is sacred since God has spoken in it, and for this reason translations are canonically illegitimate. It declares itself to be the most complete guide for mankind and comprehensive of earlier revelations. In addition, during the period of the revelations and Muhammad’s own career, he himself gave many directions on policy regarding war and peace, moral issues both public and private, and other practical matters, and he did this regarding actual situations of the time. “Thus the Qur‘ān had from the time of its revelation a practical and political application.” Not a mere text of personal piety, nor a set of universal commandments, it was directed toward the moral improvement of mankind both personally and communally, and from its earliest appearance as a text – recited at first, and later set down in writing – it was consulted as a repository of answers to practical questions of morality and even everyday life. What Rahman emphasizes, and for one who picks up the Qur‘ān out of curiosity seems evident, is that these apparently disconnected historical and symbolic narratives, bits of moral advice, these elements of some moral law, together with the affirmation on every page of the One God, Creator and Sustainer, absolutely cry out for understanding them in a deeper unity. It is inconceivable that such a text could have been the source of the conversion of the Arabian peninsula and spread across the Middle East in such short order unless it possessed a deep unity, both spiritually and practically, which was compelling first to those of the Arabian peninsula and then to the wider world. This matter is strengthened by the realization that Muslims continue to live by that text to this day, almost fourteen centuries later, in great numbers and with firm conviction in its literal truth.

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33 Arabic as the sacred language of the Qur‘ān must be thought to have certain characteristics not to be found in other languages essential to the Revelation. It is poetic rather than rational, and formularies roll off the tongue as so many mantras and consecrations.

34 Collected in the Sunnah of all the doings and sayings of the Prophet, including Hadith, the sacred sayings in which Allah speaks in the first person through the mouth of the Prophet. Although not part of the Qur‘ān, the Sunnah is regarded as canonical and constitute the first commentary on the Qur‘ān.

There have been various overlays on the original text, some at least inconsistent with the original. There was the work of the jurists to extend the admonitions and principles in the Qurʾān, creating a whole body of law, sometimes taking as raw materials the customs of conquered peoples which were modified in the light of the Qurʾān, a procedure that worked reasonably well because of its practicality. What did not work were attempts to deduce law from the Qurʾān itself to cover new problems by the procedures of qiyās or analogical reasoning, and Rahman traces this to the failure to understand the deeper unity of the Qurʾān and a fixation then on isolated, atomistic elements easily contradicted by other elements in the work. There was the opposite tendency also. The Islamic philosophers, and the Sufis too, did approach the Qurʾān as a text to unify, but the unity was imposed from without rather than derived from the text itself, sometimes in a spirit antagonistic to the Qurʾān. These two approaches have not ceased in our own times: western ideas have been imported with great approval as though from the Qurʾān itself in some Muslim quarters and rejected with abhorrence among others.

As a first effort to grasp the essential significance of the Qurʾān, its unity and the Weltanschauung it produced among many generations, across many lands, extant and thriving in our day, perhaps we could begin with what it was originally. In the words of Rahman,

The Qurʾān is the divine response, through the Prophet’s mind, to the moral-social situation of the Prophet’s Arabia, particularly to the problems of the commercial Meccan society of his day...The early suras of the Qurʾān make it abundantly clear that the acute problems of that society were polytheism (idol worship), exploitation of the poor, malpractices in trade, and general irresponsibility toward society (which there is good reason to believe the Qurʾān perceived as interconnected).

Anyone taking up the Qurʾān can find those elements in it. But if the work is to have more universal significance, one that moves it from Arabia to the wider world, one that is relevant over fourteen centuries, it must be said that the problems Muhammed addressed are no longer those of eighth century Arabia. How then is it to be read by those who have faith in it and intend it as their guide to life? Surely, many of the difficulties the non-believer finds with the work is that some would read it literally and thoughtlessly, would cut off the hand of the thief, treat a woman’s testimony as worth only half of the man’s, force nonbelievers living in Muslim countries to live as dhimmi, as though the problems to be addressed and the solutions given were still those of eighth century Arabia. There must be some other way it is to be read and practiced if thoughtful, serious people would find it a guide for their lives.

It must be read, and this is sine qua non, as a whole, as proposing a definite attitude and way of life, such that what is taken there as universally true has no inner contradictions, and

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36 Rahman identifies Ibn Sina’s (Avicenna’s) philosophy and Ibn ‘Arab ’s mysticism here, positions easily shown by medieval scholars to be inconsistent with Islam.

37 Rahman, 2-4.

38 Rahman, 5.
moreover integrates the whole of life where the believer finds himself now. Read in any other way, as discrete admonitions and commands, it loses all integrity and easily falls into contradiction, with one sura opposed to another. What is the life that is proposed there? It is founded on the recognition and declaration of a strict monotheism revealed through the Prophet. What follows from that is a life according to the “Five Pillars” of Islam: the public act of faith, the *shahādāt* (“There is no God but Allah and Muhammad is His Prophet”), the canonical prayer (*salāt*) repeated five times a day, involving both the mind and every muscle of the body, the tithe (*zakāt*) for definite social-political purposes, fasting for the month of Ramadan, and the pilgrimage (*hajj*) once in a lifetime to Mecca. It is not a life of contemplation, but active in the world, as Muhammad himself, who though “God intoxicated” left the solitude of his cave to found an ethical, political realm under Allah, never to return to that contemplative state again. It is a life of human accountability at God’s command, that is, in accordance with the revelation in the Qur’ān and the Sunnah. But it is a life in the presence of God, daily, monthly, yearly and one’s whole lifetime, as routine as the monastic “hours”, seeking equilibrium with everything in its place. One is a Muslim if he submits to the will of God and is obedient to His law in this way as laid down in the revealed texts. If this seems medieval, so it is, for time after the final revelation only brings with it corruption. The Prophet is quoted as saying, “No period will come which will not be worse than the period before it.”

All law for the Muslim is God given, and in this respect there is no difference between the laws of nature and laws governing human behaviour. Moreover, as in Judaism, “for Islam Divine Law is more central than theological thought to the religious life.” Islam is thus more concerned with “orthopraxy”, the straight path of practicing and reaching the truth, rather than “orthodoxy” that men should presume to make laws for themselves, as in the West, is simply a secularism that destroys the holiness and universality of moral values. “Secularism is necessarily atheistic.” Thus, a call to Muslim countries to embrace democracy is in many respects antithetical to the heart of Islam. Freedom, the consequence and highest human expression of the Christian religion, is a work of evil for the majority of Muslims, because as we have indicated human institutions as founded in the Christian religion necessarily become secular institutions. There can be no greater opposition than that between cultures whose primary good is submission and obedience and those who treasure freedom above all else.

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40 Nasr, 118.

41 “There is no magisterium in Islam...to determine the correctness of doctrine, and on the level of belief and doctrine Islam has been less stringent than Catholicism in determining what is orthodox. Usually acceptance of the testifications of faith, that it, “There is no god but God” and “Muhammed is His Messenger.; has sufficed, even if opposition has been made to other beliefs and interpretations of a particular person or group.” Nasr, 85.

42 Rahman, 15.
This is not universally the case in Muslim countries. When Atatürk determined to modernize Turkey in 1923, he concluded that this depended on two things principally, the principles of democracy and the teachings of science. As President he abolished the caliphate and Muslim religious courts, established a public school system free of religious instruction, gave women the vote and the right to divorce, adopted the Latin alphabet, and although he did not establish a democracy since that would have interfered with his agenda, by 1950, some eleven years after his death, the first free elections were held, and the Turkish army remains determined to protect the secularism Atatürk established. Turkey is virtually alone as a democratic secular state with a population overwhelmingly Muslim. But the example of Turkey has not been an unalloyed success. Atatürk destroyed and replaced so much as to be a wholesale shock to Muslim consciousness, and there remains a dividedness in the Turkish soul well expressed in their literature.43

He attacked the semiological universe of Muslims by replacing the Arabic alphabet with the Latin alphabet, the turban and fez with the hat, and the shari’a with the Swiss legal code. Official ceremonies, cooking, furniture, architecture, urbanism, the calendar, all those semiological systems that affect individual and collective sensibilities and control the a priori forms of understanding, were officially abolished and slated for replacement by European systems in the space of a few years. It makes one think of the French revolutionaries who believed they could replace the Christian cult with that of the Supreme Being.44

There are other Muslim countries with liberalized political systems and some degree of respect for individual freedom: Indonesia, Morocco, Senegal, Kuwait (after its liberation from Iraqi rule). Iran is probably the nearest to establishing a truly democratic state, in spite of the stumbling blocks put in place by Khomeni.45 Interestingly, none of these states are Arab. It remains to be seen whether the obvious differences of other cultures will be permanent impediments to their democratization.

The emancipation of democratic institutions from the Christian religion is complete. But it is an error to regard that emancipation as without relation to the Christian religion, or as atheistic, since democratic institutions spring from that same subjectivity which creates in the world expressions of its freedom, a freedom formed in it through the Christian religion. Such secularity is the Christian religion incarnate in the world. If for many who are nominally Christian, if for many in the West, their expression of their freedom is in excess and wickedness, theirs is not a true freedom – it is the caprice of the foolish which is a source of scandal to other cultures. The proper expression of freedom is in the concrete realization of the equality of all people, the protection of their rights to “life, liberty and the pursuit of happiness”, their pursuit of

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43 One need only read the novels of Orhan Pamuk, recent winner of the Nobel Prize for literature.


“Liberté, égalité, fraternité”, welcoming to their shores immigrants and refugees from everywhere (“Bring me your poor, your huddled masses, yearning to breathe free...”), and such other consequences of true brotherly love, not limited by race, creed or station.