MUHAMMAD IQBAL'S RECONSTRUCTION OF THE PHILOSOPHICAL ARGUMENT FOR THE EXISTENCE OF GOD

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As the title of his work suggests, the primary task in Muhammad Iqbal's *Reconstruction of Religious Thought in Islam* is to address the important issues and challenges facing religion (more specifically Islam) in the modern world. The most important of these challenges are related to "religious experience"– more specifically the verity, possibility, and interpretation of religious experience in a post-traditional world. For Iqbal a healthy religious life at the individual and collective level requires that an honest and exhaustive inquiry be undertaken regarding religious experience. Iqbal notes that, ultimately, religious faith is based on "a special type of inner experience" (Iqbal, Muhammad [1996] *The Reconstruction of Religious Thought in Islam*. Lahore, Pakistan: Institute of Islamic Culture, xxi).

This inner experience is itself the product of a vital and dynamic process in which the individual tries to synthesize the partial, conflicting and contradictory facets of his relationship with external, material reality. Because this task of reconciliation has been always difficult, it is easy to understand why family ties, tradition, and cultural norms have been more influential in shaping religious faith than personal experience for most individuals in most cultural settings. In the modern cultural setting, it has become even more difficult to find individuals whose religious faith is based on their own inner experience because "modern man, by developing concrete habits of thought…has rendered himself less capable of that [inner] experience, which he further suspects because of its liability to illusion" (Iqbal, xxi).

In the past the "genuine schools of Sufism" did an admirable job in developing spiritual exercises, psychological techniques and physical disciplines that shaped and directed the evolution of the individual believer's

inner experience (Iqbal, xxi). But these methods are of practically no use for the modern believer because they were developed "for generations possessing a cultural outlook differing, in important aspects, from our own" (Iqbal, xxi). The basic reason why the modern day representatives of the genuine schools of Sufism are failing to fulfill the role that they historically filled is because they "have become absolutely incapable of receiving any fresh inspiration from modern thought and experience" (Iqbal, xxi). Given the unique characteristics of modern culture and the unsuitability of pre-modern methods, Iqbal notes that "…the demand for a scientific form of religious knowledge is only natural" (Iqbal, xxi). In *The Reconstruction of Religious Thought in Islam* Iqbal sets out to meet this very demand. Iqbal describes the approach that he will take in his attempt to meet this demand in detail:

> I have tried to meet, even though partially, this urgent demand by attempting to reconstruct Muslim religious philosophy with due regard to the philosophical traditions of Islam and the more recent developments in the various domains of human knowledge. And the present moment is quite favourable for such an undertaking. Classical Physics has learned to criticize its own foundations. As a result of this criticism the kind of materialism, which it originally necessitated, is rapidly disappearing; and the day is not far off when Religion and Science may discover hitherto unsuspected mutual harmonies (Iqbal, xxi ff.).

This quote by Iqbal brings to the fore the fact that in reconstructing religious thought in Islam he will 1) give "due regard" to the Islamic tradition and 2) open himself up to modern developments in different "domains of human knowledge". Putting these two things together leads Iqbal to sense that even though there has been great conflict between the two in recent times, religion and science are on a path of mutual harmonization in the near future. He has already noted that mature religious faith can be based only on inner religious experience that the believer has himself gone through. Here he is implying that the harmonization of religion and science is an essential precondition for the possibility of such inner experience in the modern, scientific cultural setting.

This paper will not discuss Iqbal's understanding of the religion/science relationship in comprehensive terms. It will use one particular example and offer it as an illustration of the possibilities of a religion/science relationship that Iqbal's understanding opens up. The particular issue is Iqbal's use of modern scientific thought to redress the inadequacies in the traditional philosophical arguments for the existence of God. The discussion will focus on Iqbal's insight that modern scientific understanding of matter, space, time, and mind make possible a more accurate and clearer understanding of the attributes of God than is possible otherwise. Prior to the advent of modern science, the three standard philosophical arguments for the existence of God (the cosmological, teleological, and ontological arguments) defined the parameters within which theologians articulated a rational understanding of the attributes of God. Iqbal finds these arguments to be woefully inadequate on a number of counts–the most important one being the fact that the philosophical arguments are built on a very shallow understanding of the character of empirical reality. The manner in which Iqbal uses modern science to critique the inadequate philosophical and theological conception of God is the major part of this discussion but it is not the only one.

One can surmise that a crisis in the domain of "religious thought" is the primary motivation behind Iqbal's exploration of the relationship between religion and science. But an argument can also be made that there is a subtext in Iqbal's work which can be called the "reconstruction of scientific thought in the modern world". This subtext is in response to a particular historical situation in which Iqbal finds himself, the modern scientific age. Iqbal sees notable deficiencies in modern scientific thought that undermines our ability to observe, interpret, and understand experience objectively. More specifically he shows how the use of materialistic, mechanistic and reductionist philosophical concepts in modern scientific thought have severely undermined the significance of the most important discoveries in modern physics, biology and psychology. The most damaging effect of these concepts has been the fact that they forestall the ability of science to see how relationships, consciousness and significance/ meaning permeate all aspects of empirical reality (or what Iqbal calls Nature). Iqbal argues that there is an urgent need to purge modern scientific thought of the philosophical concepts that are a holdover from a by-gone pre-scientific era in order to arrive at a genuinely scientific description of empirical phenomena. Towards this end Iqbal turns to resources from within

the religious tradition (specifically the Qur'an) in order to repair the ruptures in scientific thought.

For Iqbal the reconstruction of scientific thought in the modern age is no less urgently needed than the reconstruction of religious thought if justice is to be done to experience– and in both cases the task of reconstruction requires a deep, sustained, and honest conversation between religion and science. In short, we need not share Iqbal's alarm over the crisis within the Muslim community to explore the relationship between religion and science. The crisis in modern scientific thought itself requires that such an exploration be undertaken. The following pages will address each of these two concerns in turn.

Scientific Critique of the Philosophical Arguments

Iqbal notes that the "Qur'an is a book which emphasizes 'deed' rather than 'idea'." (Iqbal, xxi). All of the deeds done by a human being should be in accord with the will of God and the ultimate goal of action done in submission to God's will is that the "attributes of God" permeate the being of the believer. It is only in the person of the believer manifesting the "attributes of God" that one finds the "proof for God" in the world. In the past the primary means of coming to know God's will and attributes was through the person of the Prophet–it was through the Prophet that God's word was conveyed to humanity. After the mission of Prophet Muhammad (peace be upon him) God no longer speaks to humanity in the direct manner of revelation. When the Prophet was among us it was relatively easy to discern God's will and the meaning of God's word–simply walk up to the Prophet and ask him. But with the end of prophecy we are left with a void, a void that can only be filled with the help of rational thought.

Iqbal notes that the dominant modes of rationally understanding the attributes of God in the post-Prophetic period have proven to be woefully inadequate. Here he is specifically referring to the different arguments constructed by philosophers to demonstrate the existence of God. These philosophical arguments have come to be categorized under one of three headings– the cosmological, teleological and ontological arguments for the existence of God. For Iqbal these arguments are demonstrably deficient not

only because each one of them is fraught with internal contradictions but also (and perhaps more importantly) because they "betray a rather superficial interpretation of experience" (Iqbal, 23). Dividing reality into the irreconcilable opposites of cause/effect (cosmological), designer/designed (teleological), and ideal/real (ontological) creates an internal contradiction in each of these arguments and divides experience into an irreconcilable dualism of thought and being.

Iqbal notes that the traditional philosophical arguments of the existence of God (as well as the dualisms explicitly and implicitly present within them) are the products and continuing legacy of the pre-scientific age of philosophy. While the philosophy of the pre-scientific era has made a valuable contribution to human civilization, it is a product of its time and has severe limitations:

> There is no doubt that the ancient world produced some great systems of philosophy at a time when man was comparatively primitive and governed more or less by suggestion. But we must not forget that this system-building in the ancient world was the work of abstract thought which cannot go beyond the systematization of vague religious beliefs and traditions, and gives us no hold on the concrete situations of life (Iqbal, 100).

For Iqbal, the only way to avoid the shortcomings of received philosophical wisdom is to combine a scientific examination of experience with a qur'anically informed perspective. Iqbal proposes that our understanding of the attributes of God should not be based on philosophical categories derived largely from pure speculative thought. Instead we should interpret the scientific description of reality "following the clue furnished by the Qur'an which regards experience within and without as symbolic of a reality described by it, as 'the First and the Last, the visible and the invisible' [57:3]" (Iqbal, 25).

Here Iqbal is offering an interesting proposal–in trying to rationally understand the attributes of God, we rethink the dualistic categories of cause/effect, designer/designed and ideal/real. In their stead we approach the Divine by interpreting experience as the symbol of a Reality that is

fundamentally relational in character– "the First and the Last, the visible and the invisible". At this point Iqbal turns to the scientific exploration of three regions of experience, i.e. matter, life, and consciousness, as described by physics, biology and psychology respectively. First he summarizes the latest findings of modern science and gives the reader a macro-level view of how contemporary physics understands matter, biology understands life, and psychology understands consciousness. Then Iqbal turns to the implications that the scientific description of the different realms of experience has for our understanding of God. While he does not say so explicitly, a careful reading of the text shows that Iqbal is affecting a subtle but profound shift in the cosmological, teleological and ontological arguments for the existence of God and offering an alternative that is more faithful to both empirical reality and revealed scripture. In the following paragraphs I will summarize Iqbal's synthesis.

Physics and the Cosmological Argument

Iqbal begins the discussion with the cosmological argument for the existence of God. He notes:

> The cosmological argument views the world as a finite effect, and passing through a series of dependent sequences, related as causes and effects, stops at an uncaused first cause, because of the unthinkability of an infinite regress (Iqbal, 23).

While the argument begins with the distinction between cause and effect, the way that it unfolds displays a movement from the finite to the infinite. It asks us to conceive of the universe (or Nature) as a finite effect proceeding from an infinite, uncaused first cause (the Divine). Iqbal argues that the logic in the argument is "quite illegitimate" and "the argument fails *in toto*" (Iqbal, 23ff.). The reason he gives for the failure of the argument lays bare its illegitimate logic:

> The argument really tries to reach the infinite by merely negating the finite. But the infinite reached by contradicting the finite is a false infinite, which neither explains itself nor the finite which is thus made to stand in opposition to the infinite. The true infinite does not exclude the finite; it

embraces the finite without effacing its finitude, and explains and justifies its being (Iqbal, 23).

At this point Iqbal offers a summary of the development of the description of Nature provided by modern physics which gives him the warrant to rethink the relationship between Nature and the Divine.

The description of Nature provided by physics has undergone substantial modification since the days of Newton. Classical physics presented a picture of Nature as being composed of inert, dead, enduring stuff (called matter) suspended in an absolute, empty void (called space). Iqbal notes that the "scientific view of Nature as pure materiality is associated with the Newtonian view of space as an absolute void in which things are situated" (Iqbal, 28). Iqbal notes that Berkeley and Whitehead had offered a sound philosophical critique of this materialistic theory of matter. The basic critique of this theory is that it creates an unbridgeable gap between the knowing subject (mind) and the known object (matter):

> Between Nature and the observer of Nature, the theory creates a gulf which he is compelled to bridge over by resorting to the doubtful hypothesis of an imperceptible something, occupying an absolute space like a thing in a receptacle and causing our sensations by some kind of impact. In the words of Professor Whitehead, the theory reduces one-half of Nature to a 'dream' and the other half to a 'conjecture' (Iqbal, 27).

As sound as the philosophical critique offered by Berkeley and Whitehead is, the materialist conception of Nature "has received the greatest blow from the hand of Einstein… whose discoveries have laid the foundations of a far-reaching revolution in the entire domain of human thought" (Iqbal, 27). At this point Iqbal quotes Bertrand Russell as acknowledging that Einstein's theory of relativity has done more to undermine the classical understanding of matter and substance than "all the arguments of the philosophers" (Russell quoted by Iqbal, 27ff.). Iqbal uses the summary offered by Whitehead to describe the revised conception of matter, substance, and space that emerges in the aftermath of Einstein's discoveries:

> According to Professor Whitehead... Nature is not a static fact situated in an a-dynamic void, but a structure of events possessing the character of continuous creative flow which thought cuts up into isolated immobilities out of whose mutual relations arise the concepts of time and space. Thus we see how modern science utters its agreement with Berkeley's criticism which it once regarded as an attack on its very foundation (Iqbal, 28).

In the words of Russell "[a] piece of matter has become not a persistent thing with varying states, but a system of inter-related events" (quoted in Iqbal, 28). As the understanding of Nature offered by physics has evolved from Newton to Einstein to post-Einstein, it becomes obvious that "the empirical attitude which appeared to necessitate scientific materialism has finally ended in a revolt against matter" (Iqbal, 27).

As noted earlier, the cosmological argument conceives of God as the infinite, uncaused first cause and Nature is identified as the finite effect. Looking at Nature as a "system of inter-related events" allows Iqbal to conceive a different relationship between Nature and God. Iqbal notes:

> Nature, as we have seen, is not a mass of pure materiality occupying a void. It is a structure of events, a systematic mode of behaviour, and as such organic to the Ultimate Self. Nature is to the Divine Self as character is to the human self. In the picturesque phrase of the Qur'an it is the habit of Allah (Iqbal, 45).

Here Iqbal has transformed the cause/effect dualism in the cosmological argument to a person-habit relationship between God and Nature. In the midst of apparent arbitrariness, randomness, and senselessness in our world, attentive observation reveals certain patterns and harmonies amidst the apparent arbitrariness. The Qur'an describes these patterns and harmonies as *sunnat Allah*, the habits of Allah (33:62; 35:43; 48:23, etc.). Describing Nature, Iqbal goes on to note:

> From the human point of view it is an interpretation which, in our present situation, we put on the creative activity of the Absolute Ego. At a particular moment in its forward movement it is finite; but since the self to which it is organic is creative, it is liable to increase, and is

> consequentially boundless in the sense that no limit to its extension is final. Its only limit is internal, i.e. the immanent self which animates and sustains the whole. As the Qur'an says: 'And verily unto thy Lord is the limit' (53:42) (Iqbal, 45).

Thus far Iqbal has been offering an interpretation of experience as understood by modern physics. At the end of the last passage he brings this scientific interpretation directly into conversation with the Qur'an. 53:42 can be seen as a particular expression of the general description of the Ultimate Ego in 57:3 as "the First and the Last, the visible and the invisible". Integrating the Qur'anic perspective that Nature is the "habit of Allah" and the perspective of physics that Nature is a "system of inter-related events" gives rise to a perspective in which space, matter and time can be conceived as being the manifestations of the creative activity of God. Consequently the latter "… are not independent realities existing *per se*, but only intellectual modes of apprehending the life of God" (Iqbal, 53). The transformation of the cause/effect dualism at the heart of the cosmological argument into a person-habit relationship has a direct impact on the way the Infinitude of God and the finitude of Nature are understood.

From Iqbal's perspective God should not be thought of as the Infinite relative to Whom finite Nature disappears into insignificance and meaninglessness. Iqbal teaches us to recognize the importance of the finitude of the Infinite and the potential infinitude of the finite. On the finitude of the Infinite, Iqbal notes;

> True infinity does not mean infinite extension which cannot be conceived without embracing all available finite extensions. Its nature consists in intensity and not extensity; and the moment we fix our gaze on intensity, we begin to see that the finite ego must be *distinct*, though not *isolated*, from the Infinite (Iqbal, 94).

In other words, the infinity of God is intensive, not extensive. For Iqbal there are a number of reasons why we should not conceive of God's infinity in spatial (or extensive) terms. The most important among these reasons is the fact that such a conception easily lends itself to the pantheistic inclination to characterize God "as some vague, vast and pervasive cosmic element"

devoid of individuality and personality (Iqbal, 51). Iqbal acknowledges the fact that the revealed scripture in the Abrahamic tradition uses the metaphor of light to describe God and this metaphor "gives the impression of an escape from an individualistic conception of God" (Iqbal, 51). The well known verse of light from Surah Al-Nur has been interpreted by some commentators to imply an impersonal conception of God. Iqbal cites the ayah: *Allah is the light of the Heavens and of the earth. His light is like a niche in which is a lamp–the lamp encased in a glass–the glass, as it were, a star* (24:35). Then he notes that a complete reading of the ayah shows that the

> development of the metaphor [of light] is meant rather to exclude the suggestion of a formless cosmic element by centralizing the light in a flame which is further individualized by its encasement in a glass likened unto a well-defined star (Iqbal, 51).

He then goes on to complement this insight with the findings of modern physics and argue that "the description of God as light, in the revealed literature of Judaism, Christianity and Islam, must now be interpreted differently" because;

> [t]he teaching of modern physics is that the velocity of light cannot be exceeded and is the same for all observers whatever their own system of movement. Thus, in the world of change, light is the nearest approach to the Absolute. The metaphor of light as applied to God, therefore, must in view of modern knowledge, be taken to suggest the Absoluteness of God and not His Omnipresence which easily lends itself to a pantheistic interpretation (Iqbal, 51).

Thus far Iqbal has described the negative outcome of interpreting the attributes of God from the perspective of spatial (or extensive) infinity. Then he goes on to describe how understanding the attributes of God will be impacted if interpreted from the perspective of intensive infinity:

> Modern science regards Nature not as something static, situate[d] in an infinite void, but a structure of interrelated events out of whose mutual relations arise the concepts of time and space. And this is only another way of saying that space and time are interpretations which thought puts

> upon the creative activity of the Ultimate Ego… The infinity of the Ultimate Ego consists in the infinite inner possibilities of His creative activity of which the universe, as known to us, is only a partial expression. In one word God's infinity is intensive, not extensive. It involves an infinite series, but is not of that series (Iqbal, 52).

From the perspective on intensive infinity, the infinity of God does not refer to some impersonal, cosmic force but the unceasing, continuous actualization of the inner potentiality of a unique, concrete, and conscious individual. The actualization of this potentiality manifests itself in the form of ceaseless creative activity. In short, understanding infinity in spatial/extensive terms leads to attributing the characteristics of inertness, impersonality and unconsciousness to God. Understanding infinity in intensive terms leads to attributing the characteristics of individual personality, ceaseless activity, and consciousness to God.

Since the infinitude of God refers to His creative capacities, we will have to rethink the notion of the finitude of Nature. Iqbal has already noted that Nature is to God as habit is to person. Consequently the "finitude" of Nature is a very limited (a very finite?) type of finitude. At any given point in time Nature is finite but given the fact that it is the manifestation of the creative activity of the Creator it is potentially infinite because the creative capacity of the Creator is infinite. Given the fact that Nature is nothing other than the habit of God whose creative capacity is unlimited, it is only natural that the characteristic of infinity is a potential present within Nature. The qur'anically informed description of Nature given to us by modern physics shows Nature as a living, growing, dynamic process that progressively (and potentially infinitely) reveals novel manifestations of truth, goodness and beauty to the attentive observer with the passage of time. In the context of the present discussion the important lesson that Iqbal teaches us is that God should not be characterized as a spatially infinite, Omnipresent, cosmic force devoid of individuality and personality. He is a Unique Individual engaged in unceasing creative activity, whose personal characteristics are manifest in all that He has created.

Biology and the Teleological Argument

After his critique of the cosmological argument, Iqbal goes on to critique the teleological argument for the existence of God. He notes that while the two are closely related–both of them having the cause/effect dualism at their core– their points of emphasis are different. The teleological argument looks at the effect (the world of Nature) and does not stop at merely inferring the existence of a cause (the Necessary Existent), but "scrutinizes the effect with a view to discover the character of its cause" (Iqbal, 24). More specifically, "[f]rom the traces of foresight, purpose, and adaptation in nature, [the teleological argument] infers the existence of a self-conscious being of infinite intelligence and power" (Iqbal, 24). In short, the argument infers the existence of an intelligent designer from the experience of a well designed universe. The teleological argument apparently avoids the pitfalls of the cause/effect dualism plaguing the cosmological argument. But Iqbal's analysis shows that the dualism has insidiously survived in the teleological argument in the form of the designer/designed dualism. Before offering the scientific critique, Iqbal identifies the internal shortcomings of the teleological argument. He notes:

> The argument gives us a contriver only and not a creator; and even if we suppose him to be also the creator of his material, it does no credit to his wisdom to create his own difficulties by first creating intractable material, and then overcoming its resistance by the application of methods alien to its original nature (Iqbal, 24).

The argument ascribes the attributes of Omniscience and Omnipotence to God. God brings his knowledge and power to bear upon material that is completely devoid of knowledge (to say nothing of consciousness) and power (to say nothing of agency) to produce the world of nature. For Iqbal the basic reason why this argument fails is that its conception of the God-Nature relationship is based on the analogy of a human architect who takes inert, dead material and shapes it according to his own knowledge, will, and designs. The reason that the designer/designed dualism fails to do justice to the God-Nature relationship is because when we look at the world of nature it is obvious that:

> [t]here is no analogy between the work of the human artificer and the phenomena of Nature. The human artificer cannot work out his plan

> except by selecting and isolating materials from their natural relations and situations. Nature, however, constitutes a system of wholly interdependent members; her processes present no analogy to the architect's work which, depending on a progressive isolation and integration of its material, can offer no resemblance to the evolution of organic wholes in Nature (Iqbal, 24).

In other words, integration and assimilation resulting from the inner impulses of the designed (in this case Nature) are at least as important in the emergence of the designed as the knowledge and power of the designer. In addition to a number of logical fallacies plaguing the teleological argument, Iqbal describes the shortcomings of the argument from the perspective of modern science.

A review of the history of biology reveals that from its very inception biology had to discard the materialist notion of Nature as being fixed, static, and unchanging– a conception inherited from the intellectual legacy of Newtonian physics. Everywhere that one looks in the organic/natural world one sees growth, variation, and adaptation. But Newtonian physics (and one might add Aristotelean metaphysics) have infected modern biology in the form of a "veiled materialism" since at least the days of Darwin. This is because the old materialist conception of Nature has been replaced by a new mechanistic conception:

> The discoveries of Newton in the sphere of matter and those of Darwin the sphere of Natural History reveal a mechanism. All problems, it was believed, were really the problems of physics. Energy and atoms, with the properties self-existing in them, could explain everything including life, thought, will, and feeling. The concept of mechanism– a purely physical concept– claimed to be the all-embracing explanation of Nature (Iqbal, 33).

From the Newtonian and Darwinian perspectives causality in the world of Nature could be understood in purely mechanistic terms. Iqbal acknowledges the fact that the "concept of 'cause'… the essential feature of which is priority to the effect" is well suited for studying a certain class of phenomena in empirical reality– for example the motion of billiard balls on a pool table.

But, he goes on to note, "when we rise to the level of life and mind the concept of cause fails us" because "the behaviour of [a living] organism is essentially a matter of inheritance and incapable of sufficient explanation in terms of molecular physics" (Iqbal, 34). It is not just the phenomenon of inheritance that cannot be explained in reductive, mechanistic ways employing the notion of "cause and effect," Iqbal notes that the behaviour of the organism itself cannot be explained in these terms either: "The action of living organisms, initiated and planned in view of an end, is totally different to causal action" (Iqbal, 34). A scientific account of such behaviour "demands the concept of 'end' and 'purpose,' which act from within unlike the concept of cause which is external to the effect and acts from without" (Iqbal, 34). Here Iqbal is stating his case for jettisoning the concept of "cause/effect" and adopting the concept of "end/purpose" when studying the phenomenon of life. Then he goes on to offer the scientific grounds for his position.

After acknowledging that "I am no biologist and must turn to biologists themselves for support" (Iqbal, 34), Iqbal offers the insights of the biologists Haldane, Driesch and Carr in support of his position. Haldane notes that there are certain processes in a living organism that can be explained using the conception of cause/effect as it is understood in physics and chemistry. But there are other processes that require going beyond the mechanistic conception of cause/effect. For Haldane the two processes that cannot be explained in terms of cause/effect are the two characteristics that separate a machine from a living organism; self-repair and self-reproduction. The passage of time and the change of environment present unforeseeable challenges and opportunities for the living organism. And the organisms that survive and flourish are the ones which can respond creatively to the challenges and take advantage of the opportunities. An adequate account of the way that life interacts with its environment can only be had when the notion of "ends/purpose" is employed. Whether it is responding to unexpected challenges or taking advantage of novel opportunities, in either case the behaviour of the organism is determined by its ability to choose a particular end (in the future), in light of a general purpose (usually determined by past experience) in order to shape its present behaviour. Combining Haldane's observations with Driesh's description of life as "factual wholeness" Iqbal notes:

> Life is, then, a unique phenomenon and the concept of mechanism is inadequate for its analysis… In all the purposive processes of growth and adaptation to its environment, whether this adaptation is secured by the formation of fresh or the modification of old habits, it possesses a career which is unthinkable in the case of a machine (Iqbal, 35).

A machine can only repeat previously established patterns of action; it cannot invent or discover new patterns. It is obvious that living organisms have not merely continued to repeat patterns that have proven to be life-sustaining in the past, they have also invented or discovered new patterns during their life-course in order to sustain and further the life of the individual organism and the life of the species. In short while the designer/designed distinction helps us to understand the relationship between humans and machines, it is completely inadequate in helping us to understand the relationship between God and Nature, given the characteristics of reproduction and repair that are observed in the world of nature.

Iqbal then uses the insights of Wildon Carr to deepen his critique of applying mechanistic conceptions when dealing with the phenomenon of life. Carr notes that there are two basic problems with a mechanistic account for the origin of life. Firstly, if we consider the intellect to be a means of apprehending reality then a self-contradiction is contained in the claim that the intellect is the product of evolution. Secondly, if the intellect is a product of evolution then science will have to acknowledge that there is a subjective element to knowledge, thereby compromising its claim of objectivity. For Carr the evolution of life as understood by modern biology clearly and obviously necessitates a re-evaluation of the way science understands the principle of cause/effect. Iqbal notes:

> [T]he application of the mechanistic concepts to life, necessitating the view that the intellect itself is a product of evolution, brings science into conflict with its own objective principles of investigation (Iqbal, 36).

Combining the insights of Haldane, Driesh, and Carr Iqbal comes to the conclusion that the attempt to explain the behaviour of living organisms in

mechanistic terms breaks down completely when we consider the ability of living things to discover, invent and create:

> In fact all creative activity is free activity. Creation is opposed to repetition which is characteristic of mechanical action. That is why it is impossible to explain the creative activity of life in terms of mechanism (Iqbal, 40).

Iqbal goes on to ask the biologist to become a little self-aware about his own activity– such self-awareness will make it clear that a mechanistic conception of the relationship between designer/ designed is wholly inadequate to explain observed reality:

> The biologist who seeks a mechanical explanation of life is led to do so because he confines his study to the lower forms of life whose behaviour discloses resemblances to mechanical action. If he studies life as manifested in himself, i.e. his own mind freely choosing, rejecting, reflecting, surveying the past and the present, and dynamically imagining the future, he is sure to be convinced of the inadequacy of his mechanical concepts (Iqbal, 41).

Given the inadequacy of the concepts of a designer who is the cause and the designed which is an effect to provide a coherent account of observed reality (especially that part of reality that is the subject matter of biology) Iqbal offers the alternative of "ends and purposes". Iqbal states that "ends and purposes… form the warp and woof of our conscious experience" (Iqbal, 42). He goes on to detail this point:

> The element of purpose discloses a kind of forward look consciousness. Purposes not only colour our present states of consciousness, but also reveal its future direction. In fact, they constitute the forward push of our life, and thus in a way anticipate and influence the states that are yet to be. To be determined by an end is to be determined by what ought to be. Thus past and future both operate in the present state of consciousness, and the future is not wholly undetermined as Bergson's analysis of our conscious experience shows. A state of attentive consciousness involves both memory and imagination (Iqbal, 43).

It is only through this non-mechanistic and non-deterministic conception of behaviour that a coherent explanation can be given for the ability of living organisms to pursue an attractive "ought" in the face of an obstructing "is". For Iqbal, the evolution of life over the eons is the result of the conscious and wilful action of living organisms to continuously struggle to modify the actual "is" and bring it closer to an imagined "ought". And this action is explicable only by employing the concepts of end and purpose "which act from within" as being the determining factors in shaping the behaviour of the organism. This is due to the fact that the imagined "ought" is the end, purpose towards which the action is aimed.

Since the concepts of cause and effect are central to the traditional understanding of teleology, the introduction of ends and purposes has a subtle but profound impact on how teleology should be understood. But a cautionary note should be sounded here because Iqbal is calling for a shift in perspective, nor merely a shift in language. When he speaks of "end" and "purpose" he means something very specific:

> The world-process, or the movement of the universe in time, is certainly devoid of purpose, if by purpose we mean a foreseen end–a far-off fixed destination to which the whole of creation moves. To endow the world-process with a purpose in this sense is to rob it of its originality and its creative character (Iqbal, 44).

A mechanistic conception of cause/effect and also end/purpose certainly divests time of "its originality and its creative character". From this perspective, combining the knowledge of the position of all particles, things, and persons at one point in time with the knowledge of the "laws of Nature" allows us to predict all of the future with absolute precision. This fantasy has proven to be powerfully seductive for many scientists in modern times. But this view of things seems to "regard the future as something already given, as indubitably fixed as the past. Time as a free creative movement has no meaning for this theory. It does not pass. Events do not happen; we simple meet them" (Iqbal, 31). For Iqbal there is a striking resemblance between the degenerate, mechanistic understanding of time advocated by many scientists and certain religious conceptions of God's attributes:

> All is already given somewhere in eternity; the temporal order of events is nothing more than a mere imitation of the eternal mould. Such a view is hardly distinguishable from the mechanism we have already rejected. If fact, it is a kind of veiled materialism in which fate or destiny takes the place of rigid determinism, leaving no scope for human or even Divine Freedom. The world regarded as a process realizing a preordained goal is not a world of free, responsible moral agents; it is only a stage on which puppets are made to move by a kind of pull from behind (Iqbal, 43).

For Iqbal this mechanism and determinism have to be rejected as forcefully as materialism (the former are only "veiled" forms of materialism) for the same reason that materialism itself has to be rejected– there is compelling scientific evidence against these conceptions and they also mitigate against the Qur'anic outlook. With specific reference to a mechanistic universe in which everything is pre-determined, Iqbal notes:

> To my mind nothing is more alien to the Qur'anic outlook than the idea that the universe is the temporal working out of a preconceived plan. As I have already pointed out, the universe, according to the Qur'an is liable to increase. It is a growing universe and not an already completed product that left the hands of its maker ages ago and is now lying stretched in space as a dead mass of matter to which time does nothing, and consequently is nothing (Iqbal, 44).

For Iqbal time cannot be nothing and do nothing for the simple fact that "Nature's passage in time is perhaps the most significant aspect of experience which the Qur'an especially emphasizes and which… offers the best clue to the ultimate nature of Reality" (Iqbal, 36). At this point Iqbal reminds the readers of three passages from the Qur'an that he has already mentioned (3:190-1; 2:164; 24:44) and then cites five more (10:6; 25:62; 31:29; 39:5; 23:80) to point out that the Qur'an considers time to be one of greatest symbols of God. The intimacy of the relationship between time and God is summarily conveyed by a hadith that Iqbal quotes in which "the Prophet said: 'Do not vilify time, for time is God'" (Iqbal, 8). The characteristics that are most relevant for Iqbal at this point are dynamism, creativity, and freedom– to the degree that these are characteristics of time they are also the

characteristics of God. And it is with this Qur'anic-scientific conception of time in mind that Iqbal offers an alternative description of teleology:

> From our conscious experience we have seen that to live is to shape and change ends and purposes and to be governed by them. Mental life is teleological in the sense that, while there is no [pre-determined] far-off distant goal towards which we are moving, there is a progressive formation of fresh ends, purposes, and ideal scales of value as the process of life grows and expands (Iqbal, 43ff.)

This scientifically informed and Qur'anically grounded understanding of teleology allows Iqbal to offer a coherent and compelling account of the widely known and widely debated idea of *taqdir*. Most often this word is translated as "pre-destination"– the *taqdir* of (let's say) a person is that which she has been fated to do since pre-eternity. The passage of time means nothing and does nothing to *taqdir*, it merely provides the stage on which a scripted play is acted out. Iqbal's understanding of *taqdir* maintains the sense of "destiny" but removes the characteristic of pre-determinism. He notes:

> Destiny is time regarded as prior to the disclosure of its possibilities. It is time freed from the net of causal sequence– the diagrammatic character which the logical understanding imposes on it. In one word, it is time as felt and not as thought and calculated (Iqbal, 40).

From this perspective the *taqdir* of a person is all the things that she can potentially become before she enters the flow of time. Once she enters the flow of time (among other things) the ends and purposes that she freely chooses, combined with her intentions and actions, will play a critical role in determining which of the myriad of possibilities from pre-eternity is actualized as she moves through her life. Iqbal goes on to further describe *taqdir*/destiny in these words:

> Time regarded as destiny forms the very essence of things. As the Qur'an says: 'God created all things and assigned to each its destiny.' The destiny of a thing then is not an unrelenting fate working from without like a task master; it is the inward reach of a thing, its realizable possibilities which lie

within the depths of its nature, and serially actualize themselves without any feeling of compulsion (Iqbal, 40).

Iqbal's re-visioning of *taqdir* in the light of the findings of modern science (biology) and the teachings of the Qur'an opens up the possibility of revising the traditional understanding of cause/effect. Traditionally all causal agency has been exclusively invested in God (the uncaused Cause) and the effect has been viewed as a passive recipient of a fate determined by the Cause. Iqbal's analysis breaks down the dualism between cause and effect and reveals a reflexive relationship between the two.

In other contexts Iqbal has pointed out that the human being has the potential of becoming a co-worker with God in the pursuit and attainment of ends and purposes chosen by God or by the human being. This means that while the effect (the human being) is preceded by a Cause (God) at one point in it career, the effect is not eternally fated to remain subservient to the Cause because the future is open to new possibilities and new relationships. One of the possibilities is that the effect actualizes some of its inner potential and becomes a co-cause with the Cause in the creation of new worlds:

> Of all the creations of God [the human being] alone is capable of consciously participating in the creative life of his Maker. Endowed with the power to imagine a better world, and to mould what is into what ought to be, the ego in him aspires, in the interests of an increasingly unique and comprehensive individuality, to exploit all the various environments on which he may be called upon to operate during the course of an endless career (Iqbal, 58).

While the effect (human being) does indeed progress beyond being merely an effect and becomes a co-cause with the cause it is still largely subservient to the will and desire of the Cause. Iqbal's insights teach us that the Qur'an points to an even more profound potential within the effect that is the human being. A second possibility is that the effect actualizes even more of its inner potential and aspires to effect the actions of the Cause through the act of prayer. In this case the effect aspires to become a cause for the Cause to act in a particular way, in response to a particular need or desire, arising from a particular historical situation in which the effect finds himself:

> It is the lot of man to share in the deeper aspirations of the universe around him and to shape his own destiny as well as that of the universe, now by adjusting himself to its forces, now by putting the whole of his energy to mould its forces to his own ends and purposes. And in this process of progressive change God becomes a co-worker with him, provided man takes the initiative: Verily God will not change the condition of men, till they change what is in themselves (13:11) (Iqbal, 10).

The way Iqbal has integrated the teachings of the Qur'an with the findings of modern biology allows him to envision human beings becoming co-workers with God in the pursuit of ends and purposes chosen by human beings to create new worlds in line with the purposes, goals, and desires of human beings. Just as Iqbal's reworking of the cosmological argument revealed the potential infinitude of the finite, his reworking of the teleological argument reveals the potential causal agency of the effect. Using the analogy offered by Iqbal in his discussion of the cosmological argument, we can say that Iqbal's reconstruction of the teleological argument replaces the designer/designed dualism with a person-purpose relationship.

Psychology and the Ontological Argument

After critiquing the cosmological and teleological arguments, Iqbal turns his attention to the ontological argument which "has been presented in various forms" (Iqbal, 24) and "is somewhat of the nature of the cosmological argument" (Iqbal, 25). He uses Descartes' version of the argument to lay bare its inner logic. The argument basically runs thus:

> We have the idea of a perfect being in our mind. What is the source of the idea? It cannot come from Nature, for Nature exhibits nothing but change. It cannot create the idea of a perfect being. Therefore corresponding to the idea in our mind there must be an objective counterpart which is the cause of the idea of a perfect being in our mind (Iqbal, 24ff.).

It is obvious that the argument is based on an ideal/real dualism–in its Cartesian manifestation the dualism is expressed in the mind/matter dichotomy. The argument goes on to distinguish the ideal from the real by

attributing the characteristics of immutability, non-corporeality and perfection to the ideal and the characteristics of change, corporeality and imperfection to the real. In other words, the ideal/real dualism contains within it the change/permanence dualism where permanence is equated with perfection and change is considered to be the characteristic of imperfection. The basic flaw in the ontological argument in all its various guises and interpretations, as already detailed by Kant, is that "it is clear that the conception of the existence is no proof of objective existence" (Iqbal, 25). Iqbal details this point in these words:

> All that the argument proves is that the idea of a perfect being includes the *idea* of his existence. Between the idea of a perfect being in my mind and the objective reality of that being there is a gulf which cannot be bridged over by a transcendental act of thought. The argument, as stated, is in fact a *petitio principii*: for it takes for granted the very point in question, i.e. the transition from the logical to the real (Iqbal, 25).

Up till this point Iqbal has rejected the argument on purely logical grounds. The ontological argument fails for the same reason that cosmological and teleological arguments fail– all of these arguments are premised on a dualism in which the affirmation of one part of the dualism requires a negation of the other part.

While we can reject the ontological argument because of its inner incoherence, for Iqbal, we cannot sidestep the ontological problem which is "how to define the ultimate nature of existence" (Iqbal, 37). The reason that the ontological problem emerges is that since the universe is "external to us, it is possible to be sceptical about its existence" (Iqbal, 37). The external universe displays characteristics that constantly impinge upon our inner life and threaten its stability and coherence. The threat of the external "real" universe to our inner "ideal" world is such that the former confronts the latter in the form of an ultimate threat– the threat of death and annihilation. Under these circumstances, the question naturally arises as to the ultimate nature of reality; is it a stable, fixed "ideal" unaffected by change or is it a constantly changing "real" where all appearance of stability and coherence is an illusion? In a very real sense the ontological problem is also a psychological problem. Consequently, Iqbal proposes that we subject

conscious experience to scientific and philosophical scrutiny in order to deepen our understanding of the ultimate nature of existence.

Even a cursory glance at our conscious experience reveals that "there is nothing static in my inner life; all is a constant mobility, an unceasing flux of states, a perpetual flow in which there is no halt or resting place" (Iqbal, 38). When we combine the fact that "change… is unthinkable without time" with the analogy of our inner experience we can say that "conscious existence means life in time" (Iqbal, 38). This evidences that our inner consciousness is related to "what we call the world of space" (Iqbal, 38). Iqbal calls this part of our consciousness the "efficient self" and notes that it "is the subject of associationist psychology" (Iqbal, 38). He goes to describe the efficient self in greater detail:

> [It] is the practical self of daily life in its dealing with the external order of things which determine our passing states of consciousness and stamp on these states their own spatial feature of mutual isolation. The self here lives outside itself as it were, and, while retaining its unity as a totality, discloses itself as nothing more than a series of specific and consequently innumerable states (Iqbal, 38).

The examination of consciousness that leads to the efficient self suggests that the ultimate nature of reality is flux, change, and instability– that there is nothing stable, coherent and permanent in reality.

Modern psychology has not advanced beyond the discovery and description of the efficient self. But philosophical inquiry into the nature of time, especially by Bergson, suggests that consciousness cannot be reduced to merely the efficient self. Building on Bergson's insights, Iqbal notes: "A deeper analysis of conscious experience reveals to us what I have called the appreciative side of the self" (Iqbal, 38). A closer examination of the appreciative side of the self shows that "the self in its inner life moves from the centre outwards" (Iqbal, 38). Exceedingly difficult to recognize and observe because of our daily absorption in serial time, it takes a great deal of discipline to discover the appreciative self:

> With our absorption in the external order of things, necessitated by our present situation, it is extremely difficult to catch a glimpse of the appreciative self. In our constant pursuit after external things we weave a kind of veil around the appreciative self which thus becomes completely alien to us. It is only in the moments of profound meditation, when the efficient self is in abeyance, that we sink into our deeper self and reach the inner centre of experience (Iqbal, 38).

At this "centre of experience" we find that like the periphery of experience (at the level of the efficient self) there is movement and change. But with the appreciative self,

> change and movement are indivisible; their elements interpenetrate and are wholly non-serial in character. It appears that the time of the appreciative-self is a single 'now' which the efficient self, in its traffic with the world of space pulverizes into a series of 'nows' like pearl beads in a thread. Here is, then, pure duration unadulterated by space (Iqbal, 39).

The following description of "pure time" or pure duration combines the understanding of time furnished by careful analysis of consciousness with the insights gathered by a Qur'anic-biological critique of mechanism;

> Pure time…as revealed by a deeper analysis of our conscious experience, is not a string of separate, reversible instants; it is an organic whole in which the past is not left behind, but is moving along with, and operating in, the present. And the future is given to it not as lying before, yet to be traversed; it is given only in the sense that it is present in its nature as an open possibility (Iqbal, 39ff.).

In short, time is experienced by the appreciative self (pure duration) differently than it is experienced by the efficient self (serial time).

Up till this point, Iqbal has engaged in a philosophical analysis of consciousness and time. He has come to the point where he has identified two types of consciousness (i.e. the efficient self and the appreciative self) and two types of time (i.e. serial time and pure duration). Now he turns to the Qur'an and notes that "in its characteristic simplicity" the Qur'an

"alludes to the serial and non-serial aspects of duration" (Iqbal, 39). Here he cites a passage (25:58-9) which states that Allah created the heavens, the earth and what is between them "in six days". Then he cites another passage (54:49-50) which states that when Allah created all things his "command was but one, swift as the twinkling of an eye". After citing these two passages in juxtaposition, Iqbal goes on to comment:

> If we look at the movement embodied in creation from the outside, that is to say, if we apprehend it intellectually, it is a process lasting through thousands of years; for one Divine day, in the terminology of the Qur'an, as of the Old Testament, is equal to one thousand years. From another point of view, the process of creation, lasting through thousands of years, is a single indivisible act, 'swift as the twinkling of an eye' (Iqbal, 39).

Iqbal recognizes the fact that it is exceedingly difficult to understand and appreciate pure duration using language that has been shaped, primarily, to help us deal with serial time. He tries to overcome the difficulty by offering an illustration:

> According to physical science, the cause of your sensation of red is the rapidity of wave motion the frequency of which is 400 billions per second. If you could observe this tremendous frequency from the outside, and count it at the rate of 2,000 per second, which is supposed to be the limit of the perceptibility of light, it will take you more than six thousand years to the finish the enumeration. Yet in the single momentary mental act of perception you hold together a frequency of wave motion which is practically incalculable. That is how the mental act transforms succession into duration (Iqbal, 39).

This illustration demonstrates that there is a part of the self that can transform "practically incalculable" motion, change and flux into stability, coherence and permanence in the twinkling of an eye. It is in this sense that the appreciative self is that part of consciousness where "the self in its inner life moves from the centre outwards".

Iqbal has used the philosophical analysis of time to provide a fuller description of consciousness and the psychological analysis of consciousness

to provide a fuller description of time. He brings the two fuller descriptions into relationship with each other in these words:

> The appreciative self, then, is more or less corrective of the efficient self, inasmuch as it synthesizes all the 'heres' and 'nows'–the small changes of space and time, indispensable to the efficient self–into the coherent wholeness of personality (Iqbal, 39).

Combining this understanding of consciousness shaped by the Qur'an and psychology with the qur'anically-scientifically corrected understanding of matter and qur'anically-scientifically corrected understanding of life, puts Iqbal in the position to offer a qur'anically-scientifically informed understanding of ontology. He notes:

> We are now, I hope, in a position to see the meaning of the verse– 'And it is He Who hath ordained the night and the day to succeed one another for those who desire to think on God or desire to be thankful' [25:62]. A critical interpretation of the sequence of time as revealed in our selves has led us to a notion of the Ultimate Reality as pure duration in which thought, life and purpose interpenetrate to form an organic unity. We cannot conceive this unity except as the unity of a self–an all-embracing concrete self– the ultimate source of all individual life and thought (Iqbal, 44).

For Iqbal the ontological problem is resolved by going beyond the ideal/real dualism and discovering a "self" that the Qur'an and a scientific examination of consciousness point towards. For Iqbal the self is both prior to time and space and capable of doing what neither time nor space can do:

> Neither pure space nor pure time can hold together the multiplicity of objects and events. It is the appreciative act of an enduring self only which can seize the multiplicity of duration– broken into an infinity of instants– and transform it to the organic wholeness of a synthesis. To exist in pure duration is to be a self, and to be a self is to be able to say 'I am'. Only that truly exists which can say "I am" (Iqbal, 44ff.).

Since the self has an efficient and an appreciative side, for Iqbal the self that has the ability to say "I am" combines within itself the characteristics of movement and stability, flux and coherence, change and permanence.

In the foregoing discussion Iqbal has been critiquing the dominant positions in the ontological debate. One side in the debate associates existence and reality with the "real" and the characteristics of change, flux, impermanence. The other side in the debate associates existence and reality with the "ideal" and the characteristics of immutability, immobility, and permanence. As he has been critiquing these positions, gradually, Iqbal has been putting into place the different building blocks of his alternative position. We can say that up till now he has been engaged in an "efficient" analysis of the ontological problem. But we have reached a point in the discussion where we can offer an "appreciative" statement on Iqbal's understanding of the "ultimate nature of reality". Iqbal states:

> I have conceived the Ultimate Reality as an Ego and I must add now that from the Ultimate Ego only egos proceed. The creative energy of the Ultimate Ego, in whom deed and thought are identical, functions as ego-unities. The world, in all its details, from the mechanical movement of what we call the atom of matter to the free movement of thought in the human ego, is the self-revelation of the "Great I am". Every atom of Divine energy, however low in the scale of existence, is an ego. But there are degrees in the expression of egohood. Throughout the entire gamut of being runs the gradually rising note of egohood until it reaches its relative perfection in man. That is why the Qur'an declares the Ultimate Ego to be nearer to man than his own neck-vein (Iqbal, 57).

Iqbal's resolution of the ontological problem comes in the form of describing Ultimate Reality as an Ego or a Self. In doing so he is aware of the fact that his resolution gives rise to a new problem. In light of what he has said about change and the self he notes that "the question you are likely to ask is– 'Can change be predicated of the Ultimate Ego?'" (Iqbal, 47). For Iqbal this is a legitimate question and also a troubling one because:

> Serial change is obviously a mark of imperfection; and, if we confine ourselves to this view of change, the difficulty of reconciling Divine

> perfection with Divine life becomes insuperable… Change… in the sense of movement from an imperfect to a relatively perfect state, or vice versa, is obviously inapplicable to [the life of the Ultimate Ego] (Iqbal, 47).

Iqbal's insights into the characteristic of time as experienced by the appreciative self give him the tools to tackle this difficult problem. He has already noted that the efficient self experiences time in the form of serial change. A closer examination of conscious experience revealed the existence of the appreciative self where time is experienced as pure duration. Now Iqbal brings this discovery furnished by psychology to bear on the problem of the relationship of change to Divine Life:

> A deeper insight into our conscious experience shows that beneath the appearance of serial duration there is true duration. The Ultimate Ego exists in pure duration where change ceases to be a succession of varying attitudes, and reveals its true character as continuous creation, 'untouched by weariness' [(50:38)] and unseizable 'by slumber or sleep' [(2:255)] (Iqbal, 48).

Given the way Iqbal has stated the issue, not only is it possible to ascribe the characteristic of change to the Ultimate Ego, it becomes absolutely necessary. The Qur'an describes Allah as not only The Lifegiver but also as The Living. Modern biology leaves little room for doubt that change is the one characteristic to be found wherever there is life. Combining the Qur'anic and biological perspectives, we can say that practically speaking there is a direct correlation between life and change, consequently we have to ascribe the characteristic of Ultimate Change to the One Who is Most Alive. It is here that the significance of Iqbal's insight that in pure duration "change ceases to be a succession of varying attitudes and reveals its true character as continuous creation" comes to the fore. The Ultimate Ego obviously experiences change but change characteristic of pure duration manifested in continuous, conscious, and purposeful creative activity. For Iqbal this is a point of exceeding importance: "To conceive the Ultimate Ego as changeless in this sense of change is to conceive Him as utter inaction, a motiveless, stagnant neutrality, an absolute nothing" (Iqbal, 48). By stating the issue in these terms Iqbal is challenging the common assumption that perfection means immutability and immobility:

> To the Creative Self change cannot mean imperfection. The perfection of the Creative Self consists, not in a mechanistically conceived immobility, as Aristotle may have led Ibn Hazm to think. It consists in the vaster basis of His creative activity and in the infinite scope of His creative vision. God's life is self-revelation, not the pursuit of an ideal to be reached. The 'not-yet' of man does mean pursuit and may mean failure; the 'not-yet' of God means unfailing realization of the infinite creative possibilities of His being which retains its wholeness throughout the entire process (Iqbal, 48).

In his critique of the ontological argument, Iqbal has affected another subtle but profound shift in not only the explicit dualism at the surface of the argument but also the implicit dualism contained inside the argument. He has moved beyond the fruitless ideal vs. real debates–and which of the two is more real (or more ideal). The ultimate nature of being is neither some inert, immobile "real" (substance) possessing some eternally fixed, universal essence. Nor is it some abstract, immutable "ideal" (form) persisting in a disembodied, eternally unchanging domain. For Iqbal the ultimate nature of reality is an ego or a self. The defining characteristic of the ego is the ability to synthesize apparently irreconcilable dichotomies of matter/spirit, past/future, self/other, permanence/change, etc. In the context of the present discussion the most important point to note is that for Iqbal there is no problem in attributing the characteristic of change and dynamism to the ego. Iqbal is not in the least afraid to attribute the characteristic of change to the Ultimate Self because for him there is no direct relationship between perfection and permanence (or immutability) on the one hand and imperfection and change (or flux) on the other hand. By having identified two different types of "change," it becomes possible for Iqbal to attribute the characteristic of change to a Perfect Self. The way he has described change as it occurs in pure duration means that the more perfect a self is the more it is subject to change. The one activity that the most perfect self engages in incessantly is not abstract, immobile, contemplation of the unchanging, immutable self, but the concrete, continuous, untiring act of creation which is simultaneously an act of self-revelation. It is this act of self-revelation that brought into being all other selves, including the selves of matter, space, time, atoms, rocks, cells, plants, trees, insects, birds, animals, etc.– and the self that consciously investigates these other selves (i.e. the human self) in

order to understand the Ultimate Self of which all other selves are ultimately symbols. In sum, Iqbal's critique and reconstruction has transformed the ideal/real dualism at the heart of the ontological argument into a person-consciousness relationship.

At this point a note of caution may be in order because of a recurring theme in the discussion– Iqbal's critique of dualisms. Given his pointed and persistent critique of dualisms in all their various manifestations one might get the impression that he is a monist of some type. This is clearly not the case. It does not take an extremely attentive reading of *The Reconstruction* to note that while he rejects dualism of cause/effect, infinite/finite, permanence/change, etc. he does not reject the distinctions between the two elements in the pair. He explicitly recognizes that these distinctions are needed and valid (actually vital) in certain contexts and for certain purposes. On an even more basic level, Iqbal uses these distinctions in formulating some of his own key ideas. For example, he notes that the one feature that separates Muslim culture from classical Greek culture is that the highest ideal for the latter "was proportion, not infinity" (Iqbal, 105). In contrast in Muslim culture "we find both in the realms of pure intellect and religious psychology… the ideal revealed is the possession and enjoyment of the Infinite" (Iqbal, 105). Iqbal could not possibly make this distinction if he had wanted to get rid of the finite/infinite distinction altogether. Similarly, in the case of cause/effect, Iqbal notes that the difference between cause and effect is an indispensible distinction that human beings need to employ in their interaction with their natural environment. Human survival and flourishing in the seemingly chaotic and often unpredictable environment requires that they develop a conceptual system that provides them with "some kind of assurance as to the behaviour of things around [them]" (Iqbal, 86). This is done most efficiently by employing the concepts of cause/effect. Iqbal describes the uses and limits of the concept of cause/effect (and we may add also those of finite/infinite) in these words:

> The view of his environment as a system of cause and effect [or as the finite manifestation of an Infinite Creator] is thus an indispensible instrument of the ego, and not a final expression of the nature of Reality. Indeed in interpreting Nature in this way the ego understands and masters

its environment, and thereby acquires and amplifies its freedom (Iqbal, 86).

Maintaining the permanence/change distinction is also essential for Iqbal to express another one of his important insights. As he moves from the discussion of the spirit of Muslim culture to the principle of movement in Islam, Iqbal notes:

> The ultimate spiritual basis of all life, as conceived by Islam, is eternal and reveals itself in variety and change. A society based on such a conception of Reality must reconcile, in its life, the categories of permanence and change. It must possess eternal principles to regulate its collective life, for the eternal gives us a foothold in the world of perpetual change. (Iqbal, 117)

For Iqbal the health and dynamism of a given culture requires that an appropriate balance be maintained between commitment to permanent, eternal values and the willingness and ability to change in order to meet novel challenges and take advantage of novel opportunities. Iqbal notes that the stagnation of contemporary Muslim culture is the result of losing sight of the importance of change and dynamism, while the stagnation of modern Western culture is the result of disregard for eternal, permanent ideals. In short the distinctions of infinite/finite, cause/effect, change/permanence (as well as others) are essential if human beings are to master their physical environment, create a dynamic culture and acquire and amplify their freedom. These distinctions become debilitating when they are absolutized–thereby creating dualisms that divide reality into the irreconcilable opposites of thought and being.

We are in a position to present an integrated summary of Iqbal's position on the contribution that science can make to the reconstruction of religious thought in Islam. For Iqbal the most authentic type of religious faith rests on a "special type of inner experience" that makes it possible for the individual to organically "assimilate an alien universe" (Iqbal, xxi). While its beginning is intimacy with the physical universe, the ultimate goal of religious experience "according to the Prophet, consists in the 'creation of Divine attributes in man'" (Iqbal, 87). Since the universe is nothing other than the manifestation

of the "habits of Allah," combining the scientific study of experience with the teachings of the Qur'an offers the most reliable way of attaining a sound understanding of God's attributes. The Qur'anic-scientific interpretation of experience as it manifests itself in matter and space reveals that reality is not an inert, static thing but a dynamic system of inter-related events. The Qur'anic-scientific interpretation of time reveals that reality is not a sterile, repetitive mechanism but a generative phenomenon capable of creating new relationships. The Qur'anic-scientific interpretation of consciousness reveals that the ultimate nature of reality cannot be described as some immobile, immutable being but only as a consciously acting, ceaseless becoming. Since, from the Qur'anic perspective empirical reality reflects the attributes of the Ultimate Reality, Iqbal is able to offer the following description of Ultimate Reality based on a scientific understanding of empirical reality: God is not some impersonal, formless, immutable, inert force, He is a concretely unique, personal, purposefully acting, conscious Self. In summary form Iqbal's analysis has engendered the following transformations in the classical philosophical arguments for the existence of God:

- From cause/effect dualism to person-habit relationship
- From designer/designed dualism to person-purpose relationship
- From ideal/real dualism to person-consciousness relationship

Consequently, the following picture emerges of the characteristics and relationship between God, the world and the human being from Iqbal's scientific reconstruction of the philosophical argument for the existence of God:

- God– a concrete individual Self in whom life, purpose and intention interpenetrate
- The World– the manifestation of his creative action
- The Human Being– potentially God's co-worker in the future evolution of the world

The foregoing discussion demonstrates how science can help in purging religious thought of materialistic, mechanistic and reductionist concepts. By purging religious thought of these unscientific concepts, religious thought

gains the ability to rationally explicate the existence of a conscious, willing and living Unique God– the God who spoke to Adam, Noah, Abraham, Moses, Jesus and finally to Muhammad (may Allah's peace and blessings be upon them all)– a God who can still personally speak (albeit in a different way) to a believer possessing "concrete habits of thought" and living in modern, scientific culture.

Religion and the Reconstruction of Scientific Thought

Thus far the discussion has focused on how Iqbal uses the findings of science to reconstruct religious thought in Islam. As noted in the introduction Iqbal's basic task is to "reconstruct Muslim religious philosophy" in a way that meets the "demand for a scientific form of religious knowledge" which makes sense to moderns whose thinking is shaped by "a concrete type of mind". But when we read Iqbal's work closely it becomes obvious that in the text called the "reconstruction of religious thought in Islam" there is a subtext that could be called the "reconstruction of scientific thought in the West". A brief foray into this area of Iqbal's thought is called for on two accounts. Firstly, Iqbal was not just a Muslim, he was a Muslim of the modern world. Consequently, his concerns cannot be limited to just healing the ruptures in Islamic thought, they extend to healing the ruptures of modern thought as well. Secondly, from the perspective of the modern university, it is Iqbal's effort to reconstruct scientific thought that makes him more immediately relevant to it. Leaving aside the issue of the historical origins of the university, in modern times the university is the temple of science–a temple riven with controversies, debates, and conflicts. The crisis in the university manifests itself in culture at large in the form of crises of meaning, significance and community that have been amply commented upon and documented by notable social scientists and humanists since at least the middle of the 19th century. Iqbal sees the root cause of the various crises in culture at large to be a macro-level projection of crises within science itself. In the previous section we described how Iqbal uses science to help religion recognize and redress the debilitating effects of materialism, mechanism and reduction on religious thought. In the present section we will see how Iqbal uses religion to help science recognize and redress the debilitating effects of materialism, mechanism and reductionism on contemporary scientific thought. There are three particular points on which religion can help science: a) replace the fragmentary character of scientific

knowledge with a relational self-understanding, b) overcome the naïve and unreflective character of scientific inquiry and give it purposeful direction, and c) show science to be a meaningful and enriching cultural activity. In short, religion can help science move from a fragmentary, naïve, and meaningless understanding of the self (that is science) and the other that science investigates (the cosmos) to relational, purposefully self-conscious and meaningful understanding of the scientific self and the natural cosmos.

Iqbal notes that there can be no denying the fact there has been an exponential increase in our knowledge of reality in the age of science– but this has come at a price:

> There is no doubt that the theories of science constitute trustworthy knowledge because they are verifiable and enable us to predict and control the events of Nature. But we must not forget that what we call science is not a single systematic view of Reality. It is a mass of sectional views of Reality– fragments of a total experience which do not seem to fit together (Iqbal, 33).

It is difficult to contest Iqbal's observation that while scientific theories and explanations have proven to be valuable in certain respects, their proliferation has created an apparently inexplicable enigma. Each of the different theories work superlatively well when viewed in isolation but at the same time it is practically impossible to establish any coherent relationship between these theories– this is more so the case today than it was in Iqbal's own day. Not only is it the case that the theories within the sciences, social sciences and humanities are mutually irreconcilable. It is further the case that within the sciences there is no coherent account linking physics, biology and psychology. If we look closer we discover that within any one of the particular sciences, specialization and fragmentation has penetrated so deeply that a coherent account of physics or biology or psychology is not readily available. For example while Newtonian, Relativity and Quantum physics work fine in isolation from each other, the moment we start looking for a unified account of the different branches of physics we run up against significant difficulties. It is not just the case that the sciences have given us nothing more than a sectional view of Reality, it is also the case that they have proven incapable of giving us nothing more than a sectional view of

themselves. The following observation by Iqbal points to the root cause of the impasse:

> Natural Science deals with matter, with life, and with mind; but the moment you ask the question how matter, life and mind are mutually related, you begin to see the sectional character of the various sciences that deal with them and the inability of these sciences taken singly, to furnish a complete answer to your question… Nature as the subject of science is a highly artificial affair, and this artificiality is the result of that selective process to which science must subject [Nature] in the interests of precision (Iqbal, 34).

Physics can give a detailed and precise account of matter, biology of life and psychology of mind but none of the three (either separately or taken together) can give a coherent account of how matter, life and mind are related to each other. In short, the "sectional view of Nature" has meant rending asunder the inner relationship within science itself.

If the matter is laid to rest here we are left with the conclusion that reality is composed of mutually isolated, conflicting and ultimately irreconcilable elements. The sectional view of Nature provided by the different sciences leads to this conclusion. But Iqbal asks us to look at the subject matter of science (i.e. Nature) from a different perspective: "The moment you put the subject of science in the total of human experience it begins to disclose a different character" (Iqbal, 34). For Iqbal, human experience provides the most compelling evidence for the fact that reality is not divided into mutually conflicting, irreconcilable elements– but this can only be appreciated when one notices that empirical reality is not composed of space, time and causality alone; life, will, and consciousness are also a part of empirical reality. It is obvious that a particular science must be selective in choosing its subject matter (i.e. physics chooses matter and leaves aside life). But it would be utter foolishness to claim that "matter" is all that exists in the universe when it is something more than "mere matter" that is actually carrying out the scientific inquiry– i.e. a purposefully living human being who has consciously decided that scientific study of matter is a meaningful activity. Iqbal notes:

> Science must necessarily select for study certain specific aspects of Reality only and exclude others. It is pure dogmatism on the part of science to claim that the aspects of Reality selected by it are the only aspects to be studied. No doubt man has a spatial aspect; but this is not the only aspect of man. There are other aspects of man, such as evaluation, the unitary character of purposive experience, and the pursuit of truth which science must necessarily exclude from its study, and the understanding of which requires categories other than those employed by science (Iqbal, 90ff.)

In other words, all appearances to the contrary, matter, space, and time are parts of a larger whole– a whole which also includes purpose, will, and consciousness. It is only with reference to the latter that the sharp differences between physics, biology and psychology are harmonized into mutually enriching relations.

Iqbal goes on to note that given the character and function of science, we should not expect anything more than a sectional view of reality from science: "Natural Science is by nature sectional; it cannot, if it is true to its own nature and function, set up its theory as a complete view of Reality" (Iqbal, 34). At this juncture the limitations of science stand in front of us in very stark terms. And it is here that science must turn to religion in order to overcome its limitations. Iqbal notes that it is religion "which demands the whole of Reality and for this reason must occupy a central place in any synthesis of the data of human experience" (Iqbal, 34). Should science desire to overcome its limits and take part in a larger project that provides a comprehensive account of reality, it must come into conversation with religion. Iqbal notes that it is religion (more specifically monotheistic religion), and not science or philosophy, which makes the explicit claim that every type of experience that human beings have discovered (material, biological, psychological, etc.) is nothing more than the manifestation of the habits of One Reality. When science opens itself to the religious perspective– the search for wholeness– then its sectional view of itself is replaced by a relational view. Physics, biology, and psychology (taking the most basic level) reveal themselves to be intimately related modes of inquiry making their own uniquely valuable contribution to the painting of a holistic picture of reality.

When the naïve and unreflective sectional understanding of the character of scientific inquiry is replaced with a self-conscious and self-critical (shall we say "scientific") relational understanding the essential first step has been taken in overcoming the fragmentary character of scientific knowledge. In more specific terms Iqbal offers a concrete proposal that will lead to a holistic, self-conscious and self-critical account of scientific inquiry. He explicitly identifies Whiteheads' process physics (Iqbal, 106), Emergent Evolution and Configuration Psychology (Iqbal, 86) as offering the most promising possibility for integrating physics, biology and psychology and producing a holistic philosophy of science. At the conclusion of his discussion which ends with the observation that from the Qur'anic point of view Nature is nothing more than the "habit of Allah," Iqbal makes the observation that this view has the potential of investing science with new meaning and significance:

> Thus the view we have taken gives a fresh spiritual meaning to physical science. The knowledge of Nature is the knowledge of God's behaviour. In our observation of Nature we are virtually seeking a kind of intimacy with the Absolute Ego; and this is only another form of worship (Iqbal, 45).

A careful reading of this point shows Iqbal drawing attention to the fact that science must recognize the prayerful character of its activity for its own well being. The inability of science to recognize its relationship with religion is a sign (maybe even the cause) of its inability to see its own inner relationships. Earlier we noted how the modern university is a conglomeration of different groups of people speaking mutually incomprehensible languages. The irony is that all of these groups present themselves to the world as the representatives of science. Iqbal's insights reveal that the materialist conception of matter, the mechanistic conception of life and the reductionist conception of mind have proven to be not just an obstacle to science's interaction with religion. They have led to fragmentation, naïvete, and meaninglessness within the sciences themselves. This inner conflict manifests itself not only in the form of sundering the inner relationship between physics, biology and psychology but also the

relationship of these sciences with the cultural being (i.e. the scientist) whose life choices, hopes, fears, aspirations, etc. make science possible.

It is interesting to note that this comprehensive proposal to help the sciences recognize their inner relationships and the meaningfulness of scientific inquiry is contained in a book titled the "reconstruction of religious thought in Islam". Iqbal's reconstruction of scientific thought in the modern world shows science to be a meaningful and conscientious undertaking that has inner coherence, while at the same time it is related to other cultural spheres/activities. In sum, Iqbal's understanding of the relationship between religion and science leads to the following conclusion: If religion aspires to attract seekers whose religious faith is based on personal experience (rather than tradition, culture and dogma), religion will have to open itself to science. If science aspires to give a coherent and holistic account of experience (rather than partial and mutually irreconcilable accounts) science will have to open itself to religion. It is only in the aftermath of this mutual opening up that the task of repairing the ruptures in the modern religious community, the modern university and modern culture can begin. The following observation by Iqbal is an apt way to end our investigation of his "reconstruction of religious thought in Islam" and our need for the "reconstruction of scientific thought in the West":

> The quest after a nameless nothing, as disclosed in Neo-Platonic mysticism– be it Christian or Muslim– cannot satisfy the modern mind which, with its habits of concrete thinking, demands a concrete living experience of God. And the history of the race shows that the attitude of the mind embodied in the act of worship is a condition for such an experience. In fact, prayer must be regarded as a necessary complement to the intellectual activity of the observer of Nature. The scientific observation of Nature keeps us in close contact with the behaviour of Reality, and thus sharpens our inner perception for a deeper vision of it… The truth is that all search for knowledge is essentially a form of prayer (Iqbal, 72ff.).