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Islamic Thought on the Existence of God: Contributions and contrasts with Contemporary Western Philosophy of Religion

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Foreword

Cafer S. Yaran

Until recently, not only atheistic philosophers, but also contemporary religious thinkers have been willing to accept that, since the criticisms of Hume and Kant, and science since Darwin's theory of evolution, philosophy has demonstrated that the traditional arguments for the existence of God have no force.

Of late however, there has been considerably more interest in the arguments for the existence of God. Together with the argument from religious experience, particularly the teleological and cosmological arguments seem to have had a revival. This may be due in part to the scientific support coming form the fine tuning of the universe, the Anthropic Principle, and the Big Bang theory. Moreover, there has been also a more theistic and traditionalist turn in the philosophy of religion. As Kai Nielson expresses regretfully, "The philosophy of religion in Anglo-American context has taken a curious turn in the past decade. . . . What has come to the forefront . . . is a group of Christian philosophers of a philosophically analytical persuasion, but hostile to even the residues of logical empiricism or Wittgensteinianism, who return to the old topics and the old theses of traditional Christian philosophy and natural theology" (1989, 7-8).

Throughout history, the natural theology of the major theistic religions such as Judaism, Christianity and Islam has advanced and used more or less the same arguments for the existence of essentially the same God. Correspondingly, with similar counter-arguments, the atheists in each theistic tradition have objected and rejected the existence of this God. In theistic religions, the teleological and cosmological arguments accompanied by religious experience and commitment to the revelation have often been the major arguments used for proving or supporting the existence of God; while the problem of evil has been the main objection against the existence of God. It has been recognized recently, particularly thanks to the works of William Lane Craig, that most of the arguments used in the Christian tradition for the existence of God have a medieval origin in Islamic theology and philosophy. On the other hand, modern arguments for the existence of God, including the *Kalam* cosmological argument, have recently been reformulated and skilfully defended by Christian theologians and philosophers. Ironically, contemporary Muslim scholars have not shown much interest in developing these arguments, and have rarely produced philosophical books dealing independently with them for the Muslim or non-Muslim intellectual world.

It is the intent of this philosophical exploration of the major Islamic arguments for the existence of God worked out in relation to contemporary Western philosophy of religion, to provide an overall vision of the arguments of the theistic traditions. Hopefully, this may contribute to a stronger cumulative case for belief in the existence of God, which is the most common ground among the three Abrahamic traditions.

I could not manage to write this work without help from others. I am especially grateful to Professor Paul Badham of the University of Wales, Lampeter, for his guidance on earlier drafts of a manuscript on the argument from design. I wish to thank Professor George F. McLean for his reading the manuscript and making very valuable suggestions to improve it. I would like to thank Dr. Burhanettin Tatar, Dr. Mawil Izzi Dien, Dr. Gary Bunt, Dr. Wendy Dossett, Dr. James Robinson, Dr. Muhsin Akbaş, Dr. İsmail Hacınebioğlu, Dr. Metin Yasa and Mr Hasan Atsız for their

various helps. My final thanks go to my wife, Mine, and my children, Feyza and Cüneyt, for their constant moral support.

Preface

George F. McLean

This work on the Islamic approaches to the existence of God by Professor Cafer S. Yaran is of special moment for our times.

This is so in part because it studies in detail the recent developments in the sciences and draws upon the philosophy of religion in Western thought. It codifies the great advances which have been made in recent decades in the life sciences and especially in physical sciences both at the macro, even galactic, level and at the micro level. It brings all this to bear on the Islamic arguments for the existence of God, especially its teleological argument. The result is a true revival and renewal of the Islamic sciences of religion -- to paraphrase al-Ghazali's famous work. This in itself is a major accomplishment.

Yet, while enriching the Islamic teleological proofs by the ever increasing data from the physical science, the author does not reduce the force of the arguments thereto. As metaphysical the issue is not quantitative; any instance of teleology no matter how slight directs the mind to the fundamental source of order and of ordering. While the intricacies of the universe Professor Yaran marshals overwhelm the mind with the beauty and splender of their order, everything that is good, including the movement of a little finger or the smile on a child's face, reflects divine power and love. This has been the transforming insight of all the great religions. God is not an hypothesis, but the apodictic basis for hope, meaning and commitment of over one billion Moslems with a tradition of well over a millennium. It inspires a great civilization with deep concern for social equality and the poor; it transforms giving a cup of water into a truly religious act.

But in our times this work takes on very special significance. When Thomas Aquinas began his great summary of theology his first step, after examining the nature of theology as a science, was to articulate his classical five ways or arguments to the existence of God. They were not responses to a question about a God who might or might not exist – that would be no God at all. Thomas' purpose was to open pathways for the human mind from man to God: to "bind back" (the etymology of the term "religion" as *re-ligatio*) man to God. Similarly, the Hindu *Vedanta Sutras* begins by describing the Brahman as that from which, in which, and into which all is.

For our day this has become the central issue. The Enlightenment attempted to separate religion from daily life, the sacred from the profane, and Church from state. It proposed a secular fundamentalism or man-without-God, which Islam has always rejected. A contrasting religious fundamentalism would focus on God-without-man. The tragic drama of our days consists in the conflict of these two fundamentalisms.

The importance of this work by Cafer Yaran lies precisely here. For it bridges the vast and perilous gulf between these two fundamentalisms reopening the path from man to God and refounding religion as this search for God -- the infinite, the compassionate and the merciful.

This is the desperately needed contribution of this work on Islamic thought on the existence of God, namely, to bridge between man and God -- and thereby between man and man in these times of great confusion and deep peril.

Introduction

Belief in God in Islamic Thought

Belief, or rather faith, in God is the first, most essential and central conviction in Islam, as it is in most of the other great world faiths. This is so also in the other theistic and originally Middle Eastern religions, Judaism and Christianity. The first thing a Muslim is required to believe is the existence and unity of God. Muslim theologians usually count the essential principles of faith as six; which they recognize can be reduced to three, namely, faith in God, in the prophethood, and in the Day of Judgement. They acknowledge that, with a second reduction, the last three, too, can be reduced to faith in the existence of God, which comprises all other principles (see, Golcuk 1991, 20; Hamidullah 1980, ch. IV).

One can look at the description of God first in the Qur'an, and then in Islamic thought. The Scriptures revealed to earlier prophets, especially those of the Christians and the Jews, are regarded by the Muslims as holy. Yet the Book, al-Qur'an, revealed to the Prophet Muhammad, is the Muslims' chief sacred Book. Naturally, there are many verses in the Qur'an about the existence and attributes of God; and it is not easy to select from them without risk of causing some misconceptions or particularization. Nevertheless, it may be useful to make some direct quotes from the main source - a short chapter from the very beginning of the Qur'an, a few verses from the middles, and a very short chapter from close to the end. In the first chapter, one can see those verses describing some attributes of God and some aspects of the relationship between God and the human beings succinctly: "Praise be to Allah, the Cherisher and Sustainer of the Worlds: Most Gracious, Most Merciful; Master of the Day of Judgement. Thee do we worship, and Thine aid we seek. Show us the straight way, the way of those on whom Thou has bestowed Thy Grace, those whose (portion) is not wrath. And who go not astray" (The Holy Qur'an, 1: 2-4). A verse in the middle of the Qur'an uses similitudes from our experience "in order that we may apprehend what we cannot comprehend" (Sharif 1963, 137). According to this verse, "Allah is the light of the heavens and the earth. The parable of His Light is as if there were a Niche and within it a Lamp: The Lamp enclosed in Glass: The glass as it were a brilliant star: Lit from a blessed Tree, an Olive, neither of the East nor of the West, Whose Oil is well-nigh luminous, though fire scarce touched it: Light upon Light! Allah doth guide whom He will to His Light. Allah doth set forth Parables for men: and Allah doth know all things" (24:35). Allah is not only "Light" but also Love as those verses imply: "It is He Who Creates from the very beginning, and He can restore (life). And He is the Oft-Forgiving, Full of loving-kindness" (85: 13-14). Towards the end of the Book, there is a well-known short chapter giving a summary of the basic attributes and strictly monotheistic features of the Islamic concept of God: "Say: He is Allah, the One; Allah, the Eternal, Absolute; He begetteth not, nor is He begotten; And there is none like unto Him" (112: 1-4).

God, as described by the Qur'an for the understanding of human beings, is the sole self-subsisting, all-pervading, eternal, and Absolute Reality. He is the first and the last, the seen and the unseen. He is transcendent in the sense that in His full glory He cannot be known or experienced by us finite beings. He is transcendent also because He is beyond the limitations of time, space, and sense-content. He was before time, space, and the world of sense came into existence. He is also immanent both in

human souls (*anfus*) and in the spatio-temporal order (*āfāq*). The attributes of God are many and can be discovered in His names, but they can be summarized for the purpose of study under a few essential heads: Life, Eternity, Unity, Power, Truth, Beauty, Justice, Love, and Goodness. "God is, thus, a living, self-subsisting, eternal, and absolutely free creative reality which is one, all-powerful, all-knowing, all-beauty, most just, most loving, and all good" (Sharif 1963, 137-38; cf., Hamidullah 1980, 54, 63).

In the eyes of a non-Muslim scholar, three great themes concerning God in the Qur'an seem to predominate, provided they are taken as a whole. 1. *God of creation, judgement and retribution*. He is 'creator of all things'. He is the absolute originator. He is the bestower of all good, the supreme judge and 'the justest judge'. 2. *God, Unique and One in Himself*. The particular attribute of His godhead, in which the faith of Islam was to have its focus, is first stated as an answer to man's errors and impieties: God the One. 3, *God omnipotent and merciful*. The twofold aspect of the mystery of God in relation to His creation: Lord of the worlds in His unquestioned omnipotence and His forgiving benevolence, is found in all parts of the Qur'an (Gardet 1960, 407).

The traditional Islamic science which deals with divine matters is the *ilm al-kalam*, roughly theology. One commonly held view in *Kalam* presents the following list concerning the attributes of God: eternity, permanence, dissimilarity to the created, self-subsistence, oneness, power, will, knowledge, life, creation, speech, hearing, and sight (Gardet 1960, 411; Golcuk 1991, 196-211). In a form of prayer, al-Ghazali (d. 1111), a theologian, mystic and philosopher, describes God briefly as follows:

> Praise be to God, the Creator, the First, the Last, the Doer of whatever He wills, who guides His servants towards the true path, who makes Himself known to men that He exists by Himself without any partner, He is single without any associate, the Eternal without any before Him and without any beginning, the Everlasting without any end. He is the first, the Last, the External and the Internal, the all-knowing (1982, 119, see for the details 118-141).

To put it in contemporary Western philosophical terminology, one can say that "The major theistic religions (Judaism, Christianity, and Islam) basically share" the view of God known as *theism*. Theists accept and argue that "there exists a supreme spiritual Being, transcendent from the world, who is omnipotent, omniscient, and perfectly good" (Peterson 1991, xii). In the definition of Richard Swinburne, "The God whom theists (Christian, Jewish, and Islamic among others) claim to exist" is a being who is "everlastingly omnipotent, omniscient, and perfectly free, . . . he is everlastingly bodiless, omnipresent, creator and sustainer of the universe, perfectly good, and a source of moral obligation" (1996, 18-19; see for details on the concepts of God in Islam and Christianity, Ullah 1984, Raschid 1981, Zwemer 1987, Owen 1971, Ward 1974 and 1993).

It seems that, apart from the verses, one of the best definitions or descriptions of the Qur'anic, Islamic, and also theistic concept of God, which will be dealt with in the following pages, is the one made by M.M. Sharif, already mentioned: "God is, thus, a living, self-subsisting, eternal, and absolutely free creative reality which is one, all-powerful, all-knowing, all-beauty, most just, most loving, and all good" (Sharif 1963,

137-38). This definition is neither anthropomorphic nor agnostic; it gives a limited but also a sufficient idea about God.

For Muslims, the Qur'an shows explicitly or implicitly the ways of arriving at a strong belief concerning God's existence as well as His attributes mentioned above. Through the prophets, God is continually revealing to human beings the unexpressed mystery of His ineffability, in which a person is asked to believe, His explicit sovereignty over all creation, and the transcendental perfections by which it is made known. In the first place, human beings must be able to recognize the "signs of the universe", which are "signs of God". So wonderful indeed are the "unfailing" order and harmony of the world, that people are in danger of worshipping them. But they must recognize that there is nothing imperishable in this order and harmony. As happened to the prophet Ibrahim (Abraham); man's reason, guided by God, must grasp, in the perishable and the mutable, the incontrovertible evidence for the necessary and transcendent existence of the Creator. "To reflect", "to reason about the signs of the universe", is therefore a religious duty for man's reason, imposed on it by the Qur'an (see ii, 118, 164; iii, 190; vi, 99; xiii, 2-3; xxiv, 43-54, etc.) (Gardet 1960, 407-408; see also Ibn Rushd 1961, 44-45). Reflecting upon the signs of the universe is one of the ways the Qur'an shows or sheds light. In one sense, the main body of the present work will be concerned with this way of signs, evidences and arguments for the existence of God.

The Role of Arguments in Belief in God

The systematic examination of the arguments for the existence of God should be preceded by a legitimate enquiry: Is the demonstration of God's existence possible and desirable at all? (Fakhry 1957, 133). In other words, what role (if any) should reason, knowledge, or arguments play in the validation (or invalidation) of religious belief-systems? Is it true that having faith depends (or should depend) at all on having good reasons to believe that one's faith is true? (Peterson 1991, 33). Does one need to be able to provide arguments to be intellectually respectable in believing that God exists? (Meeker 2002, 7)

There are three main positions and answers to the questions above which result from a contemporary analysis of the issue in the philosophy of religion. The first answer is that of *strong rationalism*, which holds that in order for a religious belief system to be properly and rationally accepted, it must be possible to prove that the belief system is true. The word *prove* here means to show that a belief is true in a way that should be convincing to any reasonable person. The second answer is that of *fideism*. It can be defined as the view that religious belief systems are not subject to rational evaluation. To say, for instance, that we have faith that God exists and that he loves us is to say that we accept this in a way that does not depend on any evidence or reasoning, and that we refuse to have anything to do with trying to prove or disprove God's love for us. The third answer is that of *critical rationalism*, which is defined as the view that religious belief systems can and must be rationally criticized and evaluated, although conclusive proof of such a system is impossible (Peterson 1991, pp.34,37,41; Cf. Abraham 1985, chs. 7-10).

Supposing that these three main positions could be considered as representative ways of religious epistemology for any great religious tradition, one can speak within these categorizations and can say that the position of mainstream Islamic thought and of major schools of Islamic theology is that of critical or soft rationalism accompanied and surpassed by religious experience and commitment to the revelation.

Indeed, according to Islamic theology, faith (*imān*) is simply defined as *tasdiq*. "*Tasdiq* is to recognize a truth, to appropriate it, to affirm it, to confirm it, to actualize it. And the truth, in each case, is personalist, and sincere" (Smith 1979, 106). Faith in its typically Islamic form has a distinctively close relationship with knowledge. For Muslims, "faith is on the other side of knowledge, not on the side of it" (*Ibid*., 108). This does not mean, however, that faith is considered as just knowledge. Faith "is not merely knowledge; it includes knowledge, but is something else as well. That something additional, the men of *kalam* came to agree, is *tasdiq*" (*Ibid.*, 109). Faith is *tasdiq* based on knowledge, not on the 'the leap of faith'. "The difference, then, between knowledge and *tasdiq* lies in the sincerity and in the operationalist addenda denoted by the latter term. Knowledge is the perception of a truth outside oneself*; tasdiq* is the personal appropriation of that perception. It is the inner reordering of oneself so as to act in terms of it; the interiorization and implementation of the truth in dynamic sincerity. *Tasdiq* means not simply 'to believe' a proposition, but rather to recognize a truth and to existentialize it" (*Ibid*., 110).

Having said this in general, we can also mention very briefly some schools or approaches in the history of Islamic thought that could be considered to represent each of these three positions.

One of the basic questions discussed in Islamic theology concerned by what a man know God. The answer the Mu'tazilites gave was quite simple: by Reason (*'aql*). They had their own peculiar conception of faith (*iman*) as essentially identified with 'knowledge,' here they proved to be perfect rationalists. 'Knowledge by Reason' meant knowledge acquired by reasoning and deduction (*istidlal*), knowledge based on logical argument (Izutsu 1980, 109). So the position of the Mutazilites was a kind of strong religious rationalism. The philosophies of such Islamic thinkers as al-Farabi, Ibn Sina (Avicenna) and Ibn Rushd (Averroes) may be considered as the examples of strong rationalism. For them "reason could be of great assistance in this effort to discover the religious meaning of life and to order all life in that light. Indeed, their great works illustrate this point so well that no external certification of their significance need be added to that which shines from within" (McLean 2001, 52).

The early jurists and theologians, such as Malik b. Anas and his followers were content with a theological knowledge rooted in Scripture. Like the Sufis, who believed that God could be apprehended directly, these traditionalists sought the ground of their belief in God in a non-rational sphere: that of revelation or authority. Thus neither for Traditionalism nor for Sufism was a proof of the existence of God necessary at all, since the existence of God was given directly either in Scripture, according to the former, or in the mystical process of direct apprehension, according to the latter (Fahkry 1957, 135). Thus, it might be said that the position of early traditionalists was somewhat similar to fideism, even if not exactly the same as defined above.

The two main Islamic schools of theology, the Ash'arites and the Maturidites, may be considered to adopt the soft, rationalistic middle way. According to al-Ghazali, a leading Ash'arite, even the faith based on authority becomes perfect gradually with rational and experiential evidences. He writes as follows:

> What has been said about belief is applicable to a boy in his early years in order that he may commit them to memory. Its meaning will be gradually unfolded to him. The first duty of a boy is to commit them to memory, then to understand them and then to believe them and then to know them as certain and sure. It comes to his mind as a matter of

> course without proof. The root of faith of the ordinary people is *Taqlid* or blind belief on authority. True it is that the belief which is based on authority is not free from some weakness, but when it is certain and sure, it becomes perfect (1982, 123).

A far more consistent rationalistic theory of faith (*iman*) was elaborated by the Maturidites. The real question considered is whether knowledge of God becomes incumbent upon man as soon as he acquires a mature capacity for reasoning; or whether it becomes incumbent upon him only after an Apostle has been sent to his community to inform it of all that is necessary for man to know. The Maturidites in general choose the first alternative, and the Ash'arites the second. According to the Maturidites, the obligatory nature of knowledge of God is based on Reason. That is to say, man must know God with his Reason even when there has been no Revelation. Evidently, Reason (*'aql*) is the most important keyword here. The emphasis put by the Maturidites on Reason, however, should not be taken to mean that, in the view of the Maturidites, the Divine Law is of no use once we have Reason. Reason is capable of comprehending its objects only in a broad and general way. The Apostles are sent to make concrete and particular what Reason has already grasped in a general way; they disclose the special details of it (see for the details, Izutsu 1980, 109-115).

For T. Izutsu

> It is really remarkable that even in the Hanafite school of theology which . . . emphasizes so much the importance of 'knowledge', no less a theologian than Maturidi himself takes the position that *iman* should be understood in terms of 'assent', not 'knowledge' (Izutsu, Ibid., 135). This does not mean, however, that 'knowledge' has nothing at all to do with *iman.* The two are intimately connected with each other, and the relation between them is causal. In brief, according to Maturidi, *iman* may actually be caused by 'knowledge', but the latter is far from constituting the essence of *iman*; *iman* is rather an 'assent' which is of such a nature that the man who has it feels in himself a profound contentment (*tuma'ninah*) arising from the unshakeable conviction (Izutsu, Ibid., 136).

The most important of all duties is in Maturidism the duty of reflection and reasoning for obtaining 'knowledge' of God. The first and absolute duty is to reflect upon created things, heaven and earth, human beings and living beings, and to infer from them the existence of the One who has created them. But exercising reflection (*nazar*) and reasoning (*istidlal*) does not necessarily require passing through a process of reasoning in which logical syllogisms must be employed in their technical forms. The person is just expected to reflect upon the creations, the 'signs' (*āyāt*) of God in the world, and infer from them, by exercising his Reason, the existence of God. (Cf. Izutsu, Ibid., 116-17).

As a result, one can say with Ismail Raji al-Faruqi, a contemporary Muslim thinker, that "rationalism is constitutive of Islamic civilization. It consists of three rules or laws: first, rejection of all that does not correspond with reality; second, denial of ultimate contradictories; third, openness to new and/or contrary evidence." However, "Rationalism does not mean the priority of reason over revelation but the rejection of any ultimate contradiction between them" (1986, 77, 79). In other words, Islamic rationalism is a soft or critical rationalism in the sense of being between

strong rationalism and radical fideism. It may also be called reasonableness (see Doan 2001, 3). For "the triumphs of rationalism in the 20th century have been characterized by an oppressive totalitarianism and a deadening consumerism. These deficiencies of rationalism call for al-Ghazali's clear proclamation of the distinctive character of the spirit, and of the Way which leads thereto" (McLean 2001, 55). In sum, faith in Islam is more than rational and experiential evidences; nevertheless it should be based on reliable and reasonable grounds, whether it be some sort of rational arguments such as the teleological or cosmological argument or an argument from religious experience, which we shall begin with.

Thus this work proceeds in three steps or parts. The first is preliminary but of emerging experience, namely, religious experience. The other two parts are concern the more classical artugments, namely, teological as Part II and cosmomlogical as Part III. Reference to the ontological argument is a section of this last part.

Part One

The Argument from Religious Experience

Chapter I
The Argument from Religious Experience

Although the essence of the conception of God is more or less the same in Islam or in any other religion in itself, the detail of "the conception of God differs according to individuals: a philosopher does not envisage it in the same manner as a man in the street. The Prophet Muhammad admired the fervour of the faith of simple folk, and often gave the example of 'the faith of old women,' that is, unshakable and full of sincere conviction (Hamidullah 1980, 64). The same situation is valid for the arguments for the existence of God as well. The essential theistic arguments in philosophy or theology books are not more than four or five basic categories such as the ontological argument, cosmological argument, teleological argument, argument from religious experience, etc. But the validity and value of any argument differ according to individuals: some people find all of them valuable, some people need none of them, and some other people give great value to some of them while rejecting the others completely. For example one can enjoy the argument from religious experience but dislike the ontological argument, or vice versa. This is quite normal and also quite good when the different human personalities and their various intellectual capacities are taken into consideration. Sometimes the philosophical and scientific developments can also affect the popularity of any argument in a positive or negative direction as in the case of the teleological argument in the eighteenth and nineteenth centuries and in the case of the argument from religious experience recently. For these reasons, there is not a standard order in which to take up the arguments in the related books. In this case, we prefer to start from bottom upward, from near to far, from practical to theoretical, from concrete to abstract, from physical to metaphysical, from experiential to conceptual, that is to say, from the religious experience, through the teleological and cosmological arguments, to the ontological argument.

As Mohammad Iqbal points out "the treatment of religious experience, as a source of Divine knowledge, is historically prior to the treatment of other regions of human experience for the same purpose" (1988, 15). Nevertheless, although there has always been religious and mystical experience in all the great religions of the world, the history of 'the argument from religious experience' is relatively new even in the Western thought. In the course of the eighteenth century the more rationalistic arguments received formidable criticisms from Hume and Kant. At the end, Kant himself turned to "inner" experience, to our awareness of the moral law, and argued that the moral life is intelligible only if we postulate God and immortality. Many other writers, while accepting the shift from outer to inner, based their inference on a distinctive class of religious experience. If we describe this shift, in general terms, as a move from objective to subjective, from surveying the world at large for evidences of God to focusing attention on the personal and existential, it clearly was a shift of the greatest moment and one that still helps to determine our contemporary climate of theological thought. The most important figure here is Friedrich Schleiermacher (d. 1834), with his bold insistence on the primacy of religious feeling (Hepburn 1967, 164; see also, Badham 1998, 126). The term "religious experience", however, was made popular in the West by William James in his *Varieties of Religious Experience* of 1902, where he defines religion as "the feelings, acts and experiences of individual men in their solitude, so far as they apprehend themselves to stand in relation to whatever they may consider the divine" (1902, 31). The key to the distinctiveness of

religious experience lies for James in the phrase "to stand in relation to . . . the divine" (Martin 1987, 247). This whole approach to theology from religious experience was fiercely attacked by the rise of dominance of Barthian Neo-orthodoxy in the mid-twentieth-century. Now, however, religious experiencing has come very much back to the centre of the theological scene, in particular, of contemporary philosophy of religion (Badham 1998, 127-28). We now have fairly convincing evidence that it is widespread and that, in a word, it is normal (Hay 1990, *i*, 10).

Evidence: Experience of the Presence and Activity of God

Before coming to the Islamic presentation of the topic, one must also explore what, more exactly, religious experience is, or, to put it in another way, the sort of experience to which this term refers as evidence. "An *experience* is an event that one lives through (either as a participant or an observer) and about which one is conscious or aware. . . . *Religious experiences* are held to differ from ordinary experiences in that what is experienced is taken by the person to be some supernatural being or presence (God, either in himself or as manifest in some action), a being related to God (a manifestation of God or personage such as the Virgin Mary), or some indescribable Ultimate Reality (such as the non-dual Absolute [Brahman] or Nirvana)" (Peterson 1991, 14; Cf. Goring 1992, 436).

Religious experiences are diverse. Richard Swinburne suggests five types of religious experience, classified according to how the experiences come about. Experience of God or Ultimate Reality mediated through (1) a common, public, sensory object, or (2) an unusual, public, sensory object, or (3) a private object that can be described in normal sensory language, or (4) a private object that cannot be described in normal sensory language, or (5) experience of God or Ultimate Reality that is not mediated by any sensory object (Swinburne 1979, 249-52; Cf. Davis 1989, Ch. II; Hay 1990, Ch. 4). Three possibilities have been suggested about the nature of a religious experience. According to Friedrich Schleiermacher, Rudolf Otto, and William James, religious experience is "a feeling, or better, a complex of feelings" such as that of dependence, or of religious dread (awe), or of longing for the transcendent being that fascinates us. For William Alston, religious experience is a type of perception. It has the same structure as sense perception. And, according to defenders of a third view, a religious experience is "an experience the person who has it *takes* as religious. To take an experience as religious means that experiencers believe that a naturalistic explanation of the experience is insufficient, and that it can be explained only in terms of religious doctrines" (Peterson 1991, 16-21). R. Swinburne uses the term "in the sense of experiences apparently of God - experiences which seem to the subject to be experiences of God" (1996, 130).

Arguments from religious experience show remarkable diversity, (*a*) in the sorts of experience taken as data for the argument, (*b*) in the structure of the inference itself, and (*c*) in the alleged conclusion. The following exemplify just three versions of the argument: (1) "At very different times and places great numbers of men have claimed to experience God; it would be unreasonable to suppose that they must all have been deluded." (2) "The real argument to God is the individual believer's sense of God's presence, the awareness of God's will in tension and conflict with his own will, the peace that follows the acceptance of God's command." (3) "Experiences of meeting God are self-authenticating: they involve no precarious chain of inference, no shifting of rival of hypotheses. They make unbelief logically absurd" (Hepburn 1967, 164).

In the face of this diversity, G. Mavrodes warns and recommends that the argument for the existence of God from religious experience can be considered in two different ways. First, this can be considered a special version of the teleological argument, claiming that the widespread occurrence of religious experience, with a common phenomenological core and giving rise to a common core of interpretation, requires explanation. And it is argued by some philosophers that the most plausible explanation involves the existence and activity of God. Alternately, religious experience can be construed as a non-inferential mode of cognition, analogous to sense, which grounds a knowledge of God in a more direct way than argumentation. "It is especially important not to treat this sort of appeal to religious experience as if it were an appeal to argument, since that would invite inappropriate sorts of criticism and defence" (Mavrodes 1995, 767-68). In this case, we will examine the argument from religious experience in terms of the first alternative, but not as a special version of the teleological argument. Rather we see it as a soft, more religious, more subjective and existential, and less pretentious preliminary version to the more rational and objective arguments.

It seems that it is possible and useful to divide the content of the concept of religious experience into two simply distinguishable types according to the experiencer. One is the prophetic and mystical religious experience; this is absolutely deep and dense; it is experienced by a relative minority of human beings. The other is ordinary and popular religious experience, which is relatively superficial and weaker, but is experienced by a majority of human beings. When the term is used in general by philosophers of religion, it seems that they use it often in its first meaning, namely, as deep and dense experience. But one can also consider important the second type of religious experience which is that of average uneducated persons, or educated students or scholars who have nothing to do with any real mystical tradition in their lives. Indeed, "the Muslims designate the spiritual journey by the term *mi'raj*, which means a ladder, an ascension, which varies according to individuals and their capacities." For a Muslim, "the highest imaginable level a human being can attain is the one that has been reached by the holy Prophet Muhammad; and this experience of his is also called *miraj*. So, in a state of consciousness and wakefulness, the Prophet had the vision (*ru'ya*) of being transported to heaven and graced with the honour of the Divine Presence. … The Prophet himself employed the term *mi'raj* in connection with the common faithful, when he indicated that 'The service of worship is the *mi'raj* of the believer.' Evidently to each according to his capacity and his merit" (Hamidullah 1980, 105-06). So we could start our examination of the arguments from religious experience with this second general and weaker type.

General Consent

Some Muslim theologians talk about an argument for the existence of God called 'the argument from general consent'. According to this argument, temples or other signs of a supernatural belief are found everywhere human beings have lived and in all periods of history. Such an almost universal consent or consensus in very different types of human societies about accepting the existence of a supernatural being, which does not seem to accord with their basic desires or instincts, cannot be ignored, or treated as just an unfoundational and unimportant fact. It cannot be explained by such personal and changeable causes as ignorance, fear, political pressures, education, inheritance, and so on. Therefore, this general consensus to which history testifies can best be explained by the existence and unity of God (Golcuk 1991, 150-51).

This argument has not been taken very seriously as an independent speculative or rational argument. It is not easy to find it in recent books written particularly on the arguments or more generally on the philosophy of religion. This attitude is perhaps fair enough when it is considered as a pretentious inferential argument. It seems, however, that this argument, or rather, this sort of reasoning, may have a better place within the family of the arguments from religious experience. Although it cannot have a conclusive force, it has some other merits. It gives a simple, sensible and inclusive insight; and this may be regarded to be as useful and important as a complicated, strictly logical and exclusively philosophical argument. It does not for produce a logical proof and, thus, defend the necessary truth of its conclusion, but it is as clear and distinct as possible. One can simply schematize this argument as follows:

1. Unexpectedly great consensuses need a sufficient or satisfactory explanation.
2. Almost all human beings have a great consensus on a supernatural reality.
3. The explanation of this consensus cannot be a totally natural one.
4. Therefore, the sufficient explanation must include a supernatural factor, as well.

One need not defend this argument premise by premise. They cannot be necessarily true statements; but they have some probable or at least plausible truth. The most important step here is the second one; it "has at least the force of indicating that the burden of proof lies on the denyer of a universally held belief" (Matson 1965, 5). Supposing first three steps have been presented briefly but sufficiently, how do some Muslims explain its fourth step. This is the most important one for seeing the relationship between this classical or, for many, out-of-date argument and the argument from religious experience. When someone looks at this consensus from the perspective of (perhaps, religiously inclined) common sense, he or she will argue that the best explanation must include either a genuine human response to the transcendent based on religious experience (see, Hick 1989) or a divine implantation of a seed of belief in, and love of, God as innate to human nature (without violating their freedom of belief or disbelief). There may not be a big difference between these two types of expressions concerning the explanation of the same phenomena. But it is obvious that emphasis on the former seems to be on the human side of religious experience, whereas emphasis on the latter leans to divine efficiency on the innate nature of human beings. Traditionally Muslims prefer the latter idea and rhetoric.

Innate and Dispositional

According to al-Ghazali, the conception of the existence and unity of God is innate or inborn in human beings' minds since they were first created and continuous with them in the prime of their youth. "Indeed, human nature itself seems to testify that it [a well-ordered system of the world] is subjected to the Creator's direction, and directed according to His management. Hence God most high said: 'Is there any doubt regarding God, the Originator of the heavens and the earth . . . ?' [xiv: 10] . . . . The most high also said: 'So set thy face to the religion, a man of pure faith - God's original upon which He originated mankind. There is no changing of God's creation. That is the right religion'" (1965, 34; Cf 1982, 126). Some Muslims take the divine basis of the innate nature of religious experience and belief further back and present a different Qur'anic verse as a religious evidence for their view (see 7: 173). For this view, the vital seed of God's love and avowal of His existence is planted in human

nature. But it must be added immediately here that this divine seed does not violate human freedom of belief or disbelief, because it is just a seed, to speak metaphorically. And "The seed needs life-giving sustenance to flourish and flower, and unless denied this sustenance by a polluted environment, it remains a constant and continuous guide to the Lord, . . ." (Ullah 1984, 3, see also p. 23).

This classical Islamic view on the innate nature of belief in God reminds us of A. Plantinga's views on properly basic belief, as a more or less comparable and profitable idea in contemporary philosophy of religion. According to Plantinga, or to Calvinist epistemology, belief in God is a 'properly basic belief'. "Taking some belief we think to be reasonable and justified, we should ask ourselves whether we hold this belief because it is evidentially supported by other beliefs of ours, or whether it is one that is or could be reasonably held even if it were not supported by any other beliefs as evidence. If the latter is the case, we put this belief down as a *basic* belief, and indeed as a *properly basic* belief" (Peterson 1991, 122). Properly basic beliefs are the foundations of our structure of belief and do not need to be supported by other arguments. Thus, 'God exists' is seen as a belief that can be rationally held even when it is unsupported by any argument or evidence. "Calvinist epistemology regards belief in God as on par with such beliefs as '1 + 1 = 2' or 'Snow is white' or 'I feel thirsty'" (Parsons 1989, 45).

If God's existence, however, can be rationally accepted even though it is not supported by any argument or evidence, what are the criteria or circumstances that make belief in God an obviously properly basic, whereas they do not make properly basic belief in some superstitious beings. Plantinga does not mention strict criteria but gives some examples of dispositional and experiential conditions for having a properly basic belief in God:

> There is in us a disposition to believe propositions of the sort this flower was created by God or this vast and intricate universe was created by God when we contemplate the flower or behold the starry heavens or think about the vast reaches of the universe. . . . Upon reading the Bible, one may be impressed with a deep sense that God is speaking to him. Upon having done what I know is cheap, or wrong, or wicked, I may feel guilty in God's sight and form the belief God disapproves of what I have done. Upon confession and repentance I may feel forgiven, forming the belief God forgives me for what I have done. . . . When life is sweet and satisfying, a spontaneous sense of gratitude may well up within the soul; someone in this condition may thank and praise the Lord for His goodness, and will of course have the accompanying belief that indeed the Lord is to be thanked and praised. (Plantinga 1983, 80)

The position of Plantinga looks quite similar to the position of al-Ghazali in some of his books. For Al-Ghazali, faith (*iman*) is not of such a nature that it could be obtained by the activities of Reason, like establishing abstract proofs, making systematic classifications, hair-splitting argumentation, etc.

> Nay, *iman* is a kind of illuminating 'light' *nur* which God Himself throws into the hearts of His servants as a free and gracious gift. Sometimes it comes in the form of a firm and irresistible conviction welling up from the innermost soul, which is completely ineffable.

> Sometimes, it occurs as the result of one's observing a certain trait in a pious man; one feels, while one sits and talks with the man, a flash of light suddenly coming from him and striking one. Sometimes, again, it is caused by some personal circumstance. Once a Bedouin who had been offering resistance to the Prophet with bitter enmity came to him. When his eyes fell upon the brilliant face of the Prophet and saw a scintillating light of Prophethood coming forth from it, he said, 'By God, this is not the face of a liar!' And he asked the Prophet to tell him about Islam, and became a Muslim (*Faysal al-Tafrigah*, p. 262, cited in Izutsu 1980, 123).

Thus, it seems that the best plausible way of explaining the innate and dispositional religious experience and feeling either of the general human beings or of a particular individual is to suppose that there is a most loving and all good God who created conscious beings with a nature that can find His existence and can feel His love in a condition of considerable freedom.

Al-Ghazali tells in his autobiographical book, *Deliverance from Error*, that, when he was teaching in Baghdad to many students, in one of the most distinguished positions in the academic world of his day, he had caught the disease of scepticism. "The disease was baffling," he says, "and lasted almost two months, during which I was a sceptic in fact though not in theory nor in outward expression" (1953, 76). At length God cured him of the malady. But what is important in this autobiographical narration is the way of cure al-Ghazali mentions. "This did not come about by systematic demonstration or marshalled argument," he declares, "but by a light which God most high cast into my breast." And immediately after reporting his own personal religious experience, he reminds his readers that "Whoever thinks that the understanding of things Divine rests upon strict proofs has in his thought narrowed down the wideness of God's mercy" (1953, 25).

We come across quite similar experiences and ideas in the writings of Alvin Plantinga today. He explains these as follows: "I certainly do believe in the existence of God, but I don't believe by way of conclusion from arguments or because I think the probabilities point in that direction. It seems to me that I experience God. I experience God in a variety of ways, just as lots and lots of people do: in church, in reading the Bible, in nature, in human relationship, in a thousand different ways. … It is not a conclusion from an argument. It is something more immediate, something much more existential and experiential ("998, 120).

According to al-Ghazali, if someone is already a believer in God and really sincerely wants to have more direct and deep religious experience, he or she has more chance to have it. For him, if someone wants to be included within the travellers of the hereafter with God's grace as his friend, the doors of guidance are opened for him or her while he or she remains engaged in actions attached to the fear of God and restrains him- or herself from passions and lusts, making efforts at discipline and self-mortification. "Owing to these efforts, a light from God falls in his heart as God says: 'Whoso strives for Us, We shall guide them in our paths, for God is assuredly with those who do right' (29: 69)" (al-Ghazali 1982, 124).

The very personal experience of Al-Ghazali mentioned above and his additional statements explicitly show, on the one hand, that the way of natural or philosophical theology is not the only way to understand divine or metaphysical matters; and on the other hand that some experiences of an individual person, whether he or she be a

sceptic or an average believer, can be explained only through God's presence and personal providence, at least for the person who experienced it.

The further dimension of religious experience is the mystical type of it. All the great world faiths have a mystical tradition. And it is interesting that most of the mystics of different religions are in general agreement on some foundational views. At least four insights seem to comprise the principal points of agreement found in mystics of different cultures. First, mystics pretty generally agree that their experiences reveal the reality of an order of being distinct from, and in some sense higher than, the world perceived through the senses. Second, reality is revealed to be one; at all events, it is more accurately described as one than as many, though no description is quite right. Third, reality is perfect. All that is ultimately valuable is somehow embedded in it; all that is evil is somehow excluded. Finally, the human soul is identical with, or at least akin to, the supersensible reality. Whatever may be the status of the material world, the soul, or at least some part or aspect of it, is of the same stuff as ultimate reality (Matson 1965, 21-22).

Muslim mystics are generally and simply called Sufis. Abu Bakr al-Kalabadhi's *Ta'arruf, The Doctrine of the Sufis*, is accepted as an authoritative text book on Sufi doctrine. As al-Kalabadhi puts it, among the community of Muhammad, God has placed men chosen and elect, excellent and pious. They had understanding of God, and journeyed unto God, and turned away from what is other than God. "They were spiritual bodies, being upon earth celestial, and with creation divine: silent and meditative, absent (from men) but present (with God), kings in rags, outcasts from every tribe, possessors of all virtues and lights of all guidance; their ears attentive, their hearts pure, their qualities concealed; chosen, *Sufis*, illuminated, pure" (1979, 2).

The *Sufi* epistemology and faith have direct relationship with religious experience. When the *Sufis* speak of the 'truth', they refer to the knowledge whose real content is truth of the highest degree of certainty, because it is gained by direct experience. This direct experience alludes to a trans-empirical states of awareness in which they 'see' the reality of the Multiplicity of phenomena in the Unity of the One Real Being, and the Unity of the One Real Being in the Multiplicity of phenomena (al-Attas 1985, 215).

Mohammad Iqbal offers five general observations on the main characteristics of the Sufi or mystic experience: "1. The first point to note is the immediacy of this experience. . . . 2. The second point is the unanalysable wholeness of mystic experience. . . . 3. The third point to note is that to the mystic, the mystic state is a moment of intimate association with a unique Other Self, transcending, encompassing, and momentarily suppressing the private personality of the subject of experience. . . . 4. Since the quality of mystic experience is to be directly experienced, it is obvious that it cannot be communicated. . . . 5. The mystic's intimate association with the eternal which gives him a sense of the unreality of serial time does not mean a complete break with serial time. The mystic state in respect of its uniqueness remains in some way related to common experience" (1988, 18-229.

In this case, as W. Matson puts it, that many mystics, probably a majority, are in substantial agreement on the four or five points that we have sketched, seems to be a fact; at any rate we shall assume that it is. "This is a fact, then, to be explained" (1965, 22f). And this fact has a direct relationship with the arguments for the existence of God. For "on the basis of her religious experience, the mystic makes claims about the objective fact of God's existence, claims about which she feels absolutely confident. But what right does the mystic have to be sure that her experience is veridical?" (Suckiel 2002, 181) Therefore, we should now consider how this 'fact' should be

explained or how this evidence should be evaluated? Do the mystical experiences have an evidential value for the mystic themselves and especially for the others in the matter of God's existence?

Evaluation: Illusion or Reality?

Would it be a sufficient rational ground of belief for an individual to have these sorts of more general innate based experience or more special personal religious experience? It is not difficult to guess that a typical Medieval mystic, a *sufi* for instance, and a typical Medieval theologian, a *mutakallim* if you like, would answer more or less differently. For a typical sufi, personal religious experience is not, for example, one of the secondary and supportive grounds of faith, but the most strong, direct, reliable and desirable ground of it. For Mawlana Jalal al-Din Rumi, love is the essence of all religion and religious experience. Not only is faith generated by love, but, what is more, faith generated by any other motive is almost worthless (see Iqbal 1983, 259-61). He writes as follows (Rumi 1950, 43):

> Reason, explaining Love, can naught but flounder
> Like ass in mire: Love is Love's own expounder.
> Does not the sun himself the sun declare?
> Behold him! All the proof thou seek'st is there.

For a typical theologian, personal religious experience does not mean very much in a properly based faith. Al-Maturidi, for example, "refutes the idea of those who think that the individual mind is the basis of knowledge and criterion of truth. He also does not regard inspiration (*ilham*) as a source of knowledge. Inspiration, he argues, creates chaos and conflicts in the domain of knowledge, makes true knowledge impossible, and is ultimately liable to lead humanity to disintegration and destruction for want of a common standard of judgement and universal basis for agreement" (Ali 1963, 264).

But for a scholar like Al-Ghazali, who is both mystic and theologian[1] at the same time, both religious experiences and theistic arguments are sufficient and valuable grounds for a person's religious belief. The difference between them is not in essence, but in degree. Considering the genuine and strong religious experience, al-Ghazali compares the way of immediate experience with the way of rational argumentation in this way: "What a difference between being acquainted with the definition of drunkenness . . . and being drunk. Indeed, the drunken man while in that condition does not know the definition of drunkenness nor the scientific account of it; he has not the very least scientific knowledge of it. The sober man, on the other hand, knows the definition of drunkenness and its basis, yet he is not drunk in the very least" (1953, 55).

[1]Although I mentioned M.C. Rumi and al-Maturidi as representative of two opposite perspective, it should be known that neither Rumi rejects rational belief nor al-Maturidi denies experience and inspiration. As A. Iqbal says "Rumi admits the utility of the intellect and does not reject it altogether. His emphasis on intuition as against intellect is explained by the fact that some of his outstanding predecessors had placed an incredible premium on reason. . . . Rumi gives an important place to knowledge". (pp. 261-63) On the other hand, as Ayyub Ali says, Al-Maturidi has never been a hard rationalist and "always tried to adopt a middle course between the extreme Rationalists and the Traditionists."(Ayyub ali, mm serif 264).

Thus for a moderate evaluation from an Islamic perspective, one can say that religious experience seems to be a sufficient ground for a person's belief in God, particularly if it is in harmony with the essence of revelation and reason. Its contemporary philosophical evaluation brings us to R. Swinburne's principle of credulity. According to Swinburne, there is a basic principle of rationality, which he calls the principle of credulity, that "we ought to believe that things are as they seem to be (in the epistemic sense) unless and until we have evidence that we are mistaken." He explains it with some examples. "If it seems to me that I am seeing a table or hearing my friend's voice, I ought to believe this until evidence appears that I have been deceived" (1996, 131-32). W.K. Clifford objected to Swinburne arguing that "It is wrong always, everywhere, and for anyone, to believe anything upon insufficient evidence"(1970, 159). But in this case, for Swinburne, one will never be able to believe anything. "If you say the contrary - never trust appearances until it is proved that they are reliable - you will never have any beliefs at all. . . . Just as you must trust your five ordinary senses, so it is equally rational to trust your religious sense" (1996, 132).

The religious experiences of millions of human beings who have been aware of God's presence and guidance, of being cured of sceptical disease as in the case of al-Ghazali, of His help and providence, of being cured of physical diseases and the like, are more likely to be real and genuine experiences in the sense of having a real object or source of the subject's experience. It is much less likely that the great majority of human beings, including very great intelligences and figures, have been deluded by various imaginations or projections.

One hypothesis to explain the mystical agreement is that the mystics happen to be right. In any case, many mystics agree that the experience reveals the existence of God, in a more or less orthodox sense of the proposition (Ibid., 23). Another hypothesis is that the mystic is crazy. The claim to possess a profound but inexpressible insight is characteristic of many psychotic states (Ibid., 24).

Which hypothesis seems to be more probably true? Let us look at the second one first. This hypothesis could be true; it is not too difficult to find some historical or living examples to verify it. Some mystic type persons are really crazy or mentally ill. But the important point here is whether the sceptic leap of induction in this hypothesis is really verified or not. Can one reasonably arrive at an inductive conclusion from the presence of some mystic type of crazy people to the generalization that all mystics are crazy. Although there can always be a possibility, neither this simple naturalistic hypothesis of craziness or hallucination, nor more developed psychoanalytic projection theories seem to explain the experience of great mystics.

Indeed, after a detailed exploration concerning the four types of 'pathological' reductionist challenge to religious experience, Caroline F. Davis concludes that "Pathological personality variables tend to be present in clusters (people are often anxious, insecure, *and* hypersuggestible, for instance), and many subjects of religious experience escape all of them; and it is clear that the other types of pathological factors (e.g. hallucinogens), whose presence is much easier to detect, are absent from the vast majority of cases of religious experience" (1989, 223). David Hay also defends similar ideas based on similar researches: "The data that have been assembled on the psychological well-being of populations reporting religious experience contradict the view that religious experience is associated with poor mental health. The statistical significances are in the opposite direction. People reporting such experience are *more* likely than other people to be in a good state of psychological well-being (1990, 89).

Therefore, we agree with Paul Badham in his argument and conclusion that "the primary religious figures were manifestly in touch with reality. What is impressive about the prophets is the soundness of their political and social judgements. On any reckoning, Jesus of Nazareth was at the very least a wise and perceptive teacher, and Muhammad was a brilliant general, statesman and lawgiver. Likewise, contemporary religious experience is associated with a high level of mental alertness and psychological stability. . . . Hence, to identify either prophetic or contemporary religious experience with mental disorder would seem wholly unjustified" (1998, 131; Cf. Smart 1971, 497).

In addition to this, as Mohammad Iqbal says, "The revealed and mystic literature of mankind bears ample testimony to the fact that religious experience has been too enduring and dominant in the history of mankind to be rejected as mere illusion. There seems to be no reason," according to him, "to accept the normal level of human experience as fact and reject its other levels as mystical and emotional. The facts of religious experience are facts among other fact of human experience and, in the capacity of yielding knowledge by interpretation, one fact is as good as another (1988, 16).

Having accepted that mystical experience of God's existence is a real and authentic experience, could it have an evidential value for nonmystics as well? Concerning this question, there are different views in the philosophy of religion. As examples of the three different ideas, one can mention that the answer of Matson is "negative" (1965, 25), the answer of Hick is neither negative nor positive, that is, "The agnostic position must be accepted . . ." (1970, 115), and the answer of Swinburne is positive. According to Swinburne, there is a basic principle of rationality, which he calls the principle of testimony, that "those who do not have an experience of a certain type ought to believe any others when they say that they do - again, in the absence of evidence of deceit or delusion"(1996, 133). The answer of Mohammad Iqbal seems to be completely positive provided that "we are in possession of tests which do not differ from those applicable to other forms of knowledge." He calls these tests as "the intellectual test and the pragmatic test. By the intellectual test," he means, "critical interpretation, without any presuppositions of human experience, generally with a view to discover whether our interpretation leads us ultimately to a reality of the same character as is revealed by religious experience." And, according to him, "The pragmatic test judges it by its fruits" (1988, 27).

One can conclude that the argument from various types of religious experience for the existence of God should be considered as a sufficient evidential ground for persons who do have that experience, provided that he or she has no obvious doubt of being deceived or deluded in it, and the experience had is in harmony at least in its essence with his or her more objectively sound background knowledge based on reason and/or revelation. The case of those who have not got experience themselves is similar in general but different in the degree of evidential value. The evidential value of mystical religious experience for nonmystics should be much less than the mystics themselves. Nevertheless, for nonmystics, too, the extraordinary experiences of the mystics, accompanied and supported by their exceptionally high moral quality, excellent intellectual ability and sometimes unusual miraculous powers, needs a satisfactory explanation. And the more likely satisfactory explanation seems to be the presence and providential activity of God.

Ibn Rushd states that there are different approaches to understanding God and various appropriate methods of assent which a person's temperament and nature require. "For the natures of men are on different levels with respect to [their paths to]

assent. One of them comes through demonstration; another comes to assent through dialectical arguments, just as firmly as the demonstrative man through demonstration, since his nature does not contain any greater capacity; while another comes to assent through rhetorical arguments, again just as firmly as the demonstrative man through demonstrative arguments" (1961, 49; see also, Leaman 1988, 146-149).

Following the way of Ibn Rushd, we can say that one must not expect everybody to have a logical demonstration for all of his or her beliefs, including the belief in God. Because of some personal features, such as personal character, ability, education, and so on, different people find different evidence or arguments reasonably sufficient for themselves. Thus, for some people, including some mystics and some philosophers like Mohammad Iqbal or Alvin Plantinga, some sort of religious experience, insight, or persuasive argument we have mentioned so far is enough for a rational person to have a strong belief in God.

Some other people, however, prefer to look at the topic from more holistic and more rationalistic perspective considering and constructing a cumulative case of various arguments. If someone prefers to consider and also possibly construct a cumulative case of the various arguments, then he or she must go on to consider the other, and possibly more rational, arguments, for example, the teleological argument.

Part Two
The Teleological Arguments

The teleological argument or the argument from design is a very ancient argument for the existence of God. Its first appearance of this argument is usually ascribed to a certain period in ancient philosophy, but this is open to question. Rather it seems to us that "The roots of the argument stretch so far back into antiquity that it is no longer possible to establish their origin" (Schlesinger 1988, 122). Kant pointed out in his *Critique of Pure Reason* (A 623, B 651 - 1990, 520) that this argument is "the oldest, clearest, and the most accordant with the common reason of mankind". One may interpret his expression "oldest" as "virtually as old as humanity" (Matson 1965, 87), and his expressions "clearest" and "the most accordant with the common reason of mankind" as the reasons why the argument is the oldest. Indeed, this argument does not seem so sophisticated as the ontological or even the cosmological argument. By contrast, its factual roots or observable illustrations seem to be as close to human beings as themselves; and, its mode of reasoning seems, at least at first sight, quite simple and accord with common sense (Schlesinger 1988, 122).

In the Old Testament, for example, the Psalmist, besides complaining that "The fool says in his heart, "There is no God"" (*Psalms* 14:1; also 53:1), also assures us, most significantly, that "the skies proclaim the work of his hands" (*Psalms* 19:1). The Prophet Jeremiah also argued from the order of the world that God was powerful and reliable. He argued to the power of the creator from the extent of the creation : ". . . as countless as the stars of the sky and as measureless as the sand on the seashore" (*Jeremiah* 33:22). And he argued that its regular behaviour showed the reliability and trustworthiness of God, by speaking of the "covenant with the day and night" whereby they follow each other regularly, and "the fixed laws of heaven and earth" (*Jeremiah* 33:20f. and 25f).

After these simple design arguments, more advanced and more systematic design arguments were developed by the ancient philosophers. Socrates (d. 399 BC) pointed to some astronomical phenomena in the world surrounding human beings which contribute to their well-being like sun, moon, stars, seasons, day and night; and also pointed out the functionality of diverse aspects of living beings' physiological and psychological endowments (see Xenophon 1923, 299-305). Plato (d. 347 BC) argued that the physical order of the universe is unintelligible apart from Mind, which moves, orders and sustains it. In *The Laws,* when asked on what grounds one may speak the truth in saying that gods exist, Plato's character Cleinias replies with one of the explicit early design arguments: "To begin with, think of the earth, and sun, and planets, and everything! And the wonderful and beautiful order of the seasons with its distinctions of years and month!" (1934, 275). The Stoics "developed the design argument in terms of any and every analogy, including machines, ships, houses, waterclocks, etc." (Hurlbutt 1985, 129).

Greek learning, including teleological considerations, "was first perpetuated by the Arabic schools which translated many of the early texts. This Eastern influence reached its zenith during the tenth century and through it Aristotelian ideas slowly diffused into the European culture to be moulded into a Christian form by Aquinas as easily as it was fitted into the Muslim perspective of the early Arabic philosophers" (Barrow and Tipler 1986, 45).

Muslim thinkers wrote some separate books exclusively dealing with this argument, like the book attributed to al-Jahiz (d. 868) and entitled *The Book of Proofs and Reflection regarding Creation and Divine Governance (Kitab al-Dalā'il wa-l-I'ti'bār 'alā al-Khalq wa-l-Tadbīr)* (for the translation of a version of this work, see Gibb 1948, 150-62), and another book attributed to al-Ghazali (d. 1111) and entitled *The Wisdom in God's Creatures (al-Hikma fī Mahlūgāt Allāh)* (1987). Thus, Muslim thinkers used the teleological argument and extended its natural ground with more original data drawn from the functionality, orderliness, and beauty "of numerous details of nature" (Davidson 1987, 235-236). Moreover, unlike the ancient understanding of the Designer of the universe, like Socrates' gods or Demiurge, Plato's Idea of Good, or the Stoics' pantheist God immanent in all things (see Gilson 1941, 24-37), early Muslim philosophers evoked this argument to establish that the one God of Abrahamic religion, or in more philosophical terms, the God of traditional theism exists and possesses the theistic attributes of unity, wisdom, power, and providence.

The view of external teleology imposed on nature by a supernatural Being "found approval in Christianity, as in Islam," and was "expounded in a specifically theistic form by the philosophers of the Middle Ages, notably St. Thomas Aquinas" (Gundry 1951, 184). Aquinas (d. 1274) uses the teleological argument as the fifth way of his famous 'five ways' to prove the existence of God.

Historically, the 'golden age' or 'greatest flourishing' of the argument from design was the two centuries following the rise of science in the seventeenth century. A gradual transition occurred in the nature of the design argument from the Scholastics to Newton and his followers. In sum, "Newton argued for a "designer" both from the systematic order exhibited in the scientifically established mechanical view of the world and from the purposive means-ends relations exhibited by organisms and objects in nature" (Hurlbutt 1985, 89).

The natural theology of Newton crowned the argument from design, and during the eighteenth century numerous scientists, philosophers, and theologians repeated and enforced it. However, it was likewise in the later years of the eighteenth century that the argument met its most formidable philosophical critic, David Hume (d. 1776). In the *Dialogues Concerning Natural Religion*, (1779), Hume tried to explore especially the Newtonian design argument, voiced through Cleanthes; and developed a number of counter-arguments, voiced through Philo, against the inference from the apparently designed character of the world to a divine designer. There are many objections in this book, and their number changes among Hume's commentators. It seems, however, that Hume concerned himself principally with trying to show that the analogy on which the argument rests is weak. Nearly all objections in *Dialogues* might be reduced or seen to be relevant to the weakness of the analogy.

In spite of Hume's criticisms and Kant's (d. 1804) refutation of the argument in the *Critique of Pure Reason* [1781], of which it has been said that "he did not add any significant new arguments to those which he had encountered in Hume's 'Dialogues'" (Hick 1970, 14), the argument from design went on being reformulated and revived. One of the most widely used versions and widely read works concerning the argument, William Paley's (d. 1804) *Natural Theology*, published in 1802. The most outstanding feature of Paley's argument is its excessively analogical character. The second important feature of Paley's argument is his use of a narrower design argument. In fact, Paley seems to regard the existence of a single organised part of the works of nature such as the eye or the ear sufficient by itself to support the conclusion

that God exists. He claims that "The eye proves it without the ear; the ear without the eye. The proof in each example is complete" (1963, 33).

Paley's work maintained the popularity of the the eighteenth century design argument for another hundred years, even though he did not engage with Hume's and Kant's severe metaphysical objections. However, nearly a century later, the argument had to face another type of objection, which challenged directly the first premise of the argument. For one of the crucial elements in the argument presented by Paley and others was the observation of functional adaptation in organisms and individual organs. According to Charles Darwin's (d. 1882) evolutionary theory, however, they were not the product of conscious activity, but the result of natural selection operating on modifications produced by random mutations. This theory "probably did more to undermine the design argument than any other single force" (Hurlbut III 1985, 180), even more than Hume's attacks (Dawkins 1991, 56f).

Though, it did not die with Darwinian blow, yet it had to change in a number of aspects. In the twentieth century, the argument has been restated and revived by such theologians and philosophers as F. R. Tennant and. R. G. Swinburne. In his influential book *Philosophical Theology* (1930), Tennant developed one of the most comprehensive and serious modern restatements of the design argument. He defended the concept of "cosmic" or "wider" teleology, and argued that "The forcibleness of Nature's suggestion that she is the outcome of intelligent design lies not in particular cases of adaptedness in the world, nor even in the multiplicity of them . . . [it] consists rather in the conspiration of innumerable causes to produce, by either united and reciprocal action, and to maintain, a general order of Nature" (79). With this formulation, Tennant sought to form an argument from design which is immune both from Humean attacks and from Darwinian criticisms. To do this, he shifted his way of reasoning from the principle of analogy to a principle of probability, and his ground from special design in the living beings to the directivity in the process of evolution and finally to the cosmic order and purpose in the world.

However, the revival of interest in the argument from design in the contemporary philosophy of religion may be considered to begin with Richard Swinburne's article "The Argument from Design", published in 1968. He has been defending and developing the argument from design in his various works ever since. Many other writers have of course contributed to this development. And it is possible now to say that "in the last thirty years, the argument from the fine-tuning of the cosmos has steadily gained in popularity, often being considered the strongest single argument for the existence of God" (Collins 2002, 130).

The last important person in the history of the teleological argument in Islamic theology and philosophy was Ibn Rushd or Averroes (d. 1198). After criticising some classical arguments, he passionately emphasized, advised, and tried to develop two different versions of the teleological argument, describing them as the ways "to which the Gracious Book [the Qur'an] has called attention and invited everybody" (1968, 65). Ibn Rushd's arguments were not advanced in greater detail later on in the history of Islamic thought; but it seems that they have been started to be studied again recently (see, Kukkonen 2002). In our view, however, Ibn Rushd was absolutely right in his emphasis on the teleological argument as the way which is suitable for everybody who has a different nature and character, and as the way on which the Qur'an has called for reflection. We will explore the teleological argument in Islamic thought in three versions, one is mainly based on al-Ghazali's works and takes its key term, "wisdom" (*al- Óikma*), from one of his books; the other two versions are based mainly on Ibn Rushd's works with his own terminology.

Chapter II
The Argument from Wisdom (*Óikma*)

Some Muslim scholars wrote independent books exclusively dealing with the teleological argument as the proof of God's existence and attributes. One is attributed to al-Ghazali and entitled *The Wisdom in God's Creatures* (1987). In this book, al-Ghazali explores the wisdom in the creation of the heavens, earth, and living beings. In his analogical interpretation, the world is like a house and the human beings are like its owners (1987. 84). Everything in the world has been created in its best form and in conformity with human needs. All the wisdom in creatures is evidence of the existence of an all-knowing, all-powerful God, who created them with a unique wisdom, who is free from all sorts of imperfection, and has all attributes of perfection (Ibid., 85). This book may have been ascribed to al-Ghazali in error; but in any case, al-Ghazali uses the teleological argument in other of his books, as well.

Herbert Davidson note that, while al-Ghazali presents the teleological argument side by side with the proof from creation, he indicates a preference for the teleological argument. He describes it as "inborn" in humanity and as so evident that "setting up a demonstration" is, in reality, superfluous (see, Davidson 1987, 227). In his *ar-Risālah al-Qudsiyyah* or in his *Ióyā 'Ulūm-al-Dīn*, al-Ghazali begins to the topic of the knowledge of God's existence by quoting such passages from the Qur'an as verse 2:164:

> Surely in the creation of the heavens and the earth and the alternation of night and day and the ship that runs in the sea with profit to men and the water God sends down from heaven therewith reviving the earth after it is dead and His scattering abroad in it all manner of crawling things, and the turning about of the winds and the clouds compelled between heaven and earth - surely these are signs for a people having understanding.

After quoting several such passages, al-Ghazali declares:

> It should be apparent to anyone with the minimum of intelligence if he reflects a little upon the implication of these verses, and if he looks at the wonders in God's creation on earth and in the skies and at the wonders in animals and plants, that this marvellous, well-ordered system cannot exist without a maker who conducts it, and a creator who plans and perfects it (1965, 33; Cf. 1982, 126).

Al-Ghazali's reasoning here may be put in simple form as a teleological argument as follows:

1. The world displays a well-ordered (or fine-tuned) system.
2. This marvellous system cannot (expect to) exist without a maker and creator.
3. Therefore, there must be a maker and creator of this system.

We can now explore the premises or steps in detail, in the light of modern scientific developments, as well as of some exemplary classical views from Islamic theology or philosophy.

Evidence: The Fine-Tuning of the Universe and Its Scientific Laws

Some versions of the teleological argument used by Muslim scholars seem to fit the modern developments and reformulations of the argument perfectly quite well. Harith al-Muhasibi (d. 857) has a teleological argument for the unity of the cause of the universe which might serve equally well as an argument for the existence of such a cause. Throughout the universe, in inanimate nature, plant life, animal life, and human life, al-Muhasibi discovers that "each part fits together with the others". The interconnections reveal that the universe, from its lowest to its highest level, forms "one whole," and the unity of "governance" evidenced by the universe leads al-Muhasibi to infer the unity of the cause of the universe (see Davidson 1987, 224).

Maturidi (d. 944) offers a brief argument wherein he drives the existence of a "creator" (*muódith*) from what he calls the "principle" that everything in the universe exhibits "wondrous wisdom." The unity of the creator is subsequently inferred from the fact that each process in nature - the seasons of the year, the paths of the heavenly bodies, the life cycles of plants and animals - observes its own unvarying and uninterrupted course. Maturidi does not state, but perhaps he meant, that these several processes of nature are interdependent and mesh, and hence stand in need of a single, all-envisaging architect (see Ibid., 224).

The Ikhwan al-Safa', the "Brothers of Purity," offer a teleological argument for the existence of God in which the heavens supply the evidence of design and wisdom (Ibid., 224). A more circumstantial teleological argument for the existence of God is advanced by Ibn Hazm. He uncovers the requisite evidence of design at two levels, on a cosmic scale, in the arrangement of the celestial region, and on a lesser scale, in miscellaneous details of biology. With the characteristics of eccentric spheres in mind, he marvels at the circumstance that the celestial spheres "have different centres" around which they rotate, yet dispute their having different centres, they "fit together tightly" and are able to "maintain their circular motion" and unvarying velocities. The operations of the spheres thus lead "us . . . necessarily" to recognize the hand of a "mover" (Ibid., 225-26).

These Muslim scholars use such concepts as wisdom, design, interconnection, wholeness, and fitting together tightly as the evidential facts to prove the well-orderedness of the whole world. Their arguments are not similar to the narrow teleological argument of Paley, which was mainly based on the functionality in the living beings, especially in some organs of the body, like the eye or ear. Their arguments are more akin to Tennant's wider teleological argument. Nowadays, modern scientific data concerning these universal facts are usually referred to as fine-tuning of the universe; and a new version of the teleological argument based on these facts is called argument from the fine-tuning of the universe.

The Fine-Tuning of the Universe

The argument from fine-tuning of the universe has recently been used by many people, including philosophers such as John Leslie (1989), William Lane Craig (1988), and Richard Swinburne (1990), scientists such as Freeman Dyson (1979), and Paul Davies (1992), and theologians like Hugh Montefiore (1985) in connection with the design argument.

What is actually meant by the concept of 'fine-tuning', a brief definition or description? By the statement "It looks as if our universe is spectacularly 'fine tuned

for Life'," John Leslie means "only that it looks as if small changes in this universe's basic features would have made life's evolution impossible" (1989, 3). Small changes in the strengths of its main forces, in the masses of its particles, in its degree of turbulence, in its early expansion speed, or shortly, in its initial conditions and laws would seemingly have rendered it hostile to living beings of any plausible kind. So fine-tuning appears to mean that our universe is, and has been since the very beginning, remarkably well-balanced for the existence and evolution of living organisms.

Nevertheless, we may have a more detailed definition. After complaining that Swinburne does not offer a precise definition of fine-tuning, Quentin Smith gives a definition, which, according to him, is both serviceable and consistent with the spirit of Swinburne's article called "Argument from the Fine-Tuning of the Universe" (1990). This definition looks to be consistent with the spirit of most arguments of the same kind together with Swinburne's, and also seems to be serviceable to our purpose of giving a definition of fine-tuning. According to Smith's definition or description (1992, 347), "A certain set of values of initial conditions and physical constants of a universe are fine-tuned for intelligent life if and only if (*a*) each of the values of the initial conditions and physical constants in this set is a physically necessary condition for the evolution of intelligent life . . . (*b*) the values in this set are jointly sufficient for . . . the evolution of intelligent life, and (*c*) there is only an extremely small range of all physically possible values of the initial conditions (*a*) and (*b*). If any value meets these conditions, it is an anthropic coincidence" or a fine-tuning for life.

With this description in mind, it seems useful here to say something about the relationship between fine-tunings or cosmic coincidences and the anthropic principle in the context of the argument from design. For these two sometimes seem to be treated in too complex or confused a structure, either one within the other or both more or less treated as meaning the same. Whereas, they seem to refer to different facts and interpretations, and become subject to different evaluations and criticisms, even though they have, of course, some factual and historical connections.

J. Zycinsky, for example, presents the important regularities of cosmic evolution such as "the existence of close links between the appearances of carbon-based life and the cosmological structure of the universe, between the laws of cosmic evolution and values of physical constants" (1987, 317) as almost the same as the weak anthropic principle (see, 317-321). But he also says that "Many authors question the philosophical significance of the Anthropic Principle, which they regard as the product of arbitrary speculations" (317). If almost nobody considers the cosmological coincidences summarised in Zycinsky's first statement above as the product of arbitrary speculations, then, should not these cosmological or anthropic coincidences be distinguished from the questionable anthropic principle? So it seems necessary to draw a distinction between the fine-tuning of the universe and the anthropic principle. Likewise, the relation of the anthropic principle with the argument from design should be made clear as well.

In the view of Barrow and Tipler, for instance, "The Anthropic Principles are but a modern manifestation of the traditional tendency to frame design arguments around successful mathematical models of Nature" (1986, 109). In other words, "The Anthropic Principle is just the latest manifestation of a style of argument [from design] that can be traced back to ancient times" (27f).

After defining the anthropic principle very succinctly, for the present, as it is "to relate basic world features to our own existence as observers" (Davies 1982, viii), it might be said that Barrow and Tipler's views about the relationship between the

anthropic principle and the design argument are quite ambiguous in fact and should not be understood as saying that the anthropic principle is the latest manifestation of the design argument in all its aspects including its main conclusion about God's existence. Tipler, who thought up the final anthropic principle (FAP), for instance, "describes himself as an atheist" (Tilby 1992, 209); and, Carter whose anthropic principle first introduced weak and strong anthropic principles (WAP, and SAP), "is in no way religious", according to Leslie (1993, 68). This does not mean to say that there is no positive relationship between the anthropic principle and the design argument. Rather it means that the degree of the relationship, which is quite complex, should be understood clearly and correctly.

Working with this view, which will be discussed later in detail, it might be said briefly for the moment that the very complicated relationship between the anthropic *principle(s)* and the design argument looks to be quite indirect, controversial, and even often negative. But, on the other hand, the relationship between cosmic or anthropic *coincidences* or fine tunings, which are not completely the same as the anthropic principle but rather "have evolved into the Modern Anthropic Principles" (Barrow and Tipler 1986, 30), and the design argument are much more direct, uncontroversial, and very positive. Paul Davies notes that, "Although some writers have found the philosophical basis of the anthropic principle objectionable, it is difficult not to be struck by some of the surprisingly fortuitous accidents without which our existence would be impossible" (1982, viii). So with this distinction between anthropic coincidences and the anthropic principles in mind, it might be said that what is more important for the argument from design is fine-tunings or anthropic coincidences, rather than anthropic principles, even though some interpretations of some versions of the latter also have some importance, especially for the purposive version of the argument.

One kind of starting point for the argument from design, which might be regarded as evolving into the anthropic coincidences and principles, has been used in this argument for a long time; it especially dominated the argument after the decline of the traditional Paleyan version because of the Darwinian theory of evolution: namely, 'the fitness of the inorganic to minister to life'. As this strand of the wider version of the argument that was not framed around biological phenomena had been left untouched by Darwinian criticisms, it has been developed much more in the twentieth century design argument, particularly by F. R. Tennant and his followers. According to Tennant, who "coined the term *anthropic*" (Craig 1988, 389) first "in this context" (Barrow and Tipler 1986, 181), the discovery of organic evolution has served to suggest that the organic realm supplies no better basis for the teleological argument than does inorganic nature. So the teleologist of today would rather call attention to the continuity of apparent purposiveness between the two realms, or to the dependence of adaptation in the one on adaptiveness in the other (Tennant 1930, 85-86). Tennant calls attention to the dependence of adaptation in the organic realm upon adaptation in the inorganic realm. The vast complexity of the physico-chemical conditions of life on the earth suggests to common sense that the inorganic world may retrospectively receive a biocentric explanation, which becomes a teleological explanation. For "The fitness of our world to be the home of living beings depends upon certain primary conditions, astronomical, thermal, chemical, etc., and on the coincidence of qualities apparently not causally connected with one another, the number of which would doubtless surprise anyone wholly unlearned in the sciences; and these primary conditions, in their turn, involve many of secondary order" (1930, 86). Quite similarly to the anthropic reasoning, he also points out that the existence of

intelligent life here depends on the existence of intricate conditions and coincidences in the rest of the universe, which if they had been slightly different, intelligent life could not have arisen:

> Emergents 'here' seem to 'take note of', or be relevant to, causally unconnected emergents 'there', in both space and time, since an elaborate interlacing of contingencies is requisite to secure inorganic Nature's adaptedness to be a theatre of life. Any miscarriage in promiscuous 'naturation', such as might ruin the whole, as a puff of air may lay low the soaring house of cards, has been avoided in the making of *Natura Naturata*. (1930, 110)

Tennant's cosmic teleology and his anthropic evidences in it have been echoed by some distinguished philosophers of religion like P. A. Bertocci. He discusses 'the purposive interrelation of matter and life' and claims that "the kind of existence we know and enjoy as human beings is rooted in, if not confined to, orderly forces in the inorganic and organic world" (1951, 344). But both Tennant himself and his followers could speak of this anthropic argument for the most part only in generalities, and "could furnish few specific examples of experimental fact to illustrate this" (Craig 1990, 127).

During the last twenty or thirty years, however, the scientific community has been stunned by its discovery of how complex and sensitive a nexus of conditions must be given in order for the universe to permit the origin and evolution of intelligent life on Earth. For as twentieth century physics and cosmology began to close in on really fundamental data, it began to appear that there were certain numerical coincidences - apparently ordered relations - between what had heretofore been believed to be quite unrelated values. As the list of such coincidences continues to grow longer and more precise, physicists have come to be so aroused as to speak of it in terms such as "astonishingly improbable", "remarkable", and "a monstrous sequence of accidents" (Gale 1986, 103). Today, the universe appears to have been incredibly fine-tuned from the moment of its inception for the production of intelligent life on Earth at this point in cosmic history. In the various fields of physics and astrophysics, classical cosmology, quantum mechanics, and biochemistry, various discoveries have repeatedly disclosed that the existence of intelligent carbon-based life on Earth at this time depends upon a delicate balance of physical and cosmological quantities, such that were any one of these quantities to be slightly altered, the balance would be destroyed and life would not exist (Craig 1990, 128). In this case, along with some scientists, some philosophers have developed Tennant's argument with these newly discovered cosmological data, and have formulated a strong version of the design argument.

Among these, particularly Richard Swinburne's formulation in his article "Argument from the Fine-Tuning of the Universe" (1990) may be regarded as the most representative of the theistic arguments based on these data. In this argument, he uses a basic theorem of confirmation theory known as Bayes's theorem, as he used it in the teleological arguments in his book, *The Existence of God* (1979). He argues that this is "the structure of all worthwhile arguments for the existence of God; and indeed the kind of structure exemplified by all inductive arguments for anything at all" (1990, 155). According to Swinburne, the best policy for assessing the worth of the argument from fine-tuning would seem to be initially to suppose as background knowledge (*k*), that the Universe began from an initial singularity and that laws have

the form of our four-force laws, "and then consider the force of the further evidence (*e*) that the initial conditions and constants of laws had just those values which allowed life to evolve" (1990, 164).

As evidence (*e*) of his argument, Swinburne gives examples from the strengths of forces and from the masses of particles which have to be related to each other within certain narrow bands if the larger chemical elements, including carbon, are to occur at all. He also gives a number of examples from the boundary conditions which will have to lie within a narrow range of the present conditions if intelligent life is to evolve. For instance, "If (for the actual value of the gravitational and other constants) the initial velocity of expansion were slightly greater than the actual initial velocity, stars and so the heavier elements would not form; if it were slightly less, the Universe would collapse before it was cool enough for the elements to form" (1990, 160f).

In fact, the number of the anthropic coincidences or fine-tunings, which have been regarded as newly discovered examples of the argument from design, construct a long list: "Upwards of thirty factors would appear to have needed tuning" (Leslie 1993, 68; see for details, Davies 1982, Barrow and Tipler 1986, and Leslie 1989). Some of them are as follows:

> * Had *the nuclear weak force* been appreciably stronger then the Big Bang would have burned all hydrogen to helium. There could then be neither water nor long-lived stable stars. Making it appreciably weaker would again have destroyed the hydrogen: the neutrons formed at early times would not have decayed into protons.
> * For carbon to be created in quantity inside stars the nuclear strong force must be to within perhaps as little as 1 per cent neither stronger nor weaker than it is. Increasing its strength by maybe 2 per cent would block the formation of protons - so that there could be no atoms - or else bind them into diprotons so that stars would burn some billion billion times faster than our sun. On the other hand, *de*creasing it by roughly 5 per cent would unbind the deuteron, making stellar burning impossible.
> * With *electromagnetism* very slightly stronger, stellar luminescence would fall sharply. Main sequence stars would then all of them be red stars: stars probably too cold to encourage Life's evolution and at any rate unable to explode as the supernovae one needs for creating elements heavier than iron. Were it very slightly *weaker* then all main sequence stars would be very hot and short-lived blue stars.
> * The need for electromagnetism to be fine tuned if stars are not to be all of them red, or all of them blue, can be rephrased as a need for fine tuning of *gravity* because it is the ratio between the two forces which is crucial. Gravity also needs fine tuning for stars and planets to form, and for stars to burn in a stable manner over billions of years. It is roughly 10^{39} times weaker than electromagnetism. Had it been only 10^{33} times weaker, stars would be a billion times less massive and would burn a million times faster.
> * Various *particle masses* had to take appropriate values for life of any plausible kind to stand a chance of evolving. (i) If the neutron-proton mass difference - about one part in a thousand - had not been almost exactly twice the electron's mass then all neutrons would have decayed into protons or else all protons would have changed

> irreversibly into neutrons. Either way, there would not be the couple of hundred stable types of atom on which chemistry and biology are based. . . . (Leslie 1989, 3-6)

These cosmological fine-tunings and the evidential considerations based upon them are strengthened when attention is also paid to the extraordinary concurrence of terrestrial circumstances that favour the sustenance of life on the earth. Because the earth is "a planet of the right size, orbiting a star of the right kind, enveloped by an atmosphere with the right composition, and with a hydrosphere unique among the planets, it harbours elements and compounds with extraordinary properties, all propitious and most of them indispensable for the propagation and maintenance of life" (Harris 1991, 58).

The fine-tunings of the universe are particularly impressive for a number of reasons. Firstly, they have to lie within very narrow ranges. "The delicate balance of conditions upon which life depends is", says Craig, "characterized by the interweaving of conditions, such that life depends for its existence, not merely upon each individual condition's possessing a value within very narrow limits, but also upon ratios or interactions between values and forces which must likewise lie within narrow parameters" (1990, 134). For instance, "Given the four forces and the kind of formula which governs their operation (e.g., approximately an inverse square law of gravitational attraction), the constants which appear in those laws have to lie within very narrow ranges; and given an initial singularity, the initial velocity of recession has to lie within a very narrow range" (Swinburne 1990, 163). As Leslie sees it, "Important, too, is that force strengths and particle masses are distributed across enormous ranges. The nuclear strong force is (roughly) a hundred times stronger than electromagnetism, which is in turn ten thousand times stronger than the nuclear weak force, which is itself some ten thousand billion billion billion times stronger than gravity" (1989, 6). Secondly, these extraordinary delicate ranges have a very crucial or even necessary role for the existence and evolution of intelligent life. According to Swinburne, "the crucial point is that any *slight* variation in these would make life impossible" (1990, 163).

One of the basic debates hinged on the factual side of these providential arrangements comes from the assertion that fine-tunings "are not in fact a series of separate and unrelated conditions but that they all flow at various removes from the state of the primal fireball in the first few moments of its 'explosion'" (Hick 1989, 85; see for similar ideas, Parsons 1989, 93-94). The development of inflationary models could give some force to this criticism. Indeed, as Barrow and Tipler say, "If inflation does occur during the early stages of the Universe then many apparently disjoint aspects of the Universe's structure can be linked together and the number of free independent parameters that could characterize a long-lived Big Bang universe is considerably reduced" (1986, 438). However, they also say that "This cannot be done with any confidence yet, because there is still no working model of inflation that produces all the advantageous results simultaneously without a special *ad hoc* choice of the free parameters involved" (455). They go on to point out that "inflation leaves a number of important issues untouched" and "the biggest problem with the inflationary picture is the puzzle of the cosmological constant" (438). So most quantities and constants of nature seem to be unrelated to each other. But it seems that whether fundamental constants are unrelated or related to each other is not so important from the standpoint of the teleological argument. For it can be suggested together with Craig that "even if it were possible to reduce all the physical and cosmological

quantities to a single equation governing the whole of nature, such a complex equation could itself be seen as the supreme instance of teleology and design" (1990, 134f). As E. Harris puts it clearly,

> if, as contemporary developments in unified gauge and superstring theories portend, there was originally only one force, from which the known four have "frozen out" – if there is only one primary equation from which all physical forms can be deduced, and only one theory that will eliminate all anomalies and provide all the necessary symmetries - then the delicate equilibria and the precise concurrence of factors that precondition the emergence of life must have been implicit from the beginning (1991, 60).

The discoveries of contemporary science in this regard look so impressive that for some people the argument is almost complete and enables one to speak about the existence of God or at least about a mind playing an essential role in the functioning of the architecture of the universe (see, Dyson 1979, 251). It seems that cosmic coincidences or fine-tunings of the universe which are necessary conditions of the existence of intelligent life on Earth are some of the newest and most impressive illustrations of the first premise of the modern argument from design, that is, the universe exhibits a high degree of order, or in brief, is ordered. They have even shown that the universe is not just ordered, but incredibly and remarkably ordered and fine-tuned; and it is so not only at recent points in cosmic history or in the area surrounding the earth, but also in all parts of the universe from its very early stages. This is such an evidential phenomenon for the argument from design that it strongly calls for some explanation.

In this case, it is thought by some philosophers recently that "the strongest argument in support of Design is that life's prerequisites are so numerous" (Leslie 1978, 79), and that these are "newly discovered indications of Design" (Leslie 1982, 141). They illustrate "the sort of wider teleology which Tennant emphasised, but could only dimly envision" (Craig 1990, 134). As we have seen in the beginning of the chapter, this sort of argumentation has also been used by al-Ghazali and other Muslim scholars. Al-Ghazali's argument from wisdom, starting from the heavens and ending up with human beings was a kind of wider teleological argument; and what he called "marvellous, well-ordered system" is being called today a "fine-tuned" universe, naturally in support of almost incomparable scientific data.

Briefly, these modern quantitative considerations "contribute strongly to a modern theist's Design Argument" (Leslie 1988a, 248). The existence of fine-tuning provides a new, sound, and scientifically established ground for the truth of the statement that the universe is ordered and supplies a great deal of strong evidence for a best-explanation type of argument to work well and efficiently. Even though it is neither as near to the daily experience of human beings nor as easy to understand as are some other versions, with these scientific and anthropic characteristics the argument from fine-tuning of the universe is superior to the other new or traditional versions. It is also "immune" to any of the implications of evolutionary theory and is "unaffected" or "unscathed" by them (Schlesinger 1988, 124; Barrow and Tipler 1986, 30). It has even provided a cosmic background for the versions mainly based on living beings which have lost credibility on their own since the rise of Darwinian explanations.

Before passing on to the way in which the evidence here is explained and interpreted in different directions, we should also see another new version. This version is very similar to the argument from fine-tuning of the universe in its scientific basis; but the emphasis is on a slightly different concept, namely, the world's conformity to scientific laws.

The World's Conformity to Scientific Laws

This version or approach is usually presented in connection with the name of Richard Swinburne. He has defended this version in various works since his article "The Argument from Design", published in 1968, and has called it "the teleological argument from the temporal order of the world" (1979, 136). What Swinburne means by temporal order or, in his other words, by regularities of succession is "simple patterns of behaviour of objects, such as their behaviour in accordance with the laws of nature - for example, Newton's laws" (1979, 133). So it might simply be defined as nature's conformity to scientific or natural laws.

We have previously examined a version based on the fine-tuning of the universe, and now we are dealing with its conformity to scientific laws. The former version was based mainly on order in the initial conditions of the universe while this one is about the laws of the universe. It will be useful to point out the relationship and difference between them. Stephen Hawking suggests by implying their difference that "this order should apply not only to the laws, but also to the conditions at the boundary of space-time that specify the initial state of the universe" (1990, 123). Initial conditions are statements about particular systems; and the laws are statements about classes of phenomena. Paul Davies states this:

> It is a simple law, for example, that a ball thrown in the air will follow a parabolic path. However, there are many different parabolas. Some are tall and thin, others low and shallow. The particular parabola followed by a particular ball will depend on the speed and angle of projection. These are referred to as 'initial conditions.' The parabola law plus the initial conditions determine the path of the ball uniquely (1992, 87).

As Swinburne sees it, "A state of affairs or event *E* is explained if some state of affairs or event *C* ["known as the initial conditions"] together with a law of nature *L* entail that *C* physically necessitates (or makes it physically probable that) *E*. Laws of nature state that states or events of a certain kind physically necessitate or make probable events of a certain other kind" (1979, 30).

Swinburne has formulated it by taking the previous criticisms of the design argument raised by Hume and Darwin into consideration and has given it a form apparently immune to these sorts of objections. In his formulation and assessment of the argument in terms of Bayes's theorem, he takes hypothesis *h* to be the hypothesis of theism, background knowledge *k* to be the existence of a complex physical universe, and evidence *e* to be the "conformity of the world to order," or in other words, "the existence of order in the world" (1979, 144). According to him, the evidence *e* is an overwhelmingly striking fact: the all-pervasiveness of a few fundamental scientific laws. He expresses this as follows:

> Regularities of succession are all-pervasive. For simple laws govern almost all successions of events. In books of physics, chemistry, and biology we can learn how almost everything in the world behaves. The laws of their behaviour can be set out by relatively simple formulae which men can understand and by means of which they can successfully predict the future. The orderliness of the universe to which I draw attention here is its conformity to formula, to simple, formulable, scientific laws. The orderliness of the universe in this respect is a very striking fact about it. The universe might so naturally have been chaotic, but it is not - it is very orderly. (1979, 136)

Among these natural or scientific laws, Swinburne concentrates especially, but not exclusively, on the operation of "the most general laws of nature, that is, the orderliness of nature in conforming to very general laws" (1989, 127; 1968, 204). Because, in his view, science can explain the operation of some narrow regularity or law in terms of a wider or more general law; but it cannot explain by its very nature "why there are the most general laws of nature that there are." And examples of these most fundamental laws, to him, would perhaps be "the field equations of Einstein's General Theory of Relativity, or perhaps there are some yet more fundamental laws," which science may not yet have discovered (1989, 127). Pointing out that the orderliness of the universe in this respect is a very striking fact, Swinburne insists, like Tennant, that "the universe might so naturally have been chaotic, but it is not - it is very orderly" (1979, 136). And this orderliness is not an ordinary and temporary one. By contrast, "over centuries long, long ago and over distances distant in millions of light years from ourselves the same universal orderliness reigns" (1979, 140). Yet, according to B. Davies's interpretation, the point that scientific laws can be framed and expectations reasonably made about the behaviour of things over a very wide area of space and time is not to say that there is a rigid causal nexus such that the state of the universe at any given time necessitates its state at a later time. Nor is it to say that, given certain conditions, then such and such effects must follow. It is not even to say that there is temporal order to be discerned everywhere in the universe. "But it is to say what we certainly believe: that, as Swinburne insists, there are very many objects making up the universe and behaving in a generally uniform way" (1993, 114).

Thus, Swinburne claims to reconstruct the first premise of the argument from design "in a more modern and clearly inductive way" (1989, 127). He suggests that this form is affected neither by the classical objections of Hume nor by the Darwinian theory of evolution because it has been reconstructed "in a form which does not rely on the premises shown to be false by Darwin" (1979, 135). It is true that the evidence of this version is immune and unaffected by the Darwinian criticism as well as the previous one. However this does not mean that it is immune to any objection. Anthony O'Hear, for example, criticizes Swinburne as follows:

> Swinburne talks confidently of the *all*-pervasiveness of temporal order, as if this is something we have or could have evidence for. . . . Even leaving these doubts aside there is a certain naivety in thinking of the entire universe as a system with the sort of stability Swinburne seems to envisage . . . . In any case, although we do have to postulate a continuing order in the world in order to theorize scientifically about it at all, such a postulation does not in itself show that there is order or that, if there is, it is *all*-pervasive. (1984, 134)

There are two main objections here to be considered: one is relevant to the all-pervasiveness of the temporal order or of natural laws, the other is relevant to the degree of stability of order in the world. It seems that these objections have almost no force against Swinburne's assertions. Because his considerations look much closer to the truth or at least much closer to what is said by many contemporary scientists or cosmologists. For instance, what Paul Davies says about the properties of natural laws seems to go far beyond Swinburne's talk of their all-pervasiveness. He points out, going completely against O'Hear's remarks, that:

First and foremost, the laws are universal. . . . The laws are taken to apply unfailingly everywhere in the universe and at all epochs of cosmic history. No exceptions are permitted. . . .

Second, the laws are absolute. . . . They do not depend on who is observing nature. . . .

. . . Third and most important. . . : They are eternal. The timeless, eternal character of the laws is reflected in the mathematical structures employed to model the physical world. . . .

Fourth, the laws are omnipotent. By this I mean that nothing escapes them. . . (1992, 82-83).

Working with this view, Swinburne's idea about the all-pervasiveness of the temporal order does not seem to be mistaken or groundless as O'Hear implies. When it comes to the degree of stability of order in the world, it also does not seem to be a controversial issue, as O'Hear suggests. It is true that our universe has a high degree of stability, and we now know it better. Indeed, as Stephen Hawking says, "The whole history of science has been the gradual realization that events do not happen in an arbitrary manner, but they reflect a certain underlying order, which may or may not be divinely inspired" (1990, 122). So the evidence of Swinburne's argument from temporal order seems to be established on a very modern, sound, and invulnerable ground which can easily be affected neither by Darwinian nor any other sort of criticisms. It can be concluded for the moment, together with Brian Davies, that Swinburne's argument from temporal order "starts with a premise which few modern people would wish to dispute" (1993, 114).

Ismail Raji al-Faruqi has a slightly different approach from classical Islamic versions in his teleological argument; and his approach is quite similar to Swinburne's version. He bases his argument from "the orderly universe" mainly on "the immutable laws of nature"; and supports his views with the Qur'anic verses, like 17:77, "In Our path, you will find no change of pattern", (and also 33:38; 40:85; 33:62; and 30:30). To observe God's action in nature is to do natural science, "For the divine initiative in nature is none other than the immutable laws with which God had endowed nature" (1992, 51, see also, 52, 53). It seems that, for al-Faruqi, the discoveries of natural science are one of the good ways of observing God's existence, action, and attributes. Especially the order of the universe based on the immutable laws of nature is one of the evidential facts leading to, or supporting, the belief in God's existence.

In fact, M. Zia Ullah has also argued in the same direction. The heavenly bodies keep coursing in their appointed orbits in space, with a precision unmatched by the most precise time-keepers made by human beings. "This is made possible by a supreme order, by a system of laws which rules the entire universe. But from where came these laws, this order?" (p. 10-11)

Evaluation: The Many-Worlds Hypotheses and Divine Design

Having examined some general illustrations drawn from some striking features of the physical world, we should now examine whether they reasonably lead to the conclusion of the argument, that is, the existence of an intelligent Designer or God. For most people, the crucial premise in the argument from design is the first one: the existence of design, or teleological order, in the world. When this premise is presented and understood well enough, the argument is almost complete. The conclusion reaches the mind immediately as an intuition or insight based on that empirical evidence of design seen around the world. Nevertheless, serious effort is needed to establish the connection between the evidences and the conclusion on more objective and rational grounds. It seems that there are two ways in which the first premise, observational evidences of design, can be conjoined to the conclusion of God's existence as their intelligent Designer. These two ways can simply be stated as the way of probability and the way of analogy.

In order to arrive from evidence to the conclusion, some writers prefer the way of considering the best explanation among the possible or alleged alternatives, and some others prefer the way of analogy. Both are available and could be found in historical Islamic presentations. For example, from the evidence of wondrous wisdom in the creatures to arrive at his conclusion of God's existence, al-Ghazali uses different sorts of analogies. We have mentioned one of his analogies between a house and the universe. Here is another one, the analogy of the art of writing: "Anyone who saw regular lines of writing proceeding in an orderly fashion from a scribe, yet who doubted that the scribe has knowledge of the art writing, would be a fool." Surely, anyone who doubts that the maker of the world has power and knowledge is no less a fool.

Al-Ghazali goes further. He calls the conclusion that the maker of the world is powerful and knowing a "necessary" inference, by which he means an inference requiring no demonstration because the "intellect confirms it without proof" (see Davidson 1987, 234). But most of the teleological arguments al-Ghazali, Ibn Rushd and the other scholars use are based on the probability calculus of different alternatives, particularly the alternative of occurrence by chance as opposite to divine design and creation. The Ikhwan al-Safa conclude, for instance, that the ingenious arrangement of the celestial spheres cannot have come about by chance but must have "occurred through the intention of an intending agent . . . [who is] wise and powerful" (see Ibid., 225). It seems that the epistemic, or simply reasonable, way of probability calculus among the alternative explanations of evidential data is more common and more essential for the teleological argument.

Leaving the matter of analogy and its criticisms by Hume to subsequent chapters, we can now deal with the problem of probability. It seems useful to take up the way of probability as distinct from the way of analogy particularly from the point of view of the defender of the argument. There seems to be a quite common tendency among the critics of the argument not to see the mode of probability or any other way except that of analogy. Even today, after so many contemporary versions of a probabilistic argument for the existence of divine design, the critic tends to describe the argument as if it were just an analogical argument, and then to criticize it through well-known objections to analogy used in the argument.

There might be a number of reasons for choosing this sort of treatment. The analogical argument may be found more attractive by the critic simply because it is

easy to criticise, both because of its own relatively weak logical structure and because such criticisms have been available in Hume's books for two centuries. On the other hand, the version of probability is seemingly more forceful. In the view of A. C. Ewing, for instance, "The force of the argument from design depends mainly on its being an argument from inverse probability and not from analogy" (1965-66, 39). For although this version is open to serious objections as we will now see, in comparative terms it is apparently neither as weak as analogical reasoning by its logical nature, nor subject to all the many criticisms raised against analogy for centuries.

It seems, therefore, that the probability variant of the argument should be distinguished as clearly as possible from the analogical variant by proponents of the argument, and that it should not also be quickly overlooked by opponents of the argument. It is not difficult to differentiate between them. As R. Hambourger puts it clearly, "Arguments of this second sort, notice, are not analogical arguments. They do not claim that the natural phenomena they hold to have resulted from design are very much like human artifacts. Instead, they hope to show on other grounds that the phenomena need explanation, but can be explained properly only as results of design" (1979, 113).

It should be pointed out in the beginning that probability is one of those subjects about which there is little agreement in philosophical circles; and the various theories about the meaning of probability, as well as the details of the probability calculus, are highly complex. There are different theories about probability. The 'classical theory', sometimes called the '*a priori* theory of probability', makes computations independently of any sensory observation of actual events. The 'relative frequency theory' depends on actual observations of the frequency with which certain events happen. And the 'subjectivist theory' interprets the meaning of probability in terms of the beliefs of individual people (Hurley 1988, 438-50).

There are a lot of criticisms against using probability in this argument; and indeed it is sometimes claimed that the problem raised by the use of probability is "the crucial" problem of this argument (Mellor 1969, 224). There are two points to be discussed here. Firstly, it is argued in this form of the argument that, given that there are various possible explanations of the world's being as it is, the world's being as it is makes some of these explanations more probable than others. That is to say, at the outset the judgement of probability concerning this question is regarded as possible. But some critics say that it is not possible at all; to resort to probability is wrong from the beginning. So we will discuss this question first, namely, the possibility of probability. Secondly, and as the main part of the argument, it is argued by the proponents of this type of design argument that the most or more probable explanation of the world is in terms of an intelligent supreme designer, while other explanations are less probable because of such and such reasons.

The Probability in the Evaluation of Alternative Metaphysical Views

David Hume is regarded as one of the first philosophers who objected to the use of probability in the argument from design in his discussions of analogical reasoning because there is only one, unique universe. Hume argues that "when two *species* of objects have always been observed to be conjoined together, I can *infer*, by custom, the existence of one wherever I *see* the existence of the other: And this I call an argument from experience. But how this argument can have place, where the objects, as in the present case, are single, individual, without parallel, or specific resemblance, may be difficult to explain" (1947, 149). Even for some non-atheist thinkers, "Hume

is right" (Ward 1982, 94), "Since we are dealing with a unique phenomenon, the category of probability has no proper application to it" (Hick 1973, 28). Antony Flew puts forward the question in more pretentious style. According to him, the necessary uniqueness of the universe is the crux of the objections of the design argument. "How does he [the proponent of the probabilistic design argument] know what is probable or improbable about universes?", he asks, and then argues that "No one could acquire an experience of universes to give him the necessary basis for this sort of judgement of probability or improbability; for the decisive reason that there could not be universes to have experience of" (1966, 74).

In spite of these criticisms, the proponent of the argument has tried to develop probabilistic versions. For the arguments above do not actually seem so convincing or influential upon the teleologist's reasoning. First of all, even if the actual universe is one and unique, it is possible for the human mind to be able to conjecture a lot of possible universes which may be compared with this universe as to which one is more probably the product of design or of chance. As John Leslie points out, experience allows us to discuss expertly even possible universes which are unlike ours in very significant respects. He writes, "Take, for example, a universe whose phase transitions made gravity marginally stronger so that everything recollapsed after only ten seconds. That such a universe *would be lifeless* is far from being purest speculation" (1989, 113).

Moreover, it might be argued that since the design argument does not argue from the sheer fact of the existence of the universe, like some forms of the cosmological argument, but argues from thousands of intriguingly remarkable features of it, the probability talk of the proponent of the design argument cannot be reduced to a single phenomenon of the uniqueness of the universe like a single throw of a dice and cannot therefore be rejected quickly depending on this assumption. For even if the universe is unique, its teleologically important features are numerous. The argument from design argues from these numerous aspects of the universe, apparently unrelated to each other, and balanced on the razor's edge to allow life's evolution, not from the origination or mere existence of the universe. As Paul Davies argues, if a pebble picked up on a beach at random had turned out, for example, to be exactly spherical, surprise would indeed have been justified, even if its spherical nature had not been specified in advance. "Likewise, a universe that is suitable for human habitation has a special significance for us that is absent for the vast majority of other possible universes: those that are uninhabitable" (1983, 170). It is this special character of the universe as requiring various factors to operate very delicately that seems to allow or even to demand the probability in the argument.

Furthermore it may be suggested that probabilistic considerations could rightly be understood as seeking to reach a probable judgement concerning the truth of more than one alternative and competing explanations of the universe, like the probabilistic truth of the theistic or atheistic explanations of the universe. This is not a probability judgement between a unique universe and nothing at all, or between a unique universe and some other possible states. In this sense, probability is perhaps one of the basic ways to decide on the truth. Besides, the type of the probability used in the design argument does not seem to be a strictly technical probability as in the case of logical or statistical probabilities.

Tennant, for example, relies upon the application of probability as his second premise, and compares the probability of chance process and intelligent design in the sense of considering which one is more probable for the production of the universe. He argues that any hypothesis claiming that rich suggestions of design in the known

world yield no evidence of design in the universe, since our ordered fragment may be but "a chance product", is "overwhelmingly improbable" (1930, 80). "Common-sense reasonableness, or mother-wit . . ., regards the 'probability' that the apparent preparedness of the world to be a theatre of life is due to 'chance' . . . (is) infinitesimally small" (1930, 87). He further argues that the hypothesis claiming that the universe is the result of intelligent design is much more probable. "The forcibleness of Nature's suggestion that she is the outcome of intelligent design lies . . . in the conspiration of innumerable causes to produce, by their united and reciprocal action, and to maintain, a general order of Nature" (1930, 79). Finally he infers that the second hypothesis is therefore more probably true. For, "Nature and man, empirically studied, may strongly suggest that the world is an outcome of intelligence and purpose" (1930, 117).

Nevertheless, Tennant does not argue that this kind of probabilistic inference supplies a coercive statistical or logical demonstration in favour of theism. He appeals to "reasonable, if alogical, probability" to justify theism, and says that "if the inference from cumulative adaptiveness to design be non-logical, as is admitted, it at least is not unreasonable" (1930, 111). However, D. H. Mellor, one of Tennant's main critics in this context, distinguishes the three main kinds of probability statements – statistical, subjective, and inductive probability – and claims that Tennant relies upon these probabilities, especially the first and the third ones. In each case he concludes that it is misleading to use probability in such context at all (1969, 223). But it is difficult to see the relationship between the probability that Tennant has actually tried and the three kinds of probability that Mellor has examined and ascribed to him. For as we have just seen, Tennant's probability relies mainly upon being 'reasonable'; and he also clearly points out that it is 'alogical', 'non-logical', or 'not mathematical'. With respect to Mellor's probabilities, in his own words, "Kinds of probability differ in the ways they are established, subjective probability by psychological enquiry, statistical probability by statistical experiment, inductive probability perhaps by logical enquiry" (1969, 232). Whereas, it appears that Tennant's probability is established neither by psychological or logical enquiry, nor by statistical experiment, "as one might suppose from reading Mellor's article but not Tennant himself" (Sturch 1972, 16).

One can say with John Hick, another principal critic of Tennant, that Tennant is fully aware of the fact that any notion of probability properly invoked by a comprehensive teleological argument must be other than the usual statistical or logical concept, and indeed argues to the same effect (1970, 29). Tennant is quite clear as to the kind of probability he uses when he considers the objection. "That, if the world be the sole instance of its kind, or be analogous to a single throw, there can be no talk of chances or of antecedent probability in connexion with our question." He replies to this question by pointing out some characteristics of his probability thesis: "Sound as this caution is, it does not affect the teleologist; for, when he calls coincidence on the vast scale improbable, he has in mind not mathematical probability, or a logical relation, but the alogical probability which is the guide of life and which has been found to be the ultimate basis of all scientific induction" (1930, 88). Thus, Tennant generally calls his concept of probability "alogical probability" and characterises it as "reasonable" or "not unreasonable" even if it is "alogical", "non-logical", or "not mathematical". His position seems to be that when the human mind surveys the universe in which it finds itself, its conviction that this indefinitely complex cosmos could not have come into being in a completely random and unplanned way is a reasonable, even though not a logically compelling, conviction, reflecting a real

implausibility or (alogical) improbability in the hypothesis that all is by chance (Hick 1970, 28; see also, Helm 1973, 99-100).

Nevertheless, objections have been raised that even this non-mathematical and alogical concept of probability is not applicable to religious matters or, sometimes more specifically, to the argument from design. For example, in Hick's view, judgements on alternative phenomena of the universe adduced by theists and naturalists are "intuitive and personal, and the notion of probability, if it is applied, no longer has any objective meaning". In other words, "there is no objective sense in which one consistent and comprehensive world-view can be described as inherently more probable than another" (1970, 32-33). Hick presents a peculiar analogical reasoning against use of probability in the design argument. He asks a question first: "Can we however perhaps say that a simpler universe, devoid of galaxies, would have been *a priori* more likely than one containing galaxies; so that the existence of the actual universe has an initial improbability that increases with every additional complexity? In that case we could judge our universe to be prodigiously improbable and might then invoke an anti-improbability factor (which we could call God) to account for it" (1989, 86). It seems to us that the question here should be answered affirmatively. For it is almost a universal knowledge drawn from the daily experience of all human beings, that simple things are easier and more probable to form than complex ones. But without discussing this matter further, let us continue our examination of the rest of Hick's argument.

In order to reject the conclusion, Hick seeks to answer this question negatively by mentioning an analogical state based on the statistical improbability of someone's being alive. After giving a detailed statistical and biological explanation of conception, he says, "The antecedent improbability of an individual being conceived who is precisely *me* is thus already quite staggering" (1989, 89). In other words, the improbability comes from the astronomical number of different potential individuals in the millions of sperm cells each carrying a different genetic code. He applies his calculation to each of his parents, and then to each of their parents and so on back through all the generations of human life, the wider evolution of life on this earth, the formation of galaxies and the whole cosmic evolution of the universe back to the big bang. Then he concludes that "As a result the antecedent improbability that the unique individual who is *me* should now exist is inconceivably great" (1989, 89). Thus, he comes to the concluding remarks of his analogical reasoning: "The virtual infinity of unrealised world-states and unconceived people which seems to surround us as a cloud of rejected possibilities does not in fact exist. The only reality is the actual course of the universe, with ourselves as part of it. And there is no objective sense in which this is either more or less probable than any other possible universe" (1989, 90).

The basic points in Hick's argument, particularly working with his conclusion, might perhaps be put simply as follows:

(1) The virtual infinity of unrealised world states resembles the virtual infinity of unconceived people.

(2) The virtual infinity of unconceived people does not in fact exist.

(3) In that case, the virtual infinity of unrealised world-states also does not in fact exist.

(4) Therefore, the only reality is the actual course of the universe.

(5) Therefore, there cannot be an argument about this actual universe in terms of the probability of its existence.

Although this is a very interesting and impressive argument from analogy, it does not seem to be a strong one. There is not enough resemblance between unrealised world-states and unconceived people, for while the former is a logical or speculative possibility, the latter is a real biological potentiality. There are some other differences as well. In the case of 'unconceived people', the actualisation of any of the millions of potentialities is almost equally probable because all of them have an almost equal genetic complement. Whereas, in the case of "unrealised world-states", the actualisation of any of the possibilities can never be equally probable or improbable because almost each of these virtually infinite possible world-states will have their own specific feature so long as there is no logical or empirical reason for them to have the same characteristics. The premises of Hick's analogy seem to be incapable of leading to the conclusion in the face of these dissimilarities. Then Hick's argument does not succeed in showing that there cannot be any talk of probability concerning our actual universe.

In spite of all this, Hick accepts that probabilistic judgements are applied by many people concerning their conviction as to the existence or non-existence of God. He writes, "It is of course a fact that as men have looked at the world and have been especially struck by this or that aspect of it they have concluded that there is (or that there is not) a God, or have found in the world confirmation of an already formed conviction as to the existence (or non-existence) of God in terms varying in degree from 'it seems on the whole more likely than not' to 'it is overwhelmingly more probable'" (1970, 30). In that case, Hick's objection to probability might be said to be essentially practical, that is to say, the probability judgement seems impossible to apply in such a manner. For the results of probabilistic judgements carried out are always "intuitive" or "purely personal and imponderable 'hunch' or 'feeling'" and not "objective" (Hick 1970, 30-32). The reason why they are so is that the universe is capable of being thought and experienced in both religious and naturalistic ways. "In this post-Enlightenment age of doubt," Hick writes, "we have realised that the universe is religiously ambiguous. It evokes and sustains non-religious as well as religious responses" (1989, 73).

Though one can see the force of Hick's points, they do not succeed in showing that to disambiguate the universe is impossible or unimportant. Since "the question is important and affects the way we live our lives, it is hard in practice to make no decision" (Lofmark 1990, 101f). For only one of the widely opposed and strongly competing world-views would really be true. And in this case, for an intellectually responsible person, it is worth seeking the truth. It is always open to a person to seek a disambiguating evidence or argument changing the apparent ambiguity of the world or the equality of the probability of the alternative world-views in favour of his or her choice. And it seems quite possible to find an "experience, discovery, or argument that rendered it irrational to hold one world-view rather than another" (Penelhum 1993, 173). Terence Penelhum even gives some examples of possibly disambiguating arguments from recent discussions in favour of religious or non-religious views. According to him, a negative result would follow if one accepted Richard Dawkins's case in *The Blind Watchmaker* against the belief in providential guidance of the evolutionary processes. On the other hand, potentially disambiguating arguments of a positive nature are recent design arguments based on alleged fine-tuning in the initial expansion of the cosmos, or Richard Swinburne's contention that biological explanations are incapable of rendering intelligible the existence of consciousness in higher organisms (1993, 173). In this case, Hick's objection to use of probability in

the design argument because of the ambiguity of the universe would not seem convincing.

We can, therefore, say that Hick's criticisms do not seem strongly negative to Tennant's probabilistic argument from design. Tennant speaks of the 'reasonableness' of probabilistic conclusion, not the 'objectivity' of it, which seems quite a reasonable middle-path, in contrast, seems to polarise the argument by contrasting terms like 'purely personal feeling' with 'objective meaning' in metaphysical systems. One can, of course, agree with Hick that there cannot be a strictly objective meaning in this kind of judgement; but there may be more than purely personal feeling. To prefer one metaphysical system to another, for example, design to chance or vice versa, seems to be at least similar to preferring one social or economic systems to another. That is to say, there are some reasonable or rational criteria, even though not everybody accepts them. What Tennant has tried to argue looks similar in being neither purely personal nor purely too objective a probability judgement. Indeed, Basil Mitchell's rational, cumulative case for religious belief supplies good examples from critical exegesis and history that "theology is not alone in relying on arguments which have force but cannot be regarded as demonstrations or as based on strict probabilities. If there are such cumulative arguments, theological reasoning would certainly seem to make use of them" (1973, 59).

Richard Swinburne is another important advocate of the probabilistic argument from design. First of all, he distinguishes between two different kinds of argument: Firstly, valid deductive arguments, in which the truth of the premises makes the truth of the conclusion certain. Secondly, other arguments which are not deductively valid, but in which the truth of the premises in some sense 'supports' or 'confirms' or 'gives strength to' the conclusion. Arguments of this general kind are often characterised as 'good' or 'correct' or 'strong' inductive arguments. He calls an inductive argument in which the premises make the conclusion probable a correct P-inductive argument; and an argument in which the premises add to the probability of the conclusion (i.e. make the conclusion more likely or more probable than it would otherwise be) a correct C-inductive argument. In this case, he says that the premises 'confirm' the conclusion. And he also maintains that most of the arguments of scientists from their observational evidence to conclusions are not deductively valid, but are inductive arguments of one of the above two kinds (1979, 5-7).

Swinburne also distinguishes between two kinds of explanation, which he calls scientific and personal. Swinburne develops and uses an emended version of Hempel's account of scientific explanation. "The occurrence of a phenomenon *E* is explained in terms of initial events or states *C* (the 'initial conditions' including the cause) and natural laws *L*, when *C* and *L* conjointly physically necessitate or make highly probable the occurrence of *E*" (1979, 42-43). In personal explanation, however, "The occurrence of a phenomenon *E* is explained as brought about by a rational agent *P* doing some action intentionally" (1979, 32). In this kind of explanation, "*E* is fully explained when we have cited the agent *P*, his intention *J* that *E* occur, and his basic powers *X* which include the capacity to bring about *E*" (1979, 33). Therefore, the crucial point here, from Swinburne's perspective, is whether the personal explanation in terms of a theistic God's intention is the best explanation of the existence and nature of the world.

The concept of 'argument to the best explanation' has such different uses as "specifically causal explanation" and "making a state of affairs intelligible". According to the first sort of explanation, God, it is claimed, causally explains the existence of some phenomenon such as the universe. Richard Swinburne is the

clearest proponent of theistic explanation conceived of first way, namely, causal explanation (Prevost 1990, 4-5). He defines theistic explanation causally thus: "All important *a posteriori* arguments for the existence of God have a common characteristic. They all purport to be arguments to an explanation of the phenomena described in the premises in terms of the action of an agent who intentionally brought about those phenomena. . . . An argument from design argues from the design of the world to a person, God, who intentionally made it thus" (1979, 19-20).

For Swinburne, the criteria for judging the worth both of proposed theories of personal explanation, and proposed theories of scientific explanation are the prior probability and explanatory power of the theory. The prior probability of a theory is "a matter of its fit with background knowledge, its simplicity, and its lack of scope" (1979, 63). But, "for large-scale theories the crucial determinant of prior probability is simplicity" (1979, 53). In the case of theories of personal explanation, simplicity is "a matter of postulating constant intentions, continuing capacities, and simple ways of acquiring beliefs." Thus, "the less detail a theory provides about a person's intentions, capacities, etc. the more likely it is to be true" (1979, 63). In other words, a theory, whether scientific or personal, is simple "in so far as it postulates few entities and reasons (i.e. laws or intentions) of a simple kind" (1979, 77). A theory's explanatory power depends on two things: first, its "predictive power", which is a matter of the theory's "ability to predict the phenomena which we in fact observe;" second, "low prior probability" of evidence, that is, the phenomena which theory predicts "must be such that but for it they would not otherwise be expected." Thus, "A theory has high explanatory power in so far as it has high predictive power and the evidence has low prior probability, that is, low probability, unless we suppose our theory to be true" (1979, 63). In a clearer expression, in terms of Bayes's Theorem, "To be good arguments (that is, to provide evidence for their hypothesis), arguments of this kind must satisfy three criteria. First, the phenomena which they cite as evidence must not be very likely to occur in the normal course of things. . . . Secondly, the phenomena must be much more to be expected if the hypothesis is true. . . . Thirdly, the hypothesis must be simple" (Swinburne 1991, 230).

One of the main objections to using Bayes's theorem in this argument is that "a theorem which requires numerical proportions for its operation is here being used without any exact values" (Hick 1989, 108). In fact, Swinburne too is aware of the impossibility of using numerical values and of reaching a quantitative conclusion. But he insists that it is possible to apply Bayes's theorem to the matter of God without having any numerical values. He makes clear that in so far as for various *e*, *h* and *k*, the probabilities occurring in it can be given a numerical value, it correctly states the numerical relationships; but in so far as the various *e*, *h*, and *k* cannot be given precise numerical values, his claim that Bayes's theorem is true is simply the claim that "all statements of comparative probability which are entitled by the theorem are true." And, by statements of comparative probability he means "statements about one probability being greater than, or equal to, or less than another probability" (1979, 65).

It seems that it may really be difficult to reach or establish, and even to assume, an exactly equal probability of two alternative theories; but it may not be so in the case of being greater or less than another probability. This kind of probabilistic judgement relating alternative theories may also be found in scientific literature, for example, as in the case of the Steady-State Theory and the Big-Bang Theory, or the theory of evolution and the idea of creationism, where superior probabilities may not be stated in terms of exact numerical or quantitative values.

Indeed, even Alvin Plantinga, who seems strongly against making probability statements about the world and God (see, 1979, 30-47), appeals to probability in some cases, which are not easy to differentiate from the other cases in which he criticises the appeal to probability. In the case of whether to decide the truth of the theory of evolution or of the doctrine of creation, he says, "We must make as careful an estimate as we can of the degrees of warrant of the conflicting doctrines; we may then make a judgement as to where the balance of probability lies, or alternatively, we may suspend judgement" (1991a, 14). It is worth noting that he makes his judgement as to the former, namely, the balance of probability. Thus, Swinburne seems to be right when he says, "We might judge one scientific theory to be more probable than another on the same evidence, while denying that its probability has an exact numerical value; or we may judge a prediction to be more probable than not and so to have a probability of greater than ½ , while again denying that that probability has an exact numerical value" (1979, 17). He also seems right, therefore, when he uses qualitative probability statements regarding the arguments for and against the existence of God.

Another objection to Swinburne comes from D. Z. Phillips. He argues by asking, "If religious beliefs are matters of probability, should we not reformulate religious beliefs so that the natural expressions of them become less misleading? Should we not say from now on, 'I believe that it is highly probable that there is an almighty God, maker of heaven and earth'; . . .?" (1985, 92). One can understand the point Phillips makes, but his suggestion is still open to question. There is a difference to be respected between the attitude and language of a religious believer, in the case of pure faith during prayer or at normal times, and his or her attitude and language when discussing the biggest problem of metaphysics, namely, whether or not God exists. In the latter case, to talk of a high probability of God's existence seems perfectly reasonable, and would not require any reformulation at all. These two cases would not conflict with each other even in one person's religious belief. For what Anthony Kenny says in a similar context seems to be expressed here, if we understand or replace the word "argument" with the word "language". Kenny says, "There is a difference between the kind of argument which may be used by one religious believer to another religious believer, and the kinds of argument which the believer must use to the unbeliever" (1992, 64). So Phillips' objection to the use of probability is an insufficient reason to think that use of probability language about God's existence is wrong.

Keith Ward objects to the users of probability methods in general and to Swinburne in particular by asking, "If it was probable that God exists, why do all observers not agree?" (1982, 95). It seems to be difficult to understand Ward here in relation to the meaning of the words "probable" and "all". For probabilistic statements or propositions cannot be expected to cover all cases, and perhaps it is because of this characteristic that they are not necessary, but probable. But this question seems more odd when asked by someone who has "defended the view that God is logically necessary being" (Ward 1982, 94); in other words, who has defended clearly that "Its existence is not probable . . . but necessary" (Ward 1982, 98). For while Ward's question above cannot be a right question to ask somebody who talks in probabilistic terms, it may be a fair question (with a change of only one concept), to a person defending the necessary existence of God: if it was *necessary* that God exist, why do all observers not agree? So Ward's objection does not seem convincing.

Keith Ward also objects to Swinburne because of his "very wide use of the idea of simplicity" (1982, 93). He asks, "Is it really simpler to suppose that a cosmic

'person' (as Swinburne terms God) brings the world into being than that there are one or two ultimate physical laws and an initial state such as is posited by the big bang theory, from which all things develop by random motion?" (1982, 97). He goes on to argue that "It does not seem to me very plausible to say that the necessary and incomprehensibly great creator of all is a very simple being . . . Nor is it clear to me that it would not be simpler to eliminate him from the scene altogether. Nor can I see how the possession of an unlimited, infinite degree of power is simpler than the possession of some finite degree of it" (1982, 97).

The essence of these objections seems correct especially when regarded as objection to the very wide use of simplicity, rather than as rejecting the idea completely. Swinburne really says in his *The Existence of God* that simplicity is "a dominant theme of this book" (1979, 56). Ward is not alone among the theists, leave aside the atheists, who criticise the arguably excessive use of simplicity by Swinburne. Some of them complain that Swinburne "puts far too much weight on the very controversial notion of simplicity" (Purtill 1985, 523), while others suggest that he "relies upon a stronger form of the principle of simplicity than is admissible" (Wynn 1993, 333). It might be argued that Swinburne's putting all the weight into simplicity may be true for his overall position in his *The Existence of God* or for his version of the cosmological argument, but not for his version of the teleological argument (see, 1979, 144, 147).

Nevertheless, regarding the status of simplicity in Swinburne's position, one might suggest, in agreement with the critics above, that the idea of simplicity should not be regarded as the most crucial part in Bayesian probability, at least in the design argument. The three criteria of arguments of this kind are: that the phenomena cited as evidence must not be very likely to occur in the normal course of events, that the phenomena must be much more to be expected if the hypothesis is true, and that the hypothesis must be simple. These should not all be regarded as equally important, nor should the last one be regarded as the most important. They may rather be said to have relative or different degrees of importance in the total picture of the argumentation.

In order of importance they may be ranged from the first to the last. That is to say, the most important of the three criteria seems to be the first one concerning the fact that evidence must not be very likely to occur in the normal course of things, or in other words, that the phenomena cited or evidence would be highly unlikely unless there is a God. For if, as Swinburne argues, there are only two kinds of explanation, namely, scientific and personal, and if scientific explanation cannot explain the evidential phenomena which cannot also be left as unexplained brute fact, then the second alternative left is almost certainly established. If this be true, then even if the second and third criteria are important supportive parts of the probable truth of the hypothesis, they are not the most crucial or even more crucial than the first one.

It might also be noted that the second criteria, the argument from God's character, seems somewhat removed from the empirical character of the argument from design. The third one, simplicity, does seem more important in the matter of different understandings of God, rather than God's existence. It can be a good criterion in deciding whether polytheism or monotheism are more likely true or which monotheistic God model is more probably true.

Hence, the first criterion seems to be the crucial one, not the last one. Besides, when the importance is given to the first, it seems possible and reasonable to bring classical probabilistic versions like Tennant's nearer to Swinburne's Bayesian version and to evaluate them more or less in the same line of thought.

Therefore, we can now say that judgements relying upon qualitative probability are one of the ways in which such metaphysical problems may be solved, at least tentatively and on a personal level. As Hugh Montefiore says, "Personal faith in God involves personal choice, but decisions about intellectual belief require the balancing of probabilities" (1985, 6). For from the point of view of a fideist theist or an ordinary believer, belief in God may be a matter of pure faith, not of probability or anything similar. Perhaps, for some dogmatic atheists, disbelief in God may be in a similar situation. But the philosophical situation of an open-minded person, at least at the beginning of the decisive process of developing his or her inherited belief to an investigated level, or when he or she faces a situation in which to defend personal religious belief because of some intellectual challenges, seems to be a matter of discussion. That is, of taking account of alternative explanations and of evaluating them rationally - even if objectivity, in the strict sense, is impossible - and so, a matter of probability: of seeing which of the alternative belief systems or explanations is more likely to be true, reasonable, adequate, satisfactory and so forth. In other words, the matter of the existence of God may seem to be a matter of probability in a philosophical context, although it does not seem so on the higher levels of religious faith. The appeal to probability seems to be possible, reasonable, and even in some cases unavoidable in the philosophical treatment of religious issues. Thus, it is also completely consistent with both an *a posteriori* first premise and an inductive conclusion of the argument from design.

We have already seen that the universe has some outstanding features suggestive of well-orderedness or fine-tuning. We have just concluded that it is possible to appeal to probabilistic appraisals for some alternative explanations relating to these features of the universe. Now we should ask whether the universe as described makes the theistic explanation in terms of the existence of God more probable than other kinds of alternative explanations. In other words, which kind of explanation or world-view is more probably true in relation to some basic features of the universe.

Many Worlds with Randomized Properties or Divine Design?

We have seen our universe to be spectacularly fine-tuned for producing carbon-based intelligent life. Slight changes in the strengths of its main forces, in the ratioins of its particle masses, and in some initial conditions would have prevented life's evolution. As John Leslie recalls, "Look again at that figure of one part in 10^{100}, representing how accurately gravity may have to be adjusted to the weak force for the cosmos not to suffer swift collapse or explosion. Recall the claim that changing by one part in 10^{40} the balance between gravity and electromagnetism could have made stars burn too fast or too slowly for life's purposes" (1988a, 248). Recognising these coincidences "as a simple accident would be too naive an explanation" (Zycinsky 1987, 327). Given that this pattern of discoveries has compelled many scientists and philosophers to conclude that such a delicate balance cannot be simply dismissed as coincidence, how will they be explained? Or, from the design argument's point of view, how will their connection with God's existence be established? In other words, how is the second premise of the argument from design based on these fine-tunings?

There have been three developments since the discovery of these coincidences. They appear to be related to each other in some points, and alternatives to each other in others points: the anthropic principle, many worlds hypotheses, and revival in the theistic design hypothesis of the argument from design. While the second and the third ones seem to be alternatives one to the other, the relationship of the first with the

others is more complicated. For some thinkers the real alternatives seem to be the design and the many worlds hypotheses (Leslie 1988b, 269; Zycinsky 1987, 327), while for others the alternative to the design hypothesis is the anthropic principles (Craig 1990, 135; Hawking 1990, 125).

This matter seems quite complicated and confusing, even at times in the same paper. For example, John Leslie, one of the most outstanding and prolific writers in this subject, writes on the one page that "Religious thinkers might wish to treat the observed fine tuning as evidence of God's power and ingenuity. Atheists will prefer to appeal to the anthropic principle" (1993, 68). According to this statement, the alternative explanations of the fine tuning of the universe are God's design and the anthropic principle. He writes on the next page, however, that "Our universe's fine-tuned character truly is a sign either of God's hand or of the existence of multiple universes with randomized properties" (1993, 69). In this statement, the competing hypotheses seem to be God's design and the hypothesis of world ensembles. Afterwards he writes: "Our universe's life-permitting character can be thought in special need of explanation because there are two tidy ways in which it might be explained. It might be explained by reference to God, or it might be explained - rendered unmysterious - by reference to greatly many, greatly varied universes and to an observational selection effect" (1993, 69). In these sentences, the alternatives are said to be two, namely, God and many universes, but one more point is added, namely, an observational selection effect, which is in fact an essential part of the weak anthropic principle. In this case, what is the exact relationship between fine tunings of the universe, and the other three concepts, the anthropic principles, many world hypotheses, and the idea of God's design? More particularly, what is the real alternative or competing hypothesis to the design hypothesis as an explanation of fine tunings, and which one of them is more likely to be true?

One of the first results of the discovery of cosmic coincidences is the anthropic principle. After first being proposed by the physicist Brandon Carter in 1974, the anthropic principle has frequently been seen in scientific and cosmological works, either in books or in leading and popular journals written by physicists or cosmologists. Then, it has attracted the interest of philosophers of science, who have written many works on it. "Anthropic reasoning has been seen as holding the promise of a new methodology of scientific explanation that places Man (or perhaps Consciousness or Observership) at the centre of our understanding of nature" (Earmann 1987, 307). It has also driven philosophers of religion assess it from the point of view of belief in God's existence. The anthropic principle has assumed a number of different forms, generating a great deal of confusion concerning what it is precisely that the principle asserts. "Even a casual glance at the rapidly expanding literature reveals that the AP is not a single, unified principle but rather a complicated network of postulates, techniques, and attitudes. Faced with such a diversity of ideas and conflicting claims about their usefulness and validity," (Earman 1987, 307) it seems best to begin with direct quotations from Carter, who first proposed the principle, and from Barrow and Tipler, who stated various versions of the principle in their recent monumental book, *The Anthropic Cosmological Principle*. The more important versions of the Principle are the "Weak Anthropic Principle" ("WAP" for short) and the "Strong Anthropic Principle" ("SAP" for short) even if there are others such as the "Participatory Anthropic Principle" and the "Final Anthropic Principle". The weak Anthropic Principle (WAP) is stated as follows:

> . . . we must be prepared to take account of the fact that our location in the universe is necessarily privileged to the extent of being compatible with our existence as observers. (Carter 1990, 127)
>
> The observed values of all physical and cosmological quantities are not equally probable but they take on values restricted by the requirement that there exist sites where carbon-based life can evolve and by the requirement that the Universe be old enough for it to have already done so. (Barrow and Tipler 1986, 16)

Strong Anthropic Principle (SAP) is expressed in ways such as the following:

> . . . the Universe (and hence the fundamental parameters on which it depends) must be such as to admit the creation of observers within it at some stage. (Carter 1990, 129)
>
> The Universe must have those properties which allow life to develop within it at some stage in its history. (Barrow and Tipler 1986, 21)

Leaving aside the discussions of the physicists and cosmologists on the anthropic principles, the evaluations of the philosophers of religion seem to find them not as important as anthropic coincidences. They particularly disagree with and criticise some kind of "interpretations", "far-reaching implications", "philosophical viewpoints", or "extremely speculative assumptions" in the Anthropic Principle. Because, as such, the Anthropic Principle is considered to be one of the "two 'ways out'" (Swinburne 1990, 165) to avoid the conclusion that such life provide substantial evidence for the existence of God. Even, "as Barrow and Tipler employ it," Craig claims, "the Anthropic Principle is essentially an attempt to complete the job, begun by Darwinian evolution, of dismantling the teleological argument by showing that the appearance of design in the physical and cosmological quantities of the universe is just that: an *appearance* due to the self-selection factor imposed on our observations by our own existence" (Craig 1990, 389). Indeed, not only some cosmologists, but also some biologists like Richard Dawkins, have appealed similar considerations to the self-selection effect of the weak anthropic principle. Dawkins argues that "Obviously all the planets that we see orbiting the sun must be travelling at exactly the right speed to keep them in their orbits, or we wouldn't see them there because they wouldn't be there!" (1991, 44).

Swinburne considers the weak anthropic principle as interpreted by Barrow and Tipler to be "a trivial truth." "To be true, a theory must be compatible with evidently true data of observation. However, Barrow and Tipler easily slide into careless expositions of the principle, carrying interpretations which would render it obviously false" (Swinburne 1990, 165). For example for such interpretations Swinburne quotes Barrow and Tipler's view that "many observations of the natural world, although remarkable *a priori,* can be seen in this light as inevitable consequences of our own existence" (1986, 219). For Swinburne, "this suggestion is nonsense. The laws of nature and boundary conditions cause our existence; we do not cause theirs" (1990, 165). The most crucial point where the argument from design and the anthropic principles negatively confront each other is in the implication of the WAP that we ought not to be surprised at observing the universe to be as it is, for if it were not as it is, we could not observe it. According to this implication, "Our own existence acts as

a selection effect in assessing the various properties of the universe" (Craig 1990, 137). Barrow and Tipler claim in this context that:

> The basic features of the Universe, including such properties as its shape, size, age, and laws of change must be *observed* to be of a type that allows the evolution of the observers, for if intelligent life did not evolve in an otherwise possible universe, it is obvious that no one would be asking the reason for the observed shape, size, age, and so forth of the universe.(1986, 1-2)

> We should emphasise once again that the enormous improbability of the evolution of intelligent life in general and *Homo sapiens* in particular does not mean we should be amazed we exist at all.(1986, 138)

It is this philosophical viewpoint, rather than WAP itself, which according to Craig, "stands opposed to the teleological argument and constitutes scientific naturalism's most recent answer to that argument." According to the Anthropic Principle, an attitude of surprise at the delicately balanced features of the universe essential to life is inappropriate; we should expect the universe to look this way. While this does not explain the origin of those features, it shows that no explanation is necessary. Hence, to posit a divine Designer is gratuitous" (1990, 138- 39). However, this apparent answer to the design argument seems quite mistaken. This can be clearly seen by means of an illustration originally found in John Leslie and then developed by some other philosophers. According to Leslie, "the Anthropic Principle cannot be taken as telling us that our world's laws and initial conditions . . . *ought not to arouse our curiosity at all*," because that would be like saying, "If the thousand men of the firing squad hadn't all missed me then I shouldn't be here to discuss the fact, so I've no reason to find it curious" (1982, 150). In Swinburne's version of this illustration, there are twelve expert marksmen in the firing squad, and they fire twelve rounds each. However, on this occasion all 144 shots miss. The prisoner laughs and comments that the event is not something requiring any explanation because if the marksmen had not missed, he would not be here to observe them having done so. "But of course," Swinburne says, "the prisoner's comment is absurd; the marksmen all having missed is indeed something requiring explanation; and so too is what goes with it - the prisoner being alive to observe it" (1990, 165). And, as Craig puts it, "While it is true that . . . you should not be surprised that you do not observe that you are dead, nonetheless it is equally true that . . . you should be surprised that you do observe that you are alive". He concludes that:

> Similarly, while we should not be surprised that we do not observe features of the universe which are incompatible with our existence, it is nevertheless true that . . .We should be surprised that we do observe features of the universe which are compatible with our existence . . . . Therefore, the attempt of the Anthropic Philosophy to stave off our surprise at the basic features of the universe fails. It does not after all follow from WAP that our surprise at the basic features of the universe is unwarranted or inappropriate and that they do not therefore cry out for explanation. (1990, 140-41)

Fine tunings of the universe really are surprising and require a satisfactory explanation. For they are very impressive empirical findings to discover that what seem to be widely varied facts really cannot vary widely, indeed, that many of them can hardly vary at all and have the universe develop the matter, life, and mind it has generated. "What we have is a bomb blast (the big bang) that is fine-tuned to produce a world that produces us, when almost any other imaginable blast would have yielded nothing. What we have is friends in (a Friend behind) what would otherwise be a firing squad, a chaotic blast" (Rolston 1987, 72). The explanation in this illustration will be either that it was an accident (a most unusual chance event) or that it was planned (e.g., all the marksmen had been bribed to miss). So, "Any interpretation of an anthropic principle which suggests that the evolution of observers is something which requires no explanation . . . is false" (Swinburne 1990, 165).

Therefore, it seems that the 'WAP self-selection effect', or, 'the Anthropic Philosophy' has no real force against the design hypothesis based on the fine tuning of the universe. For as the widely used firing squad story makes clear, it is not convincing at all. In addition to that analogical story, it might be suggested that such an approach as assuming that we should not be surprised at observing fine tunings of the universe, for if they were not as they are we could not be here to observe them, would also be contrary to the general research mentality. For example, a scientist, especially a biologist or a zoologist, cannot reasonably argue that we should not be surprised at, and should not require an explanation of, the disappearence of dinosaurs 65 million years ago. He cannot argue that if dinosaurs had not disappeared, mammals including us would not have evolved and spread, and we would not have been here to research why dinosaurs disappeared. But the scientists' search for reasons for the disappearance of dinosaurs has apparently been useful for the evolution of intelligent life which would not have happened had they not disappeared. In the same way, we should seek an explanation for the case of the fine tuning of the universe which has been necessary for the evolution of intelligent life while, without it, the universe would have been a chaotic unfruitful mess. We can conclude about one of the WAP's main theses, namely, the self-selection effect, together with E. Harris that "It is not because we are here that the world comes to be so disposed, but rather the opposite. So-called anthropic explanations are misused if they are understood to suggest such a reversal of causal connections. It is because the world is thus ordered, because the terrestrial environment is so precisely suited to the emergence of life and the development of a biosphere, that human beings have evolved and we are able to investigate the conditions of our own being. Our observation and reflection are not the efficient causes of what they reveal to us, although, as will become apparent later, they may well be its final cause" (1991, 58-59).

As for the Strong Anthropic Principle (SAP), its more speculative structure leads to more varied kinds of interpretations, including the 'teleological' version which supports the design hypothesis. The terms "must be" and "must have" in the cited formulations of the strong anthropic principle are sometimes understood or interpreted teleologically. This is "to continue in the tradition of the classical Design Arguments," according to Barrow and Tipler, and to claim that: "*There exists one possible Universe 'designed' with the goal of generating and sustaining 'observers'*" (1986, 22). This purposive formulation of the strong anthropic principle "explains the efficacy of the W.A.P. by asserting that the universe evolved properties sufficient for the generation of life *in order to* bring about life. It is the presence of the term "in order to" which of course identifies this model as teleological, that is, goal-directed. In this case, the goal is the existence of life. . . .

Moreover, although several different versions have been broached, ultimately, they all lead back to some sort of supernatural entity, whose intentions and purposes it is that the cosmic teleology expresses" (Gale 1986, 106f). Some scientists, like Harvard chemist Lawrence Henderson and British astrophysicist Fred Hoyle, and some philosophers, like John Leslie, have been regarded as typical examples of supporters of this purposive teleological interpretation of the strong anthropic principle (see, Barrow and Tippler 1986, 22; Gale 1986, 106). "For obvious reasons," however, as George Gale says, "The purposive version of the anthropic principle is not satisfying to many contemporary cosmologists. . . . Who are committed to naturalism" (1986, 107).

According to Barrow and Tipler, the purposive interpretation above "does not appear to be open to either proof or to disproof" (1986, 22). This seems true to some extent. But it cannot mean at all that it is wrong. On the other hand, perhaps the other alternative too, namely, the many worlds hypothesis, which will be examined soon, cannot appear to be more open to proof than this interpretation.

There are other interpretations of the strong anthropic principle. Most of them are criticised by philosophers of religion. While Swinburne sees Barrow and Tipler's Strong Anthropic Principle as "ambiguously" expressed and "very dubious" (1990, 166). John Hick re-expresses Carter's Strong Anthropic Principle as "because we are here the universe *had* to be such as to produce us," and evaluates this as follows:

> This proposition, I suggest, is either an empty truth or a substantial falsehood. The empty truth derives from the tautology that what is, is. Since the universe is such as to have produced us, then it is such as to have produced us. The substantial falsehood is the inference that the universe *had* to be such as to produce us, so that there could not have been a different universe which did not include ourselves. But from the fact that a cosmos without observers would not have been observed we cannot legitimately infer that there could not have been a different universe, devoid of observers. (1989, 93)

It seems that the main alternative interpretation of the Strong Anthropic Principle for the design hypothesis or argument is the one that claims that "an ensemble of other different universes is necessary for the existence of our Universe;" and this statement, "receives support from the 'Many Worlds' interpretation of quantum mechanics" (Barrow and Tipler 1986, 22; see also, Smith 1985, 339). Even "many philosophers . . . notice that the Many Universes hypothesis is needed if the Strong Principle is to do any interesting work" (Leslie 1986, 115). So, it seems that the destiny of the design hypothesis in the anthropic context depends considerably on the position of the hypothesis of a World Ensemble or of Many Worlds, that is whether it acts as an interpretation of the Strong Anthropic Principle as it is regarded in some approaches or as an independent alternative explanatory hypothesis, as it is regarded in some others.

It might be said that the anthropic principle in general and both weak and strong forms of it in particular seem to be quite ambiguous from the religious or non-religious point of view, rather than a clear cut, straightforward position for the matters in question. In other words, both forms of it seem to be open to be interpreted and have actually been interpreted as favouring both theism and atheism. For this reason, while on the one hand some say that the anthropic principle supports the design

argument, others, on the other hand, can say that the anthropic principle supports atheism, as we have seen.

The weak anthropic principle might be said to have two characteristics. One is its factual, or more scientific side: it expresses the *fact* that the universe has fine-tuned properties. The second is its more metaphysical or philosophical side: it expresses the fact that observed fine-tuned properties of the universe are *self-selected* by the fact that they must be consistent with our own existence. When the first side of it is taken into consideration, it certainly supports the design argument. Indeed, W.L. Craig rightly says that once the central fallacy of the self-selection effect is removed, Barrow and Tipler's book, *The Anthropic Cosmological Principle*, "becomes for the design argument in the twentieth century what Paley's *Natural Theology* was in the nineteenth, viz., a compendium of the data of contemporary science which point to a design in nature inexplicable in natural terms and therefore pointing to the Divine Designer" (1988, 393). Thus, when its second side, the self-selection effect, is considered, the weak anthropic principle rejects the main idea of the design argument; but it has been seen that this is not a convincingly true implication.

The strong anthropic principle might also be said to have two mainly different interpretations. One is the teleological interpretation leading back to a supernatural designer, and the other is some non-teleological, naturalistic interpretations. Needless to say, the first one supports the design hypothesis. Hence, those saying that the strong anthropic principle supports the argument are right in this context. But when its other interpretations are considered, people are right in considering them to go against the argument. In this case, it can be concluded that the anthropic principles, being able to be interpreted in various ways, are not proper alternatives to the design hypothesis. So the real conflict seems to be between the many-worlds hypotheses and the idea of divine design.

As indicated earlier, one way of accounting for the fine-tuning of the world's properties to suit life's needs would be to suppose that there exists an ensemble of numerous 'Worlds' or 'universes' with very varied properties. Ours would be one of the rare ones in which living beings could evolve. Postulating many worlds or universes is, in Swinburne's view, "a marginally more plausible way to avoid the theistic conclusion" (1990, 166). Various theories have been offered for generating multiple universes or a World Ensemble. For Example, J. A. Wheeler proposes a model of the oscillating universe: Big Bang, Big Squeeze, Big Bang, and so on, in which each cycle emerges with a new set of physical laws and constants. A. D. Linde suggests an inflationary model according to which our observable universe is but one of many different mini-universes which inflated from the original larger Universe. One of the most widely and seriously discussed World Ensemble scenarios in the scientific literature is H. Everett's Many-World quantum theory. It is usually understood as giving us a capital-U Universe which branches into more and more Worlds that interact hardly at all. Each World represents one choice among the sets of events which quantum mechanics views as having been truly possible (Craig 1990, 142-43; Leslie 1989, 6-8, see for details, 66-103).

However, each of these above scenarios "faces formidable scientific and philosophical objections" (Craig 1990, 143). Considered in general, from a philosophical point of view, they represent about the most extreme negation of "Ockham's razor", according to which the most plausible of a set of possible explanations is that which contains the simplest ideas and least number of assumptions. To invoke an infinity of other universes just to explain the remarkable

features of our *one* observable world is surely carrying excess baggage to cosmic extremes (Davies 1983, 173; Davis 1987, 143-44).

From a purely scientific view, the many-worlds hypotheses are neither verifiable nor falsifiable by any conceivable experiment. There is simply no experiment that could reveal the existence of these "other worlds". For "the many-universe theorists concede that the 'other worlds' of their theory can never, even in principle, be inspected. Travel between quantum 'branches' is forbidden. Moreover, the ordered regions in the infinite or oscillating model universes are separated by such huge expanses of space or time that no observer can ever verify or refute empirically the existence of the many universes" (Davies 1983, 173). In this case, "To postulate infinitely many worlds in order to save a preferred interpretation of a formula, which is no way obviously simpler than the alternative explanation, and to avoid having to postulate a very narrow range of boundary conditions (which have to lie within a certain range anyway), seems crazy" (Swinburne 1990, 171). For, "It is hard to see how such a purely theoretical construct can ever be used as an *explanation*, in the scientific sense, of a feature of nature. Of course, one might find it easier to believe in an infinite array of universes than in an infinite Deity, but such a belief must rest on faith rather than observation" (Davies 1983, 173f). Therefore, "Faced with such difficulties, we could judge it altogether better to reject the many-universes approach, putting our trust instead in the God hypothesis" (Leslie 1985, 112). Because, "If the God hypothesis provides us a surer passage, why not avail ourselves of it?" (Craig 1990, 146). But does the God hypothesis really provide us a surer passage, and so, is it more likely true than the many world-hypotheses that does not seem to provide an adequate explanation for fine-tuned properties of the universe?

Swinburne concludes that "The existence of God is much more likely on the evidence of our life-producing world than the existence of "many worlds." . . . The existence of our world with its power to produce intelligent life (and of other such worlds if they exist) is therefore confirming evidence of the existence of God" (1990, 172). That Swinburne is right seems to be quite obvious. For if the many world hypotheses, the only competing alternative of divine design, are not physics but metaphysics, then, as John Polkinghorne says, "A metaphysical suggestion of equal coherence and greater economy would be that there is only one universe, which is the way it is because it is not 'any old world' but the creation of a Creator who wills it to be capable of fruitful process" (1990, 90). Consequently, this version of the argument from design, which even in the view of Antony Flew is the "most powerful form of argument to design" (1991, 143), seems to provide quite sound and reasonable grounds for belief in the existence of God as the source of the most satisfactory explanation of fine-tuning of the universe. As such it makes God's existence highly probable. Needless to say, it does not "prove" the existence of God. However, it is very consistent with the idea of God's existence and design, at least more consistent than the alternative of many-world hypotheses, and quite suggestive and supportive of the belief in an intelligent Designer, God. As Keith Ward says:

> There may be no proofs of God in physics. But it is no longer true that physics has rendered God superfluous. On the contrary, it is the strongest indicator that our physical world is founded on universal principles so elegant and beautiful, so ordered and interrelated, that it suggests to the mind with almost overwhelming force that the basis of this world is one rational and conscious creator, who has imprinted in

> the heavens and on the earth the manifest marks of his handiwork. (1986, 57)

In spite of all the negative ideas of well-known theist philosophers and scientists above concerning the many world hypotheses, it should be added finally that the many world hypotheses and the concept of divine design have not necessarily to be understood as mutually exclusive alternatives. Even if the many worlds had been true, this did not mean that the other worlds and ours do not need a fine-tuned design and the Designer. How can an atheist know that the other worlds are less ordered and much more chaotic and fruitless than ours? By contrast if the only world we know and we can use as a clue for the structure of the others is the world we live in, and if this is very fine-tuned, then the analogical reasoning should arrive at a conclusion that the other worlds must have been at least as well designed as this one; and this requires a much more intelligent and powerful Designer (Yaran 1999, 136; see also, Collins 2002, 135). In addition, the religious literature, particularly the holy texts are not alien to the concept of worlds. For example, the first chapter of the Qur'an, which every practicing Muslim recite several times a day starts with a few words that combine the concept of worlds with God: "Praise be to Allah the Cherisher and Sustainer of the Worlds" (1/2). It is interpreted as "Allah cares for all the worlds He has created" (see The Holy Qur'an, 1410 H., 3).

Humean Randomness, Stratonician Atheism, or Personal Explanation?

We have also seen that the universe is a more or less intelligible cosmos, and conforms to the most general laws of nature, while it might have been a chaotic mess. It has been argued that for this feature of the universe which needs an explanation, non-theistic philosophy can assign no good reason, while theism can. However, it has been objected that "Whereas Swinburne says that 'the universe might so naturally have been chaotic', it is hard to see how there could be things at all without their having some regular ways of working" (Mackie 1982, 148); "for . . . no describable world can fail to exhibit some regularity" (Ayer 1991, 207). Does this objection apply? It may be replied that it does not. For, first of all, our universe could actually have been otherwise, much less regular or chaotic. And so many world-states can be described which can fail to exhibit some regularity. If our universe were not ordered, it could be a universe, for example, in which things changed at random, without rhyme or reason. Flames would be hot one moment, cold another, water would freeze in the fire and melt there next time, nothing would retain its weight or solidity but vary and fluctuate. Nothing could be counted on, there would be one chaotic whirl of change. "This," argues H. D. Lewis, "would not give us a world at all, certainly not the world in which we could live and function as we do know" (1965, 185). As Paul Davies also says more technically perhaps, "There are endless ways in which the universe might have been totally chaotic. It might have had no laws at all, or merely an incoherent jumble of laws that caused matter to behave in disorderly or unstable ways. Alternatively, the universe could have been extremely simple to the point of featurelessness - for example, devoid of matter, or of motion. One could also imagine a universe in which conditions changed from moment to moment in a complicated or random way, or even in which everything abruptly ceased to exist. There seem to be no logical obstacle to the idea of such unruly universes" (1992, 195, see also 169-70).

Secondly, our real universe is not like any of these. It is very orderly. It does not even display some sort of apparent, ordinary, and temporary orderliness; but its

orderliness has very special characteristics. According to Davies's description of its specialities, for instance, it is poised interestingly between the extremes of simple regimented orderliness and random complexity. It is undeniably complex. It has a general coherence and unity; so that, the world contains individual objects and systems, but they are structured such that, taken together, they form a unified and consistent whole. In addition to these, there is the curious uniformity of nature. Laws of physics discovered in the laboratory apply equally well to the atoms of a distant galaxy. Moreover, there is also uniformity in the spatial organization of the universe. On a large scale, matter and energy are distributed extremely evenly, and the universe appears to be expanding at the same rate everywhere and in all directions. Furthermore, there is the simplicity of the laws in the sense of their being able to be expressed in terms of simple mathematical functions. Finally, the fact that even slight changes to the way things are might render the universe unobservable is surely a fact of deep significance (1992, 196-200).

So, while it is fully possible for a universe to be an unlawful chaos in spite of contrary assertions which are highly probably wrong, our universe with its initial conditions, natural laws and life-producing character is a very special, very complex, intricately balanced, coincidental, lawful and fruitful cosmos. As such, it is apparently in need of some sort of special explanation.

But does the fact that the universe is complex, uniform, and so on really justify the search for explanation? Should every complex, intricately balanced, fruitful thing have an explanation, which, likewise, the universe would have? This question can be answered positively for a number of reasons. One reason may be said to have come from scientific methodology. As Swinburne puts it, "The history of science shows that we judge that the complex, miscellaneous, coincidental, and diverse need explaining" (1991, 232). For John Leslie too, science supplies a good ground for requiring an explanation to the intriguing characteristics of the universe. Specially, "The intricacy is something which scientists in general and biologists in particular must view as 'special' if they are to do much science" 1989, 118).

Another reason why a life-producing universe needs explaining comes from some analogies drawn from the ordinary experiences of daily life. For example, "When a die falls 6 twenty times in a row, this uniformity is striking. When a straight black line runs across white paper, we actually see the vastly many 'messy possibilities' so studiously avoided by the line, the white points which might have been black in the surrounding area; we at once conclude that the straightness did not come about by chance" (Leslie 1989, 117). We "would look for something explaining why it had continued in that way up to date" (Leslie 1989, 115). The orderliness of the universe contains a lawful process and constructs a complex system. And complex things usually require some sort of explanation as we often see in cases of scientific enquiry and of daily experiences. Therefore, an explanation seems to be required for the temporal order of the universe in particular and for all its many sorts of orderliness.

We mentioned earlier that there are two kinds of explanation in the view of Swinburne: scientific and personal. As for the scientific explanation of evidence *e*, this phenomenon "is clearly something 'too big' to be explained by science. If there is an explanation of the world's order it cannot be a scientific one." That the explanation of the world's order cannot be scientific follows from the nature of scientific explanation. In scientific explanation we explain particular phenomena as brought about by prior phenomena in accord with scientific laws; or we explain the operation of scientific laws in terms of more general scientific laws. "Science thus explains particular phenomena and low-level laws in terms partly of high-level laws. But from

the very nature of science, it cannot explain the highest-level laws of all; for they are that by which it explains all other phenomena" (1979, 138-39). Swinburne reaches his conclusion in this context as follows:

> There are . . . explanations of only two kinds for phenomena - scientific explanation and personal explanation. Yet, although a scientific explanation can be provided of why the more specific powers and liabilities of bodies hold . . . in terms of more general powers and liabilities possessed by all bodies (put it Hempelian terms - why a particular natural law holds in terms of more general natural laws), science cannot explain why all bodies do possess the same very general powers and liabilities. It is with this fact that scientific explanation stops. So either the orderliness of nature is where all explanation stops, or we must postulate an agent of great power and knowledge who brings about through his continuous action that bodies have the same very general powers and liabilities (that the most general natural laws operate); and, once again, the simplest such agent to postulate is one of infinite power, knowledge, and freedom, i.e. God. (1979, 140-41)

It has been objected to Swinburne that the fundamental regularities, or, the chain of explanations can be continued indefinitely. For "No reason has ever been offered why there should be any fundamental laws of nature in this [finite] sense. This is a serious flaw in Swinburne's argument . . . (if) he is going to claim that the explanation for the fundamental laws of nature (if there is one) must be given in terms of an intelligent agent. If there are no fundamental laws the position obviously collapses" (Priest 1981, 424).

This objection is open to question. For, on the one hand, it seems that Swinburne may not rightly be blamed because he has not offered any reason why there should be any fundamental laws of nature. This fact seems almost obvious in the light of generally agreed cosmological views today. As Swinburne says, "What exactly these laws are, science may not yet have discovered - perhaps they are the field equations of Einstein's General Theory of Relativity, or perhaps there are some yet more fundamental laws" 1989, 127; see also 1979, 138f). No matter what exactly they are, in our day in which scientists like Stephen W. Hawking "would hope to find a complete, consistent, unified theory" "of everything in the universe" (1990, 155), the existence of some fundamental laws does not seem too doubtful or questionable.

Moreover, the view that the universe and its fundamental laws have a finite past history has in recent years received strong empirical support from the cosmology. Now "the prevailing cosmological view among scientists is that the universe did have a beginning," expanding from a 'big bang' approximately 15 billion years ago (Craig 1979, 110; see also, 1993, 41-43). On the other hand, even if there were no fundamental laws, the position would not collapse. For, if the assumption is made of an indefinitely continuing chain of laws, "There is no explanation of the operation of the whole series. That the whole series operates will then be the starting-point for an argument from design" (Swinburne 1979, 139). This would be only a different version of the argument from design, not an obviously collapsed position.

Therefore, Swinburne seems to be right in ruling out any scientific explanation of the highest-level laws of nature in its technical sense. Indeed, even Mackie accepts that Swinburne says "rightly" that although science may explain some regularities by

deriving them from others, it cannot explain the highest-level or most fundamental laws (1982, 147).

Nevertheless, though not claiming to be scientific explanation in an entirely technical sense, there are naturalistic efforts to explain the temporal order of the universe, as a better alternative explanation against Swinburne's personal explanation. This is sometimes called the Epicurean account of order and is mainly based on the initial randomness of the universe. J. L. Mackie argued that Swinburne's position would not be reasonable if "there were a strong presumption that the universe is really completely random, that such order as we seem to find in it is just the sort of *local apparent regularity* that we should expect to occur occasionally by pure chance, as in a series of random tosses of a coin we will *sometimes* get a long run of heads, or a simple alternation of heads and tails over a considerable number of throws" (1982, 148).

There are a number of points in Mackie's objection which are worth questioning. Is this presumption really as strong as described? Is the regularity we found in the universe really local and apparent? If what we have discussed and concluded in the first chapter is true, the regularity in the universe is neither local nor apparent. By contrast, it is both all-pervasive and real. How can a really complete randomness account for the evidence cited, that is, the orderliness of the universe in the sense of its conformity to simple, formulable scientific laws? Randomness, too, seems to need an explanation for rational people to accept. How did the fundamental laws occur randomly? Mackie's suggestion is pure chance occurring occasionally. But how can someone be so sure that the universe and its fundamental laws is something we should expect to occur occasionally? Would not such a claim be subjected in a more correct sense to some considerations reminding one of Hume's objections to the design argument; that is to say, would it not be "requisite that we had experience of the origin of worlds" (Hume 1947, 150) to ascertain that our universe's fundamental laws occurred by chance, as in a series of random tosses. This claim seems to require us to have seen the origin of so many universes, some of them conforming to simple scientific laws and producing intelligent life occasionally, and most of the rest not having such a lucky randomness. But, needless to say, this is impossible. "Universes", as C. S. Pierce remarked, "are not as plentiful as blackberries" (qtd. in Flew 1966, 74).

Moreover, Mackie appeals to analogy to justify his account for order as based on randomness. After severely criticising the argument from design simply because of its use of analogy, how can he coherently appeal to the same mode of reasoning, when he alleges that "The initial analogy is indeed pretty remote, and any conclusion to which it points is very vague, so that no new inferences about the world or human life could reasonably be drawn from it" (Mackie 1982, 137). Besides, the analogies used by the proponent of the design argument which Hume and Mackie criticize, that is, analogies based on the similarities of houses, watches and so on produced by a human designer to the world, seem to be much more stronger than Mackie's analogical reasoning above, based on a series of a random tosses of a coin, for the similarity between compared objects or events in the former type of analogy seem to be obviously more than the similarity in the latter. So Mackie's objection seems to have neither self-coherence nor any convincing point. While this objection has a relatively small place in Mackie's overall objections to Swinburne's design argument, however, similar considerations have been constructed in more detail as the centre of the objections in other critics' works.

Anthony O'Hear offers an "Epicurean objection to Swinburne" (1984, 141). Relying on Hume's *Dialogues*, he writes that "What Hume asks us to envisage is a world in which there is originally total chaos and disorder, in which whatever there was moved around constantly and with no appearance of order. . . . According to Hume, any random moving of things must, over a long enough period, produce a semblance of order, must, in other words, achieve whatever stability it can, and having achieved it, continue to maintain itself at least for a time in the stable state, for that is the nature of a stable system" (1982, 136). It may be noted first of all that although O'Hear asserts that this Epicurean explanation "is presented as an alternative to the theistic explanation of temporal order in the world" (1982, 136), that is, to Swinburne's version of the design argument, it does not seem to be a proper alternative to crucial point of Swinburne's argument. For Swinburne's argument depends on the scientifically unexplainable position of the fundamental or highest-level laws of all, not on the incredibleness of the emergence of a degree of stability out of an initially chaotic world over a long time. So it does not seem that O'Hear gives an exact alternative or any directly related objection to Swinburne's position. However, this would not be considered so important if O'Hear were successful in his alternative explanation in general, or at least is closer to the truth than is the proponent of the design argument is.

But the Epicurean or Humean accounts above do not seem to be correct. In the time of Epicurus or even of Hume this explanation could have been seen as a plausible alternative, but in the time of O'Hear this seems much less plausible in the light of present cosmological knowledge. For we know today that the universe was not "originally total chaos and disorder" as Epicurus, Hume and O'Hear suggested. By contrast, fine-tunings, lawfulness and regularity are being found up to the first few minutes of the universe which scientists can access. Some physicists have extrapolated back to the earliest milliseconds of the universe's history and concluded that "the laws of physics deduced here on Earth apply back to 10^{-38} seconds after the beginning" (Rees 1981, 272). The fact that what might plausibly be argued in the time of Epicurus and perhaps of Hume cannot be defended in the same degree of rightness and persuasiveness may also well be seen in A. Peacocke's comparison of classical and contemporary scientific worldviews. His comparison is as follows:

> *Then*, nature was regarded as simple in structure, basically substantive and reducible to a pattern of combination of relatively few entities: *now* we know it is enormously complex, of multitudinous variety, basically relational, consisting of a hierarchy of levels of organization, which are not always conceptually reducible and which span from the baffling *micro*-world of the sub-atomic through the *macro*-world, which includes the biosphere and is within the range of our sense perceptions, to the *mega*-world of inter-galactic distances, of cosmological processes unfolding over billions of years and of the gravitational fields of 'black holes' (1979, 62).

Moreover, Hume was supposing that any random moving of things must produce order "over a long enough period" or "in less than infinite transpositions," as O'Hear writes and defends. But when commonly agreed cosmological views of today are considered, neither the age of the world, which is approximately 15 billion years, is as great as to be compared with the "less than *infinite* time", nor was the order we found in it produced "after a long enough period". Therefore, the Epicurean alternative

which to O'Hear resorts to explain the temporal order of the universe does not seem to be defensible today.

O'Hear also questions "whether the sorts of appeal to cosmic order made by Swinburne are entirely consistent . . . with the currently fashionable ideas of the universe eventually collapsing totally in a black hole" (1982, 138). The essence of the idea that the universe will eventually collapse one day may be said to be perfectly consistent with any theistic appeal to cosmic order. One does not think any theist finds such an idea in principle new, unexpected, surprising or contrary to his or her basic beliefs. For the idea that the universe and naturally its order will come to the end one day is one of the basic classical ideas of theism or of major monotheistic religions; how can it be inconsistent with it? Needless to say, however, that the current scientific ideas that the universe had a beginning and will have an end can cause some problems for atheism, for these were the original, perennial or pre-scientific ideas of theism, while atheism rather defended an infinite universe without beginning or end. Hence, that the universe will eventually collapse is consistent with Swinburne's ideas in spite of O'Hear's conviction. But what is interesting is that it is rather inconsistent with O'Hear's ideas. Because, "If the universe will *eventually collapse* then the cornerstone of atheism will also collapse with it. For if the *universe is not eternal*, then traditional atheism faces *an utter lack of rational explanation*" (Geisler 1984, 138).

Consequently, O'Hear's Epicurean, argument or the Humean alternative to Swinburne's explanation of temporal order in the world, does not seem either to construct a proper alternative to Swinburne's argument, or to be a convincing or defensible one in general. While objections to Swinburne seeking an alternative explanation of the temporal order of the universe as based on initial randomness do not seem successful, Swinburne seems to be right in his view that the most fundamental laws of nature cannot be explained scientifically. But of course this is not enough for the success of his Bayesian argument. This was just one part of it. And it seems that to be successful, as a good argument, it needs to be faced with some other objection or alternative, and to have some more supportive considerations for the probabilistic truth of its own hypothesis.

Thus, Swinburne considers the other possibility, that is, merely leaving this all-pervasive temporal order or the conformity of nature to the most general scientific laws as 'uncaused', 'inexplicable' or 'brute fact'. This seems to be the more proper alternative of the personal explanation of the temporal order of the world in terms of a divine intelligence. As we have just examined, in the view of Swinburne, if there is an explanation of the most general natural laws, it cannot be a scientific one. Science cannot explain why all bodies do possess the same very general powers and liabilities. It is with this fact that scientific explanation stops. "So," he suggests, "either the orderliness of nature is where all explanation stops, or we must postulate an agent of great power and knowledge who brings about through his continuous action that bodies have the same very general powers and liabilities (that the most general natural laws operate)" (1979, 140f). He says more clearly that he "shall take as the alternatives - the first, that the temporal order of the world is where explanation stops, and the second, that the temporal order of the world is due to the agency of God" (1979, 142).

Swinburne argues that the first alternative is an assumption which seems to be not only "strange enough', but also "passing strange". For him, having considered the remarkable features of the world order throughout infinite time and space, (a topic which has been discussed in the second chapters) to say that there is no cause of this

at all “seems incredible”. The complexity of the universe is “too striking to occur unexplained”. In addition, in this case, the orderliness of the universe would be “the orderliness of a coincidence”, and this would not have “the simplicity of a common underlying explanation.” Whereas, “it cries out for explanation in terms of some single common source with the power to produce it” (1979, 145).

Notwithstanding Swinburne’s claims that leaving the most fundamental laws of nature as brute fact seems incredible and strange, some philosophers insist that accepting basic scientific laws as ultimate, or brute fact rather than God as an ultimate agency is preferable. Although apparently unaware of Swinburne’s version of the design argument, Terence Penelhum argues that as the proponent of the design argument shifts his ground by saying that what he considers evidence of design are the fundamental natural laws, “The counterargument here is the simpler one of saying that there is no evidence in favour of the belief that natural laws of this fundamental character have any explanation whatever”. He suggests consequently that “The most general laws of physics . . . are just ultimate facts” (1971, 53). Antony Flew finds Penelhum’s arguments remarkable in this point (1991, 151, and 25-26). He calls this position “the Stratonician atheism,” namely, “that we should take the Universe itself and whatever our scientists discover to be its most fundamental laws as the ultimates in explanation” (1991, 142, and 25; see also, 1966, 71f).

It seems that even if it were possible that the most fundamental laws of nature might be regarded as brute facts in need of no further explanation, this would not be an easy and satisfactory acceptance. For this is not a case we usually come across in either our everyday life experiences or in scientific researches into natural phenomena. What is essential for the human mind is looking for explanations until it has been satisfied. And, as Brian Davies says, “When we are confronted with orderly arrangements of things, and unless we have positive reason to account for them without reference to intelligence, we simply do seek to account for them with reference to intelligence” (1993, 115). Leaving fundamental laws as brute fact is neither a necessary requirement of logic or science nor a satisfying, persuasive stopping-point for common sense reasonableness. By contrast, “Granted that we normally attempt to account for order in terms of intelligence when we lack a definite reason for not doing so, such a reply [as brute fact] seems arbitrary” (Davies 1993, 115).

Fundamental laws might be regarded as brute facts, but can this view be regarded as an explanation for them? It would not seem so. For it leaves unexplained and mysterious what needs to be explained. In this case, perhaps it might be accepted only if there is not any chance of having a better hypothesis explaining the phenomena and so minimising the mystery.

But there does seem to be such an alternative explanation fulfilling these intellectual requirements at least in a more intelligible way. According to Tennant, for instance, theism gives a less mysterious and more complete explanation than any non-theistic philosophy. He argues that such views as that the world “made itself” and that its order has simply happened “gives him [the non-theist] more to explain or to refuse to explain: for why should the many arrange themselves to form an intelligible and an organic whole? If, on the other hand, this be due to an intelligent Creator designing the world to be a theatre for rational life, mystery is minimised, and a possible and sufficient reason is assigned” (1930, 105). In the view of Paul Davies too, “If the divine underpinning of the laws is removed, their existence becomes a profound mystery” (1992, 81). It seems then that the proponent of the idea that the most fundamental laws should be regarded as ultimate or brute facts has not been

convincing at all. They do not succeed in showing that these laws provide a satisfactory stopping-point in themselves and that they do not need a further explanation. They just offer to leave these fundamental laws unexplained on the grounds that we have no way of explaining them. But this is not convincing and satisfactory at all, and so is also not likely to be true.

Swinburne's version of the design argument seems also to rule out the 'brute fact' possibility. In that case, if the evidential phenomenon in question is to receive an explanation and not merely be left as a brute fact, "That explanation must therefore be in terms of the rational choice of a free agent" (Swinburne, 1968, 204). For the evidence "cries out for explanation in terms of some single common source with the power to produce it. Just as we would seek to explain all the coins' of the realm having an identical pattern in terms of their origin from a common mould, or all of many pictures' having a common style in terms of their being painted by the same painter, so too should we seek to explain all physical objects' having the same powers in terms of their deriving them from a common source" (1979, 145).

Apart from the facts that evidence *e* cannot be explained in a scientific way and is very unlikely to occur uncaused and so to be left as brute fact, and that analogical reasoning supports the hypothesis *h*, there is one more ground for adopting the hypothesis: The character of God. Swinburne argues that God has reasons for producing an orderly universe, as opposed to a chaotic one. Firstly, "In so far as some sort of order is a necessary condition of beauty, and it is a good thing - as it surely is - that the world be beautiful rather than ugly, God has reason for creating an orderly universe" (1979, 146). So since beauty is good and necessitates order, God has reason to bring about order for the sake of beauty. It seems to make sense. But this is not all. God has another reason to produce an orderly universe, which seem to us to make much more sense and support for the hypothesis. "Secondly," he argues, "it is good that God should make finite creatures with the opportunity to grow in knowledge and power" (1979, 146). In this case, he goes on to argue, if these creatures are consciously to extend their control of the world, they will need to know how to do so. There will need to be some procedures which they can find out, such that if they follow these procedures, certain events will occur. This entails the existence of temporal order. So he suggests that "God has at least these two reasons for producing an orderly world" (1979, 147).

Swinburne's suppositions about God's character and God's two reasons for creating an orderly world seem correct. But, on the other hand, it seems difficult to understand that he finds the first reason for God's creating an orderly universe, beauty, more powerful or right in this consideration than the second reason, making finite creatures with the opportunity to grow in knowledge and power. He says that "Maybe God has reasons for not making creatures with the opportunity to grow in knowledge and power, and so the second reason for his creating an orderly universe does not apply. But . . . the first surely does" (1979, 147).

One can suggest that if one of these two reasons does surely apply or more probably applies than the other, this should be the second one, not the first. It might be suggested that God may choose whether or not to make a physical universe, but if he chooses to make it, then he has more reason for making creatures with the opportunity to grow in knowledge and power within it, and so for making it orderly, than he has for making it beautiful and so orderly. For it may be argued that even one finite free intelligent creature with the opportunity to grow in knowledge, belief, moral responsibility, love, power, and the like is more valuable and bigger than an entire merely physical universe which is beautiful but has no intelligent observer

(except God), and has no power of being aware of either its own existence or of its creator. As Keith Ward says, "There is a sense in which the smallest and most insignificant conscious being is more valuable than all those millions and millions of light-years of empty space. . . . So an unconscious universe is a universe vithout value" (1984, 26).

If these are too exaggerated ideas of consciousness or human beings, however, then it can be corrected and stated more modestly, together with Barrow and Tipler, that "The existence of life may be no more, but no less, remarkable than the existence of the Universe itself" (1986, 4). Perhaps we should also remember here Pascal's well-known reflection: "All bodies, the firmament, the stars, the earth and its kingdom, are not equal to the lowest mind; for mind knows all these and itself; and these bodies nothing" (quoted in Peacocke 1979, 51).

Nevertheless, the comparative importance of these two reasons given above does not seem as important as the implications of both of them for the God hypothesis in the context of Bayesian design argument. As Swinburne notes, "Human enquiry into divine reasons is a highly speculative matter. But it is nevertheless one in which men are justified in reaching tentative conclusions" (1979, 147). He seems right in his tentative suppositions based on God's character and reasons for creating an orderly world. For particularly free, intelligent, moral creatures like human beings seem to be what are really to be expected if God exists.

Ismail Raji al-Faruqi has similar conclusions. He argues that "If the whole universe itself is really the unfoldings of fulfilment of these laws of nature which are the commandments of God and His will, then the universe is . . . a living theatre set in motion by God's command and action. The theatre itself, as well as all it includes, is explicable in these terms" (1992, 51). It can be concluded that Swinburne's Bayesian argument from design leading to the conclusion of God's existence seems to be a good argument indeed. We have so far examined both his criteria for the design argument and have found that they are really convincing in spite of certain criticisms raised against them. The temporal order of the world needs an explanation. This explanation cannot be a scientific one, and the evidence cannot be left as a brute fact. In this case, the postulation of the simplest agency of infinite power, knowledge, and freedom, namely, God, is almost unavoidable for minimising the mystery and providing a satisfactory explanation, and so is highly probably true. Besides, such considerations as God's reasons for creating an orderly universe and the use of some analogies provide extra grounds for supporting the claim that the temporal order of the universe is evidence for the existence of God; and it increases significantly the probability that there is a God.

It seems reasonable to conclude that the proponents of the design argument based on the wisdom in the created order, the fine tuning of the universe, and its conformity to scientific laws are closer to the truth than their opponents. Materialistic reductionist explanations of these aspects of the universe seem to be inadequate or less convincing than theistic explanations in the various ways we have seen. In contrast, the theistic personal explanation in terms of God's wisdom and design, which is also compatible with scientific explanations, seems more reasonable, plausible, adequate, and so more probably true than its alternatives.

Chapter III
The Argument from Providence (*'Ināyah*)

Having rejected the two classical arguments for the existence of God, Ibn Rushd showed definite predilection for the two versions of the teleological argument, which according to him had a basis in the Qur'an, and were of a more compelling nature than the other arguments. As he interprets the Qur'an, two arguments for the existence of God are recommended there. One of them is an argument from providence (*'ināyah*) which runs as follows: Everything in the world is adapted to the existence and needs of human beings and reveals providence. For example, day and night, sun and moon, four seasons, the earth and everything therein, animals and vegetables, rain, rivers, seas and so on, and also the well-adapted organs of the human and animal body. All are obviously suitable and adapted for the existence and needs of human beings. The adaptation and functionality exhibited throughout the world require an agent who intends and wills it. For it cannot conceivably be due to chance (Ibn Rushd 1968, 65, 66). What Ibn Rushd argues here is not that the whole universe has been created just for the sake of human beings. He disagrees with such an idea in his *Tahāfut al-Tahāfut* (1969, 295). He defends, however, that the universe is suitable for the existence and needs of human beings. This argument can be simply schematized as follows.

1. All beings are suitable for the existence and needs of human beings.
2. This suitability cannot be achieved by chance.
3. Therefore, it is by necessity due to an agent intending to do so by

Evidence: The Anthropic Nature of the World, and Its Beauty

The Anthropic Nature of the World

The world not only displays a marvellous mechanical order; many writers argue from the past to the present time that it also displays a teleological order, or a cosmic teleology. According to al-Faruqi, the order of nature is not merely the material order of causes and effects, the order which space and time and other such theoretical categories make evident to our understanding. "Nature is equally a realm of ends where everything fulfils a purpose and thereby contributes to the prosperity and balance of all. From the little inanimate pebble in the valley, the smallest plankton on the surface of the ocean, the microbial flagellate in the intestine of the woodroach, to the galaxies and their suns, the giant redwoods and whales and elephants - everything in existence, by its genesis and growth, its life and death, fulfils a purpose assigned to it by God, which is necessary for other beings. All creatures are interdependent, and the whole of creation runs because of the perfect harmony which exists between its parts" (al-Faruqi 1992, 55.) He also mentions several Qur'anic verses in this context, one of which is as follows: "Not for (idle) sport did We create the heavens and the earth and all that is between!" (21: 16).

Al-Rumi defends the same idea of purposeful universe in relation to God and human beings in a poetic form with support of some analogies:

Does any painter paint a beautiful picture for the sake of the picture itself?

Nay, his object is to please children or recall departed friends to the memory of those who loved them.

Does any potter mould a jug for the jug's sake and not in hope of water?

Does any calligrapher write for the writing's sake and not for the benefit of the reader?

. . . .

When the barriers in front and behind are lifted, the eye penetrates and reads the tablet of the Invisible.

Such a clairvoyant looks back to the origin of existence - he sees the angels dispute with the Almighty as to making our Father (Adam) His vicegerent. (al-Rumi 1950, 112)

The major purpose of the world is claimed to be related to the moral or spiritual exercise of human beings. Islam "affirms that purposiveness is not only an attribute of every object in nature but is also a predicate of the totality of nature. . . . Islam therefore affirms an end, a purpose to creation, and conceives of that purpose as the moral works of man. To this end, God provided the necessary instruments. . . . Indeed, the teleological system of nature itself is purposive in the higher sense of fulfilling the instrumental ends necessary for man's moral exercise" (al-Faruqi 1986, 316-317). Some recent scientific developments, particularly the anthropic principle in a general context, have given support to this argument.

The argument from providence may be traced up to the early history of the argument from design. It was sometimes considered almost the same as the design argument, and sometimes just as one of its versions. In the West, the eighteenth century writers, for instance, saw the workings of providence primarily in the general constitution and course of things. The world is orderly, subject to law, and its parts are wonderfully suited to each other. God's providence has provided it as a setting for people's moral discipline. It is a world admirably adapted to the purpose for which it was designed. "The meaning of providence in general terms for the eighteenth century can be summed up as the provision by God in his benevolence of a beneficent constitution and course of events which provide the stage and the opportunity for man's preparation for a future life" (Goldhawk 1969, 51f).

In the twentieth century, R. Swinburne has formulated a more specific and limited version of the providence argument. He says that he understands by 'an argument from design' two different arguments: the one is 'the teleological argument' which argues from some general pattern of order in the universe; the other is 'the argument from providence' which argues from the occurrence of provision for the needs of conscious beings (Swinburne 1979, 133). He particularly inquires whether the general circumstances of the world are such as to show that a good God is providing for the basic needs of men and animals, i.e. whether the world is a providential place.

In this world, according to Swinburne, man has the opportunity to provide both for himself and for others. Agents are born and die and during their life give birth, partly through their own choice, to other agents. They can make a difference to the world; but there is endless scope for improvement to it, and each generation can only forward or retard its well-being a little. Agents can make each other happy or unhappy, and can increase or decrease each other's power, knowledge, and freedom. Thereby they can affect the happiness and morality of generations distant in time. Furthermore, there has been the possibility of man's gradual ascent up the evolutionary scale, of man gradually developing his moral and religious awareness,

and of each generation handing on to the next some new facet of that awareness. Man grew in understanding moral truths and in applying them to the case of the less fortunate; he grew in sensitivity to aesthetic beauty and in the creation and appreciation of works of art; in the acquisition of scientific knowledge and in its application to the betterment of the human condition and to the exploration and comprehension of the universe (1979, 195-96). Therefore, our world is a providential place. These views seem to be summarised in the following statements:

> It is providential in giving normally to man (and animals) the opportunity to satisfy their own biological needs for food, drink, safety, etc.; and providential in giving to man (and animals) the opportunity to satisfy the biological and psychological needs of other men and of animals, and so to satisfy their own psychological needs for co-operation, friendship, etc. (1979, 198)

Swinburne's providential version of the argument from design here seem to be based primarily on the satisfaction of biological and psychological needs of human beings and animals in the world they inhabit and on the character of God. The providential state of nature for the needs of human beings looked so striking to some defenders of the argument from design that they dared sometimes to use the term 'purpose' and to consider human beings as the purpose of nature as a whole in some weak or strong sense.

It should be pointed out at this stage, however, that there seem to be two very similar versions of the argument which are often evaluated and criticised as if they are the same, but are actually different at least in respect of some features. Both of them dwell on concepts and facts like purpose, goal, human being, nature and God; and both reason in general from the relationship between human beings and the rest of nature to an intelligent purposive agency, namely, God, from the point of view of cosmic teleology or the goal of the universe as a whole. Nevertheless, one of them more or less claims that the universe exists for the purpose of producing us; it is *only for our sake*, for our use, wants, and services that God created all these things. Human beings are the centre and darling of the world, and the care of them is the adequate work of God. This version can be found abundantly in the Stoic philosophers. In the conversation in Cicero's *The Nature of the Gods* Balbus, a Stoic, argues thus: "In conclusion I must show that everything in the world which we enjoy was made and ordered for our sake. The universe itself was made for both gods and men, and all that is in it was devised and ordered for the use of Man" (Cicero 1972, 185, see for details 177-190).

It seems that this form of the argument from design, which could be called "strong anthropocentric teleology", cannot easily be defended today in the light of our knowledge of the physical immensity of the universe, and even cannot easily be regarded as a preferable version from the point of view of theology. Simply because, as Descartes pointed out, ". . . it is yet not at all probable that all things have been created for us in such a manner that God has had no other end in creating them" (1967, 271). As Paul Badham sees it, "To suppose that in no case has life evolved to a higher state than man seems an incredible assumption to make, and one that does no honour to the wisdom of God" (1984, 53); so, "On both scientific and religious grounds such a notion ought by now to be otiose" (55).

However, there is another form of this purposive version, which could probably be called "weak anthropocentric teleology" or just "anthropic teleology". According

to this form, *most* or s*ome* things, not necessarily all things, in the world will be found to have the best possible *arrangement*, *fitness* or *usefulness* in connection with the existence, safety and preservation of human beings and of *all* things, not merely for the service of human beings. And a major reason among the *possible others* for the creation of the world by God can be its service chiefly to human beings, whose existence can be one of the purposes of God in creating all things, though God and His universe could have other ends, too. This form, too, can be traced back in the history of the design argument, as it can be found cautiously expressed in this century.

It is this second form that Tennant and others here suggested in this century. Tennant sees a close relationship between teleological explanation and an anthropic world-view in his wider teleology, which is a good example for the above-mentioned second form. He describes and defends a kind of anthropocentrism, but in his view, it does not assert that "man . . . is the highest being under God, or the final stage of progressive cosmic evolution, or the end and the whole end of the divine design". Rather, he goes on to explain:

> It is content to allow that the Divine end, in its completeness, is unfathomable. Nor does it imply that lower creatures evolved in the world process are necessarily of but instrumental value as stages or means to ends, and, when not figuring in man's genealogical tree, are mere by-products in the making of humanity. Anthropocentrism rather means that, whereas in the realm of Nature beneath man no final purpose can be discerned, such purpose may be discerned in beings possessed of rationality, appreciation, self-determination, and morality. (1930, 113-14)

We can say consequently that to reach any definite conclusions about purpose or teleology - whether they be in narrower or wider sense - is not as easy as reaching a conclusion about order. However, it seems that both in Ibn Rushd's argument from providence, and in the twentieth century philosophy of religion, argument from the purpose of nature as a whole has been advocated. Yet it appears that none of them have seen human convenience, rationality and morality as the sole object of God's purpose or care, as in some of the Stoic philosophers. What they modestly assert and consider as a sort of evidence of design is that nature as a whole is so providential and intelligible for the needs of human life as a whole, including biological, mental, social, and moral needs, that human beings might naturally be considered as its overall purpose in the limits of our present knowledge, and that this peculiar or even mysterious state forms an evidence requiring an explanation.

The Beauty of Nature

There is a one more evidential fact related to order and purpose of the whole universe, namely, the beauty of nature. As Davidson says, Islamic arguments from design "stress the orderliness or perhaps the beauty, but sometimes the functionality too, of nature as a whole" (1987, 218). So the beauty of the details of nature is also a part of the cumulative teleological argument. Al-Ghazali even talks of the beauty in the color of the sky saying that blue and green are the most suitable colors for the health of the eye and for peace of mind; and the starry heavens are much more beautiful than the ceilings of kings' palaces (1987, 84). When Ibn Hazm turns from the celestial to the terrestrial region in his teleological argument, he assembles data

from animal and plant biology. Unlike most medieval proponents of teleological argumentation, who, when treating the details of nature, saw only their functionality, he underlines the aesthetic side of the details of nature. He admires the skill by which the limbs of the human body are fitted together; the uniform colour patterns of sundry "animals, . . . birds, tortoises, reptiles (hasharat), and fish"; the variegated plumages of other species of bird; the fact that palm tree fiber has a texture as skillfully woven as fabric from a loom (see Davidson 1987, 226).

Mohammad Zia Ullah explains his argument from beauty in more than ten pages. Beauty may be anywhere, in human beings, in external nature. Green landscapes and springs of water - who will not be delighted by them? Beautiful faces - who will not be pleased to see them? But where does the beauty of beautiful things come from? Who has created this beauty? Not self-created, for sure. It is created by God our Creator. The beauty we find in the world around us is proof perfect of the unique, unequalled beauty of our Creator. He writes that "It is possible that on account of his own insensitive mind a person may not feel the impact of beauty when it is present . . . Likewise his own lack of spiritual insight may not permit him to discern in earthly beauty a pointer to the beauty divine, eternal, everlasting, the ultimate source of all other beauty" (Ullah 1984, 32).

The idea of an ascent of the mind to God from the beauty encountered in the physical world is an ancient one (See for historical details, Viladesau 1988, 146-148). In the twentieth century, F. R. Tennant formulated a contemporary approach to God's existence from the philosophical implications of aesthetic experience. He examined 'the aesthetic value of Nature' as the fourth of the main fields of fact which construct his wider teleological argument. Thus, he made the beauty and sublimity of nature the basis of a special teleological argument. However, he also pointed out that "If, as standing by itself, this argument falls short of cogency, the facts from which it sets out may be said to form a link in the chain of evidence which comprehensive teleology presents" (1930, 89). Tennant finds it weak and precarious to treat the beauty of nature as Paley treated organic adaptations; that is to say, as if it were a 'special creation' with no past history or development. The aesthetic argument for theism, he says, "becomes stronger when it takes as the most significant fact not the forthcomingness of beautiful phenomena, but what may be called, with almost negligible need of qualification, the saturation of Nature with beauty" (1930, 91-92). The first proposition of his favourite argument from beauty was stated thus: "On the telescopic and on the microscopic scale, from the starry heaven to the siliceous skeleton of the diatom, in her inward parts (if scientific imagination be veridical) as well as on the surface, in flowers that "blush unseen" and gems that the "unfathomed caves of ocean bear", Nature is sublime or beautiful" (1930, 91).

In the view of Swinburne, too, the world is beautiful, and this is one of its considerably important aspects from the perspective of the arguments of God's existence. He uses 'the argument from beauty' under the title of 'Teleological Arguments,' focuses his argument on the things apart from animals and human beings, and suggests that "if we confine ourselves to the argument from the beauty of the inanimate and plant world, the argument surely works" (1979, 150). He states this beauty as follows:

> Poets and painters and ordinary men down the centuries have long admired the beauty of the orderly procession of the heavenly bodies, the scattering of the galaxies through the heavens (in some ways random, in some ways orderly), and the rocks, sea, and wind

> interacting on earth, 'The spacious firmament on high, and all the blue ethereal sky', the water lapping against 'the old eternal rocks', and the plants of the jungle and of temperate climates, contrasting with the desert and the Arctic wastes. Who in his senses would deny that here is beauty in abundance? (1979, 151)

The beauty of nature is not a matter of purely subjective feelings of individuals or of human species. Today, beauty is widely recognised by physicists as being an important characteristic of the laws of nature, one which has served as a highly successful guide to discovering the fundamental laws of nature in the twentieth century. Some physicists devote chapters to discuss and emphasise the role that considerations of beauty have played in physics. "As embodied in the mathematical structure of physical theory, some of these elements of beauty are: (1) simplicity with variety; (2) proportion and harmony; (3) symmetry; (4) inevitability; (5) ingenuity; and (6) having an 'interesting twist' or a 'strangeness of proportion'." These elements are largely constitutive of the classical concept or type of beauty (Collins 2002, 138). As John Polkinghorne points out "those who work in fundamental physics encounter a world whose large-scale structure (as described by cosmology) and small-scale process (as described by quantum theory) are alike characterised by a wonderful order that is expressible in concise and elegant mathematical terms. … We live in a world whose physical fabric is endowed with transparent rational beauty" (1998, 2; Cf. Landriére 2001, 234).

It seems, then, that nature is really beautiful in a general sense for most people, even though it has got some ugly or evil aspects. Tennant seems correct when he suggests that nature's beauty must not be treated as if it had no past history or development. He is correct again in saying that a defender of the design argument should emphasise the overall sublimity of nature rather than specific of its examples, because especially beauty in living beings is easily subjected to scientific or evolutionary descriptions or explanations. But it might be suggested, on the other hand, that this possibility ought not to cause us to leave the beauty of animals and human beings out of this argument. For they are among the most impressive examples of beauty, and may always be argued to have been designed in one way or another. Finally, it seems also to be true that nature's beauty increases the general order of nature and so contributes to the evidence of the argument from design, even though it cannot perhaps form a very strong evidence on its own.

Evaluation: The Problem of Evil, and Divine Providence

It is implied by Ibn Rushd in his argument from providence that there are two alternative hypotheses to explain the evidential features of the universe: chance, and divine providence. In his view, the providential nature and purposeful functionality exhibited throughout the world cannot conceivably be due to "chance." Therefore, it must, perforce, be the doing of an agent who intends, wills and creates it (Ibn Rushd 1968, 65). Al-Faruqi defends the same idea through rejecting "chance" as an alternative. According to him, the nature of the cosmos is teleological; that is, purposive, out of design. The world has not been created in vain or in sport. It is not the work of chance or happenstance. The world is, indeed, a "cosmos," an orderly creation, not a "chaos." In it, the will of the Creator is always realised (1992, 11,12).

We have examined the providential features of the universe, such as giving to human beings and animals the opportunity to satisfy their biological and

psychological needs, as another aspect of the universe showing that it was teleologically ordered. It is claimed that the very general features of humankind's nature and circumstances described in that context are such as a God has reason for making, and so there is some reason for supposing that God made them. For there are many other worlds, which if there were no God, would be as likely to come into existence as this one, characterised by very different general features. "To take crucial examples, the world might have been one in which the laws of nature were such that there evolved rational agents like men or animals lacking perfect freedom and knowledge, but with the power to hurt each other for endless time or to an infinite intensity." But "the existence of our world rather than of these other worlds, the existence of which is incompatible with the existence of God, which would be equally likely with ours to occur if there is no God, is evidence that God made our world" (Swinburne 1979, 198-99).

Arguing with the same probabilistic methodology through Bayes's theorem as Swinburne, Wesley Salmon claims that the evidence of evil significantly reduces the probability of theism assuming the presence of providential order in the world. He claims that Hume's eloquence, when he speaks through Philo, creates a vivid picture. Evil abounds in the world. Untold misery and suffering plague humankind. He additionally argues that evil is more abundant today than in Hume's day, for "Hume didn't even know about nuclear bombs, chemical and biological warfare, pollution, and overpopulation problems" (1978, 155).

It might be acknowledged that the problem of evil undeniably constitutes a challenge to theism and the design argument, yet it is not an unanswerable problem for the theistic design hypothesis. These instances of evil mentioned by Salmon as additions to Hume's original list have no power to strengthen the classical Humean argument from evil. For, firstly, all of them may be said to be moral evil caused by human agents, not natural evils directly relevant to the design argument. Secondly, the idea of evils which Hume did not know of would not change the proportion of good and evil in Hume's time. For, some good aspects of some apparently evil phenomena have been discovered recently that Hume did not know, either. For example, volcanoes have been one of the commonly used instances of natural evil for almost all the time, including Hume's. Science "was late in recognising the important role of volcanism in the evolution of the Earth." But scientists today agree that "The oceans, atmosphere, and continents owe their origin and evolution in large measure to volcanic processes throughout geologic time" (Decker, and Decker 1991, pp. 512, and 522). Consequently, Salmon's statement that there are some evil phenomena that Hume did not even know does not seem to have really increased the force of Hume's argument. Nor does Salmon seem to prove that the evidence of evil significantly reduces the probability of theism.

Nevertheless, here we need to trespass onto 'the problem of evil' , keeping in mind that we need not become involved in one of the most confused and comprehensive issues of the philosophy of religion more than is necessary. For, as Anthony Kenny said, "If one accepts the argument [from design], then one accepts along with it at least a partial recipe for the problem's solution: for the author of goodness to which the argument leads is by logical necessity the author of the possibility of evil." (1988, 550).

In contemporary philosophical literature, there seem to be two forms of the problem of evil: the logical or deductive problem of evil, and, the evidential or inductive problem of evil. The logical problem of evil (also called the *a priori* argument or the deductive argument from evil), which attempts to show that there is a

logical inconsistency, incompatibility, or contradiction between certain theistic claims about God and evil, is particularly distinguished by the way in which it is a *logical, deductive* or *a priori* argument. Whereas, the argument from design is an *empirical, inductive* and *a posteriori* argument. It also attempts to reach a high degree of *probability* rather than a *logical certainty, proof* or *demonstration* for the existence of God. Therefore, the logical form of the problem of evil is not closely related to the argument from design and for that reason will not be discussed here (see, for its presentation, Mackie 1992, 25-26; McCloskey 1974, 97-112; for some defences, Plantinga 1967, 115-28, 1974, 166-71). But it can only be mentioned that even for some atheist thinkers such as William Rowe, "No one . . . has succeeded in establishing such an extravagant claim [concerning the logical inconsistency]" (1992, 126).

The Evidential Argument of the Problem of Evil

Unlike the logical problem of evil, the evidential problem of evil is inductive, *a posteriori* and non-demonstrative. As such it has a parallel logical structure to the design argument in several places. According to William L. Rowe, the evidential problem of evil is "the form of the problem which holds that the variety and profusion of evil in our world, although perhaps not logically inconsistent with the existence of [God], provides, nevertheless, *rational support* for the belief that the theistic God does not exist" (1978, 86). The facts which give rise to the problem of evil are of two general kinds referred to as 'natural' (or 'physical') and as 'moral' evil. Moral evil, as defined by McCloskey, "is simply immorality - evils such as selfishness, envy, greed, deceit, cruelty, callousness, cowardice and the larger scale evils such as wars and the atrocities they involve" (1960, 100). When it comes to natural evil, it can be defined as follows: "Natural evil is all the instances of pain and suffering - physical and mental - and all states of affairs significantly disadvantageous to the organisms, which are caused by actions for which human agents cannot be held morally blameworthy" (Reichenbach 1982, xi) It appears that the design argument, since it does not infer God from the moral goodness of human beings, is not directly affected by consideration of moral evils. But it is natural evil, especially the quantity of natural evil, that is, of course, one of the major problems for the design argument.

The problem, in Alston's formulation, "is whether the total picture of adaptation and maladaptation, so far as we have it, gives sufficient support to the hypothesis that the world represents the at least partial implementation of a plan that is at least predominantly good" (1967, 87). To resolve this problem one must try to evaluate opposite factors and arrive at a final judgement of their relative predominance. It is true that unfortunately there are no real guidelines for this task. No one knows exactly how much adaptation, relative to maladaptation, would warrant such a conclusion. It is also both logically and practically impossible in a strict sense to compare goods with evils in this world. However, since McCloskey, an outstanding proponent of the problem of evil from an atheistic point of view, finds this kind of comparison to be "not an unreasonable presumption" and actually makes it, someone else, too, may try to make it, or at least to appraise his or the others' comparison and conclusion. He maintains the following:

> However, it is not an unreasonable presumption, with the large bulk of humankind inadequately fed and housed and without adequate medical

> and health services, to suppose that physical evils at present predominate over physical goods. In the light of the facts at our disposal, this would seem to be a much more reasonable conclusion than the conclusion hinted at by Joyce and openly advanced by less cautious theists, namely,-that physical goods in fact outweigh physical evils in the world. (1960, 99-100)

The steps of McCloskey's argument from the amount of natural evil seem to be thus:

(1) The large bulk of humankind is (a) inadequately fed, (b) inadequately housed, (c) without adequate medical, and (d) without adequately health services.

(2) Given this, it is not unreasonable to suppose that physical evils at present predominate over physical goods.

(3) The second step above is a much more reasonable conclusion than the theistic conclusion that physical goods in fact outweigh physical evils in the world at present.

(4) Therefore, the atheistic evaluation of the phenomena in the world dealing with good and evil is much more reasonable than the theistic one.

The Weight of Physical Evil

In this argument McCloskey also describes the theist who defends the view that physical goods in fact outweigh physical evils in the world incautiously without explicitly stating the reason for it. Is his argument sound, is the theist really incautious and mistaken? Neither of these accusations seems to be true. By contrast, the opposite view appears much more reasonable, and McCloskey himself apparently is quite incautious when he constructs this argument. First of all, one may say that as long as the total resources of the Earth are enough, leaving aside its excesses, to feed, to house and so on the whole of humankind on Earth, it cannot reasonably be claimed that the atheistic description of the world, based upon the fact that some people cannot have or get adequate supplies of some goods, is much more reasonable than the theistic one. The reason for the situation of these people is not seem really a natural evil. For instance, are the natural resources of the world not enough for its inhabitants? Are we short of natural resources at the global level? If the case became so, this would be a natural evil and a strong argument from evil. But the case does not seem to be such. It is almost certain that "There is in fact no shortage in the supply of food at the global level, even allowing for overconsumption in the core" (Bradley 1986, 93). "Properly managed, the resources and technology are available to provide a tolerable, if modest, existence for everyone, even with the world's population reaching 4,000,000,000." (Smith 1979, 17). When it is asked, "Then why all the starvation and the mega-famines, especially of black babies in Africa?", for Bunge (1986, 290) the reply is, "Colonialism created those famines". This seems to be an insufficient explanation, because there can be also some other reasons such as local maladministration, civil wars, unjust distribution and overconsumption of the sufficient natural resources of the Earth among human beings; as some consume too much, some others cannot get enough. Indeed, "Roughly two-thirds of the world's people live in the LDCs [less developed countries], with only about an eighth of the world's income; the 20 percent of total population in highly developed nations share about 60 percent of world income - half of it going to the USA" (Smith 1977, 16f). In that case, the cause of evil seems to be human actions, not nature; and so, the role

played by moral evil is at least bigger than that of natural evil. Therefore, these facts seem not to be suitable evidence of nature being predominantly evil. Consequently, McCloskey's argument is not a strong one.

Secondly, one might say that McCloskey's description is an exaggerated one which would not reflect the truth, even if it is, of course, true to some extent. It is not the '*large bulk of mankind*' who meet with the difficulties described above. It is a minority of humankind who are inadequately fed and housed and are without adequate medical and health services. How many human beings are inadequately fed while the rest of them are fed adequately? One can say, that it is not most; the balance would seem to be on the side of those who are fed adequately. For instance, "In 1974-76 there were 436 million undernourished people in total" (Islam 1982, 24), and the number of these people was 20 percent less in the beginning of 1960s when McCloskey wrote his estimation. For "Over the ten-year period to the mid-1970s, the estimated number of undernourished people increased by much more than 20 percent" (Islam 1982, 24).

Here are some clearer statistics. According to the more optimistic scenario, "it is estimated there would be 260 million undernourished", and to the less optimistic scenario "about 390 million people would be underfed in 2000," (Islam 1982, 27) while the "world population is projected to increase from about 4.4 billion in 1980 to 6.2 billion in 2000" (Islam 1982, 43). These numbers clearly show that inadequately fed people are not the large bulk of humankind. Besides, the excessiveness of the percentage of these people is probably a recent fact in the history of mankind and will decrease considerably in the near future. Indeed, "The percentage of the undernourished population would be cut from 23 percent in 1980 to 11 percent in 2000 and 4 percent in 2030" (Islam 1982, 43f). These statistical data show that the inadequately fed people are almost always the minority, or even a small minority of mankind, certainly not the large bulk or the majority. It seems even that "by the turn of the century or by the year 2030 at the least, starvation and malnutrition could be a thing of the past" (Faaland 1982, 1). So, the percentage of the global food resources and consumption cannot be rightly used to prove that evil is predominant over good in the world at present.

One might go on to ask similarly how many of the world's population are inadequately housed while the rest are housed adequately? Again, almost undoubtedly the balance is strongly on the latter side. And how many lives are there without adequate medical and health services, while the others have these services? These last two can be stronger cases in comparison with the first two; but, even in this issue it seems that the balance is on the side of human beings who have adequate medical and health services. In relation to these last points we can examine some statistical data concerning 'poverty'. Poverty is "concerned with the absolute standard of living of a part of society - the poor"; and the *World Development Report 1990* defines poverty as "the inability to attain a minimal standard of living" (1990, 26). This Report "supplements a consumption-based poverty measure with others, such as nutrition, under-five mortality, and school enrollment rates" (26). When we look at the percentage of poverty in the developing world, we see that the percentage of poor people is always less than half of the population, even in the poorest parts of the world. According to the same report, percentages of poor in the developing world in 1985 are 16.1 in Sub-Saharan Africa, 25.0 in East Asia, 46.4 in South Asia, 5.9 in Europe, Middle East, and North Africa, and 6.6 in Latin America and the Caribbean (1990, 2). And more general, clearer, and more optimistic statistics for the near future are stated in the same report thus: "Between 1985 and 2000 the incidence of poverty

in the developing world would fall from 33 percent, to 18 percent and the number of poor from 1.1 billion to 825 million" (139).

Therefore, although especially because the term "adequate" is so ambiguous that the issue can often remain controversial, it is almost certain at least in the four cases cited by McCloskey that physical evils do not predominate over the physical goods in this world. Given this, his second step (2) supposing that physical evils at present predominate over physical goods is unreasonable. So, his argument cannot reach cogently from (1) and (2), which seem to be untrue, to the other step and conclusion, (3) and (4). By contrast, some considerations on his argument may show that the theistic evaluation on the world's good and evil is much more reasonable than the atheistic one. Because both the quantity of goods in the matters of food, housing, medical and health services and the quantity of human beings having them predominate over or outweigh the quantity of evils concerning the adequate lack of the goods in question for some minority of humans in comparison with the whole of mankind.

However, the failure of McCloskey's argument does not necessarily mean that all atheistic arguments in this context fail and that there is no problem left for the argument from design. It can be objected that one should consider the amount of natural evil from a wider perspective than that presented by McCloskey, and such an objection should be taken seriously. To begin with, it should be pointed out that the existence of any amount of evil, no matter how slight, or of individual cases of evil, does not count against the design hypothesis of the argument. For the design hypothesis is not such a proposition that its falsehood necessarily follows in the case of any one contrary fact. Rather, it is a general and approximate proposition. So the possibility or even reality of some exceptional and unexplainable cases would not rebut the truth of the design hypothesis. Likewise, individual cases of evil do not have to be taken into consideration so long as the design argument, too, does not take individual cases of good into account, which new design arguments almost never do.

Once these points have been indicated, one might say that the sum of all apparent evils (where we mean by 'apparent evil' some of the natural facts or creatures which seem to be evil at first sight without any profound examination), although it looks quite large, yet seems to be considerably less than the amount of goods. In other words, order, harmony, teleology, function, value and so on appear to common sense reasonableness to be more dominant than apparent disorder, disharmony, dysteleology, dysfunction and disvalue in the world.

But it might also be argued that when someone looks at the apparent evils more profoundly and more exhaustively, it appears that most of the apparent evils may not be seen as real, absolute and random evils. Looked at from the point of view of order in the world, for example, it seems that most of the disorder may exemplify a kind of order. According to Brian Davies, the defender of the argument from design may want to say that there is order in need of explanation; and disorder such as pain-producing natural events can plausibly be taken as "just an illustration of order". For one might argue in his view that "Pain-producing natural events exhibit order in that their origins can often be traced and their future occurrence predicted with a fair degree of success" (1982, 57). It is stated, for example, that "Lightning, storms, fires, and floods is statistically regular though individually erratic. . . . Often such violence comes with enough regularity that life can adapt" (Rolston 1992, 264-65). Thus, one can say with Swinburne that "All natural evils occur as a result of predictable natural processes (there are no kinds of natural evil which occur in a totally random way)" (1987, 153). Faruqi defends similar ideas:

> Indeed, earthquakes, explosions, floods, droughts, fires, pestilences, and other natural catastrophes tell a different tale than the service of man. What is important is that the processes of nature be so interrelated as to provide for nature's continuity and regularity. Whether nature serves God or some other power, its continuity and regularity are sufficient to make it a viable arena for man's endeavor (Faruqi, Atlas, 317).

Looked at from the point of view of purpose as well, most of the apparent evils may be seen as not real, random or absolute evils. It may be argued that most of them contribute to greater goods, or become good themselves in time. This point can hold for different natural categories such as human beings, animals, and inanimate nature. Most theists "point out that much evil is a means to greater good. . . . And it may well be that there are greater goods for the occurrence of which allowing some lesser evil to occur is a logically necessary condition" (Swinburne 1987, 142-43). Arguments along these lines are characteristic of the best known theistic defences and theodicies, which will be examined a bit later. For the moment it may be mentioned in relation to the contribution of some amount of evil to the good of human beings that "If the world is to contain conscious and moral beings, some of these unsatisfactory states of awareness are unavoidable" (Hudson 1985, 346).

It may be argued that much apparent evil in the animal kingdom is not as evil as it is seen at first sight; and that they contribute their own good. First of all it should be pointed out that it is a mistake to view the sufferings of animals, birds, and reptiles too anthropocentrically or too subjectively. For birds and reptiles typically have fewer nerve endings per surface area of skin; and the level of consciousness, self-awareness, experience or whatever be the proper name for their experiential state, is very different from, more subdued than, less intense and coherent than our own (Rolston 1992, 266). And "presumably the degree of suffering (and pleasure) increases with mental and nervous complexity - since man suffers and inanimate matter does not, one would expect increase of suffering with degree of organisation" (Swinburne 1979, 153).

Moreover, it is argued that animal pain is eminently useful in survival. Natural selection requires pain as much as pleasure in the construction of concern and caring; pain is an alarm system in a world where there are helps and hurts through which a sentient organism must move. On the other hand, any population whose members are constantly in counter productive pain will be selected against and go extinct or develop some capacities to minimise it. "Pain is self-eliminating except insofar as it is instrumental of subsequent, functional good" (Rolston 1992, 272-73).

This kind of argument might be put forward about some natural evil in that it may be argued that it is useful to nature itself, too, before any direct connection with human beings or animal: for the catastrophic and negative forces in nature are often integrated with the uniform and positive forces. Floods, windstorms, lightning storms, and such violences would be more or less like wild fire in an ecosystem; a bad thing to individuals burned in the short run, but not really all that bad systemically in the long run, given nature's restless creativity. For example, "Without thunderstorms, Earth would lose to the upper atmosphere, in less than an hour, the negative electrical charge that produces the atmospheric nitrogen upon which most plants depend. Without thunderstorms, playing electric charges over the thin hot soup, life could not

have originated" And similarly, "Floods cut the valleys. . . .Volcanism is one of the mountain building forces" (Rolston 1992, 265-66).

Therefore, one can conclude that it must be accepted first that there are both good and evil in the world; however, when it is considered whether the balance in the universe is on the side of physical good or physical evil, it seems that the thinkers claiming that the amount of natural evil is limited and less than the good or design, and that it is even a logically necessary condition for some greater good, seem to be closer to the truth than their opponents. As John Yardan says, "Despite the difficulties caused by selective perception, training, experience, culture and one's outlook on life, I judge the amount of good relative to evil to be overwhelmingly great" (2001, 193). In this case, neither of the design argument's evidential concepts and phenomena, namely, order and purpose, are severely affected by the amount of natural evil. For much evil occurs in a regular and predictable way and not in a totally random and unpredictable way. It also seems to serve some purposes or some greater goods either for human beings or for the animal kingdom and inanimate nature. Therefore, the amount of evil cannot reasonably be adduced as evidence against the view that the world is purposively ordered and as such is suggestive of the existence of a designing Being.

However, we should examine one more formulation of the evidential problem of evil, which seems to be apparently strong and well-formulated and brings us to examine some of the defences and theodicies. It is presented as follows:

(2) There is no positive evidence that God exists.

(3) The existence of evil in great abundance would falsify the existence of God unless one assumes either that God has sufficient reason for allowing the existence of evil in great abundance or that evil in great abundance is logically necessary.

(4) Despite repeated attempts to do so, no one has provided a good reason to believe that God has sufficient reason to allow evil to exist in great abundance or that evil in great abundance is logically necessary.

(5) .:. On rational grounds one should believe that God does not exist" (Martin 1978, 430-31).

When we start to examine this argument, we see that if our discussion about the design argument so far is right, the second premise above, (2), is not right. For we reached the conclusion that the design argument has provided rational grounds for the theistic belief that God exists. Despite the fact that we did not discuss it in this work, it might be said together with some contemporary philosophers of religion that at least the cosmological argument, too, can provide as forceful a ground for belief in God as can the teleological argument, and even more than the teleological argument for some thinkers (see, Swinburne 1979, ch. 7; Craig 1993, Part I). So, the second premise of the argument above does not seem right. For there are some strong evidences, even if they are not demonstrative proofs, that God exists. As to the third premise, (3), it should be pointed out, once more, that according to our discussion the existence of evil is not in great abundance, as repeatedly urged above. So, that premise may be said to be only partially true.

The crucial premise of the argument, then, together with the second one which is probably wrong, is the fourth premise, (4), maintaining that 'no one has provided a good reason to believe that God has sufficient reason to allow evil to exist'. It is this point that we have not discussed in detail yet. So we must turn to it now.

The Permission of Evil

The theists have offered a wide variety of defences and theodicies in response to the problem of evil over a long period of time. Several of these defences or theodicies deserve to be taken into consideration in detail; however, in order to keep to the point it seems enough, for our purpose, to briefly discuss some of them, from the point of view of whether they provide a good reason to believe that God has sufficient reason to allow evil to exist or not.

John Bowker writes that in both expressions of Islam, Sunni or Shiite, the far more general response to suffering has been to reiterate the Qur'an and apply it to whatever new circumstances of suffering arise, and that has remained true down to the present day (1970, 133). Bowkwer's observation is true; and the present writer's recent book called *Evil and Theodicy* can be considered as one more example affirming Bowker's judgement. Because it has been argued at the end of the chapters exploring the theodicies found in the Qur'an, in Islamic philosophy, and in Islamic theology that the Qur'an approaches suffering from more comprehensive, balanced, and also more realistic perspective in comparison to Islamic philosophy and theology (Yaran 1997, 179-79). So the reason for the fact that Muslims reiterate the responses in the Qur'an is not perhaps related to their intellectual capacity, but is the reasonably satisfactory character of the response found in the Qur'an.

In the Qur'an, "The two elements of the power of God and the responsibility of men lie side by side, but they are also held together in a sufficient doctrine of creation" (Bowker 1970, 123). The Qur'an expresses in different ways "an instrumental view of suffering" and attempts to reconcile the fact of suffering with a belief in God's omnipotence and compassion" (Bowker, 112-13). The existence of some amount of evil in this world seems to be almost necessarily instrumental for creating free and responsible beings. It also seems to be useful intrumentally for the natural order, animal survival, and the moral and spiritual development of human beings (Yaran 1997, 180). According to R. M. Green, the Qur'an implies three kinds of theodicy. The first is "the free-will theodicy". "At first sight, this free-will theodicy seems to have little footing in the Qur'an because of its repeated emphasis on God's sovereignty and his absolute control over human behaviour. . . . These passages are offset by many others in which a substantial measure of human freedom, initiative, and accountability is assumed" (1987, 438)

Green remarks that the Qur'an displays two other themes associated with the free will theodicy. One is a view of suffering as a "test of righteousness"; and the other is that "The Qur'an also supports a vivid eschatological expectation" (1987, 438). The Qur'an "produces a second major explanation, namely, that suffering is a trial or test. . . . It helps to create a faithful disposition and it also helps to discriminate the sincere from the insincere. What this means, in effect, is that suffering not only forms character, it also exposes it: it reveals a man's true nature" (Bowker 1970, 109, 111). In addition, the anomalies and vicissitudes of this life can be accepted because the balance will be restored in the life to come. A reward based exactly on the balance between good and evil awaits all (Bowker, 115-16).

Muslim philosophers and theologians respond to the problem of suffering in various ways. They argue, for example, that the evil in the world is relatively much less than the good in the world. That limited amount of apparent evil is necessary and useful for the order of nature and for human beings to understand and appreciate

good, and to develop a morally stronger and spiritually faithful character. For some of them, it is also because of the imperfection and limitation of matter and body, on the one hand, and because of the freedom of will, on the other hand. The judgement, however, must always be made based on the predominant side in the world. And the predominant side of nature is its good, beautiful, and regular side. Besides, this world is not the end of the creation process, but just an important stage. There will be a better and more just life after death throughout an indefinite time for more purification and perfection. Nevertheless, human beings should not expect with their limited ability of reason to understand or apprehend exactly all the results of divine wisdom and creation. There remains some unsolvable mystery of evil; but it is never enough to justify disbelief in God in the face of positive arguments in favour of God's existence, power and goodness (see Yaran 1997, 188-190). Some of the Islamic response to suffering, such as free-will and its instrumental or educational nature for greater goods, are seen in Jalal'ud-Din Rumi's poetic writings below (Rumi 1950, 155 f).

. . . our sense of guilt is evidence of Free-will.

If we are not free, why this shame? Why this sorrow and guilty confusion and abashment?

Why do masters chide their pupils? Why do minds change and form new resolutions?

. . . .

When you fall ill and suffer pain, your conscience is awakened, you are stricken with remorse and pray God to forgive your trespasses.

. . . .

Note, then, this principle, O seeker: pain and suffering make one aware of God; . . .

The Free Will Defence (based on possibility) or Free Will Theodicy (based on truth claims) are usually seen as solutions tailored specifically to the problem of moral evil. Yet it seems that they have a close connection with most of the theodicies for natural evil. They constitute the major part in almost all greater-good theodicies. According to Plantinga's Free Will Defence, "It is possible that God could not have created a universe containing moral good (or as much moral good as this one contains) without creating one containing moral evil" (1974, 167). He explains it thus:

> A world containing creatures who are sometimes significantly free (and freely perform more good than evil actions) is more valuable, all else being equal, than a world containing no free creatures at all. Now God can create free creatures, but he cannot cause or determine them to do only what is right. For if he does so, then they are not significantly free after all; they do not do what is right freely. To create creatures capable of moral good, therefore, he must create creatures capable of moral evil; and he cannot leave these creatures free to perform evil and at the same time prevent them from doing so. (1974, 166)

According to the Free Will Theodicy, God decided to create morally free beings. For a person to be a moral agent, he or she must be at times significantly free. God knew that people would sometimes wilfully choose to do wrong, but God granted free

will anyway, because a world of free creatures is more valuable than a world of automatons. In other words, a world containing significantly free persons making moral choices between moral good and evil and choosing more good than evil is superior to a world lacking significantly free persons and moral good and evil. Thus, it was consistent with God's goodness that God created a world inhabited by significantly free persons. And God cannot extensively interfere with creaturely free choice because doing so would jeopardize genuine free will (Reichenbach 1982, 64; Peterson, et al. 1991, 107). So, God has a sufficient reason to allow evil to exist. If that is true, then, God cannot be blamed for the existence of evil and cannot be denied on that basis.

Some critics like Mackie (1992, 33) argue that God as omnipotent could have created morally free agents who always choose the good when they choose between doing good and doing evil. However, this view does not seem to be plausible. For it is more likely that the kind of freedom suggested above would not be a real freedom. Whereas, God chose to create morally free agents who can freely choose to do wrong action as well as good. Thus, if the free will defence or theodicy is not wrong – which it does not seem to be – it provides some reason for God to allow evil, especially moral evil, to exist. However, as Paul Badham says, "The free-will defence needs the wider perspective of the soul-making theodicy" (1994, 2).

Soul Making Theodicy, in its essential form by Hick maintains that God's chief purpose in creation is to bring human beings from animal self-centeredness into moral and spiritual maturity. Since the desired quality of personal life cannot be created merely in a joyful world, God has designed an environment and a process whereby human beings can gradually develop the desired attribute. This environment will contain real challenges, real dangers, and the possibilities of evil, for only in such an environment and process – not in a paradise without suffering – do human beings grow into true moral and spiritual maturity. Hick argues that "From our human point of view, this is a world with rough edges, a place in which man can live only by the sweat of his brow, and which continually presents him with challenges, uncertainties, and dangers. Yet just these features of the world seem, paradoxically, to underlie the emergence of virtually the whole range of the more valuable human characteristics" (1985, 326f).

Hick's soul-making theodicy involves a number of very distinctive concepts such as epistemic distance, mystery, and eschatology. However, when we look at his theodicy from the point of view of our main question, whether God has a sufficient reason to allow evil to exist, we see that God's reason, for this theodicy, is moral and spiritual virtues. It is claimed that there are certain very valuable human qualities, the possibility of which God could not have ensured without permitting suffering. Consider such noble human characteristics as fortitude, charity, compassion, forgiveness, unselfishness, honesty, good faith, courage, determination, persistence, and love. For example, unselfishness would never be evoked in a situation in which no one was ever in real need or danger; courage would never be evoked in an environment devoid of all danger; and so on. A world which contains these values of personal existence and qualities is a better world than a ready-made utopia in which these moral and spiritual qualities would have no point and no place. Therefore, God, wanting to have a better world, had a sufficient reason to allow an amount of suffering (1985, 325-26).

It seems that Hick's theodicy, too, is a plausible explanation for some amount of evil, including both moral and physical. Thus, it provides a more adequate reason for

God's allowance of evil when taken together with the free will explanations. In order not to deviate from the main issue, giving up dealing with some other defences such as "Knowledge from Experience" (see, Swinburne, 1987) and "Natural Law Theodicy" (see, Reichenbach 1982, 101-102), it can be concluded that the Free-Will Defence and Soul-Making Theodicy seem to present persuasive and plausible reasons for God to allow some evil to exist, even though they do not perhaps provide absolutely conclusive arguments to justify the existence of all evil. In that case, the fourth premise of the argument above is not true either. Therefore, the conclusion of the argument about the non-existence of God based on evil is false.

As a result, one may say that the problem of evil does not have really effective power against the argument from design and its implication of the goodness of the God of traditional theism, even though it has a *prima facie* force against them. For we saw, firstly, that the logical problem of evil is not relevant to the argument, nor is it true for most people, including some atheists. Secondly, with respect to the evidential problem of evil, we argued in support of some statistical data that the amount of evil is less than the atheologians claim; and, its real amount is much less than the amount of good or design. And now we have just seen that there are some persuasive reasons shown by some theists for God to allow evil to exist or to bring it about. The greater good theodicies like the Free-Will Defence and Soul-Making Theodicy can be evaluated as successful in showing that God has some (probably sufficient) reasons for allowing or producing some evil. Therefore, the atheistic arguments as we saw above based on the assumption that the God of the traditional theism does not exist, simply because no one has provided neither a good argument for God's existence or a good reason to believe that such a God has sufficient reason to allow evil to exist, are not cogent and reasonable arguments.

Nevertheless, it might be pointed out that some unexplained evil can remain in spite of all these defences and theodicies. In this case, it seems that a theist cannot be fully successful in coping with the problem of evil merely with these defences and theodicies independently of the theistic arguments for the existence of God. That is to say, the defences and theodicies can weaken the evidential force or persuasiveness of the problem of evil concerning the non-existence of God to some degree by providing some explanation for some evil. However, this does not seem enough. What can abolish the power of the problem of evil from the theistic point of view seems to be the higher probability of the arguments for the existence of God, particularly of the design argument, rather than these defences and theodicies. It seems that what renders belief in God reasonable in the face of arguments from evil are the power of the positive arguments of God's existence rather than theistic counter-explanations, defences or theodicies against the atheistic presentation of the problem of evil. Thus, it might be suggested, in one sense, that one of the best defences for a theist against the problem of evil is the arguments for God's existence, particularly the design argument. For if it is sound in its evidences and warrants and successful in its conclusion in a reasonably probable or suggestive sense, that can be seen as enough evidence for the existence of God, even to those ignorant of sufficient justifications for evil.

The Relationship between Anthropos and Cosmo

We have seen that, according to some defenders of the argument, it was possible to see all adaptations of nature as a whole and to some extent as serving the moral development of rational personalities. However, they did not claim that morality was

the only purpose of God and nature; they claimed only that since in the realm of nature beneath man no final purpose can be discerned, such purpose may be discerned in beings possessed of rationality, appreciation, self-determination, and morality. The providential and privileged position of human beings in nature would constitute a sign for God's existence (see Tennant 1930, 105, 113).

A serious objection has been made here by A. J. Ayer. He argues that the fact that some processes within the world are goal-directed is not sufficient for the proponent of the design argument to persuade the opponent. For the fact that ends are pursued and sometimes attained within a system is not proof that the system as a whole is directed towards any end. "What needs to be shown is that the entire universe presents the appearance of a teleological system". He asserts, however, that advocates of the argument have spoken of there being an overall purpose, but have not said clearly what it was. And in so far as they have held any view at all about the purpose for which the world was created, they have generally assumed that it had something to do with the emergence of human beings. But Ayer claims that "This is a view which it is perhaps natural for men to take but hardly one that would be supported by a dispassionate consideration of the scientific evidence. Not only did man make a very late appearance upon the scene in a very small corner of the universe, but it is not even probable that, having made his appearance, he is there to stay" (1991, 207; see, for similar ideas, Russell 1935, ch. xiii).

A defender of the design argument may reply to the objection above that, firstly, the fact that the belief that the emergence of human beings is part of the overall purpose of nature cannot be supported by a dispassionate consideration of the scientific evidence does not prove that this conviction is wrong. For science is neither the only scheme of thought to teach us the truth nor an unlimited arena of human activity. It seems that if our basic datum is a certain configuration of the universe as a whole suggesting an overall purpose of it, science can, by the nature of the case, offer no explanation. Science tries to find regularities in the association of different parts, stages, or aspects within the physical universe. On questions as to why the universe as a whole exists, or exists in one form rather than another, or what is its purpose, it is silent. As Stephen Hawking says, "The usual approach of science of constructing a mathematical model cannot answer the questions of why there should be a universe" (1990, 174). Ultimately this is because science is committed to the consideration of questions that can be investigated empirically. But there is no way to observe connections between the physical universe as a whole and something outside it. Therefore, there seems no scientific alternative to the theistic answer to the question why the universe is a unified system of adaptations and why all adaptations seem to serve the development of moral personalities (Alston 1967, 87). Secondly, it can be said that this, at least postulated or tentative, purposeful interpretation of the universe has been made more reliable, closer to the truth, or probable by the anthropic principle of recent decades. Today the situation seems different from the one generally prevailing over the past three or four centuries.

Indeed, it can be said that the version of the argument which regarded human beings as the purpose of nature was quite reasonable when the Earth was being accepted as the centre of what was thought by the geocentric cosmology of Ptolemy to be a relatively small and recent cosmos. At that time most thinkers appealed to this version in their metaphysics or natural theologies. But after the heliocentric cosmology of Copernicus and Galileo replaced the former, and we came to know the spatial and temporal immensity of the universe in comparison to our tiny and young Earth, this version of the design argument lost its force and partially disappeared in

favour of other versions. Indeed, does it not seem more likely, as it was claimed, that "our ordered fragment may be but a temporary and casual episode in the history of the universe, an oasis in a desert of 'chaos'" (Tennant 1930, 80). In other words, in some tiny insignificant corner of the universe the incessant movement of matter has formed for a brief moment a consciousness-sustaining web of neuronal connections? And so, "Must it not then be a pathetic fallacy on our part to suppose that the entire history of the universe, in its unimaginable vastness and complexity, exists for the purpose of producing us human beings?" (Hick 1989, 121).

It seems that this objection which apparently looked quite persuasive for a long time could still have some force. But it could be said that its impressiveness is much less than it was before the anthropic coincidences and principles were discovered and developed. Tennant's reply to this kind of objection has been strengthened by recent discoveries. He replied that "the ordered oasis is not an isolable fragment. It and the supposed desert or 'chaos' are interdependent. It is because the desert is what it is that the oasis is what it is; and the one has orderedness only by permission, so to say, of the other" (1930, 80). It can be said that it is exactly this 'interdependence' and 'permission' that anthropic coincidences, and in some sense principles, recently have shown scientifically in much more detail. The situation seems to have changed today. "Far from man's presence in the universe being a curious and inexplicable surd, we find we are remarkably and intimately related to it on the basis of this contemporary scientific evidence which is 'indicative of a far greater degree of man's total involvement with the universe' than ever before envisaged" (Peacocke 1979, 68). Indeed, some physicists have been interpreting anthropic coincidences and principles teleologically in connection with the design argument. For example, physicist Freeman Dyson in the essay called "The Argument from Design" in his autobiography, *Disturbing the Universe*, writes in support of a list of anthropic coincidences:

> I do not feel like an alien in this universe. The more I examine the universe and study the details of its architecture, the more evidence I find that the universe in some sense must have known that we were coming. . . . The peculiar harmony between the structure of the universe and the needs of life and intelligence is a third manifestation of the importance of mind in the scheme of things. (1079, 250, 252)

Paul Davies has similar ideas. He points out first that four hundred years ago science came into conflict with religion because it seemed to threaten humankind's cozy place within a purpose-built cosmos designed by God. The revolution begun by Copernicus and finished by Darwin had the effect of marginalizing, even trivializing, human beings. People were no longer cast at the centre of the great scheme, but were relegated to an incidental and seemingly pointless role in an indifferent cosmic drama (1992, 20f). However, he rightly indicates that "Far from exposing human beings as incidental products of blind physical forces, science suggests that the existence of conscious organisms is a fundamental feature of the universe. We have been written into the laws of nature in a deep and, I believe, meaningful way" (1992, 21).

Therefore, the objection to the design argument which argues that our comparative place in the universe should be seen "as supporting a naturalistic world-view" (Hick 1989, 122) as Ayer suggested above, cannot be urged with the same force as it formerly had. It could be said that the weak form of the purposive version seems to be quite reasonable and tenable from the perspective of both theology and

current knowledge of physical universe. For the anthropic coincidences and principles have provided new evidences and supportive interpretations to this form, too, as well as the version of order.

Chapter III
The Argument from Providence (*'Ināyah*)

Having rejected the two classical arguments for the existence of God, Ibn Rushd showed definite predilection for the two versions of the teleological argument, which according to him had a basis in the Qur'an, and were of a more compelling nature than the other arguments. As he interprets the Qur'an, two arguments for the existence of God are recommended there. One of them is an argument from providence (*'ināyah*) which runs as follows: Everything in the world is adapted to the existence and needs of human beings and reveals providence. For example, day and night, sun and moon, four seasons, the earth and everything therein, animals and vegetables, rain, rivers, seas and so on, and also the well-adapted organs of the human and animal body. All are obviously suitable and adapted for the existence and needs of human beings. The adaptation and functionality exhibited throughout the world require an agent who intends and wills it. For it cannot conceivably be due to chance (Ibn Rushd 1968, 65, 66). What Ibn Rushd argues here is not that the whole universe has been created just for the sake of human beings. He disagrees with such an idea in his *Tahāfut al-Tahāfut* (1969, 295). He defends, however, that the universe is suitable for the existence and needs of human beings. This argument can be simply schematized as follows.

1. All beings are suitable for the existence and needs of human beings.
2. This suitability cannot be achieved by chance.
3. Therefore, it is by necessity due to an agent intending to do so by

Evidence: The Anthropic Nature of the World, and Its Beauty

The Anthropic Nature of the World

The world not only displays a marvellous mechanical order; many writers argue from the past to the present time that it also displays a teleological order, or a cosmic teleology. According to al-Faruqi, the order of nature is not merely the material order of causes and effects, the order which space and time and other such theoretical categories make evident to our understanding. "Nature is equally a realm of ends where everything fulfils a purpose and thereby contributes to the prosperity and balance of all. From the little inanimate pebble in the valley, the smallest plankton on the surface of the ocean, the microbial flagellate in the intestine of the woodroach, to the galaxies and their suns, the giant redwoods and whales and elephants - everything in existence, by its genesis and growth, its life and death, fulfils a purpose assigned to it by God, which is necessary for other beings. All creatures are interdependent, and the whole of creation runs because of the perfect harmony which exists between its parts" (al-Faruqi 1992, 55.) He also mentions several Qur'anic verses in this context, one of which is as follows: "Not for (idle) sport did We create the heavens and the earth and all that is between!" (21: 16).

Al-Rumi defends the same idea of purposeful universe in relation to God and human beings in a poetic form with support of some analogies:

Does any painter paint a beautiful picture for the sake of the picture itself?

Nay, his object is to please children or recall departed friends to the memory of those who loved them.

Does any potter mould a jug for the jug's sake and not in hope of water?

Does any calligrapher write for the writing's sake and not for the benefit of the reader?

. . . .

When the barriers in front and behind are lifted, the eye penetrates and reads the tablet of the Invisible.

Such a clairvoyant looks back to the origin of existence - he sees the angels dispute with the Almighty as to making our Father (Adam) His vicegerent. (al-Rumi 1950, 112)

The major purpose of the world is claimed to be related to the moral or spiritual exercise of human beings. Islam "affirms that purposiveness is not only an attribute of every object in nature but is also a predicate of the totality of nature. . . . Islam therefore affirms an end, a purpose to creation, and conceives of that purpose as the moral works of man. To this end, God provided the necessary instruments. . . . Indeed, the teleological system of nature itself is purposive in the higher sense of fulfilling the instrumental ends necessary for man's moral exercise" (al-Faruqi 1986, 316-317). Some recent scientific developments, particularly the anthropic principle in a general context, have given support to this argument.

The argument from providence may be traced up to the early history of the argument from design. It was sometimes considered almost the same as the design argument, and sometimes just as one of its versions. In the West, the eighteenth century writers, for instance, saw the workings of providence primarily in the general constitution and course of things. The world is orderly, subject to law, and its parts are wonderfully suited to each other. God's providence has provided it as a setting for people's moral discipline. It is a world admirably adapted to the purpose for which it was designed. "The meaning of providence in general terms for the eighteenth century can be summed up as the provision by God in his benevolence of a beneficent constitution and course of events which provide the stage and the opportunity for man's preparation for a future life" (Goldhawk 1969, 51f).

In the twentieth century, R. Swinburne has formulated a more specific and limited version of the providence argument. He says that he understands by 'an argument from design' two different arguments: the one is 'the teleological argument' which argues from some general pattern of order in the universe; the other is 'the argument from providence' which argues from the occurrence of provision for the needs of conscious beings (Swinburne 1979, 133). He particularly inquires whether the general circumstances of the world are such as to show that a good God is providing for the basic needs of men and animals, i.e. whether the world is a providential place.

In this world, according to Swinburne, man has the opportunity to provide both for himself and for others. Agents are born and die and during their life give birth, partly through their own choice, to other agents. They can make a difference to the world; but there is endless scope for improvement to it, and each generation can only forward or retard its well-being a little. Agents can make each other happy or unhappy, and can increase or decrease each other's power, knowledge, and freedom. Thereby they can affect the happiness and morality of generations distant in time. Furthermore, there has been the possibility of man's gradual ascent up the evolutionary scale, of man gradually developing his moral and religious awareness,

and of each generation handing on to the next some new facet of that awareness. Man grew in understanding moral truths and in applying them to the case of the less fortunate; he grew in sensitivity to aesthetic beauty and in the creation and appreciation of works of art; in the acquisition of scientific knowledge and in its application to the betterment of the human condition and to the exploration and comprehension of the universe (1979, 195-96). Therefore, our world is a providential place. These views seem to be summarised in the following statements:

> It is providential in giving normally to man (and animals) the opportunity to satisfy their own biological needs for food, drink, safety, etc.; and providential in giving to man (and animals) the opportunity to satisfy the biological and psychological needs of other men and of animals, and so to satisfy their own psychological needs for co-operation, friendship, etc. (1979, 198)

Swinburne's providential version of the argument from design here seem to be based primarily on the satisfaction of biological and psychological needs of human beings and animals in the world they inhabit and on the character of God. The providential state of nature for the needs of human beings looked so striking to some defenders of the argument from design that they dared sometimes to use the term 'purpose' and to consider human beings as the purpose of nature as a whole in some weak or strong sense.

It should be pointed out at this stage, however, that there seem to be two very similar versions of the argument which are often evaluated and criticised as if they are the same, but are actually different at least in respect of some features. Both of them dwell on concepts and facts like purpose, goal, human being, nature and God; and both reason in general from the relationship between human beings and the rest of nature to an intelligent purposive agency, namely, God, from the point of view of cosmic teleology or the goal of the universe as a whole. Nevertheless, one of them more or less claims that the universe exists for the purpose of producing us; it is *only for our sake*, for our use, wants, and services that God created all these things. Human beings are the centre and darling of the world, and the care of them is the adequate work of God. This version can be found abundantly in the Stoic philosophers. In the conversation in Cicero's *The Nature of the Gods* Balbus, a Stoic, argues thus: "In conclusion I must show that everything in the world which we enjoy was made and ordered for our sake. The universe itself was made for both gods and men, and all that is in it was devised and ordered for the use of Man" (Cicero 1972, 185, see for details 177-190).

It seems that this form of the argument from design, which could be called "strong anthropocentric teleology", cannot easily be defended today in the light of our knowledge of the physical immensity of the universe, and even cannot easily be regarded as a preferable version from the point of view of theology. Simply because, as Descartes pointed out, ". . . it is yet not at all probable that all things have been created for us in such a manner that God has had no other end in creating them" (1967, 271). As Paul Badham sees it, "To suppose that in no case has life evolved to a higher state than man seems an incredible assumption to make, and one that does no honour to the wisdom of God" (1984, 53); so, "On both scientific and religious grounds such a notion ought by now to be otiose" (55).

However, there is another form of this purposive version, which could probably be called "weak anthropocentric teleology" or just "anthropic teleology". According

to this form, *most* or s*ome* things, not necessarily all things, in the world will be found to have the best possible *arrangement*, *fitness* or *usefulness* in connection with the existence, safety and preservation of human beings and of *all* things, not merely for the service of human beings. And a major reason among the *possible others* for the creation of the world by God can be its service chiefly to human beings, whose existence can be one of the purposes of God in creating all things, though God and His universe could have other ends, too. This form, too, can be traced back in the history of the design argument, as it can be found cautiously expressed in this century.

It is this second form that Tennant and others here suggested in this century. Tennant sees a close relationship between teleological explanation and an anthropic world-view in his wider teleology, which is a good example for the above-mentioned second form. He describes and defends a kind of anthropocentrism, but in his view, it does not assert that "man . . . is the highest being under God, or the final stage of progressive cosmic evolution, or the end and the whole end of the divine design". Rather, he goes on to explain:

> It is content to allow that the Divine end, in its completeness, is unfathomable. Nor does it imply that lower creatures evolved in the world process are necessarily of but instrumental value as stages or means to ends, and, when not figuring in man's genealogical tree, are mere by-products in the making of humanity. Anthropocentrism rather means that, whereas in the realm of Nature beneath man no final purpose can be discerned, such purpose may be discerned in beings possessed of rationality, appreciation, self-determination, and morality. (1930, 113-14)

We can say consequently that to reach any definite conclusions about purpose or teleology - whether they be in narrower or wider sense - is not as easy as reaching a conclusion about order. However, it seems that both in Ibn Rushd's argument from providence, and in the twentieth century philosophy of religion, argument from the purpose of nature as a whole has been advocated. Yet it appears that none of them have seen human convenience, rationality and morality as the sole object of God's purpose or care, as in some of the Stoic philosophers. What they modestly assert and consider as a sort of evidence of design is that nature as a whole is so providential and intelligible for the needs of human life as a whole, including biological, mental, social, and moral needs, that human beings might naturally be considered as its overall purpose in the limits of our present knowledge, and that this peculiar or even mysterious state forms an evidence requiring an explanation.

The Beauty of Nature

There is a one more evidential fact related to order and purpose of the whole universe, namely, the beauty of nature. As Davidson says, Islamic arguments from design "stress the orderliness or perhaps the beauty, but sometimes the functionality too, of nature as a whole" (1987, 218). So the beauty of the details of nature is also a part of the cumulative teleological argument. Al-Ghazali even talks of the beauty in the color of the sky saying that blue and green are the most suitable colors for the health of the eye and for peace of mind; and the starry heavens are much more beautiful than the ceilings of kings' palaces (1987, 84). When Ibn Hazm turns from the celestial to the terrestrial region in his teleological argument, he assembles data

from animal and plant biology. Unlike most medieval proponents of teleological argumentation, who, when treating the details of nature, saw only their functionality, he underlines the aesthetic side of the details of nature. He admires the skill by which the limbs of the human body are fitted together; the uniform colour patterns of sundry "animals, . . . birds, tortoises, reptiles (hasharat), and fish"; the variegated plumages of other species of bird; the fact that palm tree fiber has a texture as skillfully woven as fabric from a loom (see Davidson 1987, 226).

Mohammad Zia Ullah explains his argument from beauty in more than ten pages. Beauty may be anywhere, in human beings, in external nature. Green landscapes and springs of water - who will not be delighted by them? Beautiful faces - who will not be pleased to see them? But where does the beauty of beautiful things come from? Who has created this beauty? Not self-created, for sure. It is created by God our Creator. The beauty we find in the world around us is proof perfect of the unique, unequalled beauty of our Creator. He writes that "It is possible that on account of his own insensitive mind a person may not feel the impact of beauty when it is present . . . Likewise his own lack of spiritual insight may not permit him to discern in earthly beauty a pointer to the beauty divine, eternal, everlasting, the ultimate source of all other beauty" (Ullah 1984, 32).

The idea of an ascent of the mind to God from the beauty encountered in the physical world is an ancient one (See for historical details, Viladesau 1988, 146-148). In the twentieth century, F. R. Tennant formulated a contemporary approach to God's existence from the philosophical implications of aesthetic experience. He examined 'the aesthetic value of Nature' as the fourth of the main fields of fact which construct his wider teleological argument. Thus, he made the beauty and sublimity of nature the basis of a special teleological argument. However, he also pointed out that "If, as standing by itself, this argument falls short of cogency, the facts from which it sets out may be said to form a link in the chain of evidence which comprehensive teleology presents" (1930, 89). Tennant finds it weak and precarious to treat the beauty of nature as Paley treated organic adaptations; that is to say, as if it were a 'special creation' with no past history or development. The aesthetic argument for theism, he says, "becomes stronger when it takes as the most significant fact not the forthcomingness of beautiful phenomena, but what may be called, with almost negligible need of qualification, the saturation of Nature with beauty" (1930, 91-92). The first proposition of his favourite argument from beauty was stated thus: "On the telescopic and on the microscopic scale, from the starry heaven to the siliceous skeleton of the diatom, in her inward parts (if scientific imagination be veridical) as well as on the surface, in flowers that "blush unseen" and gems that the "unfathomed caves of ocean bear", Nature is sublime or beautiful" (1930, 91).

In the view of Swinburne, too, the world is beautiful, and this is one of its considerably important aspects from the perspective of the arguments of God's existence. He uses 'the argument from beauty' under the title of 'Teleological Arguments,' focuses his argument on the things apart from animals and human beings, and suggests that "if we confine ourselves to the argument from the beauty of the inanimate and plant world, the argument surely works" (1979, 150). He states this beauty as follows:

> Poets and painters and ordinary men down the centuries have long admired the beauty of the orderly procession of the heavenly bodies, the scattering of the galaxies through the heavens (in some ways random, in some ways orderly), and the rocks, sea, and wind

> interacting on earth, 'The spacious firmament on high, and all the blue ethereal sky', the water lapping against 'the old eternal rocks', and the plants of the jungle and of temperate climates, contrasting with the desert and the Arctic wastes. Who in his senses would deny that here is beauty in abundance? (1979, 151)

The beauty of nature is not a matter of purely subjective feelings of individuals or of human species. Today, beauty is widely recognised by physicists as being an important characteristic of the laws of nature, one which has served as a highly successful guide to discovering the fundamental laws of nature in the twentieth century. Some physicists devote chapters to discuss and emphasise the role that considerations of beauty have played in physics. "As embodied in the mathematical structure of physical theory, some of these elements of beauty are: (1) simplicity with variety; (2) proportion and harmony; (3) symmetry; (4) inevitability; (5) ingenuity; and (6) having an 'interesting twist' or a 'strangeness of proportion'." These elements are largely constitutive of the classical concept or type of beauty (Collins 2002, 138). As John Polkinghorne points out "those who work in fundamental physics encounter a world whose large-scale structure (as described by cosmology) and small-scale process (as described by quantum theory) are alike characterised by a wonderful order that is expressible in concise and elegant mathematical terms. … We live in a world whose physical fabric is endowed with transparent rational beauty" (1998, 2; Cf. Landriére 2001, 234).

It seems, then, that nature is really beautiful in a general sense for most people, even though it has got some ugly or evil aspects. Tennant seems correct when he suggests that nature's beauty must not be treated as if it had no past history or development. He is correct again in saying that a defender of the design argument should emphasise the overall sublimity of nature rather than specific of its examples, because especially beauty in living beings is easily subjected to scientific or evolutionary descriptions or explanations. But it might be suggested, on the other hand, that this possibility ought not to cause us to leave the beauty of animals and human beings out of this argument. For they are among the most impressive examples of beauty, and may always be argued to have been designed in one way or another. Finally, it seems also to be true that nature's beauty increases the general order of nature and so contributes to the evidence of the argument from design, even though it cannot perhaps form a very strong evidence on its own.

Evaluation: The Problem of Evil, and Divine Providence

It is implied by Ibn Rushd in his argument from providence that there are two alternative hypotheses to explain the evidential features of the universe: chance, and divine providence. In his view, the providential nature and purposeful functionality exhibited throughout the world cannot conceivably be due to "chance." Therefore, it must, perforce, be the doing of an agent who intends, wills and creates it (Ibn Rushd 1968, 65). Al-Faruqi defends the same idea through rejecting "chance" as an alternative. According to him, the nature of the cosmos is teleological; that is, purposive, out of design. The world has not been created in vain or in sport. It is not the work of chance or happenstance. The world is, indeed, a "cosmos," an orderly creation, not a "chaos." In it, the will of the Creator is always realised (1992, 11,12).

We have examined the providential features of the universe, such as giving to human beings and animals the opportunity to satisfy their biological and

psychological needs, as another aspect of the universe showing that it was teleologically ordered. It is claimed that the very general features of humankind's nature and circumstances described in that context are such as a God has reason for making, and so there is some reason for supposing that God made them. For there are many other worlds, which if there were no God, would be as likely to come into existence as this one, characterised by very different general features. "To take crucial examples, the world might have been one in which the laws of nature were such that there evolved rational agents like men or animals lacking perfect freedom and knowledge, but with the power to hurt each other for endless time or to an infinite intensity." But "the existence of our world rather than of these other worlds, the existence of which is incompatible with the existence of God, which would be equally likely with ours to occur if there is no God, is evidence that God made our world" (Swinburne 1979, 198-99).

Arguing with the same probabilistic methodology through Bayes's theorem as Swinburne, Wesley Salmon claims that the evidence of evil significantly reduces the probability of theism assuming the presence of providential order in the world. He claims that Hume's eloquence, when he speaks through Philo, creates a vivid picture. Evil abounds in the world. Untold misery and suffering plague humankind. He additionally argues that evil is more abundant today than in Hume's day, for "Hume didn't even know about nuclear bombs, chemical and biological warfare, pollution, and overpopulation problems" (1978, 155).

It might be acknowledged that the problem of evil undeniably constitutes a challenge to theism and the design argument, yet it is not an unanswerable problem for the theistic design hypothesis. These instances of evil mentioned by Salmon as additions to Hume's original list have no power to strengthen the classical Humean argument from evil. For, firstly, all of them may be said to be moral evil caused by human agents, not natural evils directly relevant to the design argument. Secondly, the idea of evils which Hume did not know of would not change the proportion of good and evil in Hume's time. For, some good aspects of some apparently evil phenomena have been discovered recently that Hume did not know, either. For example, volcanoes have been one of the commonly used instances of natural evil for almost all the time, including Hume's. Science "was late in recognising the important role of volcanism in the evolution of the Earth." But scientists today agree that "The oceans, atmosphere, and continents owe their origin and evolution in large measure to volcanic processes throughout geologic time" (Decker, and Decker 1991, pp. 512, and 522). Consequently, Salmon's statement that there are some evil phenomena that Hume did not even know does not seem to have really increased the force of Hume's argument. Nor does Salmon seem to prove that the evidence of evil significantly reduces the probability of theism.

Nevertheless, here we need to trespass onto 'the problem of evil' , keeping in mind that we need not become involved in one of the most confused and comprehensive issues of the philosophy of religion more than is necessary. For, as Anthony Kenny said, "If one accepts the argument [from design], then one accepts along with it at least a partial recipe for the problem's solution: for the author of goodness to which the argument leads is by logical necessity the author of the possibility of evil." (1988, 550).

In contemporary philosophical literature, there seem to be two forms of the problem of evil: the logical or deductive problem of evil, and, the evidential or inductive problem of evil. The logical problem of evil (also called the *a priori* argument or the deductive argument from evil), which attempts to show that there is a

logical inconsistency, incompatibility, or contradiction between certain theistic claims about God and evil, is particularly distinguished by the way in which it is a *logical, deductive* or *a priori* argument. Whereas, the argument from design is an *empirical, inductive* and *a posteriori* argument. It also attempts to reach a high degree of *probability* rather than a *logical certainty, proof* or *demonstration* for the existence of God. Therefore, the logical form of the problem of evil is not closely related to the argument from design and for that reason will not be discussed here (see, for its presentation, Mackie 1992, 25-26; McCloskey 1974, 97-112; for some defences, Plantinga 1967, 115-28, 1974, 166-71). But it can only be mentioned that even for some atheist thinkers such as William Rowe, "No one . . . has succeeded in establishing such an extravagant claim [concerning the logical inconsistency]" (1992, 126).

The Evidential Argument of the Problem of Evil

Unlike the logical problem of evil, the evidential problem of evil is inductive, *a posteriori* and non-demonstrative. As such it has a parallel logical structure to the design argument in several places. According to William L. Rowe, the evidential problem of evil is "the form of the problem which holds that the variety and profusion of evil in our world, although perhaps not logically inconsistent with the existence of [God], provides, nevertheless, *rational support* for the belief that the theistic God does not exist" (1978, 86). The facts which give rise to the problem of evil are of two general kinds referred to as 'natural' (or 'physical') and as 'moral' evil. Moral evil, as defined by McCloskey, "is simply immorality - evils such as selfishness, envy, greed, deceit, cruelty, callousness, cowardice and the larger scale evils such as wars and the atrocities they involve" (1960, 100). When it comes to natural evil, it can be defined as follows: "Natural evil is all the instances of pain and suffering - physical and mental - and all states of affairs significantly disadvantageous to the organisms, which are caused by actions for which human agents cannot be held morally blameworthy" (Reichenbach 1982, xi) It appears that the design argument, since it does not infer God from the moral goodness of human beings, is not directly affected by consideration of moral evils. But it is natural evil, especially the quantity of natural evil, that is, of course, one of the major problems for the design argument.

The problem, in Alston's formulation, "is whether the total picture of adaptation and maladaptation, so far as we have it, gives sufficient support to the hypothesis that the world represents the at least partial implementation of a plan that is at least predominantly good" (1967, 87). To resolve this problem one must try to evaluate opposite factors and arrive at a final judgement of their relative predominance. It is true that unfortunately there are no real guidelines for this task. No one knows exactly how much adaptation, relative to maladaptation, would warrant such a conclusion. It is also both logically and practically impossible in a strict sense to compare goods with evils in this world. However, since McCloskey, an outstanding proponent of the problem of evil from an atheistic point of view, finds this kind of comparison to be "not an unreasonable presumption" and actually makes it, someone else, too, may try to make it, or at least to appraise his or the others' comparison and conclusion. He maintains the following:

> However, it is not an unreasonable presumption, with the large bulk of humankind inadequately fed and housed and without adequate medical

> and health services, to suppose that physical evils at present predominate over physical goods. In the light of the facts at our disposal, this would seem to be a much more reasonable conclusion than the conclusion hinted at by Joyce and openly advanced by less cautious theists, namely,-that physical goods in fact outweigh physical evils in the world. (1960, 99-100)

The steps of McCloskey's argument from the amount of natural evil seem to be thus:

(1) The large bulk of humankind is (a) inadequately fed, (b) inadequately housed, (c) without adequate medical, and (d) without adequately health services.

(2) Given this, it is not unreasonable to suppose that physical evils at present predominate over physical goods.

(3) The second step above is a much more reasonable conclusion than the theistic conclusion that physical goods in fact outweigh physical evils in the world at present.

(4) Therefore, the atheistic evaluation of the phenomena in the world dealing with good and evil is much more reasonable than the theistic one.

The Weight of Physical Evil

In this argument McCloskey also describes the theist who defends the view that physical goods in fact outweigh physical evils in the world incautiously without explicitly stating the reason for it. Is his argument sound, is the theist really incautious and mistaken? Neither of these accusations seems to be true. By contrast, the opposite view appears much more reasonable, and McCloskey himself apparently is quite incautious when he constructs this argument. First of all, one may say that as long as the total resources of the Earth are enough, leaving aside its excesses, to feed, to house and so on the whole of humankind on Earth, it cannot reasonably be claimed that the atheistic description of the world, based upon the fact that some people cannot have or get adequate supplies of some goods, is much more reasonable than the theistic one. The reason for the situation of these people is not seem really a natural evil. For instance, are the natural resources of the world not enough for its inhabitants? Are we short of natural resources at the global level? If the case became so, this would be a natural evil and a strong argument from evil. But the case does not seem to be such. It is almost certain that "There is in fact no shortage in the supply of food at the global level, even allowing for overconsumption in the core" (Bradley 1986, 93). "Properly managed, the resources and technology are available to provide a tolerable, if modest, existence for everyone, even with the world's population reaching 4,000,000,000." (Smith 1979, 17). When it is asked, "Then why all the starvation and the mega-famines, especially of black babies in Africa?", for Bunge (1986, 290) the reply is, "Colonialism created those famines". This seems to be an insufficient explanation, because there can be also some other reasons such as local maladministration, civil wars, unjust distribution and overconsumption of the sufficient natural resources of the Earth among human beings; as some consume too much, some others cannot get enough. Indeed, "Roughly two-thirds of the world's people live in the LDCs [less developed countries], with only about an eighth of the world's income; the 20 percent of total population in highly developed nations share about 60 percent of world income - half of it going to the USA" (Smith 1977, 16f). In that case, the cause of evil seems to be human actions, not nature; and so, the role

played by moral evil is at least bigger than that of natural evil. Therefore, these facts seem not to be suitable evidence of nature being predominantly evil. Consequently, McCloskey's argument is not a strong one.

Secondly, one might say that McCloskey's description is an exaggerated one which would not reflect the truth, even if it is, of course, true to some extent. It is not the '*large bulk of mankind*' who meet with the difficulties described above. It is a minority of humankind who are inadequately fed and housed and are without adequate medical and health services. How many human beings are inadequately fed while the rest of them are fed adequately? One can say, that it is not most; the balance would seem to be on the side of those who are fed adequately. For instance, "In 1974-76 there were 436 million undernourished people in total" (Islam 1982, 24), and the number of these people was 20 percent less in the beginning of 1960s when McCloskey wrote his estimation. For "Over the ten-year period to the mid-1970s, the estimated number of undernourished people increased by much more than 20 percent" (Islam 1982, 24).

Here are some clearer statistics. According to the more optimistic scenario, "it is estimated there would be 260 million undernourished", and to the less optimistic scenario "about 390 million people would be underfed in 2000," (Islam 1982, 27) while the "world population is projected to increase from about 4.4 billion in 1980 to 6.2 billion in 2000" (Islam 1982, 43). These numbers clearly show that inadequately fed people are not the large bulk of humankind. Besides, the excessiveness of the percentage of these people is probably a recent fact in the history of mankind and will decrease considerably in the near future. Indeed, "The percentage of the undernourished population would be cut from 23 percent in 1980 to 11 percent in 2000 and 4 percent in 2030" (Islam 1982, 43f). These statistical data show that the inadequately fed people are almost always the minority, or even a small minority of mankind, certainly not the large bulk or the majority. It seems even that "by the turn of the century or by the year 2030 at the least, starvation and malnutrition could be a thing of the past" (Faaland 1982, 1). So, the percentage of the global food resources and consumption cannot be rightly used to prove that evil is predominant over good in the world at present.

One might go on to ask similarly how many of the world's population are inadequately housed while the rest are housed adequately? Again, almost undoubtedly the balance is strongly on the latter side. And how many lives are there without adequate medical and health services, while the others have these services? These last two can be stronger cases in comparison with the first two; but, even in this issue it seems that the balance is on the side of human beings who have adequate medical and health services. In relation to these last points we can examine some statistical data concerning 'poverty'. Poverty is "concerned with the absolute standard of living of a part of society - the poor"; and the *World Development Report 1990* defines poverty as "the inability to attain a minimal standard of living" (1990, 26). This Report "supplements a consumption-based poverty measure with others, such as nutrition, under-five mortality, and school enrollment rates" (26). When we look at the percentage of poverty in the developing world, we see that the percentage of poor people is always less than half of the population, even in the poorest parts of the world. According to the same report, percentages of poor in the developing world in 1985 are 16.1 in Sub-Saharan Africa, 25.0 in East Asia, 46.4 in South Asia, 5.9 in Europe, Middle East, and North Africa, and 6.6 in Latin America and the Caribbean (1990, 2). And more general, clearer, and more optimistic statistics for the near future are stated in the same report thus: "Between 1985 and 2000 the incidence of poverty

in the developing world would fall from 33 percent, to 18 percent and the number of poor from 1.1 billion to 825 million" (139).

Therefore, although especially because the term "adequate" is so ambiguous that the issue can often remain controversial, it is almost certain at least in the four cases cited by McCloskey that physical evils do not predominate over the physical goods in this world. Given this, his second step (2) supposing that physical evils at present predominate over physical goods is unreasonable. So, his argument cannot reach cogently from (1) and (2), which seem to be untrue, to the other step and conclusion, (3) and (4). By contrast, some considerations on his argument may show that the theistic evaluation on the world's good and evil is much more reasonable than the atheistic one. Because both the quantity of goods in the matters of food, housing, medical and health services and the quantity of human beings having them predominate over or outweigh the quantity of evils concerning the adequate lack of the goods in question for some minority of humans in comparison with the whole of mankind.

However, the failure of McCloskey's argument does not necessarily mean that all atheistic arguments in this context fail and that there is no problem left for the argument from design. It can be objected that one should consider the amount of natural evil from a wider perspective than that presented by McCloskey, and such an objection should be taken seriously. To begin with, it should be pointed out that the existence of any amount of evil, no matter how slight, or of individual cases of evil, does not count against the design hypothesis of the argument. For the design hypothesis is not such a proposition that its falsehood necessarily follows in the case of any one contrary fact. Rather, it is a general and approximate proposition. So the possibility or even reality of some exceptional and unexplainable cases would not rebut the truth of the design hypothesis. Likewise, individual cases of evil do not have to be taken into consideration so long as the design argument, too, does not take individual cases of good into account, which new design arguments almost never do.

Once these points have been indicated, one might say that the sum of all apparent evils (where we mean by 'apparent evil' some of the natural facts or creatures which seem to be evil at first sight without any profound examination), although it looks quite large, yet seems to be considerably less than the amount of goods. In other words, order, harmony, teleology, function, value and so on appear to common sense reasonableness to be more dominant than apparent disorder, disharmony, dysteleology, dysfunction and disvalue in the world.

But it might also be argued that when someone looks at the apparent evils more profoundly and more exhaustively, it appears that most of the apparent evils may not be seen as real, absolute and random evils. Looked at from the point of view of order in the world, for example, it seems that most of the disorder may exemplify a kind of order. According to Brian Davies, the defender of the argument from design may want to say that there is order in need of explanation; and disorder such as pain-producing natural events can plausibly be taken as "just an illustration of order". For one might argue in his view that "Pain-producing natural events exhibit order in that their origins can often be traced and their future occurrence predicted with a fair degree of success" (1982, 57). It is stated, for example, that "Lightning, storms, fires, and floods is statistically regular though individually erratic. . . . Often such violence comes with enough regularity that life can adapt" (Rolston 1992, 264-65). Thus, one can say with Swinburne that "All natural evils occur as a result of predictable natural processes (there are no kinds of natural evil which occur in a totally random way)" (1987, 153). Faruqi defends similar ideas:

> Indeed, earthquakes, explosions, floods, droughts, fires, pestilences, and other natural catastrophes tell a different tale than the service of man. What is important is that the processes of nature be so interrelated as to provide for nature's continuity and regularity. Whether nature serves God or some other power, its continuity and regularity are sufficient to make it a viable arena for man's endeavor (Faruqi, Atlas, 317).

Looked at from the point of view of purpose as well, most of the apparent evils may be seen as not real, random or absolute evils. It may be argued that most of them contribute to greater goods, or become good themselves in time. This point can hold for different natural categories such as human beings, animals, and inanimate nature. Most theists "point out that much evil is a means to greater good. . . . And it may well be that there are greater goods for the occurrence of which allowing some lesser evil to occur is a logically necessary condition" (Swinburne 1987, 142-43). Arguments along these lines are characteristic of the best known theistic defences and theodicies, which will be examined a bit later. For the moment it may be mentioned in relation to the contribution of some amount of evil to the good of human beings that "If the world is to contain conscious and moral beings, some of these unsatisfactory states of awareness are unavoidable" (Hudson 1985, 346).

It may be argued that much apparent evil in the animal kingdom is not as evil as it is seen at first sight; and that they contribute their own good. First of all it should be pointed out that it is a mistake to view the sufferings of animals, birds, and reptiles too anthropocentrically or too subjectively. For birds and reptiles typically have fewer nerve endings per surface area of skin; and the level of consciousness, self-awareness, experience or whatever be the proper name for their experiential state, is very different from, more subdued than, less intense and coherent than our own (Rolston 1992, 266). And "presumably the degree of suffering (and pleasure) increases with mental and nervous complexity - since man suffers and inanimate matter does not, one would expect increase of suffering with degree of organisation" (Swinburne 1979, 153).

Moreover, it is argued that animal pain is eminently useful in survival. Natural selection requires pain as much as pleasure in the construction of concern and caring; pain is an alarm system in a world where there are helps and hurts through which a sentient organism must move. On the other hand, any population whose members are constantly in counter productive pain will be selected against and go extinct or develop some capacities to minimise it. "Pain is self-eliminating except insofar as it is instrumental of subsequent, functional good" (Rolston 1992, 272-73).

This kind of argument might be put forward about some natural evil in that it may be argued that it is useful to nature itself, too, before any direct connection with human beings or animal: for the catastrophic and negative forces in nature are often integrated with the uniform and positive forces. Floods, windstorms, lightning storms, and such violences would be more or less like wild fire in an ecosystem; a bad thing to individuals burned in the short run, but not really all that bad systemically in the long run, given nature's restless creativity. For example, "Without thunderstorms, Earth would lose to the upper atmosphere, in less than an hour, the negative electrical charge that produces the atmospheric nitrogen upon which most plants depend. Without thunderstorms, playing electric charges over the thin hot soup, life could not

have originated" And similarly, "Floods cut the valleys. . . .Volcanism is one of the mountain building forces" (Rolston 1992, 265-66).

Therefore, one can conclude that it must be accepted first that there are both good and evil in the world; however, when it is considered whether the balance in the universe is on the side of physical good or physical evil, it seems that the thinkers claiming that the amount of natural evil is limited and less than the good or design, and that it is even a logically necessary condition for some greater good, seem to be closer to the truth than their opponents. As John Yardan says, "Despite the difficulties caused by selective perception, training, experience, culture and one's outlook on life, I judge the amount of good relative to evil to be overwhelmingly great" (2001, 193). In this case, neither of the design argument's evidential concepts and phenomena, namely, order and purpose, are severely affected by the amount of natural evil. For much evil occurs in a regular and predictable way and not in a totally random and unpredictable way. It also seems to serve some purposes or some greater goods either for human beings or for the animal kingdom and inanimate nature. Therefore, the amount of evil cannot reasonably be adduced as evidence against the view that the world is purposively ordered and as such is suggestive of the existence of a designing Being.

However, we should examine one more formulation of the evidential problem of evil, which seems to be apparently strong and well-formulated and brings us to examine some of the defences and theodicies. It is presented as follows:

(2) There is no positive evidence that God exists.

(3) The existence of evil in great abundance would falsify the existence of God unless one assumes either that God has sufficient reason for allowing the existence of evil in great abundance or that evil in great abundance is logically necessary.

(4) Despite repeated attempts to do so, no one has provided a good reason to believe that God has sufficient reason to allow evil to exist in great abundance or that evil in great abundance is logically necessary.

(5) .:. On rational grounds one should believe that God does not exist" (Martin 1978, 430-31).

When we start to examine this argument, we see that if our discussion about the design argument so far is right, the second premise above, (2), is not right. For we reached the conclusion that the design argument has provided rational grounds for the theistic belief that God exists. Despite the fact that we did not discuss it in this work, it might be said together with some contemporary philosophers of religion that at least the cosmological argument, too, can provide as forceful a ground for belief in God as can the teleological argument, and even more than the teleological argument for some thinkers (see, Swinburne 1979, ch. 7; Craig 1993, Part I). So, the second premise of the argument above does not seem right. For there are some strong evidences, even if they are not demonstrative proofs, that God exists. As to the third premise, (3), it should be pointed out, once more, that according to our discussion the existence of evil is not in great abundance, as repeatedly urged above. So, that premise may be said to be only partially true.

The crucial premise of the argument, then, together with the second one which is probably wrong, is the fourth premise, (4), maintaining that 'no one has provided a good reason to believe that God has sufficient reason to allow evil to exist'. It is this point that we have not discussed in detail yet. So we must turn to it now.

The Permission of Evil

The theists have offered a wide variety of defences and theodicies in response to the problem of evil over a long period of time. Several of these defences or theodicies deserve to be taken into consideration in detail; however, in order to keep to the point it seems enough, for our purpose, to briefly discuss some of them, from the point of view of whether they provide a good reason to believe that God has sufficient reason to allow evil to exist or not.

John Bowker writes that in both expressions of Islam, Sunni or Shiite, the far more general response to suffering has been to reiterate the Qur'an and apply it to whatever new circumstances of suffering arise, and that has remained true down to the present day (1970, 133). Bowkwer's observation is true; and the present writer's recent book called *Evil and Theodicy* can be considered as one more example affirming Bowker's judgement. Because it has been argued at the end of the chapters exploring the theodicies found in the Qur'an, in Islamic philosophy, and in Islamic theology that the Qur'an approaches suffering from more comprehensive, balanced, and also more realistic perspective in comparison to Islamic philosophy and theology (Yaran 1997, 179-79). So the reason for the fact that Muslims reiterate the responses in the Qur'an is not perhaps related to their intellectual capacity, but is the reasonably satisfactory character of the response found in the Qur'an.

In the Qur'an, "The two elements of the power of God and the responsibility of men lie side by side, but they are also held together in a sufficient doctrine of creation" (Bowker 1970, 123). The Qur'an expresses in different ways "an instrumental view of suffering" and attempts to reconcile the fact of suffering with a belief in God's omnipotence and compassion" (Bowker, 112-13). The existence of some amount of evil in this world seems to be almost necessarily instrumental for creating free and responsible beings. It also seems to be useful intrumentally for the natural order, animal survival, and the moral and spiritual development of human beings (Yaran 1997, 180). According to R. M. Green, the Qur'an implies three kinds of theodicy. The first is "the free-will theodicy". "At first sight, this free-will theodicy seems to have little footing in the Qur'an because of its repeated emphasis on God's sovereignty and his absolute control over human behaviour. . . . These passages are offset by many others in which a substantial measure of human freedom, initiative, and accountability is assumed" (1987, 438)

Green remarks that the Qur'an displays two other themes associated with the free will theodicy. One is a view of suffering as a "test of righteousness"; and the other is that "The Qur'an also supports a vivid eschatological expectation" (1987, 438). The Qur'an "produces a second major explanation, namely, that suffering is a trial or test. . . . It helps to create a faithful disposition and it also helps to discriminate the sincere from the insincere. What this means, in effect, is that suffering not only forms character, it also exposes it: it reveals a man's true nature" (Bowker 1970, 109, 111). In addition, the anomalies and vicissitudes of this life can be accepted because the balance will be restored in the life to come. A reward based exactly on the balance between good and evil awaits all (Bowker, 115-16).

Muslim philosophers and theologians respond to the problem of suffering in various ways. They argue, for example, that the evil in the world is relatively much less than the good in the world. That limited amount of apparent evil is necessary and useful for the order of nature and for human beings to understand and appreciate

good, and to develop a morally stronger and spiritually faithful character. For some of them, it is also because of the imperfection and limitation of matter and body, on the one hand, and because of the freedom of will, on the other hand. The judgement, however, must always be made based on the predominant side in the world. And the predominant side of nature is its good, beautiful, and regular side. Besides, this world is not the end of the creation process, but just an important stage. There will be a better and more just life after death throughout an indefinite time for more purification and perfection. Nevertheless, human beings should not expect with their limited ability of reason to understand or apprehend exactly all the results of divine wisdom and creation. There remains some unsolvable mystery of evil; but it is never enough to justify disbelief in God in the face of positive arguments in favour of God's existence, power and goodness (see Yaran 1997, 188-190). Some of the Islamic response to suffering, such as free-will and its instrumental or educational nature for greater goods, are seen in Jalal'ud-Din Rumi's poetic writings below (Rumi 1950, 155 f).

. . . our sense of guilt is evidence of Free-will.

If we are not free, why this shame? Why this sorrow and guilty confusion and abashment?

Why do masters chide their pupils? Why do minds change and form new resolutions?

. . . .

When you fall ill and suffer pain, your conscience is awakened, you are stricken with remorse and pray God to forgive your trespasses.

. . . .

Note, then, this principle, O seeker: pain and suffering make one aware of God; . . .

The Free Will Defence (based on possibility) or Free Will Theodicy (based on truth claims) are usually seen as solutions tailored specifically to the problem of moral evil. Yet it seems that they have a close connection with most of the theodicies for natural evil. They constitute the major part in almost all greater-good theodicies. According to Plantinga's Free Will Defence, "It is possible that God could not have created a universe containing moral good (or as much moral good as this one contains) without creating one containing moral evil" (1974, 167). He explains it thus:

> A world containing creatures who are sometimes significantly free (and freely perform more good than evil actions) is more valuable, all else being equal, than a world containing no free creatures at all. Now God can create free creatures, but he cannot cause or determine them to do only what is right. For if he does so, then they are not significantly free after all; they do not do what is right freely. To create creatures capable of moral good, therefore, he must create creatures capable of moral evil; and he cannot leave these creatures free to perform evil and at the same time prevent them from doing so. (1974, 166)

According to the Free Will Theodicy, God decided to create morally free beings. For a person to be a moral agent, he or she must be at times significantly free. God knew that people would sometimes wilfully choose to do wrong, but God granted free

will anyway, because a world of free creatures is more valuable than a world of automatons. In other words, a world containing significantly free persons making moral choices between moral good and evil and choosing more good than evil is superior to a world lacking significantly free persons and moral good and evil. Thus, it was consistent with God's goodness that God created a world inhabited by significantly free persons. And God cannot extensively interfere with creaturely free choice because doing so would jeopardize genuine free will (Reichenbach 1982, 64; Peterson, et al. 1991, 107). So, God has a sufficient reason to allow evil to exist. If that is true, then, God cannot be blamed for the existence of evil and cannot be denied on that basis.

Some critics like Mackie (1992, 33) argue that God as omnipotent could have created morally free agents who always choose the good when they choose between doing good and doing evil. However, this view does not seem to be plausible. For it is more likely that the kind of freedom suggested above would not be a real freedom. Whereas, God chose to create morally free agents who can freely choose to do wrong action as well as good. Thus, if the free will defence or theodicy is not wrong – which it does not seem to be – it provides some reason for God to allow evil, especially moral evil, to exist. However, as Paul Badham says, "The free-will defence needs the wider perspective of the soul-making theodicy" (1994, 2).

Soul Making Theodicy, in its essential form by Hick maintains that God's chief purpose in creation is to bring human beings from animal self-centeredness into moral and spiritual maturity. Since the desired quality of personal life cannot be created merely in a joyful world, God has designed an environment and a process whereby human beings can gradually develop the desired attribute. This environment will contain real challenges, real dangers, and the possibilities of evil, for only in such an environment and process – not in a paradise without suffering – do human beings grow into true moral and spiritual maturity. Hick argues that "From our human point of view, this is a world with rough edges, a place in which man can live only by the sweat of his brow, and which continually presents him with challenges, uncertainties, and dangers. Yet just these features of the world seem, paradoxically, to underlie the emergence of virtually the whole range of the more valuable human characteristics" (1985, 326f).

Hick's soul-making theodicy involves a number of very distinctive concepts such as epistemic distance, mystery, and eschatology. However, when we look at his theodicy from the point of view of our main question, whether God has a sufficient reason to allow evil to exist, we see that God's reason, for this theodicy, is moral and spiritual virtues. It is claimed that there are certain very valuable human qualities, the possibility of which God could not have ensured without permitting suffering. Consider such noble human characteristics as fortitude, charity, compassion, forgiveness, unselfishness, honesty, good faith, courage, determination, persistence, and love. For example, unselfishness would never be evoked in a situation in which no one was ever in real need or danger; courage would never be evoked in an environment devoid of all danger; and so on. A world which contains these values of personal existence and qualities is a better world than a ready-made utopia in which these moral and spiritual qualities would have no point and no place. Therefore, God, wanting to have a better world, had a sufficient reason to allow an amount of suffering (1985, 325-26).

It seems that Hick's theodicy, too, is a plausible explanation for some amount of evil, including both moral and physical. Thus, it provides a more adequate reason for

God's allowance of evil when taken together with the free will explanations. In order not to deviate from the main issue, giving up dealing with some other defences such as "Knowledge from Experience" (see, Swinburne, 1987) and "Natural Law Theodicy" (see, Reichenbach 1982, 101-102), it can be concluded that the Free-Will Defence and Soul-Making Theodicy seem to present persuasive and plausible reasons for God to allow some evil to exist, even though they do not perhaps provide absolutely conclusive arguments to justify the existence of all evil. In that case, the fourth premise of the argument above is not true either. Therefore, the conclusion of the argument about the non-existence of God based on evil is false.

As a result, one may say that the problem of evil does not have really effective power against the argument from design and its implication of the goodness of the God of traditional theism, even though it has a *prima facie* force against them. For we saw, firstly, that the logical problem of evil is not relevant to the argument, nor is it true for most people, including some atheists. Secondly, with respect to the evidential problem of evil, we argued in support of some statistical data that the amount of evil is less than the atheologians claim; and, its real amount is much less than the amount of good or design. And now we have just seen that there are some persuasive reasons shown by some theists for God to allow evil to exist or to bring it about. The greater good theodicies like the Free-Will Defence and Soul-Making Theodicy can be evaluated as successful in showing that God has some (probably sufficient) reasons for allowing or producing some evil. Therefore, the atheistic arguments as we saw above based on the assumption that the God of the traditional theism does not exist, simply because no one has provided neither a good argument for God's existence or a good reason to believe that such a God has sufficient reason to allow evil to exist, are not cogent and reasonable arguments.

Nevertheless, it might be pointed out that some unexplained evil can remain in spite of all these defences and theodicies. In this case, it seems that a theist cannot be fully successful in coping with the problem of evil merely with these defences and theodicies independently of the theistic arguments for the existence of God. That is to say, the defences and theodicies can weaken the evidential force or persuasiveness of the problem of evil concerning the non-existence of God to some degree by providing some explanation for some evil. However, this does not seem enough. What can abolish the power of the problem of evil from the theistic point of view seems to be the higher probability of the arguments for the existence of God, particularly of the design argument, rather than these defences and theodicies. It seems that what renders belief in God reasonable in the face of arguments from evil are the power of the positive arguments of God's existence rather than theistic counter-explanations, defences or theodicies against the atheistic presentation of the problem of evil. Thus, it might be suggested, in one sense, that one of the best defences for a theist against the problem of evil is the arguments for God's existence, particularly the design argument. For if it is sound in its evidences and warrants and successful in its conclusion in a reasonably probable or suggestive sense, that can be seen as enough evidence for the existence of God, even to those ignorant of sufficient justifications for evil.

The Relationship between Anthropos and Cosmo

We have seen that, according to some defenders of the argument, it was possible to see all adaptations of nature as a whole and to some extent as serving the moral development of rational personalities. However, they did not claim that morality was

the only purpose of God and nature; they claimed only that since in the realm of nature beneath man no final purpose can be discerned, such purpose may be discerned in beings possessed of rationality, appreciation, self-determination, and morality. The providential and privileged position of human beings in nature would constitute a sign for God's existence (see Tennant 1930, 105, 113).

A serious objection has been made here by A. J. Ayer. He argues that the fact that some processes within the world are goal-directed is not sufficient for the proponent of the design argument to persuade the opponent. For the fact that ends are pursued and sometimes attained within a system is not proof that the system as a whole is directed towards any end. "What needs to be shown is that the entire universe presents the appearance of a teleological system". He asserts, however, that advocates of the argument have spoken of there being an overall purpose, but have not said clearly what it was. And in so far as they have held any view at all about the purpose for which the world was created, they have generally assumed that it had something to do with the emergence of human beings. But Ayer claims that "This is a view which it is perhaps natural for men to take but hardly one that would be supported by a dispassionate consideration of the scientific evidence. Not only did man make a very late appearance upon the scene in a very small corner of the universe, but it is not even probable that, having made his appearance, he is there to stay" (1991, 207; see, for similar ideas, Russell 1935, ch. xiii).

A defender of the design argument may reply to the objection above that, firstly, the fact that the belief that the emergence of human beings is part of the overall purpose of nature cannot be supported by a dispassionate consideration of the scientific evidence does not prove that this conviction is wrong. For science is neither the only scheme of thought to teach us the truth nor an unlimited arena of human activity. It seems that if our basic datum is a certain configuration of the universe as a whole suggesting an overall purpose of it, science can, by the nature of the case, offer no explanation. Science tries to find regularities in the association of different parts, stages, or aspects within the physical universe. On questions as to why the universe as a whole exists, or exists in one form rather than another, or what is its purpose, it is silent. As Stephen Hawking says, "The usual approach of science of constructing a mathematical model cannot answer the questions of why there should be a universe" (1990, 174). Ultimately this is because science is committed to the consideration of questions that can be investigated empirically. But there is no way to observe connections between the physical universe as a whole and something outside it. Therefore, there seems no scientific alternative to the theistic answer to the question why the universe is a unified system of adaptations and why all adaptations seem to serve the development of moral personalities (Alston 1967, 87). Secondly, it can be said that this, at least postulated or tentative, purposeful interpretation of the universe has been made more reliable, closer to the truth, or probable by the anthropic principle of recent decades. Today the situation seems different from the one generally prevailing over the past three or four centuries.

Indeed, it can be said that the version of the argument which regarded human beings as the purpose of nature was quite reasonable when the Earth was being accepted as the centre of what was thought by the geocentric cosmology of Ptolemy to be a relatively small and recent cosmos. At that time most thinkers appealed to this version in their metaphysics or natural theologies. But after the heliocentric cosmology of Copernicus and Galileo replaced the former, and we came to know the spatial and temporal immensity of the universe in comparison to our tiny and young Earth, this version of the design argument lost its force and partially disappeared in

favour of other versions. Indeed, does it not seem more likely, as it was claimed, that "our ordered fragment may be but a temporary and casual episode in the history of the universe, an oasis in a desert of 'chaos'" (Tennant 1930, 80). In other words, in some tiny insignificant corner of the universe the incessant movement of matter has formed for a brief moment a consciousness-sustaining web of neuronal connections? And so, "Must it not then be a pathetic fallacy on our part to suppose that the entire history of the universe, in its unimaginable vastness and complexity, exists for the purpose of producing us human beings?" (Hick 1989, 121).

It seems that this objection which apparently looked quite persuasive for a long time could still have some force. But it could be said that its impressiveness is much less than it was before the anthropic coincidences and principles were discovered and developed. Tennant's reply to this kind of objection has been strengthened by recent discoveries. He replied that "the ordered oasis is not an isolable fragment. It and the supposed desert or 'chaos' are interdependent. It is because the desert is what it is that the oasis is what it is; and the one has orderedness only by permission, so to say, of the other" (1930, 80). It can be said that it is exactly this 'interdependence' and 'permission' that anthropic coincidences, and in some sense principles, recently have shown scientifically in much more detail. The situation seems to have changed today. "Far from man's presence in the universe being a curious and inexplicable surd, we find we are remarkably and intimately related to it on the basis of this contemporary scientific evidence which is 'indicative of a far greater degree of man's total involvement with the universe' than ever before envisaged" (Peacocke 1979, 68). Indeed, some physicists have been interpreting anthropic coincidences and principles teleologically in connection with the design argument. For example, physicist Freeman Dyson in the essay called "The Argument from Design" in his autobiography, *Disturbing the Universe*, writes in support of a list of anthropic coincidences:

> I do not feel like an alien in this universe. The more I examine the universe and study the details of its architecture, the more evidence I find that the universe in some sense must have known that we were coming. . . . The peculiar harmony between the structure of the universe and the needs of life and intelligence is a third manifestation of the importance of mind in the scheme of things. (1079, 250, 252)

Paul Davies has similar ideas. He points out first that four hundred years ago science came into conflict with religion because it seemed to threaten humankind's cozy place within a purpose-built cosmos designed by God. The revolution begun by Copernicus and finished by Darwin had the effect of marginalizing, even trivializing, human beings. People were no longer cast at the centre of the great scheme, but were relegated to an incidental and seemingly pointless role in an indifferent cosmic drama (1992, 20f). However, he rightly indicates that "Far from exposing human beings as incidental products of blind physical forces, science suggests that the existence of conscious organisms is a fundamental feature of the universe. We have been written into the laws of nature in a deep and, I believe, meaningful way" (1992, 21).

Therefore, the objection to the design argument which argues that our comparative place in the universe should be seen "as supporting a naturalistic world-view" (Hick 1989, 122) as Ayer suggested above, cannot be urged with the same force as it formerly had. It could be said that the weak form of the purposive version seems to be quite reasonable and tenable from the perspective of both theology and

current knowledge of physical universe. For the anthropic coincidences and principles have provided new evidences and supportive interpretations to this form, too, as well as the version of order.

Part Three
The Cosmological Arguments

The cosmological argument is "an *a posteriori* argument for a cause or reason for the cosmos." Three items in this definition deserve emphasis. First, the cosmological argument is an *a posteriori* argument. Unlike the ontological argument, it always contains an existential premise, that is, it asserts that something exists. Second, the cosmological argument seeks a cause or reason. Some versions of the argument conclude with the concept of a being who is the first cause of the universe, either in a temporal sense or in rank. Other versions posit a being who is the sufficient reason for the world. Third, the cosmological argument seeks to account for the cosmos. Most versions of the cosmological argument, and certainly all the modern ones, attempt to account for the existence of the world. Here a boundary is drawn between the cosmological and teleological arguments inasmuch as the latter seek also a cause of the world's being a cosmos, with emphasis upon order, design, and adaptation of means to ends (Craig 1980, x,xi).

The cosmological argument has a long and venerable history. Its intersectarian appeal is broad, as it has been propounded by ancient Greek philosophers, Muslims, Jews, Christians, and the eighteenth century Deistic philosophers. Among the catalogue of its supporters are the greatest minds of the Western world: Plato, Aristotle, ibn Sina, al-Ghazali, ibn Rushd, Maimonides, Anselm, Bonaventure, Aquinas, Scotus, Descartes, Berkeley, Locke, and Leibniz. "The durability of the argument and the stature of its defenders is eloquent testimony to the fact that to man this world is somehow not sufficient of itself, but points to a greater reality beyond itself" (Craig 1980, xi). On the other hand, the cosmological argument has been severely criticized in the modern period by philosophers like Hume, Kant, and Bertrand Russell (Rowe 1975, 6).

William Lane Craig categorises, the cosmological arguments into three types, using two types of criteria, namely, the role of infinite regress in the argument, and the basic principle on which they operate. These are the *Kalam* cosmological arguments, the Thomism arguments, and the Leibnizian argument. (Craig 1980, 282-83)

Muslim thought on the cosmological argument may be divided into two schools, each of which contributed one of the proofs: *kalam*, which developed various forms of the argument from temporal regress; and *falsafa*, which originated the argument from contingency, from possible and necessary being.(Craig 4,7) As Macit Fakhry puts it, "If the argument from causality (cosmological or aetiological argument) . . . is rightly regarded as the classical argument for the existence of God in the West, the argument *a novitate mundi* (*dalīl al-óudūth*), of which the argument *a contingenti mundi*, (*dalīl al-jawāz*) is a mere varient, can be safely asserted to represent the classical argument for the existence of God in Islam" (Fakhry 1957, 135). The argument for the temporality of the universe from the temporality of its component parts is the favourite argument of the scholastic Muslim theologians, though it is by no means their only argument of them.

Chapter V
The *Kalam* Cosmological Argument

Ibn Rushd indicates that the argument from the impossibility of an infinite by succession has its origin in John Philoponus's refutation of Aristotle's eternity of the world. Nevertheless, he refers to it, both in his *Kasfh* and in his *Tahāfut al-Tahāfut*, as an argument of the *Mutakallimūn* (see, Wolfson 1976, 410). Ibn Rushd is right in his designation, for "Although its roots go even further back, the *kalam* argument as a proof for God's existence originated in the minds of Medieval Arabic theologians, who bequeathed it to the West, where it became the centre of a hotly disputed controversy" (Craig 1979, see Preface).

The traditional argument of *Kalam* presupposes a preliminary thesis upon which the theological treatises place considerable emphasis: the thesis of the newness or temporality of the universe (*al-Óudūth*) (Fakhry 1957, 136). Al-Kindi (d. 870) is the first Muslim philosopher who advanced and used this argument for the existence of God. Al-Kindi deals almost only with the cosmological argument in his book called *On First Philosophy*. He argues that "The noblest part of philosophy" is "the First Philosophy;" and that is the "knowledge of the First Truth Who is the cause of all truth" (al-Kindi 1974, 56). After a long and too detailed argumentation, he concludes at the end of the book that "The True One is therefore the First, the Creator who holds everything He has created, and whatever is freed from His hold and power reverts and perishes" (al-Kindi 1974, 114). A simplified version of his book-length proof is as follows:

1. The universe had a beginning in time.
2. The universe could not cause itself to come into existence.
3. Multiplicity in the universe must be caused.
4. The cause of multiplicity in the universe is the cause of the universe itself, and it is the True One. (for the details of every premise see Craig 1979, 34 -35).

The most succinct statement of this argument is found in al-Ghazali's book, *al-Iqtiúād fi'l-I'tiqād*, which invokes the principle of determination. The syllogism runs as follows: Everything temporal (*óādith*) must have a cause. The world is temporal. Therefore the world must have a cause. By *óādith*, al-Ghazali tells us, he means 'what did not previously exist and then began to exist.' Prior to its existence, this 'temporal world' was 'possible' (*mumkin*) i.e. 'Could equally exist and not exist.' To tilt the balance in favour of existence a 'determinant' (*murajjih*) was necessary, since otherwise this 'possible' universe would have always remained in a state of not being (1983, 19-20). The same argument can also be found in some of his other books with similar expressions: "It is self-evident to human reason that there must be a cause (*sabab*) for the origination (*óudūth*) of anything originated (*óādith*). Since the universe is originated it follows that there was a cause for its origination" (al-Ghazali 1965, 34, cf. 1982, 127).

Craig schematises al-Ghazali's argument as follows:

1. Everything that begins to exist requires a cause for its origin.
2. The world began to exist.
(a) There are temporal phenomena in the world.
(b) These are preceded by other temporal phenomena.

(c) The series of temporal phenomena cannot regress infinitely.

(*i*) An actually existing infinite series involves various absurdities.

(d) Therefore, the series of temporal phenomena must have had a beginning.

3. Therefore, the world has a cause for its origin: its Creator. (Craig 1979, 48,49; Cf. Craig 2002, 92)

Starting from the second premise, the evidential or empirical one, let us examine this argument in more detail.

Evidence: The Temporality (*Óudūth*) of the Universe

Al-Ghazali argues that "The proof of our statement that the universe is originated is that material objects in the universe are either at rest or in motion, and since both rest and motion are originated, it follows that what is subject to the originated (*óavādith*) is itself originated (*óādith*). . . . " (1965, 34, cf, 1982, 127). Craig's summary of this premise is as follows:

(1) There are temporal phenomena in the world.
(2) These are caused by other temporal phenomena.
(3) The series of temporal phenomena cannot regress infinitely.
(4) Therefore, the series must stop at the eternal. (Craig 1979, 45)

The most important premise here is the third one. According to al-Ghazali, if the universe were not finite, "It would be necessary to assume the existence before everything originated of another so originated, and so on *ad infinitum*, so that unless all these originated things did come and pass, the turn of the one in question would never come. But this is impossible because there is no end to infinity" (1965, 35, cf 1982, 127-28). Al-Ghazali supports the premise by showing the absurdities involved in the supposition of the eternity of the world, that is, in an infinite regress of temporal phenomena. For example, "It leads to the absurdity of infinites of different sizes. For Jupiter revolves once every twelve years, Saturn every thirty years, and the sphere of the fixed stars every thirty-six thousand years. If the world were eternal, then these bodies will each have completed an infinite number of revolutions, and yet one will have completed twice as many or thousands of times as many revolutions as another, which is absurd" (*Tahāfut*, p. 20, cited in Craig 1979, 46; see also al-Ghazali 1983, 25).

In recent decades, the *Kalam* cosmological argument has been skilfully defended by W. L. Craig both from scientific and from philosophical perspectives. According to Craig, the second premise of the argument may be supported by two lines of reasoning, philosophical and empirical. (Craig 65) He presents two philosophical arguments and two empirical arguments in support of the premise.

Philosophical Arguments. His *first philosophical argument* in support of the premise that the universe began to exist is based upon the impossibility of the existence of an actual infinite. He presents the argument in this way.

1. An actual infinite cannot exist.
2. An infinite temporal regress of events is an actual infinite.
3. Therefore an infinite temporal regress of events cannot exist. (Craig 1979, 69)

Craig argues in support of the first premise of the syllogism above "(1) that the existence of an actual infinite would entail various absurdities; (2) that the Cantorian analysis of the actual infinite may represent a consistent mathematical system, but that this carries with it no ontological import for the existence of an actual infinite in the real world; and (3) that even the mathematical existence of the actual infinite has not gone unchallenged and therefore cannot be taken for granted, which would then apply doubly so to the real existence of the actual infinite" (Craig 1979, 95). After the detailed examination of these views (see *Ibid*., 69-95), he concludes that "an actual infinite cannot exist" (*Ibid*., 95). Among the supportive arguments of Craig, the first is the most important one, that the existence of an actual infinite would entail various absurdities. We shall look at only one of his several examples, which comparatively seems to be more easily understandable.

But before that, one should remember the difference between the concepts of infinite and indefinite. "The crucial difference between an infinite set and an indefinite collection would be that the former is conceived as a determinate whole actually possessing an infinite number of members, while the latter never actually attains infinity, though it increases limitlessly" (Ibid., 69). Craig argues that the absurdity is evident in an illustration employed by David Hilbert to exhibit the paradoxical properties of the actual infinite in the real world, appropriately dubbed 'Hilbert's Hotel':

> Let us imagine a hotel with a finite number of rooms, and let us assume that all the rooms are occupied. When a new guest arrives and requests a room, the proprietor apologies, 'Sorry - all the rooms are full.' Now let us imagine a hotel with an infinite number of rooms, and let us assume that again all the rooms are occupied. But this time, when a new guest arrives and ask for a room, the proprietor exclaims, 'But of course!' and shifts the person in room 1 to room 2, the person in room 2 to room 3, the person in room 3 to room 4, and so on. . . . The new guest then moves into room 1, which has now become vacant as a result of these transpositions. But now let us suppose an *infinite* number of new guests arrive, asking for rooms. 'Certainly, certainly!' says the proprietor, and he proceeds to move the person in room 1 into room 2, the person in room 2 into room 4, and the person in room 3 into room 6, the person in room 4 into 8, and so on. . . . In this way, all the odd-numbered rooms become free, and the infinity of new guests can easily be accommodated in them. (Craig 1979, 84: Cf. Craig 2002, 95-96)

Craig maintains that in this story the proprietor thinks that he can get away with his clever business move because he has forgotten that his hotel has an *actually infinite* number of rooms, not a potentially infinite number of rooms, and that *all the rooms are occupied*. The proprietor's action can only work if the hotel is a potential infinite, such that new rooms are created to absorb the influx of guests. For if the hotel has an actually infinite collection of determinate rooms and *all* the rooms are full, then there is no more room. These illustrations show that if an actual infinite could exist in reality, it would be impossible to add to it. But it obviously is possible to add to it. Therefore, an actual infinite cannot exist in the real world" (Ibid., 84-85).

As a result, Craig's first philosophical argument for the second premise of original *Kalam* cosmological argument concludes that since an actual infinite cannot

exist because of so many obvious absurdities and an infinite temporal regress of event is an actual infinite, we can be sure that an infinite temporal regress of event cannot exist, that is to say, the temporal regress of events is finite. Therefore, since the temporal regress of event is finite, the universe began to exist (Ibid., 102).

Even if these sorts of philosophical arguments could have found some other contemporary defenders together with Craig (see Davis 1997, 153), some other philosophers have been sceptical about them. In the view of Richard Swinburne, for example, there is not much hope for any *a priori* arguments to show that the universe had a beginning. But he argues, on the other hand, that there is some possible future in *a posteriori* arguments to show it (1979, 121). Indeed, the view that the universe had a beginning in time has received strong empirical support from scientific cosmology in recent years. In this case, even if these arguments may be quite sound, most people will not force their mind to understand these philosophical arguments by putting their trust to more easily understandable and also more reliable empirical arguments.

Craig is fully aware of the fact that some persons may be sceptical about philosophical arguments concerning the universe. They distrust metaphysical arguments, considering them to be misguided attempts to legislate for reality what can and cannot be. They are liable, he says, to be more impressed by empirical facts than by abstract arguments and are apt to ask for scientific evidence that the universe began to exist. In this case, he presents such evidence and divides his empirical arguments into two parts: (1) the argument from the expansion of the universe and (2) the argument from thermodynamics (Craig 1979, 110-11). It is interesting to note that he does not put the name of the sub-heading as First Empirical Argument but as First Empirical *Confirmation*. Because these empirical facts did not bring absolutely new ideas to the history of thought but were just confirming the old philosophical and theological ideas, which were particularly and forcefully defended by *Kalam* writers.

Empirical Conformations. In his *First Empirical Confirmation*, Craig examines three modern cosmological models of the universe in detail: the big bang, the steady state and the oscillating models. In summary, he argues that "(1) the scientific evidence related to the expansion of the universe points to an absolute beginning of the universe about fifteen billion years ago; (2) the steady state model of the universe cannot account for certain features of observational cosmology, and (3) the oscillating model of the universe violates several constraints of observational cosmology which indicate that the universe is open. Therefore, we conclude that the universe began to exist" (Craig 1979, 130).

He summarises the history of the big bang model that started in the early twentieth century with purely theoretical works and then observational cosmology appeared to establish conclusively that the universe is expanding, just as the theoretical models had predicted. One Hubble time ago, the universe began to expand from a state of infinite density in what has come to be called the 'big bang'. An alternative model to the big bang theory was broached in 1948, the steady state model. According to this model, the universe was infinitely old. But perhaps the greatest triumph for the big bang model of the universe came in 1965 with the discovery by Penzias and Wilson of a microwave background radiation that permeates the entire universe. This discovery put the real nails in the coffin for the steady state model because of its inability to account for the microwave background (Ibid., 111-122; Craig 2002, 103).

The other model of the universe which, according to Craig, attempts to escape the necessity of an absolute beginning is the oscillating model. To him, this model has

more recently been rendered untenable by further advances in observational cosmology. The evidence therefore appears to preclude an oscillating model of the universe, since such a model requires a universe of closure density. In such a case, one does not escape the necessity of an absolute beginning of the universe (Ibid., 122-130). Indeed, the three pieces of evidence, according to M. A. Corey, strongly discredit any notion of an oscillating universe. We can mention only one of them. He says that "The most convincing evidence that the universe has not been oscillating forever is thermodynamic in nature. Each cycle of expansion and contraction in such an oscillating universe must produce an *overall* increase in entropy, or disorder." This reveals that the universe could not have previously experienced an infinite number of cycles (1993, 37).

For Craig, the event of the big bang that marked the inception of the universe becomes all the more remarkable when one reflects that the universe began from a state of infinite density about one Hubble time ago. Because a condition of 'infinite density' is precisely equivalent to 'nothing'. No object in the real world possesses infinite density, for if it had any mass at all, it would not be *infinitely* dense. "What a literal application of the big bang model really requires, therefore, is *creatio ex nihilo*" (Craig 1979, 116-17). "For not only all matter and energy, but space and time themselves come into being at the initial cosmological singularity" (Craig 2002, 102).

Craig's *Second Empirical Confirmation* in support of his second premise concerning the beginning of the universe is the argument from thermodynamics, particularly the second law of thermodynamics. He argues here that "(1) thermodynamic considerations point to an origin of the universe a finite number of years ago; (2) these considerations hold true whether we adopt Newtonian or relativistic world models, and (3) traditional objections to this argument are invalid on various counts" (Craig 1979, 140). Of these points, we should summarize the first one.

The second law could be formulated as follows: Spontaneously proceeding processes in closed systems are always attended by an increase in entropy. What happens when the second law is applied to the universe as a whole? By definition, the universe is a closed system, since it is all there is. No energy leakage or input is possible. This seems to imply that eventually the universe and all its processes will, so to speak, 'run down', and the entire universe will slowly grind to a halt and reach equilibrium. In other words, since the universe is a gigantic but nonetheless closed system, eventually all the energy in it will become evenly distributed, and it will die. "But if this is so, then why," asks Craig, "if the universe has always existed, has it not reached a state of maximum entropy? Certainly not for lack of time," he continues, "It has had eternity to achieve its state of equal energy distribution. The present state of disequilibrium points to the fact that the processes in the universe have not been going on forever, that at some point in the finite past the universe was in a state of arbitrarily low entropy and that it has been 'running down' since then. In short, the present state of disequilibrium points to a beginning of the universe" (Ibid. 132; Cf. Craig 2002, 103-07).

It seems, therefore, that modern empirical confirmations of the temporality of the universe are convincing. That means the evidential ground, and subsequently the evidential force, of the *Kalam* cosmological argument are quite sound. New scientific cosmology based on the Big Bang theory strongly supports the idea of temporality. Moreover, the second law of thermodynamics seems to have even more comprehensive implications than the Big Bang theory. If it is a universally valid natural law for any physical space-time universe, it would imply that, even if the

oscillating universe model were to be accepted, the universe would still need a beginning in time. Consequently, modern empirical confirmation of the temporality of the universe, together with classical philosophical arguments, constructs a sound ground for more reflection and evaluation for the existence of God.

Evaluation: The Principle of Uncertainty and the First Cause

We have seen that there are some philosophical and empirical reasons that the series of temporal phenomena in general and our spatio-temporal universe in particular must have a beginning in time. According to the principle of determination, an agent must exist who creates the world. For, as the first premise of the *Kalam* cosmological argument declares, 'Everything that begins to exist requires a cause for its origin'. How do we know, however, that a cause is required; and if a cause is required, what sort of cause is it? Al-Ghazali argues that the first premise based on the principle of causality or of determination must be accepted because it is a necessary truth of reason (1983, 20). He declares that "Our statement that there must be a cause for the origination of anything originated is clear, since everything originated is related to time which human reason can assume to be early or late. The assignment of the originated to a particular time, which is neither before nor after its own, is necessarily dependent upon the one who so assigns it" (1965, 34, cf. 1982, 127). Thus, for al-Ghazali, we know the truth of the first premise based on the principle of causality through our reason; it is obvious and clear to human reason or common-sense reasonableness. There is no need to try to prove its truth.

Before coming to modern philosophical discussions on the principle of causality and its implications for the arguments, let us briefly look at Muslim theologians' so-called 'principle of determination'. The overriding aim of the *Kalam* cosmological argument is to demonstrate that the world had a beginning at a point of time. Having demonstrated the temporality of the world, the theologian may then ask why it exists. To account for the existence of the world the Muslim theologians invoked the *principle of determination* (Craig 1970, 10). With the temporality of the world as a premise, the *Mutakallims* proceeded to prove that, being created the world must necessarily have a Creator, by recourse to the so-called 'principle of determination'. "In its barest form, this principle meant that since prior to the existence of the universe it was equally possible for it to be or not-to-be, a determinant (*murajjih*) whereby the possibility of being could prevail over the possibility of not-being was required; and this 'determinant,' they argued , was God" (Fakhry 1957, 139).

What did they mean by 'determinant', an efficient cause or a sufficient reason? It seems to be the former. For al-Ghazali rejects the use of the principle of determination in the sense of sufficient reason, and does use the principle in two other senses, each of which is akin to efficient causality (Craig 1979, 13, 14). Craig summarises three applications of the principle of determination. "(1) When the *Mutakallimūn* demand a determinant for the world's existence, they are demanding an agent who chooses to create the world. (2) When it is asked what differentiating principle caused God to create at one moment rather than another, the answer is that no such principle exists. (3) And when it is asked what is the principle of specification that caused God to create this world rather than another, the answer is simply His will" (Craig 1979, 14).

The principle of determination, however, is not simply the principle of efficient causality. "For the cause of the world to which the argument concludes is conceived by the Muslim thinkers to be not just the mechanically operating, necessary and sufficient condition for the production of an effect, but a personal agent who by an act

of will chooses which equally possible alternative will be realised. God is the *sabab* of the world, but not its '*illa*" (Craig 1979, 14,15). The concept of determinant is more specific than the concept of cause. A cause can be both personal and non-personal; but a determinant can only be personal in its broad sense. A cosmological argument based on the principle of determination suggests that the original creative act of God could not have occurred by necessity. "Instead, it must have been a *free* decision and act on the part of God that gave rise to a universe of contingent beings in the first place. Note further that a free decision of this sort entails that God be understood as a conscious or thinking being rather than as a principle or mindless power working out the necessity of its own nature (Clayton 1997, 112).

After considering the various arguments in support of the second premise of the *Kalam* cosmological argument as presented in one of al-Ghazali's works, Craig returns to the consideration of the first premise, namely, that everything that begins to exist has a cause of its existence. In order to defend this premise, he contends that

> (1) it is intuitively obvious that anything that begins to exist, especially the entire universe, must have a cause of its existence; (2) Hume's attempt to show the universe could have sprung uncaused out of nothing fails to show this to be a *real* possibility, and (3) the causal principle could be more elaborately defended in two ways. Therefore, we conclude our first premise: everything that begins to exist has a cause of its existence (Craig 1979, 148).

We should consider only the second point above. it seems that, according to Craig, there are three alternative views concerning the problem of the origin of the universe. One is the position that the universe and its temporal series of events are infinite. As we saw above he has already shown that both philosophical and empirical reasoning preclude a temporally infinite universe. "The alternatives, then, are two: either the universe was caused to exist or else it sprang into existence wholly uncaused out of nothing a finite number of years ago" (Craig 1979, 144). As the defender of the second alternative, he examines Hume's views. He writes:

> . . . as all distinct ideas are separable from each other, and as the ideas of cause and effect are evidently distinct, 'twill be easy for us to conceive any object to be non-existent this moment, and existent the next, without conjoining to it the distinct idea of a cause or productive principle. The separation, therefore, of the idea of a cause from that of a beginning of existence, is plainly possible for the imagination; and consequently the actual separation of these objects is so far possible, that it implies no contradiction or absurdity; and is therefore incapable of being refuted by any reasoning from mere ideas; without which 'tis impossible to demonstrate the necessity of a cause. (Hume, *Treatise*, 79-80, cited in Craig 1979, 144).

Although Craig acknowledges that Hume has some considerable points in his argument, he is wrong in his conclusion. All Hume has really shown is that the principle that "Everything that begins to exist has a cause of its existence is not analytic and that its denial, therefore, does not involve a contradiction or a logical absurdity." "But," says Craig, "just because we can imagine something's beginning to exist without a cause it does not mean this could ever occur in reality. There are other

absurdities than logical ones. And for the universe to spring into being uncaused, out of nothing, seems intuitively to be really, if not logically, absurd. Therefore, of the two alternatives presenting themselves, namely that the universe has a cause of its existence or the universe came into existence uncaused, the first is inherently more plausible."(Craig, 145) As a matter of fact, Hume, too, did not deny the truth of the principle of causality in the real world. He wrote in one of his letters as follows: "But allow me to tell you, that I never asserted so absurd a Proposition as *that any thing might arise without a Cause*: I only maintain'd that our Certainty of the Falsehood of that Proposition proceeded neither from Intuition nor Demonstration; but from another source" (1932, 187).

The Humean objection has some defenders in our present time as well. One of them is Antony Flew. He defends the position of Stratonician atheism, named for Strato of Lampsacus, who was next but one after Aristotle as Director of the Lyceum. In Flew's expressions, "Strato's contention was that the existence of the universe and the subsistence of whatever may be discovered to be its most fundamental laws ought simply to be accepted as the explanatory ultimates for which no further explanation is either necessary or possible." Flew defends this idea strongly and asks, "Why should we not simply accept the existence of the universe . . . as being itself the ultimately unexplained and inexplicable brute fact?" He also calls for scientists such as Stephen Hawking to share this view and stop describing that God can be the answer for the question "Why does the universe bother to exist?" In his view, "Until and unless he can find sufficient evidencing reason to rationally justify him in believing that the universe is created and maintained by a personal being having a purpose in so doing, Hawking ought to adopt the position which Hume . . . called . . . Stratonician atheism." (Flew 1996, 59). A similar idea is defended by P.W. Atkins, who insists that that "The whole universe tumbled out absolutely nothing" but adds: "There is no purpose behind it, it just happened to happen" (cited in Badham 1998, 62).

But from a scientific point of view, as Paul Badham says, "There is something very odd about Atkins's claim that it 'just happened to happen'. The whole scientific enterprise got under way only when people stopped supposing that things just happen to happen and began to look for explanations, reasons and causes. Certainly within the natural order this is utterly axiomtic, so it is puzzling, when it comes to the cosmos as a whole, that one should abandon the quest for explanation. The problem is, of course, that if one is to give any kind of explanation for the whole cosmos tumbling out of absolutely nothing, one is forced to posit some cause which transcends the cosmos, and this is a very challenging concept" (Badham 1998, 63). So "the 'no reason' hypothesis should be a hypothesis of last resort. It should only be accepted when everything has been tried, and found wanting" (Ward 1996, 23). In fact, the philosophical enterprise, too, if not the whole major human enterprise including ethics and aesthetic, requires and presupposes that we seek for sufficient explanations. The only descriptor of the position of those who defend the acceptance of some ideas without looking for any explanation is dogmatism.

Some atheist defenders of the uncaused Big Bang universe try to support their view with some scientific arguments drawn from subatomic physics. Perhaps the most serious objection to the principle of causality comes from recent work in subatomic physics. Here it appears that electrons can pass out of existence at one point and then come back into existence elsewhere without any apparent cause. There is no way of tracing their intermediate existence. Further, the location of their reappearance is not precisely determinable, only statistically probable (Peterson 1991, 75). Quentin Smith is one of the defenders of this objection. Smith argues that the *Kalam* cosmological

argument fails because its first premise is false. For "Quantum-mechanical considerations show that the causal proposition is limited in its application, if applicable at all, and consequently that a probabilistic argument for a cause of the Big Bang cannot go through" (1993, 121). The 'quantum-mechanical consideration' to which Smith calls attention and presents a counter-argument is Heisenberg's uncertainty principle. For he says that "That there are uncaused events in this sense follows from Heisenberg's uncertainty principle" (Ibid., 121).

But does it really follow from Heisenberg's "uncertainty" principle that there are "uncaused" events, as Smith argues. The answer seems obviously negative. As Smith designates, Heisenberg's uncertainty principle "states that for conjugate magnitudes such as the position *q* and momentum *p* of a particle, it is impossible in principle to measure both simultaneously with precision" (Ibid., 121). It seems to us that there is too huge a gap between Heisenberg's uncertainty principle and proving the reality of uncaused events. What this principle means is not too difficult to understand; one can read again the principle and think once more about the italic words in the phrase, 'it is impossible *in principle* to *measure* both simultaneously *with precision'*. This is a scientific, or rather an, epistemological statement, indicating that the prediction, or more simply, predictory *knowledge*, of the conditions of the conjugate magnitudes can best be statistical and indeterministic rather than absolute and deterministic. So this principle is an epistemological principle having nothing much to do with ontological or metaphysical matter, whereas the claim that some *beings*, like the universe, came into existence uncausedly is a matter of ontology. I say not there is no relation between them, but that the former cannot properly and reasonably be used to support the latter consciously and openly. And to start with a well-accepted scientific principle of 'uncertainty' and, after presenting it as if it is a principle of 'uncausedness', arrive at the reality of an uncaused universe is true and arguable neither from scientific nor from philosophical perspectives.

Therefore, one can say that the first premise of the argument based on the principle of causality, too, is sound, as well as its second premise based on the temporality of the universe supported by modern Big Bang cosmology.

We can conclude together with Craig that "The *kalam* cosmological argument leads us to a personal Creator of the Universe" (Craig 1979, 152). Since everything that begins to exist has a cause of its existence, and since the universe began to exist, therefore, the universe has a cause of its existence. This cause is something beyond it and greater than it.

Even more, the cause of the universe is a personal being. For according to the principle of determination, when two different states of affairs are equally possible and one results, this realisation of one rather than the other must be the result of the action of a personal agent who freely chooses one rather than the other. "Thus, Ghazali argues that while it is true that no mechanical cause existing from eternity could create the universe in time, such a production of a temporal effect from an eternal cause is possible if and only if the cause is a personal agent who wills from eternity to create a temporally finite effect" (Craig 1979, 151; see also Craig 2002, 108).

One can also agree with the conclusion of Michael Peterson and others concerning the *Kalam* cosmological argument: "Evaluation of the argument depends upon our knowledge of the universe at any given time. If present calculations of the amount of matter in the universe are correct, then the argument stands a good chance of being sound" (1991, 75). But what happens if "the Big Bang theory is false" (Poidevin 1996, 6), as an atheist supposes and argues? A proponent of the *Kalam*

cosmological argument, like Ghazali, would possibly have said, 'not much'. For the theory of the Big Bang is not the only reason for defending the temporality of the universe. The new potential theory would possibly support the temporality of the universe as well, together with other philosophical, religious and scientific reasons. But what happens if the replacing theory would strongly support the eternality of the universe. This time a philosopher like al-Farabi or Ibn Sina would possibly have replied, 'Nothing at all' except it is understood that we were closer to the truth than some theologians. It is important to note that "A theistic interpretation of the Big Bang is *not* absolutely dependent on the existence of a Big Bang singularity at the beginning of space-time. . . . Strictly speaking, theism isn't even dependent on the notion of a temporal beginning to the universe" (Corey 1993, 33). As a matter of fact, some theist philosophers have a different version of the cosmological argument for the existence of God which acknowledges the eternality of the universe: The cosmological argument from contingency (*imkan*) of the universe to which we now turn.

Chapter VI
The *Falsafa* Cosmological Argument

We have already said that the cosmological argument has three different versions, and with the exception of the Leibnizian version, the other two are mainly advanced by Muslim theologians and philosophers. The Arabic word for philosophy is *falsafa*, and the famous Muslim philosophers like al-Farabi and Ibn Sina are usually referred to as *falāsifa*. According to Craig, "We may credit the Arabic philosophers with the origin of the modern cosmological argument based on contingency. For though Aristotle hinted at it and the *mutakallimun* called the world contingent because of their metaphysical atomism, it was the Arabic philosophers who spelled out the distinction between necessary and possible being on the basis of the essence/existence distinction. They therefore deserve to be credited with the origin of this important version of the cosmological argument" (1979, 17).

According to al-Farabi (d. 950), the most ultimate and universal concept is *being*. Being cannot be defined for it precedes all other concepts and is the simplest of them all. To try to define it in words serves only to make our minds attentive and directed towards it; it does not explain the concept which is clearer than the words in which it may be defined. Al-Farabi divides being into *necessary* and *contingent*. *Necessary being* is that which exists in itself or that which cannot but exist; non-existence of it is unthinkable, e.g. God. *Contingent being* is that which receives its existence from another and the non-existence of which is thinkable or possible, e.g. this world of ours. Al-Farabi's argument from contingency is based on this distinction between necessary beings and contingent beings. It is possible that this world may not have existed or may come not to exist. But as a matter of actuality the world does exist; its existence, therefore, must be due to another being, and cannot be due to its own self. That other being which may be the cause of the existence of this world either is or is not itself contingent. If it is contingent, then it presupposes another being as the cause of its existence. This other cause again may in turn be contingent or not. Now, a series of contingent beings which would produce one another cannot proceed to infinity. Therefore the series of causes and effects must end in a cause that owes its existence to itself. Thus, finally, we come to the necessary being. This is God, the self-existent (Sheikh 1982, 58-62). In '*Uyūn al-masāil*, a short treatise traditionally attributed to al-Farabi, he states his argument as follows:

> Existents are of two kinds. In one of them, when the thing itself is considered, its existence is not necessary; this is called 'possible of existence.' In the second, when the thing itself is considered, its existence is necessary; this is called 'necessary of existence.' If we suppose something possible of existence to be non-existent, no impossibility follows from that, so it cannot do without a cause for its existence. . . .
>
> Now it is inadmissible that possible things can continue in an infinite chain of causes and effects, or be in a circular relation; they must terminate in something necessary, which is the first existent. (cited in Hourani 1972, 76)

Ibn Sina (or Avicenna) (d. 1037), laid more special emphasis on the argument from contingency. There is a contemporary dispute on Ibn Sina's argument, whether it is a cosmological argument or an ontological one. We will deal with this problem and with the ideas and arguments of different commentators in the next chapter, which will be related to the state of the ontological argument in Islamic thought. In this chapter, we will present his argument by his words and then interpret and examine it as a version of the cosmological argument. Herbert Davidson is one of those who declare that Ibn Sina's argument is definitely "a certain kind of cosmological proof" (1979, 169). According to his interpretation, the existence of God is taken by Avicenna to be neither self-evident nor unprovable. Nor can the existence of God be established through a syllogistic "demonstration" (*burhān*). What can, however, be provided is a "proof" (*dalīl*). A "proof" is a chain of reasoning that moves not from the prior to the posterior, but from the posterior to the prior, from the presence of the effect to the existence of the cause. "A *proof* of the existence of God, as distinct from a strict demonstration, will, we are therefore to understand, reason from the existence of a *possibly existent being* to the existence of *necessarily existent being*, even though the former is the effect, not the cause, of the latter" (Davidson 1987, 298-99).

It seems to us that although this interpretation fits well to some of Ibn Sina's writings, it is not so for all of them. That is to say, it is quite difficult to say that all presentations of the argument in all of his books 'reason from the existence of a possibly existent being to the existence of necessarily existent being'. It is, of course, true that all his arguments end up with the existence of necessarily existent being. But as to with what they all start, the answer does not seem to allow making blanket generalisations. After having mentioned this dispute, Mehmet Aydin arrives at his conclusion with an open-ended interpretation: if it is started by logical analysis of the concept of 'necessarily existent being,' then the argument would be the ontological argument; on the other hand, if we consider the concept of 'possibly existent being' first, and then arrive at the concept of 'necessarily existent being', at this time, the argument would be a cosmological one (1987, 30). This interpretation helps to see the way of solution, but not to arrive at the complete conclusion in this specific case directly. For, even if one looks at Ibn Sina's arguments from this perspective, it is not easy to decide. Of the four different texts of 'Ibn Sina on Necessary and Possible Being' translated by G. Hourani, the first two texts start with the consideration and explanation of the concept of 'possibly existent being', and the last two texts start with the concept of 'necessarily existent being'. In this case, we will examine his arguments starting with the concept of 'possibly existent being' here as an undisputed version of cosmological argument, postponing discussion of his argument starting with the concept of 'necessarily existent being' to the next chapter. But we can say for the moment that it is more common and for us also closer to a more appropriate interpretation that his argument is at least more akin to a version of the cosmological argument, rather than of the ontological argument. He puts forwards his argument in *al-Risāla al-'arshiyya* as follows:

> Know that every existent either has a cause for its existence or has no cause. If it has a cause it is something possible, . . . If it has no cause in any way for its existence it is necessary of existence.
>
> If this doctrine is accepted as true, the proof that there is in existence an existent having no cause for its existence is as I shall state. This existent is either possible of existence or necessary of existence. If it is

> necessary of existence our problem concerning it is settled at once. If *it is possible of existence, the possible of existence enters into existence only by a cause which makes its existence outweigh its non-existence. But if its cause too is possible of existence*, and in like manner there is [a series of] possibles dependent on one another, then there will be no existent at all, because this existent which we supposed does not enter into existence unless it is proceeded by an infinite [series of] existent, and *that is impossible*. *Therefore possibles terminate in something necessary of existence*. (*al-Risala al-'arshiya*, in *Rasa'il Ibn Sina*, Hyderabad, 1935, p. 2, cited in Hourani 1972, 77, italics belong to me.)

This is a version of the cosmological argument, based on two principles, the principle of causality and the principle of the impossibility of an infinite series of possible existents. It is possible to put it simply as an argument with two premises and a conclusion, just by choosing the phrases we italicised above:

(1) It [the universe] is possible of existence.
(2) The possible of existence enters into existence (a) only by a cause (which makes its existence outweigh its non-existence); and (b) this cause cannot be an infinite series of possible causes.
(3) Therefore, possibles terminate in something necessary of existence.

Now we should examine this argument in more detail.

Evidence: The Contingency (*Imkān*) of the Universe

Before, like al-Farabi, entering into any analysis of metaphysical concepts, including *necessarily existent* and *possibly existent*, Ibn Sina (Avicenna) points out that primary concepts cannot strictly be defined at all. The primary concepts, which are not "subsumed under anything better known" and hence are part of no genus, cannot be defined. They are rather "imprinted in the soul in a primary fashion," and must be grasped immediately. Nevertheless, there is a way of presenting them to the man who for some reason does not have them imprinted in his soul. One may "direct attention" to the primary notions and "call them to mind" through a "term or an indication." The distinction between *necessary* and *possible* is employed by Avicenna to distinguish two types of being. A "necessarily existent being" is a being that "perforce exists"; alternatively, it is "such that when it is assumed not to exist, an impossibility results." A "possibly existent being" is a being that "contains no necessity . . . for either its existence or nonexistence (*'adam*)"; alternatively it is "such that whether assumed not to exist or to exist, no impossibility results." What Avicenna is offering is clearly not strict definitions. Necessarily existent can hardly be defined in the strict sense. What Avicenna has given are explications of the type that merely "direct attention" to the meaning of concepts and "call them to mind" (Davidson 1987, 291)

Avicenna envisages three categories of being: (a) the necessarily existent by virtue of itself; (b) the necessarily existent by virtue of another, but possibly existent by virtue of itself; and (c) the possibly existent by virtue of itself which is not rendered necessarily existent by virtue of another (Davidson 1987, 291). Avicenna's division of being hereby differs from Al-Farabi's. Al-Farabi applied the designation *possibly existent* to those objects that actually exist, yet have the possibility of not

existing and are hence unable to exist forever. In other words, he designated all actual transient objects in the sublunar world as *possibly existent* with no further qualification; and he restricted the designation *necessarily existent* to beings that cannot cease to exist, that is, to eternal beings. Avicenna, by contrast, insists that all objects that actually exist, even transient beings, are to be characterized as *necessarily existent*, and all objects that exist by reason of something else, even eternal beings, are *possibly existent* (Ibid., 291-92).

Ibn Sina observes that without violating any principle of logic we can think that all beings in the world taken collectively or individually may not have existed. The experiment of thought that abolishes in mind the existence of one or all beings in the world involves no logical contradiction whatsoever. Hence it is evident that all beings in the world or the world as a whole, when considered by itself, have the status merely of the possible. The possibility or the contingency of the existence of the world necessarily presupposes the existence of the necessary being (Sheikh 1982, 77-78).

It seems that the first premise or evidential statement of the argument, namely, the contingency of the universe, seems true. For, as Peterson and the others say, "A *contingent being* is one that depends on something for its existence, so that even though it exists it might not have existed. For example, you are a contingent being. Although you exist now, it could be that you do not exist now (for example, if you had died last night); if you did not exist now, it is possible that you could have existed (for example, had your parents given birth to you a moment ago). So understood, premise 1 is true." (Peterson 1991, 77). What of the second premise, or the warrant, of the argument? Does it necessitate or make it probable to arrive at the conclusion that there must be a Necessary Being.

Evaluation: The Principle of Causality, and the Necessary Being

As Avicenna constructs his proof, it requires three philosophic principles, each of which he also undertakes to prove. These are (a) the principle of causality; (b) the impossibility of an infinite linear regress of causes; and (c) the impossibility of a circular regress of causes. But as Davidson says, "Significantly, the second and third principles are not genuinely needed for his proof; Avicenna has, without quite realising it, developed a cosmological proof that can dispense with the impossibility of an infinite regress" (Davidson 1987, 299) So the most important point in Ibn Sina's argument is the principle of causality.

In formulating his version of the principle of causality, Avicenna employs a distinction between the cause of the "generation" (*óudūth*) of an object and the cause of its "maintenance" (*thabāt*) in existence. The cause of generation is more obvious, since no one, Avicenna is certain, can doubt that whenever an object comes into existence, it does so by virtue of something else. But there seem to be two other reasons why he gives more attention to a maintaining cause. "Avicenna could not pursue a first cause of the generation of every possibly existent being, since he believed that some possible beings are eternal and have no cause of generation. Furthermore, by establishing a first maintaining cause he will establish not merely a first cause that exercised its causality at a moment in the past and withdrew, but, as it were, a stronger deity, a first cause that continually maintains the universe in existence" (Davidson 1987,299-300).

Avicenna gives his attention, then, to a cause maintaining a possibly existent object in existence. He looks at objects of the type he had designated as *possibly existent by virtue of themselves*, *necessarily existent by virtue of another*, that is to

say, objects that actually exist although they are in themselves only possibly existent. Concerning any such object, Avicenna reasons, irrespective of whether it is generated or eternal, we may legitimately ask what maintains it in existence. Since the possibly existent is something that by definition does not exist by virtue of itself, should a possibly existent object actually exist, some factor distinct from it would have to be responsible for its existence (Davidson 1987, 300). This type of cosmological argument, from al-Farabi and Avicenna to the present day, does not attempt to prove the existence of a first cause in time. The universe might well have been eternal. Yet it is still contingent and hence dependent on something else for its continued existence. Thus, "The cause to which the argument concludes might best be termed a sustaining cause rather than a first creative cause" (Peterson 1991, 76). As Philip Clayton puts it, "It is in the nature of a contingent being not only to owe its existence to God indirectly, as mediated through the previous contingent causes that lie between it and God. It is also in its nature to owe its ongoing existence to God *directly*, in so far as the continuing existence of the entire chain of causes must be due to God's constant concurrence or grace" (1997, 112).

Avicenna acknowledges that the maintaining or sustaining factor may be a component within the total object. For example, the factor maintaining a statute in a given form is the stability of the material from which the statute is made. But a component is still different from the whole so that here too, the factor maintaining the object is distinct from the object considered as a whole. If the component - for instance, the stability of the material - is also possibly existent, inquiry can, of course, legitimately be made regarding the factor maintaining it in existence (Davidson 1987, 300).

Bertrand Russell (d.1970) argues that neither we can explain the universe nor should we ask about its cause. He maintains that the universe "is without explanation." There is no reason whatsoever to suppose that the total has any cause whatsoever." For "The concept of cause is not applicable to the total." There is also no need for such a cause of explanation for it. For Russell, "The universe is just there, and that's all" (Russell and Copleston 1964, 174-75). But there is good reason to think that the universe is contingent and hence requires an explanation for its existence. Since everything in the universe is contingent, the universe itself must be contingent. As Copleston argues, "If you add up chocolates to infinity, you presumably get an infinite number of chocolates. So if you add up contingent beings to infinity, you still get contingent beings, not a necessary being" (Ibid., 174). However, even the infinite series of contingent beings cannot explain themselves, whereas we need a sufficient explanation.

Russell tries to reject this call for explanation with an illustrational answer. "I can illustrate," he says, "what seems to me your fallacy. Every man who exists has a mother, and it seems to me your argument is that therefore the human race must have a mother" (Ibid., 175). Now it is true that not in every case does the whole have the same characteristics as the parts. Russell is correct in noting that blanket arguments of this type commit the fallacy of composition. For example, the argument that all the bricks in the wall are small; therefore the wall is small, is fallacious. On the other hand, sometimes the totality has the same character as the parts on account of the parts - we built the wall out of bricks; therefore it is a brick wall. "The universe's contingency is like the second case. If all the contingent parts of the universe, including matter and energy, ceased to exist simultaneously, then the universe itself, as the totality of these parts, would cease to exist. But if it can cease to exist, it is contingent and requires an explanation for its existence" (Peterson 1991, 79)

In addition, Ibn Sina argues that the cause of the universe, and its explanation, cannot be an infinite series of possible causes. For it is not possible that all the things possible by themselves should simultaneously have an infinite number of causes possible by themselves. "This is because all of them are either existent together or not existent together. If they are not existent together in infinite number simultaneously, but exist in a temporal series, we shall postpone discussion of this. If they are existent together and there is nothing necessary of existence among them, then inevitably their total, insofar as it is that total, whether it is finite or infinite, is either necessary of existence by itself or possible of existence. So if it is necessary of existence by itself, but each of its units is possible, the necessary of existence would be composed of possibles of existence, which is absurd. And if it is possible of existence by itself, the total needs for existence something to bestow existence" (cited in Hourani 1972, 81).

Ibn Sina does not explicitly discuss the other possibility; namely, that the members of the series of contingent entities mentioned above may not exist simultaneously but in succession, although he does consider the alternative, that such entities may exist cyclically in such a way that each is the cause of the other. However, this latter alternative, like the former, is for him impossible, and the series of contingent entities must be supposed to have a cause who is necessary, no matter what the temporal status of its members may be (Fakhry 1997, 50).

M. Peterson and the others seem to agree with Ibn Sina. For them, too, an infinite set of causal conditions cannot explain the existence of the contingent being. One of the two types of argument given in defence of this is that even if an actually infinite set is possible, such a set of causal conditions cannot explain something's existence.

> Where there is no uncaused or self-explanatory causal condition, each contingent cause depends upon some other condition for its causal activity. But if the effect depends on something that itself depends on something else for its causal activity, we have not gotten a causal explanation of the effect. Consequently, an infinite series of contingent causal conditions cannot provide an adequate account of the causal activity that results in the existence of a contingent being (Peterson 1991, 78).

The cause of the total of the possible of existence by itself, according to Ibn Sina's argument, will be either external to the total or internal to it. If it is internal, either one unit will be necessary of existence, yet every one of them was considered possible, so this is absurd. Or this unit will be possible of existence and will be a cause for the existence of the total; but a cause of the total is primarily a cause for the existence of its parts, of which it is one, thus it will be a cause for the existence of itself. This is impossible; but even if it were true it would in a way be the very conclusion sought; for everything sufficient to make itself exist is necessary of existence, yet it was considered not necessary of existence, which is absurd. Thus Ibn Sina states his conclusion:

> What remains, then, is that it is external to the total, and it is not possible that it should be a possible cause, for we have assembled all causes possible of existence within this total; therefore it is external to it and necessary of existence by itself. So now the possibles have terminated in a cause necessary of existence, and all possibles do not

have an infinite number of possible causes (cited in Hourani 1972, 81-82).

The falsafa cosmological argument has been used by Muslim theologians as well. It is the major argument in Muhammad Abduh's book *The Theology of Unity*. He argues that "Clearly the whole range of contingents must have a cause prior to it and the only non-contingent cause is the necessarily existing. For there is nothing prior to the contingent save the impossible and the necessary. The former has no existence. Therefore there remains only the necessary. So it is proved that the contingents that are have a cause of existence that must necessarily exist" (1966, 44).

If successful, would the cosmological "argument purports to establish the God of Judaism, Christianity and Islam?" (Taliaferro 1998, 360). Does the necessary Being arrived at through the *falsafa* cosmological argument have the attributes of God? The answer of the philosophers like al-Farabi and Ibn Sina would possibly be positive, although their conception of God must not necessarily be exactly the same as that of the theologians. The analysis of the concept of necessarily existent by virtue of itself is designed to serve a double function in Avicenn's proof of the existence of God. It contributes to the argument showing that something necessarily existent by virtue of itself does exist, and in addition it reveals that the entity in question possesses the attributes of a deity. Avicenna's analysis of the concept necessarily existent by virtue of itself thus establishes that anything corresponding to the concept must be uncaused, simple, incorporeal, one, pure intellect, truth, good, and most beautiful (Davidson 1987, 297-98).

One can say that the survey of the major classical arguments for the existence of God in Islamic thought ends here at the end of the *falsafa* cosmological argument, except a cumulative case argument and conclusion. But there are two reasons that we must go further before concluding. First, some critics of the arguments, like Kant, claim that all the traditional arguments are eventually based on the ontological argument, and the ontological argument completely fails. So we need to consider whether Kant's remarks are right or wrong. Second, some contemporary Muslim writers claim that ontological arguments are present in the philosophy of al-Farabi and particularly of Ibn Sina before St. Anselm's ontological argument. This view also needs to be explored before we reach a complete cumulative presentation and conclusion.

Chapter VII
The Disputed Position of the Ontological Argument

It has been a matter of discussion recently whether one of the arguments found in the works of al-Farabi and particularly of Ibn Sina is a cosmological argument or an ontological argument. Although this can be considered for us as an intellectual boundary conflict which does not seem to be very fruitful from a theological or metaphysical perspective, some people see it as important. In order to be able to decide whether an argument is cosmological or ontological, one should know the differences. The cosmological proof of the existence of God may be characterized as a proof that begins by recognizing the actual existence of something in the universe; then it employs the principle of causality to establish that that thing and the universe as a whole have a cause. The *a priori* or ontological proof, in contrast, operates in the realm of thought without assuming the actual existence of anything. It begins with a concept of the nature of God, such as "that than which nothing greater can be conceived"; "most perfect being"; "infinite being". Then, as the proof is generally understood merely by analysing the concept, it undertakes to demonstrate that such a being must exist. It does that either directly, by showing that actual existence can be logically deduced from the concept; or indirectly, by showing that a self-contradiction would result from assuming that the being in question does not exist (Davidson 1979, 165).

Richard Taylor's description of the ontological argument is absolutely clear. The ontological argument "purports to prove, simply from the concept of God as the supreme being, that God's existence cannot rationally be doubted by anyone having such a concept of Him. It is thus a purely *a priori* argument, that is to say, one that does not appeal to any facts of experience but is concerned solely with the implications of concepts - in this case, the concept of God" (1968, vii). This argument has held a profound fascination for men since it was first formulated by St. Anselm in the eleventh century. Some critics have considered it as nothing but a 'charming joke.' Others, while rejecting the argument, have nevertheless treated it with respect. "At the other extreme are those philosophers, always in the minority but nonetheless sure of their insight, who consider it true not only that God, conceived as the supreme being, does indeed exist but that St. Anselm has rationally proved it" (Ibid., vii).

One point must be made clear, that there is a common term between the two arguments, namely, *necessary being*, but that they are not necessarily used in the same meaning. This term is not defined by every writer using it, but it seems, in ontological proofs, to have been used in one of two senses: (a) Necessary being may be understood in the sense of a being whose existence is established as a necessary truth, in the way that "its reason can be found by analysis, resolving it into more simple ideas and truths until we come to those that are primary". (b) A necessary being may also be understood as that which exists "through itself" or "through its essence," as that "which has in its essence the sufficient reason of its existence". There have been instances of ontological proofs employing the term *necessary being* in one sense or the other. Every ontological proof attempts to show that the existence of God follows by logical necessity from an analysis of the concept of God's nature. The term *necessary being* also plays a role in the cosmological proof; but the first of the two senses of the term distinguished earlier would presumably be excluded in cosmological argument. For the characteristic of this proof is precisely that it does not restrict itself to the mere analysis of concepts. Thus every cosmological proof must

explicitely or virtually establish that God exists as a necessary being in the second sense (Davidson 1979, 165-169). The best way of exemplifying the ontological argument may be to present Anselm's argument (see Plantinga 1968, 3-27). His argument might be formalized as follows (Peterson 1991, 71).

1. A person can have the idea of a being than which none greater can be conceived.
2. Suppose this being exists only as an idea in the mind.
3. Existence in reality is greater than existence only in the mind.
4. Therefore, we can conceive of a being that is greater than a being than which none greater can be conceived - that is, a being that also exists in reality.
5. But there can be no being greater than that which one greater can be conceived.
6. Therefore, the being than which none greater can be conceived must also exist in reality.

After mentioning some of Kant's criticisms of this argument, Mohammad Iqbal criticises the ontological argument arguing that "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" (1988, 30). For him, the ontological argument, as ordinarily stated, carries us nowhere.

Are the Philosophers' Arguments Ontological or Cosmological?

Parwiz Morowedge is perhaps the person who most pretentiously claims that there is a kind of ontological argument in Ibn Sina. He argues that "prior to Anselm (1033-1109), Ibn Sina (980-1037) held a second version of the ontological argument" (Morowedge 1979, 189). Some reasons to assert that some particular passages make "Ibn Sina's argument a cosmological argument is not legitimate." "Typical cosmological arguments, such as the ones stated by Aquinas," he maintains, "refer to a feature some entity possesses in the actual world - not in mere thought or in definition" (Ibid., 195-96). Nevertheless, he argues surprisingly enough at the end that "the Ibn Sinian version is not logically adequate" (Ibid., 189). In other words of him, "Ibn Sina's ontological argument is no more successful than the others . . ."(Ibid., 199, see also 214), and ". . . all three forms of the ontological argument fail . . ." (Ibid., 215).

Said Sheikh is another writer, among many, who argues that there was a version of the ontological argument in Ibn Sina. But contrary to Morowedge, he finds Ibn Sina's ontological argument successful, whereas his cosmological argument is not. According to his ideas, Ibn Sina supplements his ontological argument with the cosmological one. It is most important to note that Ibn Sina does not affirm the existence of the necessary being merely as the terminus of the usual cosmological argument. He does not merely argue that the existence of the necessary being must need be postulated in order to avoid the infinite regress or circularity of causes and effects. The main thrust of his argument is that the necessary being is the object of our direct intuition. He emphasises that the existence of the necessary being cannot be proved or argued about. It can only be intuited in our own person; to others, it can only be referred to or expressed indirectly. Though Ibn Sina's cosmological argument, similarly to the cosmological argument of Descartes is not defensible, his ontological argument is not exposed to Kantian criticism because in its innermost intention it is

not a rational argument like Descartes'. It is essentially rooted in an intuitive, almost mystical, encounter with the ultimate reality (Sheikh 1982, 78-80).

Fazlur Rahman seems to defend a relatively moderate view concerning the ontological argument in Ibn Sina. He implies that, for Ibn Sina, "A cosmological argument, based on Aristotle's doctrine of the First Cause, would be superfluous in establishing God's existence. Ibn Sina, however, has not chosen to construct a full-fledged ontological argument. His argument . . . is more like the Leibnizian proof of God as the *ground* of the world, i.e., given God, we can understand the existence of the world" (Rahman 1963, 482). According to Fazlur Rahman, in Ibn Sina's argument "Cause and effect behave like premises and conclusion. Instead of working back from a supposed effect to its cause, we work forward from an indubitable premise to a conclusion" (Ibid., 483). It seems that the best thing to do is to look at one of the passages in which Ibn Sina presents his argument.

> There is no doubt that there are existents, and every existent is either necessary or possible. If it is necessary, the existence of the necessary is at once verified, which was the conclusion sought. If it is possible, we shall show that *the existence of the possible terminates in the necessary of existence*. (cited in Hourani 1972, 81, italics belong to me).

In another chapter, Ibn Sina defines the necessary being like this: "The necessary existence is that existent which cannot be supposed non-existent without the occurrence of impossibility" (see Hourani 1972, 79).

If we are not wrong, although some passages of Ibn Sina like the definition of necessary being we have just quoted, and some logical ways of presenting his argument like starting with the concept of 'existent' in the quotation above, have some similarities to the ontological argument, he does not have an ontological argument in the sense of the ontological argument found in Anselm. For if his argument would be an ontological argument, he would have need to deal neither with the principle of causality nor with the concept of contingent being, nor with the impossibility of infinite regress of possible causes, and so on. Since his argument is full of these concepts and principles, his argument must better be considered as a cosmological argument supplemented by 'conceptual analyses' but not by the 'ontological argument'. Furthermore, the conceptual analysis of the term 'necessary being' in Ibn Sina does not start from a concept and then arrive at the real existence of a being to which that concept refers, as is done in Anselm. Rather, it is done to establish the existence of a Necessary Being and to explain firmly the attributes of that Being arrived at through the principle of causality and the impossibility of the infinite regress of possible causes. Finally, these extra conceptual analyses may also be aimed by the philosophers to show that the question like 'What is the cause of the cause of the universe?' is an unnecessary or meaningless question, for that cause is a Necessary Being.

Does the Cosmological Argument Presuppose the Ontological Argument?

Some, such as Immanuel Kant, have objected to the conclusion that a necessary being exists. If we use the cosmological argument to argue for the existence of a necessary being, he argues, the cosmological argument must presuppose the ontological argument. But the ontological argument is suspect. Thus, since the

cosmological argument depends on it, it too must be suspect. He concludes at the end of a detailed criticism of the three traditional arguments: "Thus the physico-theological is based upon the cosmological, and this upon the ontological proof of the existence of a Supreme Being; and as besides these three there is no other path open to speculative reason, the ontological proof, on the ground of pure concepts of reason, is the only possible one, if any proof of a proposition so far transcending the empirical exercise of the understanding is possible at all" (1993, 427).

However, as some other writers says, "the contention that the cosmological argument depends upon the ontological argument is based on a confusion. . . . the term *necessary being* can be understood in different ways. Kant, like the modern defenders of the ontological argument, understands 'necessary being' as having to do with logically necessary existence. But this is not the sense in which 'necessary being' is understood in the cosmological argument. Necessary is understood in the sense of the ontological or factual necessity described above. If it exists, a necessary being is self-sufficient and self-sustaining." (Peterson 1991, 77)

This is obviously true for the *Kalam* cosmological argument. For its most important concept for is the first and deteminant cause of the temporal universe, whose necessity is an ontological necessity. The *falsafa* cosmological argument is more suspect in this respect; but, as we have just discussed, it, too, cannot be reduced to the ontological argument in order to show it successful or unsuccessful. Indeed, Davidson is right when he comments that "The first philosopher known to use the concept of *necessary existent* in order to construct a proof of the existence of God was Avicenna. Avicenna's proof . . . neither is, nor inevitably reduces itself to, an ontological proof" (Davidson 1979, 169).

One can say, however, that although Kant's view is not right as a criticism of the traditional arguments as such, perhaps paradoxically it provides a very good insight to make a cumulative case argument out of the two (or three) traditional arguments. As we have just mentioned, one can rightly argue that it is not necessary that the teleological argument presuppose the cosmological argument, and that it, in turn, has to presuppose the ontological argument. But on the other hand, one may claim that it would make a better and stronger argument if they support or supplement each other in the same order as Kant remarks. That is to say, the teleological argument ought to be supplemented by the cosmological argument, and the cosmological argument ought to be supplemented (not necessarily by the Anselmian ontological argument) but by the true analyses of such concepts as 'necessary being' or 'first cause' arrived at through *a posteriori* arguments like the teleological and cosmological arguments.

In fact, this was the way we have tried to follow so far, because of the insight which is seen to some extent in Kant's criticisms of the arguments. For us, this has made the arguments cumulative, starting from relatively simple arguments and gradually advancing to the complicated ones in the right order and complementary relationship, for the conclusion of God's existence.

Conclusion

There may be hundreds of ways for seekers after truth to consider for themselves the existence of God. Some ways may be relatively personal while others are more objective and have been discussed by many people in more or less the same structural form through the history of philosophy and theology. In Western philosophy of religion, following Kant's classification, the traditional or classical arguments are referred to as the ontological, cosmological and teleological arguments. In the post-Kantian period, two more arguments for the existence of God have often been added to the list, the moral argument and the argument from religious experience. Although there may not be a total consensus, one may say that in Islamic thought, too, there are three traditional or classical arguments. The *kalam* cosmological argument based on the temporality (*huduth*) of the universe, the *falsafa* cosmological argument based on contingency (*imkan*) of the universe, and the Qur'anic arguments from design. The latter was divided into two versions by Ibn Rushd as the argument from providence (*'inayah*) and the argument from creation (*ikhtira*). Muslim mystics, often referred to as Sufis, prefer to trust their direct or inner religious experience to rational arguments as the basic evidential ground of their belief. Thus one can say that in each tradition – East and West -- there are five major arguments for the existence of God. The difference is that rather than having an ontological and a moral argument, there are two major versions each of the cosmological and teleological arguments in Islamic thought. However, just as scholars such as William Lane Craig have introduced a traditional Islamic argument into the Western discussions, some Muslim scholars have attempted recently to develop the ontological and moral arguments within the Islamic context.

Each individual may find a different form of argument convincing for his or her belief (or, for that matter, disbelief). Some arguments may simply appeal to religious experience and contemplation, while others are more scientific and philosophical. Some people may take up one argument by itself independently of the others; but others prefer to consider all the arguments, and to take into account all the counter-arguments, and then make their final decision. This way of proceeding requires us to see all the arguments in a being cumulative manner.

We have seen that, in Islamic thought, belief in the existence of God is considered to be innate in human nature, but only to such a degree that does not violate a person's freedom of belief or disbelief. We may develop this innate belief in three mutually supporting ways: through attending to revelation, through religious experience, and through rational thought.

We have dealt with the matter of revelation very briefly at the beginning of the Introduction; and dealt with religious experience in the first chapter. We have argued in support of Swinburne's principles of credulity and testimony that genuine religious experience is always worth taking seriously as a substantial ground for belief either by the person who has the experience or by the person who is told of the experience. This is provided, of course, that the implications of the experience are in accord with the essence of our background knowledge. We have maintained that the authoritative and strong mystical experience of the great religious figures can best be explained as they commonly explain it themselves, that is, as the experience of the real presence and providence of God, and not as the result of pathological personality.

Our main interest, however, has been the traditional rational arguments for the existence of God in Islamic thought in relation to contemporary philosophy of

religion. We have explored all the major versions of the teleological and cosmological arguments. We agreed with Ibn Rushd in his view of the priority and superiority of the teleological argument, both because it is the most Qur'anic argument and because it is the most suitable argument for a great range of people having various intellectual and other sorts of background. We considered the teleological argument, or the argument from design, in much more detail, since it makes its appeal most readily to our everyday experience. Since the modern versions of this teleological argument are based mainly on scientific developments, we examined it in much closer relation to contemporary Western discussions.

The teleological argument is the oldest and most popular argument for the existence of a supernatural designer in general, and of the God of traditional theism in particular. It was commonly used and developed by Muslim theologians and philosophers, particularly by al-Ghazali and Ibn Rushd. In the West it became very popular especially in the seventeenth and eighteenth centuries, and had most able and respected defenders among leading scientists, theologians and philosophers of the day in the Western world. Soon, however, the argument had to face two forceful attacks coming from David Hume's direct philosophical criticisms in the later years of the eighteenth century, and that of the implications of Charles Darwin's works, nearly a century later. Since that time, the popularity of the argument has been in decline until the last thirty years when it has begun to attract more attention in some scientific, philosophical and theological circles. It has not only found support in new scientific evidence, but has been subtly reformulated, avoiding the traditional weaknesses, in order to meet the classical objections.

Traditional Islamic teleological arguments were based on the wisdom in the created order starting from the heavens, coming through the earth, and ending up with human beings. They particularly emphasized cosmic order and teleology, the origin of life and consciousness, and providence with regard to human beings. Most of their arguments were quite modern in their essence, in the sense that they were not open to many of the criticisms of Hume, Kant and evolutionary naturalism. Nevertheless, since the argument from design in its more philosophical form is mainly based on scientific knowledge of the universe, it requires continuing renewal in accord with new scientific knowledge. We have seen that the modern argument from design is more dependent on the physical sciences than on the biological ones, more based on cosmic teleology than on functional teleology, more consistent with the theory of evolution, more hinged on judgements of probability than on analogical reasoning, and more moderate in its claims to proof than the classical argument from design. It can be characterized as an argument for the existence of God which proceeds from observations of apparent design or teleological order in the world, through either judgements of probability, analogical reasoning, or indeed both, to the conclusion of the existence of God.

Theists or believers from the Middle Ages up until the eighteenth century have often regarded this argument as a conclusive proof and challenging demonstration of the existence of God. It was realised later, however, that that was not the case; and that proponents of the argument should perhaps be more modest in their assertions and expectations. There is no need, however, to abandon the argument as was done by many thinkers in the late nineteenth and early twentieth century, nor to regard it as useful only to those who already believe in God. For it seems apparent that recent scientific discoveries and changes in philosophical methodology have raised the argument again to the position of being able to make at least moderate claims about the existence of God. Hence, contemporary proponents of the argument should neither

be too pretentious nor too humble; the argument whilst it may not be considered to be conclusive in the strictly logical or scientific sense, does nevertheless have very strong evidential force, derived from recent developments in science, for seeing God in nature and in natural and human history.

We have examined three versions of the argument from design in Islamic and contemporary Western thought, and have found them to be quite persuasive in a cumulative manner. In other words, we found them to make it more reasonable for us to believe in the existence of God than not to believe. We have explored, for example, the evidence from the fine-tuning of the universe showing that small changes in the universe's basic features would have made life's emergence and evolution upon earth impossible. It has been shown by scientists that the occurrence of biological evolution depends on incredibly accurate adjustments of celestial and terrestrial features from the beginning of the universe, and that human beings are very intimately related to the whole body and history of the universe, as the Anthropic Principle indicates. We have argued first that such delicate balances of the universe and its close relationship with life here cannot be dismissed as just coincidences which appear to be remarkable only because of the 'self-selection effect' of human beings. Then we have examined two alternatives to explain these fine-tunings: the many worlds and God's design. Because each of the many worlds hypotheses faces many scientific objections, and cannot be defended philosophically due to falling foul of "Ockham's razor", etc., we concluded that the existence of God is a more adequate and satisfying explanation of the fine-tuning of the universe. Moreover, even if the many worlds hypotheses were true, they would not have indicated the non-existence of God.

We have also examined the orderliness of the universe in conforming to the most general laws of nature and have found that the Epicurean account which claims orderliness to have come about through mere chance are less strong today then in the time of Epicurus; and neither can we reasonably leave the most fundamental laws unexplained brute facts, as the Stratonician presumes. These alternative explanations are not capable of accounting for the orderliness of the universe. On the contrary, the theistic design hypothesis seems to explain this more adequately and convincingly in terms of intentional design. By differentiating between the fact or theory of evolution, its mechanism, and its implications or interpretations, we have argued that the argument from design is not incompatible with the theory of evolution nor with its mechanism. What does conflict with the argument from design is the reductionist, naturalistic, or 'blind' interpretation of evolution. But this is neither a necessary nor a true interpretation of evolutionary theory. It is at least equally possible to interpret evolutionary processes in terms of God's design. Indeed, it even seems possible to see some evidential marks of God's existence in that process such as the fitness of physical conditions and laws for the emergence of life and for development and direction in the total process of evolution.

In exploring the analogical version of the argument and the criticisms raised against it, we have seen that no argument from analogy can be as strong or immune to criticism as other forms of argument. However, we have argued that criticisms of the analogical version of the design argument made by Hume and his followers are not unanswerable. Besides, we have seen that ironically even the severest critics of the use of analogy in the argument from design themselves appeal to arguments from analogy in favour of their own world-views. What is still more interesting is that the nontheistic analogies -- based, for example, on a chance meeting of old school friends or winning a bet at the races -- follow such rules of analogical reasoning as similarity and relevance less than do such theistic analogies as that of the machine-making

machine. So when looked at from the perspective of analogies as well as from the perspective of the judgements of probability, it is obvious that it is more reasonable to believe then not to believe in the existence of God.

After the teleological arguments we examined the *kalam* cosmological argument. This argument is advanced and most commonly used by Muslim theologians, or *kalam* scholars. It starts with the idea of the temporality of the universe and, through the principle of causality and the impossibility of actual infinite regress of temporal causes, arrives at the existence of a determinant and creator God. Its crucial premise asserting a temporal beginning for the universe by traditional philosophical arguments has received strong empirical support from scientific developments in recent years. The Big Bang theory and the second law of thermodynamics strongly suggest that the universe did have a beginning. There are objections to the argument relying upon the oscillating universe model and Heisenberg's uncertainty principle. But we have seen that the oscillating model is not the prevailing cosmological view among scientists. And we have argued that Heisenberg's "uncertainty" principle cannot be presented as an "uncausedness" principle. Consequently, the cosmological argument is much more sound and certain for establishing belief in God in the present situation of the scientific cosmology than in the medieval times. Its premises are that everything that begins to exist has a cause of its existence, and the universe began to exist in the Big Bang. It concludes therefrom that the universe logically has a personal cause and creator of its existence, who freely chooses the time of creation and makes it possible through his great power and knowledge.

Finally, we examined the *falsafa* cosmological argument based on the contingency of the universe, together with a short discussion of its relationship with the ontological argument. The *kalam* cosmological argument presupposes the temporality of the universe, which present scientific cosmology does seem to support. But the *falsafa* cosmological argument is readily compatible with the idea of the universe always existing. Thus it complements the *kalam* argument in one sense to arrive at a cumulative case argument, just as the *kalam* argument complemented the teleological arguments. Both in turn complemented the argument from religious experience.

The *falsafa* cosmological argument has mainly been developed by philosophers like al-Farabi and Ibn Sina and has always been their favoured argument. According to this, the universe is the total of possible or contingent beings, and as such is not self-subsistent. Therefore it requires a necessarily existent Being to sustain it. Although there are some objections to this argument, particularly to its usage of the principle of causality, they do not seem strong enough to show that the argument fails. As a result, this is very strong argument for the existence of God in terms of metaphysical certainty, even for someone who believes in the eternality of the universe. Since the universe is possible of existence, and since what is possible of existence enters into existence only by a cause who makes its existence outweigh its non-existence and continually maintains it in existence; then, the universe logically terminates in something necessary of existence, an uncaused first existent, namely, the one God. This One has great power, knowledge and goodness; can easily be felt in the people's genuine religious experiences, in the faces of one's neighbours, and in the magnificent beauty of nature; and has many names in different religions, traditions, cultures and civilizations.

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