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IQBAL' S DOCTRINE OF EGOS AND THE LEIBNIZIAN MONADS

Dr. Abdul Khaliq

Allama Muhammad Iqbal (1877-1938) in spite, or rather because, of his declared commitment to monotheism is a pluralist insofar as his view of the constitution of the universe is concerned. In the second chapter of his *The Reconstruction of Religious Thought in Islam*, he has undertaken a comprehensive philosophical criticism of all the facts of experience on its efficient as well as appreciative side and has been led to the irresistible conclusion that 'the Ultimate Reality is a rationally directed creative life',¹ whom he conceives as an Ego, a Person, a-Great I Am'. To interpret this life as an Ego, he, of course, hurriedly points out,

is not to fashion *God* after the image of man. It is only to accept the simple fact of experience that life is not a formless fluid but an organizing principle of unity, a synthetic activity which holds together and focalizes the dispersing dispositions of the living organism for a constructive purpose.²

Now nature and laws of nature being habits of God a sort of self-revelation of His person—the entire furniture of the universe, from its lowest state of existence to the highest one, does, of necessity, comprise egos and egos alone. Creative activity of God functions as ego-entities because 'from the Ultimate Ego only egos proceed'³

Iqbal attempts to further define the salient features of his ego philosophy against the context of a critical appreciation of the Ash'rite doctrine of *Jawahir*. The Ash'rites, in opposition to the Mutazilite emphasis on human freedom, laid maximum stress, in the sovereignty of God, His supreme authority and omnipotence. This amounted for them to a denial of the natural powers of secondary agents: the particular material objects as well as

¹ Muhammad Iqbal, *The Reconstruction of Religious Thought in Islam*, Iqbal Academy Pakistan, Lahore, 1989, p.

² *Ibid.*

³ *Ibid.* p. 57.

animals and human beings have no efficacy and no qualities inherent in them. They have, in fact, no nature whatsoever. Now, substances exist only with qualities. When qualities are explained away, the substances go as well and so fail to have any durable existence. Tangibility of substances having thus been rejected, the Ash'arites were led straight to a doctrine of atomism which, Iqbal observes, was 'the first important indication of an intellectual revolt against the Aristotelian idea of a fixed universe'⁴. According to the Greek Atomists' view, in general, the atoms were determinate in number whereas for the Ash'arites they are infinite because the creative activity of God is ceaseless. Fresh atoms are coming into existence every moment and the universe is becoming newer and newer every moment.. The Ash'arite atom, unlike its Greek counterpart, can be destroyed as well. Its essence is independent of its existence insofar as existence is a quality imposed on the atom by God: if He withdraws this quality, the atom loses its spatio-temporal character. In fact no atom has the characteristic of continuing for two consecutive moments. If a thing does appear to endure for some time what really happens in that God creates, annihilates, creates, and so on, the accidents of existence and duration in a quick, perpetual sequence. If God wished to destroy a body, it was sufficient that He should stop to create in it the accident of existence as well, as the other accidents appropriate to it.

The very important fact emphasised by the Ash'arites that the atom appears as materialized and spacialized when God grants it the quality of existence necessarily implies, according to Iqbal, that before receiving that quality and, thus, basically and essentially it is nothing but a phase of divine energy. Its spatio-temporal existence is only divine activity rendered visible. Iqbal, in this connection, quotes⁵ with approval the remark of Ibn Hazm that the language of the Qur'an makes no distinction between the act of creation and the thing created. And so a material object is nothing but an aggregation of atomic acts perpetrated by God. It is only mind's search for permanence that has created the world of physics. Thus conceived, the material atom is essentially spiritual. It is for these spiritual atoms comprising the whole cosmos that Iqbal uses the term 'egos'.

⁴ *Ibid.* p. 54, 56, 109, (p21).

⁵ *Ibid.* p. 55.

The whole world in all its details from the mechanical movement of what we call the atom of matter to the free movement of thought in the human ego is the self-revelation of the 'Great I Am'. Every atom of- divine energy, however low in the scale of existence, is an egos.⁶

He further pointed out that corresponding to the different levels of phenomenal existence, viz, material, spiritual and conscious, there are degrees of reality which are nothing but degrees in the expression of egohood. "Throughout the entire gamut of being runs the gradually rising note of egohood until it reaches its perfection in man"⁷ The Ego, that God is, is the most supreme, the most independent, elemental and absolute.

Gottfried Wilhelm Leibniz (1646-1716), the German philosopher, with whose cosmology Iqbal has greater affinity than is recognisable by a casual observer, was also a spiritual pluralist. He also conceived the universe as an heirarchy, an ascending order of spirit- or force-atoms which are variously named by him; 'metaphysical points' 'substantial forms' or monads'. At the apex of this heirarchicai structure, according to him, stands God, the monad of all monads. The number of monads is infinite and no two of them are exactly alike. As God is pure activity, the clearest consciousness, the Soul *par excellence*, so all monads exhibit conscious activity more or less. Each monad is a microcosm the universe in miniature — as it reflects, mirrors or 'perceives' the universe from its own point of view. There arc obscure, confused and obfuscated perceptions— the small perceptions— at the lowest level. These become clearer and clearer as we go up the scale. In man they become appreciations comprising a 'reflexive knowledge of the inner state' or, what we call, self-consciousness. *They* are the clearest in God, the original monad. Permitting no leaps in nature there is a continuous line of infinitesimal differences from the inorganic matter to God.

One consequence of faith in the unitary principle and ground of the universe to which both Leibniz and Iqbal, in their respective ways, subscribe is that mind and body are to be considered essentially the same. If that is really so, how would the difference between organic and inorganic bodies be

⁶ *Ibid.* p. 57.

⁷ *Ibid.*

understood. Both, of course, are composed of monads, according to Leibniz, but the organism, he says, has the distinction of having a central monad, a queen monad or soul. Inorganic bodies are not centralized in this way. They are a mere jumble, a heap of monads. The higher a body is in the scale of being, the more organized and centralized it is. Answering further the question as to how is the central monad i.e. the mind or soul related to the inferior monads comprising the body of an organism, Leibniz summarily rejects inter-actionism, the popularly recognized theory about mind-body relationship. Monads, in general, cannot influence one another, he says because 'they have no windows'⁸ Everyone of them is self-contained and has in itself the ground of its various states and movements. It is in fact perpetually in a process of evolution and goes on realizing its nature by an internal necessity.

I do not believe', he writes, 'that any system is possible in which the monads inter-act, for there seems no possible way of explaining such action. Moreover such action would be superfluous for why should one monad give another what the other already has, for this is the very nature of substance that the present is big

with the future.'⁹

Anyway some account must be given of the fact that changes in one thing seem to be connected by definite laws with the changes in others. Apparent mind-body relationship, particularly, can be explained, according to Leibniz by the theory of a pre-established harmony between monads. The states of each and every monad are internally engineered in such a way that they synchronize with the states of all other monads. The law of natural harmony has been woven into their very respective natures.

Souls act according to the laws of final causes, by means of desires, ends and means. Bodies act according to the laws of efficient causes or notions. And

⁸ G.W. Leibniz, *The Monadology And other Philosophical Writings*, translated by Robert Latta, Oxford: Clarendon Press, 1956.

⁹ Quoted and translated by Bertrand Russell, *A Critical Exposition of the Philosophy of Leibniz*; London: George Allen and Unwin, 1918.

the two realms are in harmony with one another.¹⁰

The possibility of such a phenomenon can be explained by an analogy. Suppose there are two perfect clocks whose machines have been so set that when one of them strikes an hour, say, exactly one second later, the other strikes that hour too. To a layman it may appear that one clock exercises a sort of influence over the other and makes it behave in a particular way. However, the fact, as we know, is that the harmony between them has been pre-established by the mechanic who made them, in the first instance. Similarly, the visible harmony between any two monads, and particularly between the monads comprising the mind and the body respectively in an organism, has been pre-established by God, their creator. When, I will to raise my hand and my hand is actually raised, between these two events, there is no causal relationship whatsoever. They happen independently but, of course, in such a way that they would be in a relationship of mutual fittingness. Leibniz agrees with the Occasionalists in their rejection of interactionism. However they sharply differ between themselves also insofar as, according to the latter, God is the only direct and immediate agent of every event in the world, whereas, according to the former, every individual substance evolves in accordance with its own nature which was determined once for all when God created the world. Thus although Leibniz did not subscribe to transient causality between ordinary monads, he upholds that this causality does operate between God and the universe. This operation took place not only initially as He eternally established harmony between monads and also it continues to happen now and for all times. The clock or the machine that the universe is “needs to be conserved by God and it depends on Him for its continued existence”. The Supreme Monad would not be windowless to that extent. The source as well as ground of the mechanics of the universe lies in metaphysics.

Iqbal, in general, rejects the dualist theory. He specially refutes the doctrine of pre-established harmony because it practically¹¹ reduces the soul to a merely passive spectator of the happenings of the body”¹² Nor ar mind

¹⁰ G.W. Leibniz, *op. cit.*, section 79, p. 263.

¹¹ G.B. Duncan (ed.), *The Philosophical Works of Leibniz*, p. 241.

¹² Muhammad Iqbal, *op.cit.*, p. 84.

and body entirely separate substances having their mutually exclusive sets of attributes and entering into a relationship of mutual interaction as was, for instance, emphasized by Descartes. They rather belong to the same system, says Iqbal. Both are egos. "Matter is spirit in space-time reference".¹³ It is "a colony of egos of a low order out of which emerges the ego of a higher order."¹⁴ The physical organism reacting to environments gradually builds up a systematic unity of experience which we call the human ego. Mind and body become one in action. The Qur'an says:

Now of fine clay we created man. There we placed him, a moist germ in a safe abode; then made we the moist germ a clot of blood; then made the clotted blood into a piece of flesh; then made the piece of flesh into bones; and we clothed the bones with flesh: then brought forth man of yet another make.¹⁵

This, however, does not obliterate the distinction between mind and body so that the former appears to essentially stand reduced to the level of the latter. Iqbal says:

It is not the origin of a thing that matters, it is the capacity, the significance and the final reach of the emergent that matters. Even if we regard the basis of soul-life as purely physical, it by no means follows that the emergent can be resolved into what has conditioned its birth and growth. The emergent... is an unforeseeable and novel fact on its own plane of being.¹⁶

Here expressly is a reference to the doctrine of cosmic evolution to which Iqbal subscribes. All higher forms of existence, he holds, evolve out of the lower forms and thus there is a "gradually rising note of egohood in the universe".¹⁷

¹³ *Ibid.* p. 122.

¹⁴ *Ibid.* p. 84.

¹⁵ *The Qur'an*, 23: 12-14.

¹⁶ Muhammad Iqbal, *op. cit.*, p. 85.

¹⁷ *Ibid.* p. 57.

Incidentally, Seyyed Hossein Nasr, in one of his articles¹⁸ recently published in Pakistan has emphasized that evolutionism — specially, the concept of biological evolution that was popular in the West of Iqbal's times — is anti-Islamic in its metaphysical implications and is in contradiction with the teachings of the Qur'an.** Iqbal's and other Muslim thinkers of the Subcontinent specially, he in general complains, do not recognize this fact because of the apologetic attitude that they have almost been forced to adopt under the impact of over-all strong influences of Western culture. Here the accusation of being apologetic is, however, I believe, difficult to substantiate adequately at least in case of Iqbal who seems to be fully conscious of the limitations of his contemporary Western science and culture and the inadequacy of the materialistic, reductionist, type of attitude towards life and values that it generated. Anyway, Iqbal is firmly of the opinion that the doctrine of evolution has nothing un-Islamic about it. The verse from the Qur'an quoted above clearly indicates, according to him, that man did evolve out of the lower forms of existence. The orthodox, by applying a literalist approach to some of the verses of the Qur'an, have always held that man is a special creation and is not the result of a long evolutionary process. The human race, according to them, started from Adam, the first human being who was directly and specially created by God. Iqbal, like Sir Sayyid Ahmad Khan (1817-1898), resorts to a symbolic interpretation of the descriptions of the Qur'an in this regard. He says:

The Qur'anic legend of the fall does not describe the episode of the first appearance of man on the earth. Its purpose is rather to indicate man's rise from a primitive state of instinctive appetite to the conscious possession of a free self capable of doubt and disobedience. The fall ... is man's transition from simple consciousness to the first flash of self-consciousness, a kind of

¹⁸ *Al-Hikmat*, A Research Journal of the Department of Philosophy, University of the Punjab, Lahore.

For a detailed exposition of Nasr's views on biological evolution, Darwinism, transformist theories, see *Sacred*, Edinburgh, 1981, Lahore, 1985, pp. 169-71, 234-42; *Islamic Life and Thought*, Lahore, 1983, p. 100 and Lahore, 1992 and *An Introduction to the*

Islamic Cosmological Doctrines, Albany, 1992, pp 71-4. Apart from giving an exposition of the essentially Islamic views on evolution as held by the Islamic thinkers (Brethren of Purity, Ibn Miskawaih, Rumi etc) as compared to the Western views, the texts of these Islamic thinkers have been misinterpreted by modernist Muslim writers by reading them out of context and used with a total disregard for their immediate context and over all perspective and governing principles.

waking from the dream of nature with a throb of personal causality in one's own being.¹⁹

God is not a mere contriver working on alien matter as one might get the impression from the Qur'anic verse referred to above. He, in fact, caused man to grow 'from earth', meaning thereby 'in the normal evolutionary course of nature operating in the spatio-temporal world'.

There is no purely physical level in the sense of possessing a materiality elementally incapable of evolving the creative synthesis we call life or mind and needing a transcendental deity to impregnate it with the sentient and the mental.²⁰

In fact, God Who makes the emergent emerge is in a way immanent in nature: He is the First and the Last; and the Manifest and the Hidden.²¹

Not only in the Qur'an, Iqbal also traces his views on evolution in various Muslim thinkers. It was Jahiz (776-869), he points out, who first observed changes in animal life caused in general by migrations and environments. The Brethren of Purity further elaborated these observations. Miskawaih (942-1030) was, according to him, the first Muslim philosopher who presented the theory in a regular and systematic form. He gave concrete examples of the evolutionary process from the world of minerals, plants and animals. On the basis of his views on evolution, he seeks ultimately to justify the emergence of prophets and to build up a system of his ethical views. Jalal al-Din Rumi (1208-1274), the spiritual guide of Iqbal, too gave an evolutionary interpretation of the emergence of man. However, for him, this evolution does not end with man. It may go beyond him to a level which it is not possible for us to imagine now. "The formulation of the theory of evolution in the world of Islam, says Iqbal, brought into being Rumi's tremendous enthusiasm for the biological future of man".²²

¹⁹ Muhammad Iqbal, *op. cit.*, p. 67-8. Also see Sir Sayyid Ahmad Khan, *Maqalat*, Vol. I, pp. 216-234.

²⁰ Muhammad Iqbal, *op. cit.*, p. 85.

²¹ *The Qur'an*, 57:3.

²² Muhammad Iqbal, *op. cit.*, p.147.

The views of all these Muslim thinkers have remarkable affinities with the concept of evolution as advocated, and made popular in modern times, by Charles Darwin (1809-1882). However, there is one essential respect in which they differ from him. Darwin, we know, is a naturalist. He holds that all changes in the process of evolution occur due to forces in nature itself *viz.* struggle for existence, chance variations and natural selection. These changes have no exterior causes. Miskawaih and Rumi, on the other hand, are spiritualists. The source and ground of evolution for them is not dead matter but God, Who is the ultimate creator of -everything. Matter for them is only one of the emanations' from God which starting from the First Intelligence become more and more materialized as we go down the scale till we reach the primordial elements. So even matter is not dead and inert. It is constituted of 'dimly conscious monads'. It is the expression of Divine Reality and the objectification of soul. "The universe is nothing but the outward and opaque form of the ideal. When God wanted to manifest Himself, He created a mirror whose face is the soul and whose back is the universe"²³

Iqbal too is a spiritualist: it is not from dead matter but from God Himself that everything originates. And it is to Him that all returns.²⁴ He is the Goal, the Ideal *par excellence*.

Leibniz, we have seen, also believed in evolution although the kind of evolution that he conceives is entirely private and internal to monads. Development of each monad into newer and newer states is, in the last analysis, a sort of self-revelation, pure and . simple, not determined from without, because monads have no windows through which any influence may come in or go out. This, in general, is the doctrine of preformation or incasement according to which all future states of a particular object are prefigured or contained in it already. Every monad, it is said, is 'charged with the past' and 'big with the future', Iqbal, in contradistinction to this, is of the opinion that egoes have genuine mutual contacts. Those of a higher order evolve out of those of a comparatively lower order when the association and

²³ Khalifa Abdul Hakim, *Metaphysics of Rumi*, Institute of Islamic Culture, Lahore, 1959, p. 31.

²⁴ *The Qur'an*. 96:8.

interaction of the latter reaches a certain degree of co-ordination. Talking of the human person specifically, he says:

The life of an ego is a kind of tension caused by the ego invading the environment and the environment invading the ego; the ego does not stand outside the arena of this mutual invasion. It is present in it as a directive energy.²⁵

Personality is a state of tension which is to be maintained as a valued treasure with the help of a perpetual encounter with partly sympathetic and partly alien environments. I must be vigilant and active all the time so as not to allow myself to a state of relaxation and so undo my personality.

Thus human ego is dynamic in its essential nature. Iqbal, in this - connection, rejects the views of Ghazali (1058-1111) (and of the entire school of Muslim theology which he represents) according to whom ego is something static and unchangeable: It is a simple indivisible and immutable soul substance entirely different from the group of our mental states and unaffected by the passage of time'. These theologians wanted to vouchsafe two objectives, a psychological one and a metaphysical one. Psychologically, they wanted to establish that the individual must continue to be the same throughout the diversity of his mental states which are related to the soul-substance as the physical qualities are related to the material substance. Metaphysically, they thought, their doctrine established personal immortality of man. However, Iqbal believes, they have been able to achieve neither of the objectives set before them, Neither are the various conscious experiences, related to the ego as physical properties are related to a material object, nor does the simplicity of the ego guarantee its unending existence.

Just as Ghazali and others laid stress on the unity of the human ego at the expense of its dynamic character, so does William James (1842-1910), in his conception of self, stress its dynamic character at the expense of its unity. According to him consciousness is a stream of thought and the ego is nothing but 'the appropriation of the passing impulse by the present impulse of thought and that of the present by its successor', Iqbal ridicules this idea

²⁵ Muhammad Iqbal, *op. cit.*, p. 82.

of appropriation of one bit of experience by the other, holding it to be an impossible state of affairs. For him, human ego is neither over and above our experiences nor is it simply various experiences themselves reporting to one another. Its life, as said above, is rather a state of tension caused by the mutual invasion of the ego and the environments and held in unicity by a sense of direction. I-amness is not a thing; it is an act.

You cannot perceive me like a thing-in-space, or a set of experiences, in temporal order; you must interpret, understand and appreciate me in my judgements, in my will-attitudes, aims and aspirations.²⁶

The question arises ‘What is the principle involved in the emergence of the human ego? Henry Bergson (1859-1941), the French philosopher and biologist, had believed that it was the principle of *elan vital*, the vital dash which is entirely arbitrary, undirected, chaotic and unpredictable in its behaviour. It is a free creative impulse. “The portals of the future”, he remarked “must remain wide open to Reality”²⁷ Theology like mechanical causation ----- would make free creativeness a mere delusion and would make time unreal and unless. Iqbal, on the other hand, resorts to the theistic hypothesis. God is not only transcendent, He is, in a sense, the immanent force also, Who is constantly causing within the spatio-temporal order newer and newer emergents like the human ego. “Soul is the directive principle from God”,²⁸ says the Qur’an. Iqbal agrees with Bergson that:

if teleology means the working out of a plan in view of a pre-determined end or goal, it does make time unreal. Ali would already be given somewhere in eternity; the temporal order of events is (then) nothing more than a mere repetition of the. eternal mould.²⁹

According to this view there would be no really free creation and growth in the universe. Anyway, despite this criticism, Iqbal is firmly of the opinion that our activities are goal-directed, purposiveness being essential to the

²⁶ *Ibid.* p. 83.

²⁷ *The Qur’an.* 17:85.

²⁸ Muhammad Iqbal, *op. cit.*, p. 43.

²⁹ *Ibid.* p. 42.

human self. “The ends and purposes, whether they exist as conscious or sub-conscious, form the warp and woof of our conscious experience”³⁰ This is because, he points out, there is a sense of teleology available other than the one conceived and rightly rejected by Bergson. As I act I do not do so because there is a grand plan of action already determined for me. I, in fact, go on creating my own purposes in life. “Though there is no far off distant goal towards which we are moving, there is a progressive formation of fresh ends, purposes and ideal scale of values as the process of life grows and expands. We become by ceasing to be what we are; life is a passage through a series of deaths”.³¹ God, the Ideal, inseminates the entire universe and, specially, the life of man with goal-directed behaviour at every step during its tenure of existence. The essence of this insemination is, according to Iqbal, love or *ishq*. He says:

Beneath this visible evolution of forms is the force of love which actualizes all strivings, movement and progress. Things are so constituted that they hate non-existence and love the joy of individuality in various forms. The indeterminate matter, deed in itself, assumes, or more properly, is made to assume by the inner force of love, various forms and rises higher and higher in the scale of beauty.³²

The ego is individual. There are, of course, degrees of individuality, as pointed out by Bergson also. Most perfect individuality, says Iqbal, belongs to God, the Ultimate Ego “Who begets not, nor is He begotten and there is none like Him”³³ But man too is an individual, more or less, insofar as the Qur’an has a clear picture of him as one who is responsible for his own deeds alone and who has his unique future that awaits him: “No bearer of burdens bears the burden of another”³⁴ Further, the Qur’an visualizes that in the life hereafter every resident of heaven or hell will have a clear remembrance of his past life for which he will be rewarded or punished. Psychologically speaking too, the I-ness of man is absolutely private. My experiences, my thoughts and feelings are all unique with me and unsharable

³⁰ *Ibid.* p. 44.

³¹ Muhammad Iqbal, *Metaphysics of Persia*, Bazm-i-Iqbal n.d. p. 33.

³² *The Qur’an*. 112: 3-4.

³³ *Ibid.* 6:164.

³⁴ Muhammad Iqbal, *The Reconstruction of Religious Thought in Islam*, op. cit., p. 45.

with others. Even- my experience of a table or a chair which are, to all appearance, public facts, is strictly my own and cannot be confused with anyone else's experience of the same object.

The ego or self in man has two aspects which may be termed as the noumenal aspect and the phenomenal aspect. Bergson calls them the 'fundamental self' and the 'social self' respectively. Iqbal makes a more or less corresponding distinction between the 'appreciative self' and the 'efficient self' of man. The former lives in pure duration while the latter deals with serial time. In our day to day life we are so much absorbed with the world i.e. with the seriality of time and the spreadoutness of space that we entirely lose sight of, the fundamental or the appreciative 'I' within. It is almost incumbent upon us to recognise this not only because that world qualify us for an encounter with the 'Great-I-am' and prepare us for authentic social relations with other human beings, but also because it would make me a human person in the full sense of the term. Iqbal says:

To exist in pure duration is to be a self and to be a self is to be able to say 'I am'. Only that truly exists which can say 'I am'. It is the degree of intuition of I-amness that determines the place of a thing in the scale of being.³⁵

Mystics of all times have laid a special emphasis on true self-awareness of man.

How do I know myself? Iqbal's answer is that, being most simple, fundamental and profound, I-amness is neither an object of perception nor an idea pure and simple to be logically inferred and rationally conceived. It can in the final analysis only be known through a flash of intuitive insight. David Hume, for instance, is the philosopher well-known for his attempt to reach the self through purely sensory, empirical channels. He said:

When I enter most intimately into what I call myself I always stumble on some particular perception i.e. some particular mental content or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never catch

³⁵ *A Treatise on Human Nature*, Oxford: The Clarendon Press, 1964 Book I, part IV. p. 252.

myself at any time without a perception... And were all my perceptions removed by death... I should be entirely annihilated.³⁶

He thus concluded that there is no such thing as 'I' or 'self' and that a person is 'nothing but a bundle or collection of different perceptions'. Hume's supposition here is that all knowledge is to be furnished by sense experience alone and sense experience being a temporal affair leaves no scope for a permanent, non-successional being. Descartes (1598-1650), on the other hand, represents those who followed the course of reason. Being himself a brilliant mathematician and a discoverer of Analytical Geometry, he was firmly of the opinion that for philosophy a method could be discovered on the analogy of the one used in mathematical sciences where we start with certain simple and self-evident principles, rising by degrees to the complex ones thus building up an entire system of thought. So he set out in search of the indubitable and the self-evident. This he did by a grand process of elimination. He doubted away everything he could possibly doubt: the testimony of his senses, his memory, the existence of the physical world, his own body and even the truths of mathematics. One thing, however, he found, he could not possibly doubt and that was the fact of his own existence, his own self, his I-amness. It is he after all who had been performing the activity of doubting all the time. Doubting is a form of thinking. "I think", he concluded, "therefore I am", meaning to say, 'I exist'. This argument, the critics have pointed out, is fallacious on grounds more than one. For one thing, the conclusion to which the entire reasoning leads could only be that 'there is a state of doubt' and that's all. At the most a logical 'I', which in fact is the subject of all propositions that are made, can be asserted. From this to skip over to the factual existence of an 'I', as Descartes really does, is a leap which cannot at all be justified.

Iqbal is thus right when he holds that both sense-experience as well as reason, forms of perception as well as categories of understanding, are meant to equip us for our dealings with the spatiotemporal world: they are not made to reach the core of my being. In fact "in our constant pursuit after external things we weave a kind of veil round the appreciative self which thus becomes alien to us. It is only in the moments of profound meditation", he

³⁶ Muhammad Iqbal, *The Reconstruction of Religious Thought in Islam*, op. cit., p. 38.

goes on to say, “when the efficient self is in abeyance, that we sink into our deeper self and reach the inner centre of experience”.³⁷ So neither the *mutakallimun* (theologians) nor the philosophers but the devotional *Sufis* alone have truly been able to understand the nature of the human soul. The meditation, referred to here, is either pure meditation through which I imaginatively remove from my self all that is not essentially ‘me’ i.e. all that I possess due to my particular ‘historical’ and ‘geographical’ situation, in the broadest sense of these terms. Or it may be the meditation charged with activity in which case I practically eradicate from my nature exclusive love for, and involvement with, the world which is the cause of my alienation from the source and ground of my existence. The second meaning is accepted particularly by the mystics of Islam. The sufistic path, in fact, starts with the inculcation of the virtue of *tawbah* (repentance or turning about) which signifies purification of soul and the deliverance of it from all extraneous material so that the divine within it stands realized, It can thus positively prepare itself for an encounter with God because such an encounter can take place only in case a person realizes the divine in himself and like Him dispenses with all determiners. “The adherents of mystical religions”, says G.S. Spinks, “feel compelled to empty their psychical ‘life... in order to achieve by personality-denying techniques an emptiness that will prepare the way for the incoming of the Divine”.³⁸ Anyway, realization of the true self through meditation is not at all an end in itself. It is a means for the improvement of our behaviour and for the cementation and confirmation of our personalities.

The ultimate aim of the ego is not to see something but to be something. The end of the ego’s quest is not emancipation from the limitations of individuality; it is, on the other hand, a more precise definition of it.³⁹

Now as the essential nature of the human ego is his quest for purposes and ideals, he cannot afford to be mechanical and stereotyped in his behaviour. He must be free. Positive scientists_ psychologists, physiologists and others have sometimes tried to understand human behaviour on the

³⁷ G. Stephens Spinks, *Psychology and Religion*, Methuen & Co. Ltd. London W/C2, 1963.

³⁸ *Ibid.* p. 86.

³⁹ *Ibid.* p. 87.

pattern of the behaviour of the physical world which, they think, is characterized by causal necessity. But the determinism of the physical world, Iqbal rightly observes, is not definitive, objective and final. It is, he says, an “artificial construction of the ego for its own purposes”. Indeed, he goes on to observe: “in interpreting nature in this way the ego understands and masters its environment and thereby acquires and amplifies its freedom”⁴⁰

Tracing the historical development of the problem, Iqbal makes a distinction between ordinary fatalism and higher fatalism. The latter which is the result of a living and all-absorbing experience of God is, however, commendable, though very rare: “strong personalities alone are capable of rising to this experience” The experience is so total that its recipient has a strong feeling of resignation. As the Infinite is absorbed into the loving embrace of the finite, the will of the individual is though temporarily — held in abeyance. Hopes, desires and aspirations of man, freely exercised by him, become identical with the will of God because of his being thoroughly saturated in Divine colour.

As to the mutual relationship of God, the Ultimate Ego, and the universe, too— and specially as to how did God produce the world— there appears to be a close affinity between the respective standpoints of Iqbal and Leibniz. Iqbal counts creativeness as one of the important elements in the Qur’anic conception of God. But as we follow his argument into details it transpires that he does not hold on to the strictly orthodox position in this regard. The act of creation, he says, was not a specific past event; nor is the universe a manufactured article having no organic concern with the life of its Maker and confronting Him as his other. The universe, according to him, is rather to be conceived as a free creative energy that ‘proceeds’ from God. It is one continuous act which thought breaks up into a plurality of mutually exclusive things and interprets as space, time and matter. Here the word ‘proceeds’ is very important. It spontaneously brings to one’s mind the doctrine of emanation that was so popular with the earliest Muslim thinkers who philosophised under the aegis of neo-Platonism. ‘Proceeds’ does have other meanings; for instance, corollaries following from a geometrical definition or rays radiating from the sun or smell from a flower or melodies

⁴⁰ *The Qur’an*. 2: 138.

from a musical instrument or as habits and modes of behaviour are exhibited by the personality of an individual. Now God being a Person Himself, the last meaning appears to be the one closest to the mind of Iqbal. That is why he declares the world to be a self-revelation of the 'Great I am'. Incidentally the Qur'an's insistent statement that there are pointers to the being of God spread out in the various phenomena of nature sufficiently brings out the revelatory character of God, on the one hand, and correspondingly, the representative character of the universe, on the other.

Earlier, Leibniz too had vacillated between creativeness and expressionism. He, like Iqbal, avoided the phrase 'creation out of nothing' for describing the origination of the universe. Also, he instead used a term which is as ambiguous as if not more than the term 'proceeds'. He describes monads as substances co-eternal with God and calls them 'fulgurations' or 'manifestations' of Him. As it has been shown above, monads compressing the universe are, according to Leibniz, in general self-contained and independent. The entire life of everyone of them consists purely in the development of its own internal nature. There is, however, at least one property of each monad of which the ground lies not in itself but in God *viz.* its actual existence. From the point of view of Leibniz, it may be ingrained as an additional predicate added by the creative act of God to those already contained in the concept of the world as 'possible'. This view comes close to the metaphysical position of the Ash'ante theologians which was very much appreciated by Iqbal himself.

The last-mentioned closeness between Leibniz and Iqbal pointed to a deeper metaphysical ambivalence that is mutually shared by them. Creativeness, in general, we know goes with a theistic view of God whereas emanationism implies pantheism. Controversies have raged regarding each one of the thinkers whether he belongs to one of these metaphysical camps or the other. And, further, in either case majority of the writers have agreed that— specially as we go by their overtly declared position they must be taken to be more in sympathy with theism than pantheism. A detailed discussion on this subject will not, however, be undertaken here as it will take us a little beyond the scope of the present article. It needs a treatment independent by itself.

TRANSLATIONS FROM IQBAL

* *Solitude*

* *The Poet*

* *The Night and the Poet*

* *The Hour and the Poet*

Translated and Annotated by

Dr. Mustansir Mir

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SOLITUDE

I. INTRODUCTORY

Muhammad Iqbal's poem *Tanba'i* ("Solitude") in *Payam-i Mashriq* (in *Kulliyat-i Iqbal: Farsi* [Lahore: Iqbal Academy Pakistan, 1994], p. 272) is tantalizing. It explores the question of the meaning and significance of human existence in the context of the universe, but the result of the exploration is not stated; one even wonders whether there is a suggestion that the exploration would be futile. Nothing can be said with certainty about the final message of the poem, though several possibilities suggest themselves.

Conscious of possessing a feeling heart, the poet, as a representative of humanity, contrasts himself with the universe. In succession he approaches the sea, the mountain, and the moon, asking each whether it possesses, like him, a heart. All are embarrassed at the question and remain silent, for none of them possesses a heart. Finally, the poet arrives in the presence of God

and complains that he has no companion in the whole wide world He has created: nothing in the universe possesses a heart, whereas he, although a handful of dust, is all heart. At this God smiles, but He, too, remains silent.

What are we to make of all this? It is obvious that the universe, with all its gigantic proportions and impressive phenomena, lacks that priceless thing called heart—which is possessed by man and which renders man superior to the universe. The French thinker Pascal says that man is superior to the universe because the universe, though it crushes man, does not realize what it does to him, whereas man at least has the awareness of being crushed by the universe. Consciousness, then, is distinctive of human existence and makes up for man's physical weakness or inferiority. In "The moon," a poem in *Bang-i Dara* (in *Kuliyat-i Iqbal: Urdu*, [Lahore: Iqbal Academy Pakistan, Lahore, 1994], pp. 105-106), Iqbal, comparing himself with the moon, notes a few similarities between man and the moon, but then says:

And yet, O shining moon,

You are so different from me

And I so different from you!

The breast that feels the pain

Is a different breast indeed.

Though I'm all darkness and you're all light,

Yet you're hundreds of miles away

From the station of awareness.

The purpose of my life is known to me-----

This is a sheen your countenance lacks.

At one level, then, the poem “Solitude” argues for the superiority of man to the universe.

The important question, however, is: Why does God smile in silence? There are several possible explanations.

1. Possession of a feeling heart distinguishes man from and sets him above the rest of creation. This secret was, however, hidden from man not with a view to keeping him ignorant of his distinction but in order to motivate him to discover it through his own effort. Discovery of the secret earns man praise from God: he has risen to his Creator’s expectations, and the Creator smiles in appreciation.

2. The discovery is painful. Man’s search for a “heart” in nature was actuated by his desire to find a companion with whom he could share his joys and sorrows. But nature can offer man no solace, and the search, which makes him aware of his distinction, also leaves him high and *dry*. God smiles in compassion, even pity. In the poem “Man” in *Bang-i Dara* (p. 206), Iqbal says that God has made man a seeker of the secret of existence, but has then hidden the secret from him.

3. Man may take consolation in the fact, the Divine smile may be suggesting, that the discovery, though painful, is after all an achievement. If man can find no companion outside of himself, then at least he can be a companion to himself. In fact, instead of turning to lifeless, or rather heartless, nature, he might consider cementing his bonds with the other members of the human race. The painful discovery thus redirects man towards humanity, and God smiles not so much at the present failure of man to much at the present failure of man to find a companion in nature, but at the possibilities that lie hidden in man’s discovery of the strengths of the bonds of humanity.

4. Unlike the natural phenomena, which are disconcerted by Iqbal’s query, God smiles. Might it be that God, through His smile, is suggesting that man has finally discovered that God Himself is the friend man needs—and deserves?

None of these interpretations finds conclusive support in the poem. Is the ambiguity deliberate? Quite possibly Iqbal does not want to provide a neat solution to a complex problem.

The sequence of Iqbal's queries is notable. Iqbal first approaches the sea, then the mountain, which is at a higher altitude, then the moon, which is even higher, and finally God, Who is in the highest heavens. At each level, one can feel, the problem Iqbal is facing becomes more poignant.

Incidentally, this is not the only "enigmatic" poem in Iqbal. One gets a similar feeling in a short poem entitled "Life" in *Payam-i Mashriq* (in *Kulliyat-i Iqbal: Farsi*, p. 254):

One night the spring cloud wept and wept, [saying,

"This life is one long spell of crying."

A swift lightning shone, and said,

"You're wrong—it's a moment's laughter!"

I don't know who bore this news to the [garden, For the rose and the dew are debating the [point.

A number of verses in several other poems of Iqbal express similar thoughts and feelings.

II. TRANSLATION

I went down to the sea

And said to the restless wave,

"You're ever in search._

What's troubling you?

In your pouch¹ are a thousand brilliant pearls_ But do you have in your chest, like me, A pearl of a heart?"

It writhed and swung away from the shore _____ And said not a word.

I went up to the mountain and asked,

“What insensitivity!

Did the sighs and cries of any anguished soul Ever reach your ears? If your rocks have

But one diamond formed from a drop of blood,

Then come for a moment

And talk to a wretched soul³ like me.”

It withdrew into itself and stood still._ And said not a word.

I went a long distance, and asked the moon,

“It is *your* lot to journey along,

Is destination also your lot or not?⁴ The rays of your countenance Turn the world into jasmine land .⁵ But the sheen of your scar,

Does it dome from the splendor of a heart or not?⁶

It cast a jealous glance⁷ at the star⁸

And said not a word. Leaving the moon and the sun behind,

I reached the presence of God, and said,

“Not a single atom in Your World Is an intimate of mine

The world has no heart, but I, A handful of dust, am all heart.

It's⁹ a mice garden, but not worthy of my song!¹⁰

A smile appeared on His lips_

He said not a word.

NOTES

¹The word in the original is *giriban*, literally, the “opening at the breast of a garment.”

²Again the meaning is: Do you possess a heart?

³Wretched because, possessing as he does a heart, than feels the pain and misery that is found in the world.

⁴The implication, of course, is that the moon is denied a destination. In the

poem “Thoughts of Stars” in *Payam-i Mashriq (Kulliyat-i Iqbal: Farzi, p. 253)*, a star says:

We're in an ocean, no shore's in sight: It is our fate to journey along,

This caravan has no destination, though.

⁵That is, your rays illumine the world, so that it appears that white jasmine is blossoming all over.

⁶Iqbal asks the moon: Is the scar of your face due to the splendour of your

own heart, one that is burning with the fire of life, or is it due to borrowed fire?

⁷The word *ragibanah* in the original means literally “like a rival.” “Jealous glance” would seem to capture the meaning intended. See also next note.

⁸”Star” (singular in the original) may be generic, in which case it would mean “stars,” for the light of the stars is original to them, whereas the light of the moon is borrowed. But the word may refer specifically to the sun, from which the moon borrows its light. This would be more meaningful since in the next stanza the poet mentions the moon and the sun both (“Leaving the moon and the sun behind....”)

⁹”The world or universe.

¹⁰“Not worthy of my song,” because Iqbal’s song arises from his heart and a heart is needed to appreciate it, whereas the universe has no heart.

****[7**The variety and richness of Iqbal’s overall intellectual perspective allows us to add a few comments here by way of further elucidating the multifaceted and many tiered concept of heart in Iqbal’s poetical works. The word ‘heart’ is a highly nuanced term used in different interconnected shades and meanings during the various phases of Iqbal’s poetic career, ranging from ‘heart’ as a seat of emotions and feelings to the sufi idea of ‘heart’ as the center of human interiority and the deepest seat of consciousness. In his mature works, to which category this poem belongs, he mostly employs the term ‘heart’ in its mystico-philosophic meaning and, for an adequate explanation, one inevitably has to turn towards the relevant sufi perspective which provided the underpinning to Iqbal’s verses and which, consequently, is the only legitimate paradigm that may reveal the beauty and intellectual profundity of his thought in its full splendour.

One is also reminded of the fact that in Islamic texts in general and sufi works in particular, the heart is a locus of knowledge and intelligence rather than sentiments or feeling. Equating the heart to ‘emotions’ and ‘feelings’ is a typically modern phenomenon. The Qur’an employs the term about 130 times and often attributes understanding and intelligence to the healthy heart. *Hadith* literature also carries abundant references to it. Based on these primary sources a vast body of literature came into existence in various schools of Islamic thought which worked out its implications according to their respective points of view. Iqbal places himself squarely in the perspective of intellectual Sufism when he, for example, says: “No less than the Exalted Throne is the breast of Adam” (Masjid-i-Qurtubah’, in *Bal-i-*

Jibril,, Kulliyat, Urdu, Iqbal Academy Pakistan, 1994, p. 422). Thus, in our view, to gain a comprehensive view of Iqbal’s key concepts, it is hardly possible to glide silently over the question of their proper perspective and intellectual background. No interpretation would yield results to the required degree of satisfaction unless an unrestricted approach is adopted to read his works.

In short, without negating anything that the learned translator has noted, it may be concluded that the term ‘heart’, at least in the majority of Iqbal’s mature works, represent, before every thing else, the following ideas:

The deepest seat of consciousness;

Locus of intelligence;

Centre of interiority or inwardness;

Secret of God;

The point where the Divine intersects the human realm thus projecting itself onto the mental plane in a rational mode and into the intermediate domain of human psyche as will, sentiments and emotions.]

(Editor)

POET AND SOCIETY:

THREE POEMS BY IQBAL

One of the main functions of the poet, in Iqbal’s view, is to serve as the conscience of society. Of the many poems of Iqbal’s on this subject, three are translated below. In the first (“The Poet”), the nation is called a body and the poet, its eye, which weeps whenever any part of the body is hurt. The eye, though it cannot act to relieve the pain, draws attention to the pain, causing remedial action to be taken.

In the second poem (“The Night and the Poet”), the night asks the poet why he has not gone to sleep whereas the whole world is asleep. The poet replies that he has a message of love which he must deliver. His people, however, are either unprepared or unwilling to receive the message, and so, when he is no longer able to keep it in, he comes out in the solitude of night and relates the message to the stars of the sky. Note the dramatic element in the poem. The question asked by the night in the first line of the poem is fully answered only when we get to the last line of the poem. The periodic structure of the poet’s reply thus creates and maintains suspense until the very end of the poem.

In the third poem (“The Hour and the Poet”), the houri asks the poet why he is uninterested in the pleasures of paradise. The poet replies that paradise, which represents perfection, cannot satisfy him because he is always in search of something more perfect, and this possibility is excluded in paradise. Paradise is all happiness and joy, and there is no room in it for sorrow and pain. Iqbal is not advocating masochism. It is the pain and sorrow of love—that is, the pain and sorrow due to the realization that one’s lofty ideals will be forever unattainable. To be capable of feeling pain and sorrow in this sense is the highest good, and, one might say, the highest pleasure—what Iqbal describes in the beginning of the poem as the pleasure afforded by the pointed thorn. Read in the light of other poems, such as “The Night and the Poet” may be identified as love of mankind, or, more specifically, as love of one’s community (see the concluding lines of The Hour and the Poet”).

THE POET1

The nation is like a body,
And the individuals are its members;
The treaders of the road of industry
Are its hands and feet,
The rulers are its beautiful face,

And the poet of colourful tunes its seeing eye? If but one limb should suffer
from pain, The eye sheds tears:

How caring, how solicitous

Is the eye for the entire body!

NOTES

¹Source: *Bang-i Dara*, in *Kulliyat-i Iqbal: Urdu* (Lahore: Iqbal Academy, 1994),
p. 93.

²*seeing eye*: The phrase *didab-yi bina* signifies both sight and insight.

THE NIGHT AND THE POET'

THE NIGHT

Why do you wander around in my moonlight,

So vexed and troubled,¹

Mute like a flower, diffused³ like fragrance?

Perhaps you are a jeweller

Who deals in these pearls called stars,

Or are some fish in my river of light.

Or perhaps you are a star,

That has fallen off of my brow,

A star that has forsaken the heights

And taken up residence in the depths below. The strings of the violin of life are still; In my mirror is pictured life as it sleeps. The eye of the vortex is asleep

At the bottom of the river,

And, hugging the shore, is asleep, too, The restless wave.

What a bustling place is earth, but now It sleeps as if it had no tenants at all!
But the poet's heart knows no peace: How were you able to elude my spell?

THE POET

I sow pearls in the soil of your moon; Hiding fro men, I weep like dawn.⁴
Reluctant to issue in the bustle of day,

My tears begin to drop in the lonesome night. The cry that is pent up inside me, Whom shall I get to hear that cry, To whom show the sight of burning desire? The lightning of Sinai sobs, lying on my chest: Where sleeps the eye that would see?⁶ My assembly-hall⁷ is dead,

Like the candle at the grave.⁹

Alas, O night! I have very far to go! The winds of the present age suit it⁹ ill: It has no sense of the loss it has suffered. The message of love,

When I can no longer hold it in,

I come and relate to your shining stars.

NOTES

¹Source: *Bang-i Dara*, pp. 200-201.

²*vexed and troubled*: The Persian word is *Parisban*. For the play on this word, see n. 3 below.

³*diffused*: The word in the original is *Parishan*. which means both “worried” (see n. 2 above) and “scattered.” Iqbal plays on the word, using it twice, once in each sense.

⁴*weep like* clew: That is, my tears drop like dew at dawn.

⁵*The lightning of Sinai*: The Persian phrase *barq-i ayman* means literally either the “blessed lightning” or “the lightning that shone on the right side [of Mt. Sinai],” but in either case makes reference to the experiences of Moses on Sinai. The phrase represents a confluence of two Qur’anic descriptions. (1) The part of Mt. Sinai where Moses was addressed by God and given the Law is called in the Qur’an *jamb at-tur al-ayman* (“the blessed [or right] side of the Mount” [19:52, 20:80; see also 28:30]). (2) When Moses expressed his wish to see God, the latter manifested Himself on Mt. Sinai, or rather a part of it, which was crushed to pieces, Moses himself falling down unconscious (sa’iqa; 7:143). From the second description Iqbal borrows the word *barq* (this word does not actually occur in 7:143, though it is suggested by the words *tajalla* and sa’iqa in it), and from the first description, *ayman*, and coins the phrase *barq-i ayman*. Note the oxymoron in “the lightning of Sinai sobs;” it is as if a fire were shedding tears.

⁶*The lightning ...would see*: Unlike the *barq-i ayman* of Moses, which brought life to the Israelites, the *barq-i ayman* of Iqbal has no takers: there are no eyes to notice it! This causes grief to the lightning itself.

⁷*assembly-hall*: The word in the original, *mahfil* means both (1) gathering place and (2) people who have gathered in a place. Iqbal is referring to the Muslim Community, which seems to have no life, for it is not responsive to his message.

⁸*Like ...grave*: That is, like the candle that people light at the graves of the deceased and which burn out after some time.

⁹*it*: The “assembly-hall,” or the people who once gathered there—again, the Muslim Community.

THE HOURI AND THE POET¹

THE HOURI

You are not drawn to wine,

And you do not cast your eyes on me:

It is surprising that you are so unsociable! It is but a tune of quest, a flame of desire_ The breath you draw, the song you sing. With your song you have created

Such a lovely world

That paradise itself, it seems to me,

Is but a work of magic .³

You steal the travellers' hearts

With pointed talk,⁴

Except that in the pleasure it gives

It does not compare with the pointed thorns What can I do, for by nature I feel

Ill at ease at a stopping-place!

I have an impatient heart,

Like the zephyr in a garden of tulips.

As soon as my eyes are set on a pretty face, My heart begins to yearn for one prettier still. From the spark I seek a star, from the star a sun: I do not long for a destination,

For if I stop I die.

When I arise, having quaffed

A cup of wine brewed by one spring breeze, I begin to sing another song,

To the breeze of another spring.

I seek the end of that which has no end _____ With a restless eye, but with a hopeful heart.

An eternal paradise is death to the lover's heart_ In it no *cry* of a soul in affliction,

No sorrow, and no friend to share the sorrow!⁶

NOTES

¹Source: *Payam-i Mashriq*, in *Kulliyat-i Iqbal: Farsi* (Lahore: Iqbal Academy, 1994), pp. 279-280.

²*It is ... you sing: The houri* notes that the poet, although he has reached paradise, supposedly the highest goal of a mortal, is still in search of something else.

³*That paradise.... magic:* That is, even paradise appears to lack reality and substance in comparison with the beautiful world created by the poet's imagination. -

⁴*You steal ... pointed talk:* A possible allusion to the sirens of Greek mythology.

⁵*Except ... thorn:* See introductory note.

⁶*In it ... sorrow:* The pangs of love a lover feels give him joy. Paradise, while a perfect place in every other way, does not afford this special type of pleasure. In an eternal paradise, therefore, the lover's heart will wither and die.

notes to the poem 'Solitude', it is possible here also to situate Iqbal's ideas in a

different perspective which, in our view, facilitates a more satisfactory explanation without denying the interpretation offered by the translator. The primary sources of Islam contain seminal references to the state which Iqbal has portrayed in these poems. When the Qur'an speaks of the hereafter as 'greater in levels and greater in heirarchical excellences' or of the 'two paradises' and when the traditions inform us about beatitude (*ridwan*) being above the pleasures of paradise (hadith of 'dunes' is also relevent her) they imply that, for certain souls atleast, the possibility of 'pain and sorrows of love" due to the 'unattainable lofty ideals' would exist. These 'ideals', in our view, are not 'created by the poet's imagination' (see note 3 to *The Hourri and the Poet*) but reflect an objective possibility to be actualized for some of the blessed souls. This predilection, evident form the poet's attitude, is the same which is expressed in the earlier poetic expressions of his predecessors in preferring the 'Gardener over the garden' or, in theological terms, by the distinction between the 'seekers of salvation (*Najat*)' and the 'seekers of the Self or sanctification (*Tagarrub*)'. Therefore, this 'special type of pleasure' is neither peculiar to the poet's soul nor absent form the paradise. Iqbal has infact placed himself squarely in the tradition which admits of a heirarchical arrangement of human souls correspouding to the degrees of acheivement in the paradise and which, as a consequence, speaks of the aspirations which Iqbal has translated into his own idiom and manner of expression.]

Editor

SENSE—MIND RELATIONSHIP IN GHAZALI' S EPISTEMOLOGY

(Part II)

Muhammad Zaidi bin Ism' il

We now arrive at the next phase of our discussion, namely, the human perceptive faculties. The most detailed systematic exposition of this matter is in his *Ma'arij al-Quds*.⁴¹ Elsewhere, he has broached this topic only in a cursory manner so as to make clear his purpose of discussion. As far as the human being is concerned, al-Ghazali holds the view that only two levels/aspects of the soul are directly related to knowledge and its acquisition, the sensitive-animal soul (*al-nafs at hayawaniyyah*) and the rational soul (*al-nafs al-natiqah*). In the former, there are mainly two faculties; the motive (*al-muharrakah*) and the perceptive (*al-mudrikah*) powers., Only the second sensitive faculty is relevant to the epistemological discussion whereas the first one is treated particularly in psychology and ethics as it relates more to action and practices. In al-Ghazali's understanding, there are two inter-dependent perceptive powers of the sensitive soul, that is to say, the external senses (*al-hawass*) and the internal senses (*quwa mudrikah min batin*). The former refers specifically to those five ordinary human senses, viz., the senses of sight, hearing, smelling, taste and touch. Each of them

⁴¹ For a detailed exposition of these human faculties, see al-Ghazali's *Ma'arij al-Quds fi Madarej Ma'rifat al-Nafs*, translated into English with introduction, analysis and summary by Yusuf Easa Shammās under the heading of *Al-Ghazali's the Ascent to the Divine Through the Path of Self Knowledge*. (Michigan: U-M-I, 1987), a Ph.D. dissertation submitted to the Hartford Seminary Foundation in 1958; hereafter abbreviated as MQMMN. For an excellent concise summary or reformulation of this particular book of al-Ghazali together with some comparisons with Avicenna's works on psychology and epistemology, refer to Syed Muhammad Naquib al-Attas, *The Nature, of Man and the Psychology of the Human Soul*. (KL: ISTAC, 1990); henceforth cited as NM: and also the book by Muhd, Yasir Nasution, *Manusia Menurut al-Ghazali*. (Jakarta: Rajawali Pers, 1988). Chapters III and IV; hereafter cited as MMG, which is originally his post-graduate dissertation submitted to the Post-graduate Faculty of IAIN "Syarif Hidayatullah", Jakarta. The brief description of the human perceptive faculties as given in this paper is solely based on the above-mentioned three sources.

perceives a specific particular information or object of the physical external existence, In other words, each has its distinctive specific function and its performance and activity is only confined to such a role. Thus, the salient feature or the very characteristic of these five external senses is particularity and independency in perception.

In addition to these external senses, the sensitive soul also possesses the internal senses which altogether consists of five powers or capacities, namely, the common-sense (al-hiss al-mushtarak), the representation (al-quwwah al-khayaliyyah), the estimation (al-quwwah al-wahmiyyah), the retention-recollection (al-quwwah al-hafizah wa'ldhakhirah) and the imagination (al-quwwah al-mutakhayyilah or almufakkirah). Al-Ghazali holds that the existence of these internal senses is established by way of intuition (al-wijdan) which is to be understood in this particular context in its general sense, that is to say, intuition based on introspection. All of these internal senses operate and function in the human brain; the commonsense is posited on the anterior side of the brain, the representation still on the front side but behind the position of the common sense, the estimation on the center in front of es which is the location of the imagination, and finally the retention-recollection which is located on the posterior side of the brain.

According to al-Ghazali, the information or data extracted or received from the sensible physical external world will go through all the above-mentioned stages of human perceptive faculties before they al finally reach the level of intellectual abstraction which is solely the characteristic of the human rational soul. This pre-intellectual level of ; operation can be simplified as follows. Each of the external senses r perceive objects of external existence individually-independently and t during this act of perception, two conditions are vital, namely, the distance between the senses and the external object, and the specific s conditions underlying both. AL-Ghazali has emphasized that it is not the object itself that is taken into the heart-soul or being apprehended but only the image or representation of it ⁴²

⁴² In order to simplify this complexity, he cites an analogy of a mirror, an object and the representation or reflection of the object in the mirror__ three different but inter-related states. He then proceeds to base his conviction that the soul is in reality the seat of knowledge, on such an example. For the knowledge is the representation or image of the reality of the object in the heart and knowing is when such-an image is reflected in the

Moreover, the external senses do not perceive the object as it is, but as determined by the manner or conditions of their contacts and interactions with it. As can be inferred from al-Ghazali's explanation, this case might be due to the fact that each sense has a very specific defined role, thus, that which is perceived is not the entire reality, on the contrary, only part of the totality.

These separated-individual sense-data are transferred to the common-sense for further processes. This latter internal sense combines the then isolated-individual data which is further passed to the representation whose function is to preserve the form or image of the object thus perceived. Here, the two conditions as required in the case of the perception of the external senses are no more necessary. Nevertheless, its perception still includes the accidents and additional attributes such as quality and quantity. From this stage, the estimation perceives only the particular meaning of such a form or image ----- already freed from accidents and additional attributes — which is further preserved in the retention-recollection for future use. The highest power of the sensitive soul is the imagination whose very feature is the capacity to compose and discompose the data received from the previous levels of abstraction. As to the synthesis, that is to say, the result of the activities of the imagination, if it is of the particular forms, then that synthesis is apprehended by the common-sense, and if it is of the particular meanings, then it will be grasped by the estimation.

All the data thus processed are still particular both in their features or forms (*surah*) and meanings (*ma'na*). Therefore, what is apprehended or perceived up to this extent is not yet the most essential-fundamental information concerning the object. The universalization generalization of the meanings of these particular data is specifically left and confined to the faculties of the rational soul. Here, what is apprehended is the essential aspect of the information concerning the object, namely, the knowledge of something as it is, which is also termed as concept (*tasawwur*) and which is the basic atomic unit for higher intellectual formulations and activities,

mirror of the heart. And the act of perception-knowing is a process of abstraction for an object in its external existence is not without accidents and additional attributes; see KH, pp. 28-29; and SAQ, p. 14.

This highest quality-aspect of human soul, that is to say, the rational soul, consists of two aspects, the practical (‘amilah) and the theoretical (alimah) intellects. Only the latter is directly related to the process of the accumulation of knowledge. The theoretical intellect is subject to four levels of development, namely, the lowest, material intellect (al-’aql al-hayulani), then the habitual-possessive intellect (al-’aql bi’l-malakah), after that the intellect-in action (al-’aql bi’I fi’l) and finally, the highest level- or limit, the acquired intellect (al-aql almustafac).⁴³ From all these four stages-activities of the intellect, only the habitual intellect and the intellect-in-action are directly involved in the accumulation-acquisition of knowledge through the path of abstraction-extraction which concerns with the physical external world. From al-Ghazali’s expositions, the material intellect is solely potential whereas the acquired intellect is not occupied with this material-physical world, on the contrary, it is primarily connected with al-Ghazali’s conception of the intuitive knowledge.

In al-Ghazali’s formulation, the habitual intellect is also known as possible intellect (al-’aql al-mumkin). It is characterized by its possession of the axiomatic primary necessary knowledge (ulum aldaruriyyat) which is the rudimentary knowledge to be further utilized in expanding the stock of knowledge, This knowledge is also identified by him as the intellectual instinct (gharizat al-’aql) and also as the first intelligible (al-ma’qulat al-ula) which are to be used as major premisses in the valid syllogism. On the other side, the intellect-in-action is active in extending one’s scope of knowledge by utilizing the knowledge gained from the preceding levels. Thinking, which is the peculiar activity of this level/aspect of theoretical intellect, is carried out with the assistance of the imagination by means of syllogism in the course of producing more complicated, composite and higher knowledge structures, mainly the secondary intelligible (al-ma’qulat al-thaniyah). In this particular

⁴³ Cf. al-Ghazali’s *Kitab al’Ilm* translated into English by Nabih Amin Faris under the title of *The Book of Knowledge*. (Lahore Sh: Muhammad Ashraf, reprinted 1991), pp. 225-231; hereafter cited as KI. In this particular hook of his celebrated *Ihya’ ‘ Ulum al-Din*, al-Ghazali’s exposition concerning the four distinct meanings of the word ‘intellect’ (‘aql) actually refers to the four levels-qualities of the development of human intellect. There are many similarities between each of the former with each level of the development of the theoretical intellect although al-Ghazali does not use explicitly and directly those terms utilized in his MQMMN.

performance of the intellect, the imagination is used in order to acquire the middle term of the syllogism for its main feature, as stated previously, is to compose or discompose the information or data already received, The intellect will then grasp or perceive the necessary conclusion of such a composition. In this manner, the imagination has two aspects, an organized fixed order (muntazam) and a relatively indetermined order (ghayr muntazam). Only the former is possessed by the animals, whereas, human beings possess both features of the imagination. The latter, which is known as al-mufakkirah, functions under the command and instructions of the intellect for intellectual purposes.

This particular conception of al-Ghazali does not undergo any significant changes in his other writings, mostly being cursory summaries intended and coherently deliberated within different contextual frameworks of discussion. If there is any discrepancy whatsoever, most of the time, the difference is only terminological-linguistic rather than semantic and conceptual. For instance, in his Sharh Kitab 'Aja'ib al-Qalb, after justifying his believing consistently and firmly in the soul or heart as the essence of human being, he goes on to explain the faculties of the heart, generally consisting of the external and interior ones. His detailed exposition of the former is the same with the content of his explanation regarding the external senses of the perceptive faculty as briefly described in the preceding lines of the paper, and similarly, that of the latter, with both the internal senses of the perceptive faculty, and the motive faculty.⁴⁴ From his elaboration the latter consists of three capacities:⁴⁵

1. The instigating and inciting ability, either to attain the useful and suitable, such as the appetite or desire, or to repel the harmful and the incompatible, like anger or irascibility, This capacity can be designated by the will (al-iradah).

⁴⁴ See the English translation of some parts of this Sharh Kitab 'Aja'ib 52

al-Qalb as Appendix V by McCarthy in the previously stated Freedom and Fulfillment. pp. 368-370; hereafter cited as A5.

⁴⁵ Ibid., p. 369.

2. The power (al-qudrah) which is the capacity to move the members to acquire the above-said aims, and which includes soldiers scattered about in all the members, especially the muscles and tendons.
3. The perceptive which gets to know and uncovers things, and it is designated by the knowledge and perception (al- 'ilm wa'l-idrak).

In explaining the third category, he says that it is,

...divided into what is lodged in exterior positions viz. the five senses ... and what is lodged in interior positions, viz. the cavities of the brain, These are also five, For after seeing a thing a man shuts his eye and perceives its image [form: sura] in himself: this is the imagination [al-khayal]. Then that image stays with the man by reason of something which preserves it: this is the preserving [conserving, memory] soldier. Then the man reflects on what he remembers and joins part of it to another part then recalls and returns to what he has forgotten, then unites a group of concepts of sensibles in his imagination by means of a sense [perception?] common to the sensibles. So {in man's} interior there is a common sense ..., and the imagination, and thought [reflection], and recalling [remembrance], and preservation [memory].⁴⁶

When discussing the stages of the development of man's perceptive faculties, al-Ghazali in his al-Munqidh⁴⁷ maintains that in the beginning, that is to say, in man's original condition; his essence is created in blank simplicity

⁴⁶ Ibid., p. 370.

⁴⁷ See al-Ghazali's *Al-Munqidh mina'l-Dalal* translated into English by McCarthy in the above-mentioned *Freedom and Fulfillment*. pp. 96-97; hereafter identified as MMD. However, his exposition of the stages of the development of the external senses in *Ma'arij* is somewhat different. There, the order of the natural development in terms of priority is given as the sense of touch (hassat al-lams), then the sense of smell (hassat al-Shamm), after that the sense of taste (hassat al-dhawq) which is followed by the sense of sight (hassat al-basar) and lastly, the sense of hearing (hassat al-sam'). Although the detailed elucidations of the development of the five external senses are different, al-Ghazali is consistent in holding that the external senses are the first perceptive faculty of the sensitive-animal soul that develops naturally. Whether his statement in *Munqidh* refers exactly to the natural-biological aspect of the development or to the priority-importance aspect of the function of each external sense needs further studies. See also his *Kitab al-Shukr of Ihya'*.

without any information about the “worlds” of God. For him, the first perceptive power to develop in man is the sense of touch. After that the sense of sight takes place, This is then followed by the sense of hearing, and afterwards, the sense of taste. Al-Ghazali does not specifically mention about the sense of smelling, but it can be implied as if he treats this sense to be the last one which develops in man. Each of these external senses perceives only the “world” of the sensibles, namely, the physical external world, and thereby, the man may get to know a “world” of the existents. “Worlds” in this particular al-Ghazali’s contextual understanding refer to the categories or classes of existing things. Moreover, each sense only perceives certain classes of existents of the world sensible, thus, if each is taken independently and individually, the realm of existents that is covered is limited so much so that other realms seem not to exist, For instance, the sense of sight by which he perceives colours and shapes, and this is the most extensive of the “worlds” of the sensibles, could not perceive sounds, smoothness, hotness etc.

Next, when that individual has approached the age of seven, discernment (al-tamyiz) starts to develop in him. At this stage, the man is able to grasp things beyond the “world” of the sensibles, none of which are found in the “world” of sensation ⁴⁸ Then, his intellect (al-’aql) begins to develop, and at this level, he perceives the necessary, the possible, the impossible and things not found in the previous stages. Nonetheless, al-Ghazali affirms the existence of another stage beyond the level of intellect, and this is in fact regarded by him as the highest noble phase.

In another place, namely in his Sharh Kitab ‘Aja’ib al-Qalb, al-Ghazali adds a few more things to the development of man’s faculties. There, he affirms that by and large, there are two qualities of man’s heart that bestow upon him his immense dignity and his closeness to God Most High, viz, Knowledge (al-ilm) and will (al-iradah). On the contrary, the appetites (al-

⁴⁸ Al-Ghazali does not elaborate in detail this particular stage which precedes the development of the intellect. However, in line with his other expositions, we can justifiably claim that what he really means by al-tamyiz is in fact the perceptions of the internal senses especially the common-sense and the estimation for there is no intermediary perceptions between those of the external senses and the intellect except the ones by the internal senses. In addition, al-Ghazali also uses the same term in his Mishkat, and from its context, it is definitely clear that my inference here is correct, See AR, pp. 77-78.

shahwah), anger or irascibility (al-ghadab) and both the external and internal senses (al-hawas al-zahirah wa'l-batinah), as confirmed by him, are possessed by both the animals and human beings even the small child. Nevertheless, the will intended here is not to be confused with the wills of appetites and animals. Instead, it is a desire (shawq) which springs from a man's essence (dhat) when he perceives intellectually the consequences of something and the advantageous way to deal with it. In short, it is an intellectual will.⁴⁹

He then continues to state that both of these characteristics of man's heart could be found neither in the other animals nor in the child at the beginning of his natural constitution (al-fitrah). They develop in the latter only when he has reached the age of puberty or reason (ba'da'l-bulugh), and there are altogether two stages that he must go through before he comes to have those cognitions (al-'ulum) in himself,⁵⁰ namely:

1. The stage in which his heart begins to possess all the necessary and primary cognitions (sa'ir al-'ulum al-daruriyyah al-awwaliyyah) such as the knowledge of the impossibility and the possibility of the things that are patently impossible and possible, Nevertheless, speculative cognitions (al-'ulum alnazariyyah) about them at this stage have only become possible, but not yet present. This state of the child in relation to cognitions is comparable to the condition of a writer who knows of writing only the pen, the inkwell and the single-unarranged letters. This individual has not yet reached the state of writing in its truest sense, on the contrary, he is only near to it.⁵¹ This stage also conforms with the second distinct meaning of "intellect" given in his Kitab al-'Ilm,⁵² and with al-Ghazali's understanding of the habitual-possessive—possible intellect.

2. The stage in which he possesses the cognitions (al-'ulum almuktasabah) which are as though they are stored up in him but which are in fact acquired through experiences and thought (al-tajarub wa'l-fakr). Here, he can return or refer to those cognitions whenever he wishes. This stage is similar in al-

⁴⁹ A5, pp. 372-373; and SA Q, p.9.

⁵⁰ Ibid., p. 9; and A5, p. 373.

⁵¹ Ibid., p. 373; and SA Q, p. 9.

⁵² KI, p. 227.

Ghazali's analogy to the state of a real writer's ability even though he is not at present writing. Moreover, this stage is considered by him as the ultimate level of humanness (*ghayah darajat al-insaniyyah*). Nevertheless, it consists of innumerable degrees in which men "differ by reason of plurality and paucity of cognoscibles, and nobility and baseness of cognoscibles and the way of acquiring them (*yatafawut alkhalq fiha bi kathrat al-ma'lumat wa qillatiha wa bi sharaf alma'lumat wa khistiha wa hi tariq tahsiliha*)"⁵³ The third distinct meaning of the word "intellect" as expounded by al- Ghazali in *Kitab al-Ilm*, and also his conception of the intellect-in-action somewhat correspond to this second stages.⁵⁴

However, it is necessary to stress the fact that it is the man's essence — the soul — that possesses those perceptive faculties when it comes into contact with the physical body, and not inherently possessed by the latter. Unless the latter is governed by the former, it will remain as the other "dead" natural physical entities. This might be the reason underlying his discussion in *Mishkat* where he restricts himself to the elaboration of the levels/aspects of human spirit which is stated at the beginning of this particular_ treatise as interchangeably termed as the soul and the intellect.⁵⁵ There, in a special section concerning the psychology or the Human Soul and its five faculties or spirits, al-Ghazali identifies five gradations of human Spirits,⁵⁶ namely:

(1) Sensory spirit (*ar-Rub al-Hisas*);

This spirit is, for al-Ghazali, the root and the origin of the animal spirit, and it constitutes the differentia of the animal genus. It is for this reason that this spirit is the one which receives the sensory information or data.⁵⁷ According to al-Ghazali, this aspect/level of the spirit is already sound even at the stage of the infant at the breast,⁵⁸ and its light come through several apertures, -the

⁵³ A5, p. 373; and SA Q, p. 9.

⁵⁴ KI, p.227. The reasons for the disparity of men's intellect in this particular level has also been explained by al-Ghazali in his *Kitab al'Ilm of al Ilya'*. See pp. 231-235.

⁵⁵ MA, p. 83.

⁵⁶ *Ibid.*, pp. 143-154.

⁵⁷ *Ibid.*, p. 144 and AR, p. 76.

⁵⁸ MA, p. 144.

eyes, ears, nostrils, etc.⁵⁹ We can infer from the peculiar characteristics of this spirit that al-Ghazali might mean by this the common-sense and the estimation of the sensitive-animal soul.

(2) Imaginative Spirit (ar-Ruh al-Khayali);

This is the recorder of the information conveyed by the senses through the sensory spirit. It stores the sensory information and is ready to hand it to a higher level of spirit, namely, the intelligential spirit, whenever the information is called for. This aspect of the spirit is not found in the infant at the beginning of its natural evolution. This absence is considered by al-Ghazali as the reason for the infant's wanting to get hold of a thing when he sees it, and forgetting about that thing when it is already out of his sight. Therefore, unless he gets a little older, no conflict of desire arises in his soul for something already out of sight because its image is not yet preserved in his imagination⁶⁰ It is as if al-Ghazali is referring to the representation and the retention-recollection of the sensitive-animal soul.

Furthermore, according to al-Ghazali, this spirit has three peculiarities:⁶¹

(I) Its stuff is the same with that of which this gross lower world is made Its object are within the scope or categories of direction, quantity and distance Nonetheless, this gross substance still has the property of being opaque to the light of pure intelligence which transcends the above-mentioned categories.

(II) When this potentiality or property is actualized, mainly through clarification, refinement, discipline and control, this particular substance "attains to a corresponding with and a similarity to the ideas of the intelligence, and becomes transparent to light from them."

(III) Moreover. in the beginning stages, the imagination is necessarily required to control the intelligential knowledge so that the latter: will not be

⁵⁹ Ibid., p. 150.

⁶⁰ Ibid., p. 144; and AR, p. 76.

⁶¹ Ibid., pp. 79-80; and MA, pp. 150-151.

disturbed, unsettled, and dissipated, thus get out of hand In this respect, the imagination supplies images which hold together the knowledge provided by the intellect.

(3) Intelligential spirit (ar-Ruh al-'Aqli):

This is specifically a human faculty (al jawhar al-insi al-khass) which apprehends ideas beyond the reach of sense and imagination. Those ideas are axioms of necessary and universal application (al-ma'arif al-daruriyyah al-kulliyah⁶²). This spirit is neither possessed by the lower animal nor yet attained by the children.⁶³ This spirit is in many respects in accordance with al-Ghazali's illustration of the habitual-possessive-possible intellect.

(4) Discursive or ratiocinative spirit (ar-Ruh al-Fikri);

The logical operation of combining data of pure reason (al-'ulum al-'aghiyyah al-mandah), arranging them as premisses and deducing from them informing conclusions, is solely, the power of this level/aspect of spirit. Those conclusions are then used by it in the manner done to the data of pure reason, to produce advanced knowledge. This logical operation goes on multiplying ad infinitum,⁶⁴ It is therefore obvious that this aspect-level of the spirit corresponds with the intellect-in-action. Nevertheless, according to al-Ghazali, this thinking spirit (al-ruh al-mufakkirah) could be further divided into two categories; on the one hand, most of it needs teaching, explanation and assistance from without such that it remains to pursue various kinds of sciences (ma yahtaj ila taslim wa tanbih wa madad min kharij hatta yastamirr fi anwa' al-ma'arif). On the other, there are some of its kind which due to its intense purity become as if self-awakened from within (wa ba'diha yakunu fi shiddat al-safa'ha annahu yatanabbihu bi nafsih min ghayr madad min

⁶² In another place in this same book, these axioms are even called by al-Ghazali as the noble divine knowledge (al-ma'arif al-sharifah al-ilahiyyah), see AR, p. 80.

⁶³ Ibid., pp. 77 and 80; and MA, p. 145.

⁶⁴ Ibid., pp. 145-146, and 152; and AR, pp. 77, and 80-81.

kharij). It is this second category that is included in the following fifth level of spirit.⁶⁵

(5) The transcendental prophetic spirit (ar-Ruh al-Qudsi an-Nabawi);

It can be said that the main objective of his composing this book is to explain quite elaborately certain important aspects of this specific realm. Nevertheless, it is not the concern of this article----as we are at present mainly concerned about the ordinary abstraction of human knowledge to delve into this level which is within the boundary of intuitive knowledge.

Al-Ghazali then goes on to stress the fact that,

... the five human spirits (al-arwah al-khanisah)... they are all of them Lights, for it is through their agency that every sort of existing thing is manifested, including objects of sense and imagination. For though it is true that the lower animals also perceive these said objects, mankind possesses a different, more refined, and higher species of those two faculties, they having been created in man for a different, higher, and more noble end. In the lower animals they were only created as an instrument for acquiring food, and for subjecting them to mankind. But in mankind they were created to be a net to chase a noble quarry through all the present world; to wit, the first-principles of the religious sciences. For example, a man may, in perceiving with his visual sense a certain individual, apprehend, through his intelligence, a universal and absolute idea (idh al-insan idha adraka bi'l-hiss shakhsan rnu'ayyanan iqtab'asa 'agluhu minhu ma'nana 'aman mutlagan)...⁶⁶

Al-Ghazali also states accordingly that,

... inasmuch as the lights of the human spirit are graded rank on rank, then that of Sense comes first, the foundation and preparation for the Imagination

⁶⁵ Ibid., p. 81.

⁶⁶ MA, p. 149; and AR, pp. 78-79.

(for the latter can only be conceived as superimposed after Sense); those of the Intelligence and Discursive Reason come thereafter ...⁶⁷

It is thus clear that al-Ghazali relates his epistemological understanding with some of his ontological outlook. Both could not be separated with a clear-cut demarcation for at one time, the one is derived from the other and at another instance, the case is vice-versa. His epistemological discussion which has direct relations with the existence at the level of al-Lawh al-Mahfuz could be found in his various sufistic and esoteric writings dealing mainly with the nature of the prophetic-intuitive knowledge. The rest of his theory of knowledge especially that which concerns with the levels of the abstraction. extraction process corresponds with the types and degrees of existences as described above, starting, first of all, from the sensations or sense. perceptions which result in the sensible existence. There is no level of abstraction corresponding with the existence at the level of the physical external world. Despite this lack of correspondence, it is the latter that provides the materials out of which the images are abstracted and accordingly processed through the levels of human perception and, cognition, the lowest being the perception of external senses, then followed by the five internal senses before reaching the highest stage, that is to say, the intellect.

Accordingly, as a result of each level of processes, there is a corresponding abstraction which is termed by al-Ghazali as the level or degree of existence. Hence, from the perception of the external senses, the level of the sensible existence comes about; from the apprehension of the internal senses, the level of the imaginary existence is brought into the scene; and from the grasp of the intellect, the level of the mental existence is effected. In short, each level of existence insofar as al-Ghazali is concerned represents a level of abstraction — the highest being that of the mental abstraction-existence. Nevertheless, from our previous illustration of human perceptive faculties, it is obvious that each level of abstraction is not simple, rather, it is complex and consists of various activities and functions. Therefore, al-Ghazali's exposition of the degrees of existence is not representative of the whole processes of abstraction. On the contrary, only a single function is taken to be the representative-characteristic abstraction as

⁶⁷ Ibid., p. 81; and MA p. 154.

the case is in the imaginary existence which is actually the result of the activities of the common-sense and the representation both of which solely perceives and preserves the particular image-form of the physical object.

In addition to the previous levels, the remaining three degrees of existence, namely, the internal verbal existence, the external verbal existence and the written existence, are to be considered as secondary or even tertiary levels of existence. They are no longer parts of the process of abstraction-extraction but are merely the externalization-manifestation of the highest level of that process. The first being the intermediary step between the purely conceptual existence, and the verbal and the written existences. Therefore, these three levels of existence are actually stages in human communication and they have their significations only when they are in relation with the preceding process of abstraction-extraction.

AL-Ghazali has also discussed aspects of the perception in his

Mishkat al-Anwar. Although his primary intention in that book is to elaborate the Ultimate Light, his initial discussion being on the . phenomenal world nevertheless depicts the importance of properly understanding this particular level of existence in connection with other orders or degrees of existence in al-Ghazali's philosophical-metaphysical framework. His discussion on the phenomenal world is quite straightforward. In his understanding, the phenomenal world is to be comprehended in relation to or within _ the context of the threefold significations of the world "light" with a particular reference to the meaning employed by the Many. For him, among the main features of this level is relativity. In his words,

Here the world light indicates a phenomenon. Now a phenomenon, or appearance, is a, relative term, for a thing necessarily appears to, or is concealed from, something other than itself; thus its appearance and its non-appearance are both relative. Further, its appearance and its non-appearance are relative to perceptive faculties; and of these the most powerful and the

must conspicuous, in the opinion ‘of the Many, are the senses, one of which is the sense of sight.⁶⁸

It seems interesting enough that al-Ghazali gives a special emphasis and an extra attention to the sense of sight. He must have understood really or at least correctly anticipated the essence or substance of the empirical method and observation-experiment of the modern science in which this particular human sense occupies a central vital dominant position besides human reasoning.

In his further discussion and elaboration, al-Ghazali approaches this particular subject by clearly identifying, analyzing and relating the components of sight, to wit, the subject (i.e. the sense of sight, the eye). the object of sight and the medium or intermediary of sight (namely, the light). With regard to the object of sight, al-Ghazali identifies three categories of things⁶⁹, that is to say: .

- (1) that which by itself is not visible;
- (2) that which is by itself visible, but cannot make visible anything else;
- (3) that which is by itself visible, and also makes other things visible.

He therefore concludes that the term “light” in its first ling signification is only properly attributed to this third category. Al-Ghazali also states that,

... the very essence of light is appearance to a percipient; and that perception depends on the existence of two things - light and a seeing eye. For, though light is that which appears and causes-to-appear, it neither appears nor causes-to-appear to the blind. Thus percipient spirit is as important as perceptible light qua necessary element of perception; nay, ‘its the more important, in that it is the percipient spirit which apprehends and through which apprehension takes place; whereas light is not apprehensive, neither does apprehension takes place through it, but merely when it is present. By the

⁶⁸ Ibid., p. 80.

⁶⁹ Ibid., pp. 80-81.

word light, in fact, is more properly understood than visualizing light which we call the eye.⁷⁰

... You understand, then, that percipient spirit is called light; and why it is so called; and why it is more properly so called. And this is the second signification, that employed by the Few.⁷¹

Nevertheless, after detailed scrutinization, al-Ghazali finds out that even this second signification as understood by the Few, namely, the physical sight, cannot be really called the Light or real Eye for it is marked by seven inherent defects. On the contrary, the one that should be called the Real Eye or Light is the one that transcends and is free from these seven defects, and it can only be the Intelligence (i.e. the eye of the mind) which is also interchangeably termed as Spirit and Human Soul. Intelligence, as understood by al-Ghazali, is that by which the rational man is distinguished from the infant in arms, from the brute beast, and from the lunatics. In fact, this particular understanding of intelligence corresponds to al-Ghazali's first definition of "intellect in his Kitab al-Ilm."⁷²

In a summarized way, the seven distinctive points that distinguish the strength of the eye of the mind (i.e. the Intelligence) from the weaknesses of the ordinary physical eye⁷³ are:

- (1) The eye does not behold itself, but the intelligence does perceive itself as well as others;
- (2) The eye does not see what is very near to it nor what is very far away from it; but to the intelligence near and far are indifferent;
- (3) The eye does not perceive what is behind the veil. The realities of things stand unveiled to the intelligence. Its only veil is one which it assumes of its

⁷⁰ Ibid., pp. 81.

⁷¹ Ibid., pp. 82.

⁷² KL, pp. 226-227.

⁷³ MA, pp. 82-91.

own sake, which resembles the veil that the eye assumes of its own accord in the closing of its eyelids;

(4) The eye perceives only the exterior surfaces of things, but not their interior; nay, the mere moulds 'and forms, not the realities;

(5) The eye sees only a fraction of what exists, the parts and not the whole;

(6) The eye does not see what is infinite;

(7) The eye makes many mistakes in its seeing, for what is large appears to its vision small; what is far, near; what is at rest, at motion; what is in motion, at rest.

Therefore, al-Ghazali is of the view that which really apprehends, i.e. that which sheds light on something, is the one that should be called the Light. Thus, rather than considering ordinary phenomenal light and the eye, he treats the intelligence as the real light. However, al-Ghazali is also conscious, while elucidating all those differentiating points, of such an objection which sounds,

... We see those who are possessed of intelligence making mistakes nevertheless.⁷⁴

His reply being that,

Their imaginative and phantastic faculties often pass judgements and form convictions which they think are the judgements of the intelligence. The error is therefore to be attributed to those lower faculties. See my account of all these faculties in my *Mi'yar al-Ilm* and *Mahakk al-Nazar*. But when the intelligence is separated from the deceptions of the phantasy and the imagination, error on its part is inconceivable; it sees things as they are. This separation is, however, difficult, and only attains perfection after death.⁷⁵

⁷⁴ Ibid., p. 90.

⁷⁵ Ibid.

Based on some portions of *Mi'yar* as translated previously⁷⁶ and also the clear confirmation of al-Ghazali just quoted, we could also find al-Ghazali's discussion of the same subject matter there. However, in *Mi'yar*, in a somewhat summarized description, he only alludes to three kinds of judges or perceptive powers in human beings, namely, the senses, the imagination-estimation, and the intellect. The former two precede the latter in the natural evolution-development of a human being, and it is this natural familiarity that from time to time hinder the human's soul from relying on the intellectual perception which is, for al-Ghazali, the truest and most reliable one. Al-Ghazali then goes on to display the inherent weakness and the natural limitations of these two non-intellectual perceptions. Nevertheless, his exposition of the shortcomings of the sense-perceptions merely amounts to a detailed enumeration of instances or cases rather than stating the substance of such weaknesses. If considered together with those information provided in his *Mishkat* summarized before, the examples listed by al-Ghazali can be reduced to points supporting his seventh charge against the ordinary physical eye, or the sense of sight or light as understood by the Few. It is to be noted here that al-Ghazali also concentrates on the sense of sight as the primary determinant, the most extensive in coverage and the main representative of the whole external sense-perceptions. Furthermore, the same argument concerning the weakness of the external senses is also given by al-Ghazali in his *al-Munqidh*, though in a very concise and cursory manner.⁷⁷

As to the imaginative-estimative perceptions, it is limited by the formal aspects as determined by the previous perceptions, namely, the sense-data. In short, it is confined to the sense-perceptions of the various aspects of the space-time bound world—the physical world. Moreover, al-Ghazali does not stipulate in details various functions-aspects of the internal senses here. On the contrary, he only identifies the whole internal senses, either as representative imagination [or representation] (*al-khayal*) or estimation (*al-wahm*)⁷⁸ This somewhat cursory, sketch or overview results in a partial

⁷⁶ Please refer to QI and Q3.

⁷⁷ MMD, pp. 64-65.

⁷⁸ For another article discussing in substantial details the meaning of *al-wahm* as understood in the traditional texts, please refer to D.B. MacDonald's "Wahm in Arabic and its Cognates" in *Journal of the Royal Asiatic Society* (London: RAS, October 1922) Part IV, pp. 505-521.

description of the characteristic limitations of the perceptions of the internal senses, to wit, materially, formality and particularity of their various functions, and thus, perceptions. In short, all aspects of the imagination-estimation have a strong inclination towards the data as given by the sense of sight which perceives mainly colours and forms, that is to say, the domain of dimension and its concomitant qualities.

Moreover, there also, al-Ghazali has pointed to the locus of the imagination and estimation as being in the brain though not illustrated as specifically as in his *Ma'arij*. He also touches those functions which specifically belonged to the power of imagination, to wit, the ability to compose or discompose the data thus received either naturally, in which case it is termed as *al-mutakhayyilah*, or under the command of the intellect, in which case it is known as *al-mufakkirah*. He also affirms that the existence and functions of the internal senses are only proven through inference and neither through perception of the external senses nor by the common-sense or imagination. For this last faculty is still bound to the data perceived by the external senses. However, in his *al-Munqidh*, no argument against the imagination is given, on the contrary, the imagination during the dream or sleeping is forwarded by him as a counter-argument against the supremacy of the reason-intellect in order to prove the possibility of a higher state of knowledge, namely, mystical intuition.⁷⁹

Furthermore, in his *Mi'yar*, he also discusses in short the approach usually resorted to by the intellect in tackling the tricky weaknesses of both the senses and the imagination-estimation. He describes this intellectual solution as the mental-logical processes mostly related to area of discussion concerning the matters and forms of syllogism_ the former deal with the content of the premisses and the latter, with the arrangement or order of the premisses — so as to derive certain conclusions. There, we find that he gives some bases of validity and strength to the sense-perception, besides the necessary knowledge (*al-daruriyyah*), both of which are acceptable to and not disputable by majority of people. These premisses based on sense-perception are also accepted, necessarily, by imagination-estimation for it is the nature of the latter to really rely on the preceding data forwarded by or contained in

⁷⁹ MMD, p. 65.

the former. Furthermore, he alludes to the fact that both the intellect and the imagination-estimation are active and work together in arranging the premisses, the latter having greater role in the arrangement, and the former in conceiving the conclusion necessarily derivable from such an arrangement. Such true and acceptable conclusions derivable through the cooperation of the senses, the imagination-estimation and the intellect are then used by the intellect to proceed towards abstruse matters concerning which both the nature of the senses and the imagination-estimation are in conflict with the intellect, so as to refute and dominate them.

It is thus clear that those three aspects of the sense-mind relationship as appear in his *Mi'yar* are coherently discussed by al-Ghazali within a broader framework or system of knowledge. This system can only be understood when his explanation and analyses in his other writings are taken into account, scrutinized and subsequently synthesized. Some aspects are discussed in considerable details in *Mi'yar* compared to those in his other works such as the enumeration of the cases in which the weaknesses of the perception of the physical sight are apparent. In another instances, the complexities and elaborate analyses expounded in his other books are simplified in this particular treatise. In this manner, the former, taken together, provide in return the contextual background, philosophical framework and commentary of the latter as it is the case with regard to the levels of abstraction-existence and the functions-aspects of human perceptive powers.

TIME IN SPECIAL RELATIVITY THEORY

(Part-I)

Aziz Ahmad

1. PROPAGATION OF LIGHT

The nervous probandi of the special relativity theory is the law of the propagation of light in vacuo. The time concept of the theory is entirely based on this law. The mere statement that the velocity of light is constant and its value is C in empty space is not very informative as to its implications and role in, the special theory of relativity. In this form, it does not disclose certain features of the law which are important for the theory and particularly for its time concept. These features are:-

I- The “velocity of a ray of light which may propagate in one inertial system is constant and its value is C in that system. The velocity of a second ray of light which may propagate in a second inertial system is also constant and its value is C in the second system. This feature calls attention to two separate rays of light propagating in two separate inertial systems and is implicit in the theory, but is seldom mentioned and never commented upon.

Some use of this feature will be made in the sequel.

II- The velocity of one and the same ray of light is to be treated as C as judged in each of the inertial systems which are moving with respect to one another. Einstein’s authority for this is the following⁸⁰:

- The relation [between the values x, y, z, t and x', y', z', t' , of an event with respect to the inertial systems K and K'] must be so chosen that the law of the transmission of light in vacuo is satisfied for one and the same ray of light (and of course for every ray) with respect to K and K'

⁸⁰ A. Einstein, Relativity: The Special and General Theory, Methuen, London, page 32.

The paradoxical aspect of this feature of the law has been brought out by A.N. Whitehead in the following words⁸¹:

For example, consider two cars on the road, moving at ten and twenty miles an hour respectively, and being passed by another car at fifty miles an hour. The rapid car will pass one of the two cars at the relative velocity of forty miles per hour, and the other at the rate of thirty miles per hour. The allegation as to light is that, if we substituted a ray of light for the rapid car, the velocity of light along the roadway would be exactly the 'same as its velocity relatively to either of the two cars which it overtakes.

This is because the roadway and each car, in 'turn, can be considered to be at rest and the ray of light to be passing along in the rest system of each at its constant velocity C .

This feature of the law of propagation of light is well-known, but is rarely commented upon. It implies that all inertial systems are equivalent for the propagation of light in vacuo, so that observers in each system can consider the velocity of one and the same ray of light to be C in their own system.

This feature is basic to the theory.

III) The velocity of a ray of light which may be initiated in any one of the infinite number of inertial systems, is to be considered by observers of every inertial system to be C in their own system only and $c-v$ or $c+v$ in every other inertial system, keeping in view the direction of movement of the ray and of the other system. For example, suppose a ray is initiated and propagates in the inertial system K at the velocity C , then observers in every other inertial system K_3, K_4 etc, will consider this same ray to be propagating at the velocity C in their own system only, and in the system J , or any other inertial system to be propagating at the velocity $c-v$ or $c+v$, keeping in view the direction in which the' other system might be moving, considering, of course, the length to be contracted in the direction of movement of the moving system. Einstein's authority for this is as under. While deriving the

⁸¹ A.N. Whitehead, Science and the Modern World, Mentor Books, page 119.

Lorentz transformation in his first paper on special theory of relativity, he considers two inertial systems K and K' where K' is moving and then writes the following⁸²:

From the origin of the system K let a ray be emitted at the time t_0 along the x-axis to x , and at the time t , he reflected thence to the origin of the coordinates, arriving there at the time t' : we then must have

$\frac{1}{2} \left(t \frac{1}{0} + t' \frac{1}{2} \right) + t'$, or, by inserting the argument of the function t and applying the principle of the constancy of the velocity of light in the stationary system;

$$\frac{1}{2} \left[(0,0,0,t) + t' \left(0,0,0, t + \frac{x'}{c-v} \right) \right]$$

The ray is emitted from the origin of the moving system K' and from the point of view of observers in the stationary system K, it propagates in their own system at the velocity C, but advances towards X' (which is fixed in K' at the velocity $c-v$, because light is advancing at the velocity C and X is moving away in the forward direction at the velocity v , [so light overtakes it at the velocity $c-v$]. On return journey, as judged from the system K, the ray of light advances towards the origin of K at the velocity C and the origin of K' comes forward to meet it at the velocity v . Therefore, on return journey the ray of light approaches the origin of K' at the velocity $c + v$.

A little further on Einstein writes as below⁸³:

But the ray moves relative to the initial point of K' , when measured in the stationary system, with the velocity $c-v$, so that $\frac{x'}{c-v} = t'$.

⁸² A. Einstein, "Electrodynamics" in the Principle of Relativity, Dover Publications Inc. page 44.

⁸³ Ibid, page 45.

Very few admirers of the special theory of relativity seem to be aware of the fact that in this theory, the -velocity of light is treated in the moving inertial systems, from the standpoint of the stationary systems, as $c-v$ or $c+v$, keeping in view the direction of movement of the ray of light as well as that of the moving inertial system. This fact is never commented upon, but is quietly acquiesced in even by the those who have noticed its⁸⁴.

According to the view to be developed in the present discussion, this factor exemplifying $c-v$ or $c+v$ is the major culprit by which the simple-minded time concept of the ordinary mortals is subverted to the astounding consequences in Einstein's special theory of relativity. One of the most important results of the theory is that "a moving clock runs slow by the factor $\sqrt{1 - \frac{v^2}{c^2}}$ "or alternately "time itself slows down in the moving systems by this factor". Thus, if a cosmonaut goes off on space travels at thigh speed, on his return to earth, he will be found to have aged less and will be younger than his twin brother whom he left on earth. This is termed as the "twin paradox" or the "clock paradox" and 'is considered as a means of "perennial youth" for the cosmonauts.

The contention in this paper is that it is not time or the clocks which slow down, but it is the manner in which time is measured (or rather calculated) by means of one and the same ray of light which is considered to be propagating at the velocity $c-v$ or $c+v$ in the moving systems, but at the velocity C in the systems considered to be stationary.

.....

2. THE IDEAL EINSTEIN-LANGEVIN LIGHT CLOCK

⁸⁴ Clement V. Durell, Read-able Relativity G. Bell and Sons, London 1926.

For the purposes of time measurement, apart from ordinary clocks, relativity literature contemplates a light clock which is termed the ideal⁸⁵ Einstein-Langevin Clock. Einstein's version of this clock is as under⁸⁶:

....a light signal, which is reflected back and forth between the ends of a rigid rod, constitutes an ideal clock, provided that the postulate of the constancy of the light-velocity in vacuum does not lead to contradiction.

Edwin F. Taylor and John Archibald Wheeler write in their book,

*Space-Time Physics*⁸⁷:

when a mirror is mounted at each end of a stick one-half metre long, a flash of light may be bounced back and forth between these mirrors; such a device is a clock.

Einstein wrote in his book, *Meaning of Relativity*⁸⁸.

....it should be noted that a light signal going to and fro between S1 and S2 would constitute a clock.

Here S1 and S2 are two stars and the distance between them is very great. Neither Einstein nor any other relativist imposed any restriction on the length of the rod which may be of any length.

3. RATES OF TIME LAPSE IN THE SYSTEMS K AND K' .

We are in a position now to calculate time by means of the Einstein-Langevin light clock.

⁸⁵ L. Marder, *Time and Space Traveller*, University of Pennsylvania Press, page 40.

⁸⁶ P.A. Schilpp (ed.) "Autobiographical Notes" in *Albert Einstein, Philosopher-Scientist*, quoted in *Problems of Space and Time* by J. J. C. Smart, *Problems of Philosophy Series*, page 281.

⁸⁷ Edwin F. Taylor and John Archibald Wheeler, *Space Time Physics* page 4.

⁸⁸ Albert Einstein, *Meaning of Relativity*, Methuen & Co Ltd. page 122.

Let us imagine two inertial systems K and K' in uniform, relative motion along the axis of x . Their respective origins O and O' coincide at zero hour which is the same instant in both the systems and from which time is to be calculated. Their axes are parallel and their supposed relative velocity v is 4 legs per second, the velocity of light being 5 legs per second. On this scale, one leg measures a distance of 37200 miles, so that 5 legs will be equal to 18600.0 miles. A rigid rod AB , 5 legs long with reflecting mirrors at each end is placed along the axis of x in the system K' and the end A of the rod coincides with the origin O' . A light ray is emitted at zero hour from the end A and travels to the other end B where it is immediately reflected back towards A . This constitutes the Einstein-Langevin ideal clock and with its help, we calculate the rate of time lapse in the system K' as compared to the rate of time lapse in the stationary system K .

In the ensuing conceptual explorations which in relativity literature are given the respectable name of “thought experiments”, the result of length contraction by the factor $\sqrt{1 - \frac{v^2}{c^2}}$ of the special theory of relativity in the moving systems will be assumed throughout.

As the rod AB is 5 legs in the system K' and as the velocity of light will be treated as C in this system, time at the end B will be one K' -second when the ray reaches this end. After reflection at the end B , it will reach the end A in another K' -second and time at this end will be 2 K' -seconds on arrival back of the ray.

The propagation of this ray of light as judged from the system K , will be as under:

The system K' with the rod AB in it, will be judged to be moving towards the right i.e. towards the positive side of the x axis at 4 K -legs per one K -second and the length of the moving rod AB , will be considered to be shortened on account of its movement relative to the system K by the factor

$\sqrt{1 - \frac{v^2}{c^2}}$ or $\sqrt{1 - 16/25}$ or $\sqrt{9/25}$ or $3/5$ in our numerical example, and will

be equal to $\left[5 \times \frac{3}{5}\right] 3$ K-legs. The principle of the constancy of the velocity C of light will now be applied in the system K and the same ray of light will advance in it at 5 K-legs per one K-second and the rod AB will move forward at 4 K-legs per one K-second. The velocity of the ray on the rod as judged from the system K will, therefore, be $c-v$ and it will cover a distance of $(5-4)$ one K-leg on the rod in one K-second. It has to cover a distance of 3 K-legs i.e. 5 K' -legs shortened, which will be covered in 3 K-seconds. Thus, when the ray of light arrives at the end B, time at this end will be one K-second and opposite B in the system K, it will be 3 K-seconds. In 3 K-seconds, the ray of light will have covered a distance of $[5 \times 3]$ 15 K-legs and will have arrived at leg 15 of the system K.

So the coordinates in the system K of the event of arrival of the ray at leg 15 thereof will be,

$$X = 15, \quad t = 3$$

From these, the coordinates of the same event in the system K' by means of the Lorentz transformation:

$$x' = \sqrt{1 - \frac{v^2}{c^2}} \left(x - vt \right), \quad t' = \sqrt{1 - \frac{v^2}{c^2}} \left(t - \frac{vx}{c^2} \right)$$

$$X' = 5 \rightarrow \frac{3}{5} [15 - 4 \times 3] \text{ or } \frac{5}{3} [15 - 12] \text{ or } \frac{5}{3} \times 3 = 5$$

$$t' = 1 \rightarrow \frac{3}{5} \left[3 - \frac{4}{25} \times 15 \right] \text{ or } \frac{5}{3} \left[3 - \frac{12}{5} \right] \text{ or } \frac{5}{3} \times \frac{3}{5} = 1$$

Thus our calculations of one K' -second at the end B at a distance of

5 K' -legs from the end A and 3-K seconds at leg 15 of the system K opposite the end B, are in accord with the Lorentz transformation.

It may be noted that the ray of light travels a distance of 5 K' -legs in one K' -second in the systems K' and a distance of 15 K-legs in 3K - seconds in the system K. The distance and time values in the system K are three times the values in the system K' . [This fact will help

simplification of the calculations in the sequel.] The excess values in the system K are obviously due to the fact that the velocity of light is treated as C in the system K, but as judged from this system, it is treated as c-v in the system the K' . On account of the movement of the system K with respect to the system K' , the ray of light has to travel extra distance in the system K in order to catch up with the end B of the rod which is moving forward.

On reflection at the end B, the ray of light takes another one K' second to arrive back at the end A of the rod, so time at the end A is now 2 K' - seconds.

The return journey of the ray of light as judged from the system K, will be as under:

The distance AB will be judged to be shortened by the factor $\sqrt{1-v^2/c^2}$ or $\frac{3}{5}$ of our example and will be $\left[5 \times \frac{3}{5}\right]$ 3 K-legs as before. The ray of light will advance towards the end A at 5 K-legs per one K-second and the end A will move towards the on-coming ray of light at 4 K-legs per one K-second. The velocity of the ray of light on the rod AB, as judged from the system K will be C + V or [5 + 4] 9 K-legs per one K-second. So it will cover the distance of one K-leg in 1/9 K-second. It has to cover a distance of 3 K-legs which will be covered in [1/9 x 3] K-second. In 1/3 K-second the ray of light will cover a distance of [5 x 1/3] 5/3 K-legs and arrive back at [15 - 5/3] leg 40/3 of the system K.

Thus, when the ray arrives back at the end A of the rod, time in the system K will be $\left[3 + \frac{1}{3}\right] \frac{10}{3}$ K-seconds and in the system K' it will be $[1+1] \cdot 2 K'$ seconds. Taking into consideration the outward and the return journey of the ray of light for equal distances both ways in the 1 system K, the rate of time lapse in this system will, therefore, be $\left[2 \times \frac{3}{10}\right]$ or $\frac{3}{5}$ of the rate of time lapse in the system K. In other words, the rate of time lapse in the system K will be slow by the factor $\frac{3}{5}$ which is in accord with the Lorentz factor

$$\sqrt{1 - \frac{v^2}{c^2}} \text{ or } \sqrt{1 - \frac{16}{25}} \text{ or } \sqrt{\frac{9}{25}} \text{ or } \frac{3}{5}$$

In $\frac{10}{3}$ K-seconds, the end A of the rod will have reached $\left[4 \times \frac{10}{3}\right]$ by $\frac{40}{3}$ of the system K to receive back the ray of light at this juncture. So the coordinates in the system K of the event of arrival of the ray of light at the end A opposite leg $\frac{40}{3}$ of the system K will be

$$x = \frac{40}{3}, t = \frac{10}{3}$$

From these by means of the Lorentz transformation,

$$x' = \frac{3}{5} \left[\frac{40}{3} - 4 \times \frac{10}{3} \right] \text{ or } \frac{5}{3} \left[\frac{40}{3} - \frac{40}{3} \right] \text{ or } \frac{5}{3} \times 0 = 0$$

$$t' = \frac{5}{3} \left[\frac{10}{3} - \frac{4}{25} \times \frac{40}{3} \right] \text{ or } \frac{5}{3} \left[\frac{10}{3} - \frac{32}{15} \right] \text{ or } \frac{5}{3} \left[\frac{50 - 32}{15} \right] \text{ or } \frac{5}{3} \times \frac{18}{15} = 2$$

our calculation of 2 K' -seconds at the end A and $\frac{10}{5}$ K-seconds opposite the end A at leg $\frac{40}{3}$ of the system K are, therefore, in accord with the Lorentz transformation.

It may be noted that the ray of light now travelled back a distance of 5 K' -legs in one K' -second, but only a distance of $\left[5 \times \frac{1}{3}\right] \frac{5}{3}$ -legs in $\frac{1}{3}$ K-second. The distance and time values in the system K are now only one third of the distance and time values of the system K' [This fact will be employed for the simplification of our calculations in the sequel.] The small values now in the system K are due to the fact that the velocity of light is treated as C in the system K, but as judged from this system, it is treated as $c+v$ $\frac{5}{3}$ K-legs per one K-second in the system K' .

The total time of travel of the ray of light from the end A to the end B and back is $[1 + 1] 2$ K' -seconds and $\left\{3 + \frac{1}{3}\right\} \frac{10}{3}$ K'-seconds. In the system K' or on the Einstein-Langevin clock the ray of light took equal times for its outward and return journey, but in the system K, it took nine times more time for its outward travel and only one—tenth of the total time for its return travel. In the system K' it travelled equal distance for its two ways travel, but in the system K, it travelled 15 K-legs for its outward journey and only $\frac{5}{3}$ K-legs for its return journey, thus nine times more distance for its outward travel.

OBSERVATIONS

a). As the velocity of the ray of light has been treated as C in the system K, time may be said to have run uniformly in this system, both for the outward as well as backward travel of the ray, whereas in the system K' , from the standpoint of the system K, time will be considered to have run non-uniformly. So, if an ordinary clock was placed at the end A of the rod, the relativity physics will demand of it to record its first one second for 3 of the K-seconds, that is, to tick three times slower than the K-clocks and to

record the next one second for $\frac{1}{3}$ of the K-second, that is, to tick now three times faster than the K-clocks. And if a cosmonaut was sitting beside it, his heart-beat, his breathing, his blood circulation and all his other physiological processes will slow down three times for the first 3 K-seconds and will quicken up three times for the next $\frac{1}{3}$ K-second, thus losing altogether their gear and rhythm.

It is doubtful whether the ordinary clocks can oblige special relativity theory to behave in such and anomalous manner and is much more incredible whether biological clocks can behave so. Accordingly, “perennial youth” need not be dreamed of by the cosmonauts.

(b) We have arbitrarily supposed the length of the rod to be 5 K' -legs. It can be supposed to be of any length. Moreover, two lengths of equal magnitudes can be supposed, one lying parallel to the x axis and the other lying perpendicular to it, like two arms of the Michelson-Morley interferometer. Time lapses on the length lying parallel to the direction of movement will be irregular and non-uniform, whereas on the length lying perpendicular to the direction of movement, it will be regular and uniform. Relativists usually suppose the length to be lying perpendicular to the direction of movement for the purpose of illustrating the retardation of time in the moving systems. But nobody has given any cogent reason for so placing the rod and for not placing it in the direction of movement.

The rate of $\frac{3}{5} K'$ -second. on the Einstein- Langevin clock for one K' -second which is in accord with the Lorentz transformation is not factual, because in actual fact, the rate is one K' -second for K-seconds for the first half of the K' -time one K' -second for $\frac{1}{3}$ K-second for the next half of K-time. The rate of $\frac{3}{5}K$ -second for one K-second is derived by dividing $[1+\frac{1}{3}]$ 2 seconds of the system K' by $[\frac{3}{3} \times \frac{1}{3}] \frac{10}{3}$ seconds of the system K and is, therefore, the arithmetical average rate and as such is artificial and not actual. In his first paper on special theory of relativity, Einstein imagined the

ray of light to travel equal distances to a point x' and back in the system K' and then set up the following equation⁸⁹:

$$\frac{1}{2} \left[t'(o, o, o, t) + t' o, o, o, t + \frac{x'}{c+v} + \frac{x'}{c-v} \right] = t \left(x', o, o, t + \frac{x'}{c-v} \right)$$

to derive the Lorentz transformation by further mathematical manipulation. The velocity of the ray of light as $c-v$ in the moving system in one direction and $c+v$ in the opposite direction is, therefore, implicit in the Lorentz transformation and does not seem to be gainsaid by deriving the transformation in some other way. In relativity literature, it is stipulated (albeit arbitrarily) that the unit of time on the Einstein-Langevin light clock should be taken as that quantity of time for which the ray of light returns to one end of the rod after reflection at the other end. But there is no satisfactory reason to take into account as a unit of time the to and fro journey as a whole and to pretend ignorance about the behaviour of time in the separate outward and inward travels of the ray of light when it is definitely known that for the outward travel of the ray, time in the system K' is thrice slower and for the inward travel, it is thrice faster than in the system K . In justification for taking the unit of time, the to and fro journey as a whole, the following reasons may be advanced, viz.

i- We cannot directly know the time at the other end of the rod which is far removed from us (in our numerical example 186000 miles away) or that,

ii- The velocity C of the ray of light for its outward and inward travel is only an average velocity.

The first reason is unacceptable in view of the fact that the distance between A and B can be made as small as we wish, so that the entire rod may be visible to the naked eye at a single glance. Even then, according to our numerical way of calculations, half of the total time in the system K' will be three times slower and the other half three times faster than the respective times in the system K .

⁸⁹ A. Einstein, "Electrodynamics" in Principle of Relativity, Dover Publications Inc. page 44.

The second reason is unacceptable for the simple fact that the constancy of the velocity of light means that it propagates in the isotropic, empty space at the same uniform, constant velocity C throughout its journey and also for the additional fact that in his first paper on special theory of relativity. Einstein established, “by definition that the “time” required by light to travel from A to B equals the “time” it requires to travel from B to A”⁹⁰ So there is no question of average velocity for the two way travels of the ray of light, in consequence of which an average of two times may be accepted as a unit of time. Accordingly, if time is to run in the moving; systems in conformity with the way in which light is judged from the stationary systems to be propagating in those systems at the velocity $c - v$ in one direction and $c + v$ in the opposite direction, the Lorentz factor for time retardation turns out to be specious and artificial, because it implies as in our numerical example, the average of, three times more time in the system K' than one half of the total time of die Einsein-Lahgevin clock in the system K' , and three times less time of the system K than the remaining half of the total time of that clock in the system K . This factor which seems to embody an average quantity of time retardation is, therefore, merely mathematical and as such grossly misleading.

C- When the ray of light reaches the end B of the rod opposite leg 15 of the system K ,, time of the system K' is one second and of the system K' it is 3 seconds. In 3 K-seconds, the end A of the rod arrives opposite leg 12 of the system K at the velocity of 4 K-legs per one K- second. But the other system K' can also be considered to be at rest and the system K , to be in motion at the velocity of 4 K' -legs per one K' -second towards the negative side of the x axis. Length in the system K will be shortened on account of its motion and 4 K' -legs will measure the same distance as $\left[4 \times \frac{5}{3}\right] \frac{20}{3}$ - K-legs. Thus, in one K' -second, a distance of 4 K' -legs or $\frac{20}{3}$ K-legs will pass in front of the end A and so it will be opposite leg $\frac{20}{3}$ of the system K . Therefore, when the ray of light reaches the end B of the rod, opposite leg 15 of the system K' , the end A of the rod is opposite leg 12 of the system K according to the standpoint of this system. But according to the standpoint of the system K' , it .is opposite leg. of the system K when the ray of light reaches the end B of the rod opposite leg 15 of the system K . So, when the

⁹⁰ /bid, page 40

ray of light reaches the end B of the rod, the end A of the rod is opposite two places in the system K, opposite leg 12 of this system and opposite leg $20/3$ of this system.

This paradoxical result which arises from the standpoint of the two systems, seems to have missed so far the notice of the admirers of the theory and is apparently irreconcilable and irresolvable, even if it is said that the end A is opposite leg "on the system K at the time of one K second and opposite leg $20/3$ of that system at the later time of $9/5$ K' -seconds, because $1/5$ K' -seconds will not be acceptable from the standpoint of the system K' to be the K' time at the end A when the ray of light reaches the end B of the rod.

But when the ray of light returns to the end A, time in the system K is $10/5$ seconds and in the system K' , it is 2 seconds. In $10/3$ K-seconds the end A of the rod moved to $\left[4 \times \frac{10}{3}\right] \frac{40}{5}$ K-legs and in 2 K' -seconds, a distance of $[4 \times 2]$ 8 K' -legs or $\left[8 \times \frac{5}{3}\right] \frac{40}{3}$ K-legs passed in front of the end A of the rod. Thus, the end A is now not opposite two places of the system K, opposite only a single place, leg $\frac{40}{3}$ of that system.

How has this happened?

On the return journey from the end B to the end A of the rod, the ray of light took $1/3$ second of the system K and one second of the system K' . on $1/3$ K-second, the end A of the rod advanced a small distance of $[4 \times 1/3]$ $4/3$ K-legs from leg 12 of the system K and reached $[4/3 + 12]$ leg of this system. On the other hand for one K' -second, a distance equal to another 4 K' legs or $\left[4 \times \frac{5}{3}\right] \frac{20}{3}$ K-legs passed in front of the end A and so $\left[\frac{20}{3} + \frac{20}{3}\right]$ leg $\frac{40}{3}$ leg of the system K arrived opposite the end A.

Einstein worked, perhaps unconsciously with two sorts of criteria for calculating the light travel time. In one system the ray of light is obliged to

travel equal distances, out from and back to the point of emission of the ray. on the other system, this condition cannot be fulfilled by the same ray of light on account of its velocity as $c-v$ or $c+v$ in the moving system, and so it has to travel unequal distances out and back in this second system. Therefore, it takes proportionally more time to cover the longer distance for one of the two sides of its journey in the second system. No reason has ever been given to justify the use of such two sorts of criteria and so the criteria in question possess highly arbitrary looks.

4- A STATIONARY LIGHT CLOCK ALSO RUNS SLOW.

(a) It is one of the widely accepted results of the special theory of relativity that “a moving clock runs slow” or equivalently, “time itself slows down in a moving system.” We endeavour to show below that even a stationary Einstein-Langevin clock will show less time than the time measured by the ray of light in a moving system in which such a clock is not used.

The system K' can be supposed to be at rest and the system K to be in motion at 4 K' -legs per one K' -second towards the left, i.e. towards the negative side of the x axis. The Einstein-Langevin clock of rod AB , 5 K -legs long, is placed in the system K' as before and light travel time on this clock is to be compared with the light travel time of the same ray of light in the system K .

The ray of light will take one K' -second to travel from the end A to the end B and one more K' -second to travel back from the end B to the end A . So it will take 2, K' -seconds for its two way travel on the rod AB .

The velocity of the ray of light will be treated as C in the system K' and as judged from this system, the ray of light will advance towards the right at 5 K' -legs per one K' -second and the system K will move towards the left, i.e. towards the on-coming ray of light at 4 K' -legs per one K' -second. The velocity of the ray in the system K will, thus, be $c+v$ and it will, therefore, cover a distance of $[5 + 4] 9 K'$ -legs in the system K in one K' -second. But

length in the system K will be contracted by the factor $\sqrt{1 - \frac{v^2}{c^2}}$ or $.3/5$ of our example, due to its motion and 9 K' -legs will measure the same distance as $[9 \times 5/3]$ 15 K-legs. Thus after one K' -second when the ray reaches the end B of the rod, the leg 15 of the system K will have arrived opposite the end B. Time at leg 15 of the system K will be $[15/3]$ 3 K-seconds.

The coordinates in the system K' of the event of arrival of the ray at the end B and opposite leg 15 of the system K will be

$$x' = 5, t' = 1$$

As the velocity of the system K towards the negative side of the x axis can be written as -v, the Lorentz transformation will take the form as

$$x = \frac{x' - vt'}{\sqrt{1 - \frac{v^2}{c^2}}} \quad t = \frac{t' + \frac{vx'}{c^2}}{\sqrt{1 - \frac{v^2}{c^2}}}$$

But as two minus signs together make up one plus sign in algebra, the above equation can be written as

$$x = \frac{x' - vt'}{\sqrt{1 - \frac{v^2}{c^2}}} \quad t = \frac{t' + \frac{vx'}{c^2}}{\sqrt{1 - \frac{v^2}{c^2}}}$$

These equations are called the inverse Lorentz transformation. By the use of these, we will have

$$x = 15 \frac{5}{3} [5 + 4 \times 1] \text{ or } \frac{5}{3} \times 9 = 15$$

$$t = 3 \frac{5}{3} \left[1 + \frac{4}{25} \times 5 \right] \text{or } \frac{5}{3} \left[1 + \frac{4}{15} \right] \text{or } \frac{5}{3} \times \frac{9}{5} = 3$$

Thus our calculations of 3 k-seconds at leg 15 of the system K opposite the end B of the rod in the system K' and one K' -second at leg 5 of the system K' i.e. at the end B of the rod, are in accord with the inverse Lorentz transformation.

On its return journey from the end B, the ray of light will take one more K'-second to arrive at the end A and time at this end will be $[1 + 1] 2 K'$ -seconds.

As judged from the system K' , the ray of light will be heading towards the left at 5 K' -legs per one K' -second and the system K will be moving away towards the- left at 4 K' -legs per one K' -second. The velocity of the ray of light in the system K will, thus, be $c-v$ and it will gain on the system K, a distance of $[5-4]$ one K' -leg in one K' -second. As the length in the system K will be shortened by the factor $3/5$ due to its movement, one K' -leg will measure the same distance as $[1 \times 5/3] 5/3$ K-legs. To cover this distance of $5/3$ K-legs, the ray of light will take $\left[\frac{5}{3} \times \frac{1}{5} \right] \frac{1}{3}$ K-second and will have arrived opposite $[15 - 5/3]$ leg $40/3$ of the system K. So when the ray arrives back at the end A of the rod in the system K' , time at the end A is $[1+1] 2 K'$ -seconds and opposite the end A of the rod at leg 42 of the system K, it is $[3 + 1/3] 10/3$ K-seconds.

The coordinates in the system K' of the event of arrival of the ray of light back at the end A, i.e.. at the origin of the system K' and at leg $40/3$ of the system K, opposite the end A of the rod will therefore, be

$$x' = 0 \quad t' = 2$$

From these by means of the inverse Lorentz transformation:

$$x = \frac{40}{3} \quad \frac{5}{3} [o + 4x2] \text{ or } \frac{5}{3} \times 8 = \frac{10}{3}$$

$$t = \frac{10}{3} \quad \frac{5}{3} \left[2 + \frac{4}{25} \times o \right] \text{ or } \frac{5}{3} \times 2 = \frac{10}{3}$$

Thus our calculations of $10/3$ K-seconds at leg $40/3$ of the system K, opposite the end A of the rod and 2 K' -seconds at the end A of the Einstein-Langevin clock at the origin of the system K are in accord with the inverse Lorentz transformation.

These time and distance values, when the Einstein-Langevin clock is treated to be at rest and system K to be in motion, are the same as those when the Einstein-Langevin clock was considered to be in motion and the system K was considered to be at rest.

Time on the Einstein-Langevin clock is less even though it remained stationary.

As the velocity of the ray of light has been treated as C in the system K' time on the Einstein-Langevin clock will be considered to have run uniformly, whereas in the system K, it will be considered to have run non-uniformly, three times faster than the first K' second and three times slower than the next K' -second.

(b) We now suppose that the rod AB 5 K-legs long of the Einstein-Langevin clock is placed in the system K which is treated as at rest and the system K' to be in motion towards the right, i.e. towards the positive side of the x axis at 4 K-legs per one K-second.

The ray of light will take one K-second to travel from the end A to the end B and one more K-second to travel back from the end B to the end A of the rod so it will take two K-seconds for its two way travel to arrive back at the end A.

As judged from the system K, the ray of light advances towards the right at 5 k-legs per one K-second and the system K' moves forward at 4 K-legs

per one K-second. The velocity of the ray of light in the system K' will thus be $c-v$ and it will gain on the system K' , a distance of [5-4] one K-leg in one K-second. But in one K-second the ray arrives at the end B of the rod. Due to the motion of the system K' , the length in this system is shortened by the factor $3/5$ and one K-leg measures the same distance as $\left[1 \times \frac{5}{3}\right] \frac{5}{3}$ K-legs. To cover the distance of ' K' -legs, the ray of light will take $\left[\frac{5}{3} \times \frac{1}{5}\right] \frac{1}{5}$ K' -second. K' -second.

Thus, when the ray of light arrives at the end B of the rod, i.e. at a distance of 5 K-legs from the end A in the system K and opposite the end B at leg $5/3$ of the system K' , time in the system K is one second and in the system, K' at $5/3$ K-leg, it is $1/3$ K' -second.

So the coordinates in the system K of the event of arrival of the ray at the end B of the rod are

$$x = 5, t = 1$$

By means of the Lorentz transformation:

$$x' = \frac{5}{3} \quad \frac{5}{3} [5 - 4 \times 1] \text{ or } \frac{5}{3} \times 1 = \frac{5}{3}$$

$$t' = \frac{1}{3} \quad \frac{5}{3} \left[1 - \frac{4}{25} \times 5\right] \text{ or } \frac{5}{3} \left[1 - \frac{4}{5}\right] \text{ or } \frac{5}{3} \times \frac{1}{5} = \frac{1}{3}$$

Thus our calculations of $1/3$ K' -second at leg $5/3$ of the system K' opposite the end B of the rod in the system K, are in accord with the Lorentz transformation.

On its return journey from the end B, the ray of light will take one more K-second to arrive at the end A and time at this end will be [1 + 1] 2 K-seconds.

As judged from the system K, the ray of light will be heading towards the left at 5 K-legs per one K-second and the system K' will be advancing

towards the right, i.e. towards the on-coming ray at 4 K-legs per one K-second. The velocity of the ray of light in the system K' will therefore, be $c+v$ or $[5+4] 9$ K-legs per one K-second. But as length in the system K' will be shortened by the factor .due to its motion, 9 K-legs will measure the same distance as $[9 \times 5/3] 15$ K' -legs. Thus, when the ray of light arrives back at the end A of the rod after one more K-second, it covers a distance of 15 K' legs backwards from leg $5/3$ of the system K' and arrives opposite $[5/3 -15]$ leg $-19/3$ of the system K' will, therefore, be $+ [1/2 + 3]19/3$ K' -seconds and at the end A of the rod in the system K, it will be 2 K-seconds.

The coordinates in the system K of the event of arrival back of the ray of light at the end A of the rod, i.e. at the origin of the system K will, therefore, be

$$x = 0, t = 2$$

by means of the Lorentz transformation:

$$x' = \frac{-40}{3} \quad \frac{5}{3} [0 - 2 \times 4] \text{ or } \frac{5}{3} \times 8 = \frac{40}{3}$$

$$t' = \frac{10}{3} \quad \frac{5}{3} [2 - \frac{4}{25} \times 5] \text{ or } \frac{5}{3} \times 2 = \frac{10}{3}$$

Thus, our calculations of $10/3$ K' -seconds at leg-42 of the system k; opposite the end A of the rod and 2 K-seconds at the end A of the rod of the Einstein-Langevin clocks, i.e. at the origin- of the system K are in accord with the Lorentz transformation.

Here the system K' has been considered to be in motion and the Einstein-Langevin clock in the system K to be at rest, but time in the moving system K' is greater than the time on the Einstein-Langevin clock in the system K which has been considered to be stationary.

As the velocity of the ray of light has been considered to be C in the system K, the time on the Einstein-Langevin clock in this system will be considered to have run uniformly, whereas in the system, K' , it will be

considered to have run non-uniformly, thrice slow for the first K-second and thrice fast for the next K-second.

In the above three analyses, the quantity of time has been found to be less on the Einstein-Langevin clock, irrespective of the fact whether this clock was thought to be at rest or in uniform motion. Accordingly, the usual statement that “ a moving clock runs slow” or the alternative statement that “time itself slows down in moving systems” is not adequate to the actual situation. Certain relativists became aware of the misleading nature of the statement, but the reason which occurred to them for the error is not satisfactory. For example, Sir O.R. Frisch wrote the following in his article, “Time and Relativity”⁹¹

It is vague and misleading to say, “a moving clock goes slow”. To be precise, one should say “a clock moving at speed v relative to an inertial frame containing synchronised clocks is found to go slow by the factor $\sqrt{1-v^2/c^2}$ when timed by those clocks.

This seems to be in line with Einstein’s statement in his first paper on special relativity theory,⁹² viz.

If at points A and B of K there are synchronised clocks which, viewed in the stationary system, are Synchronous; and if the clock A is moved with velocity V along the line AB to B, then on its arrival at B, the two clocks no longer synchronise, but the clock moved from A to B lags behind the other which has remained at

B.....

⁹¹ O.R. Frisch, “Time and Relativity” in Contemporary Physics, Oct, 1961 pages 16-27 and reprinted in Special Relativity Theory, Selected Reprints, American Institute of Physics, pages 89-100.

⁹² Einstein, “Electrodynamics” reprinted in the Principle of Relativity, Du’ er Publications Inc. page 49.

In both these statements, the clock in question is considered to have moved. But it is not on account of its motion that it lagged behind in time. The real reason for less time on the Einstein-Langevin clock is the manner in which time is measured for the travel of light in the two systems.

In the above analyses, the velocity of the ray of light is considered as C in the system which is thought to be at rest, but in the system which is thought to be moving, length is treated as shortened by the factor $\sqrt{1-v^2/c^2}$ and the velocity of the same ray of light is considered to be $c-v$ and $c+v$ in opposite directions. As considered to be of measuring time, the ray of light travels equal distances in the one system for its outward and return journeys, i.e. in this system the Einstein-Langevin clock is used for measuring time. In the other system, this clock is not used and the same ray of light has to travel unequal distances for its two-way journeys on account of its velocity as $c-v$ and $c+v$ in the system which is considered to be in motion. Its total distance of travel, therefore, gets increased in the second system by the factor of our example, from the total distance of travel of the same ray of light on the Einstein-Langevin clock. The increase in distance gives rise to the increase, by the same factor, in the time of travel of the ray of light in the second system as compared to the time of travel of the same ray on the Einstein-Langevin clock. It is, therefore, highly inappropriate to say that ‘a moving clock runs slow’ or ‘time slows down in the moving system’ with the suggestion that it is its movement which causes time” retardation. This is not the case. The increase in time occurs in the system in which the ray of light does not travel equal distances for its two way journeys as compared to the time of travel in which the same ray travels equal distances for its outward and return journeys. So the Einstein-Langevin clock, even if stationary, can be considered to go slow, to use the usual relativistic jargon, and to show less time.

It must be noted that in his first paper on special relativity theory, Einstein considered a point x' in the moving system K to which a ray of light travelled equal distances for equal times outward and back. He, then proceeded to derive the Lorentz transformation, thus using in effect, the Einstein-Langevin clock in the system K' and calculating the time in the

other system K by the same ray of light. The procedure of making the ray of light travel equal distances, out and back, in one system and unequal distances in the other system, however, lacks rationale and seems to be arbitrary. (To be continued)

DR. ALOYS SPRENGER (1813-1893)

His Life and Contribution to Urdu Language and Literature

Muhammad Ikram Chaghatai

Dr. Aloys Sprenger (in 1868)

Foto: With the courtesy of

“Tiroler Landesmuseum Ferdinandeum”

Innsbruck (Austria)

Dr. Alois (or Aloys) Sprenger is one of the most prominent orientalists of the 19th century. If we keep in view all his academic works we will notice that the ordinary- term ‘Orientalist’ does not apply to him. Instead, he emerges as an authority on Arabic and Islamic history and an expert on some of the Islamic services.* He is not only respected by Western scholars but his scholarly services are also recognised by Muslim men of learning. He rediscovered some Islamic source books, which seemed to have disappeared, and reintroduced them to the world. These discoveries include *Seerat Ibn Hashbham*, Wagidi’s⁹³ *Futub-ush-Sham*, Gurgani’s, *Vis-o-Rameen*⁹⁴ and the mystical treatises of Muhasibi, a famous sufi of the ninth century A.D.⁹⁵ These discoveries have given Sprenger an everlasting place in the annals of oriental studies. Western scholars, especially those occupied with the study of Islam, will always be grateful to him. Muslim scholars, however, strongly differ with some of his views. Another thing that as downgraded his scholarship among Muslims is that he challenges the authenticity of the Traditions (*Hadith*)⁹⁶ By highlighting the inner contradictions of some

⁹³ Das Leben Muhammeds nach Muhammed b. Ishaq, beat benet von F. Wuestenfeld, 2 vols., Goettingen 1858-60.

⁹⁴ Ed. by W.N. Lees, Calcutta 1854.

⁹⁵ Josef van Ess: Die Gedankenwelt des H. al-Muhasibi, Bonn 1961.

⁹⁶ On the Origin of Writing down Historical Records among the Musulmans. (JASB, vol. XV (1856), pp. 303-29,375-81).

Traditions he has tried to prove that all the Traditions cannot be relied upon blindly. The criticism of the Traditions initiated by Sprenger was further advanced by Ignaz Goldziher⁹⁷ (d. 1921) and its echo was heard again in the writings of some of the Muslim Modernists, thanks to Goldziher's influence.

Because of his criticism of the primary sources of Islamic religion and history, Sprenger is not remembered in good words by the scholars of the Islamic world although his overall contribution to the oriental literature is not denied. The authors who have written short or detailed accounts of the life and academic achievements of Sprenger include orientalist, biographers, Arab and Iranian compilers of biographical works, Western writers on oriental and Arabic studies and some research scholars of the Subcontinent.⁹⁸ They have made every possible effort to highlight Sprenger's life and his selected works. But what most of the early and recent writings on Sprenger glaringly lack is a detailed account of his life 'because their information is restricted to the secondary sources or the obituary notices published at the death of

Sprenger in 1813.⁹⁹ This published material is also confined to the discussion of his Arabic and, to some extent, Persian works. The services that he rendered to the Urdu language and literature during his thirteen years'

⁹⁷ Muhammedanische Studien. vol. II, Halle 1890.

⁹⁸ See for example: Biographisches Lexikon des Kaiserthums()esterreich. von Dr. Constant von Wurzbach, vol. 36 (Vienna 1878), pp. 258-63; G. Vapereau: Dictionnaire universal des contemporains, sixieme ed., Paris 1893, pp. 1459-60; Dr. August Haffner: Aloys Sprenger. Ein Tiroler Orientalist. Zur Enthuellung des Sprenger--- Benkmals in Nassereith am 19. Oktober 1913, Innsbruck 1913; Johann Fuech: Die arabischen Studien in Europa, Leipzig 1955, pp. 176-81; A. Schimmel: German Contributions to the Study of Pakistani Linguistics, Hamburg 1981, pp.48-74; M.H. Zaidi: Aloys Sprengers Beitrag zum Urdu - Studien (In: ZDMG. Supplement- II. Vortraege. Wiesbaden: Steiner, 1974, pp. 259-65); Najib al-Aqiqi: al-Mustashriqun (in Arabic), Cairo 1965, vol. II. pp. 631-2; Dilli College Magazine (Qadim Dilli College Number), Dehli 1953 (in Urdu); Aloys Sprenger. Der Orientalist and Islamhistoriker aus Nassereith in Tirol. Zum 100. Todestag am 19. Dezember 1993. Im Selbstverleg der Gemeinde Nassereith von Norbert Mantl, pp. 87.

⁹⁹ In: Journal of the Royal Asiatic Society (London), 1894, pp. 394-5; The Athenaeum, No. 3454 (6th Jan. 1894), pp. 19-20; SKPAW (Berlin) 1893, p. 1050; Deutsche Rundschau fuer Geographic and Statistik, Leipzig 1894, p. 235

stay in India (1843-1856) do not figure anywhere in these writings. If at all there is any reference to them it is *very* brief. In the following pages an attempt has been made to bring out his life with the help of reliable and original sources and discussed, in detail, the services he rendered for the promotion of Urdu.

Sprenger was born on 3 September 1813 in Nassereith, a small village near Innsbruck in the province of Tirol. Even now the population of this village¹⁰⁰ is less than two thousand souls. Situated in a beautiful valley, it is surrounded by the high peaks of Alps. The *Taufbuch*, the book that registers the birth of new babies, is still available in the Abbey of the village^s and contains the name of Sprenger in the year 1813. According to this entry, Sprenger was born on 3rd September 1813 at 4.00 A.M. and was named Ignatius Sprenger, although he gained renown as Aloys Sprenger. This change occurred, possibly, when he was sent to a gymnasium in Innsbruck. The name of his father given here is Christoph Sprenger, an ex-Collector of Customs, which shows that he had left this service before 1813. The property register, *Verfachtbuecher*, in the archives of Tirol and the old record of Vienna University also mention the same service of his father. The birth certificate of Sprenger, mentioned above, gives the name of his mother as Theresia Dietrich. It is also mentioned that she was the daughter of a butcher of a nearby village Lermoos. There is no evidence to show how long Sprenger's parents actually lived but some documents in the archives of Tirol indicate that his parents were already dead when he was living in Lucknow in 1848, because some debtors from his ancestral village used to remit instalments of their' loan to him. It appears that he was more attached to his mother because, as a student at Vienna University, he used to write his articles under the name of Dietrich.

When Sprenger was born, majority of the population of the region was Roman Catholic and even now most of the inhabitants of his ancestral village belong to the same denomination. His ancestors also belonged to a staunch Roman Catholic family. The *Taufbuch*, referred above, also confirms that he was a Roman Catholic. He stuck to his creed all his life. In a long letter (dated May 8th, 1884), addressed to Mawlavi Chiragh Ali, a reformer and

¹⁰⁰ Tiroler Landesarchiv (Innsbruck).

companion of Sir Syed Ahrnad Khan, he mentions his religious affiliation with this branch of Christianity. In addition to this, his death certificate (*Sterbebuch*), still available in the Town Hall Library of Heidelberg,¹⁰¹ clearly shows him a Roman Catholic. All these proofs lead to the conclusion that all his life he strictly adhered to his hereditary faith.

Sprenger's father was not only a Collector of Customs of his own area but also a man of property and owned a number of houses and gardens in the small village of Nassereith.¹⁰² He also possessed some agricultural land near his village which was a source of additional income for him. The details of his family property is available in the archives of Tirol, which show that he was a member of a prosperous family. This record also reveals that his parents died when he was living in India and in spite of being far away from his home he was able to control his family property.¹⁰³

Sprenger completed his early education in his own village. As there was no regular school in the village he received his education either at home or at the church. He joined Innsbruck college at the age of fourteen. In the educational record of the period, lying in the archives of Innsbruck, the name of Sprenger as student first occurs in the year 1827, where he was admitted in the beginning of the year.¹⁰⁴ He continued his education at Innsbruck College for six years, that is until 1832. The duration of gymnasium course, at the time, was six years and every student had to pass through two of its phases. The first phase comprised the grammar class, which had four stages, each lasting for a year. Every student had to spend all four years in this phase. After that came the stage of Humanity class, which had two stages, each of one year duration. This is how the gymnasium course was completed in six years. This period of six years of Sprenger's life is very important because it shows that he was an intelligent and industrious student from the start. He was awarded a scholarship in the third grade for securing good marks in the first two stages, which continued until 1832. In those days various subjects

¹⁰¹ Standesamt (Stadt Heidelberg).

¹⁰² "Gemeindeamt Nassereith" has very scanty information about this period of Sprenger's life.

¹⁰³ Innsbrucker Stadtarchiv (Innsbruck) and also Tiroler Landesmuseum Ferdinandeum (Innsbruck).

¹⁰⁴ Juventus C.R. Gymnasii Academici Oenipontani 1827-1832.

and languages were taught at the college level. Religion, Latin, Geography, Arithmetic etc. were taught in the first year of the Grammar Class of the gymnasium. Except for the addition of history to geography, the same subjects were taught in the second grade. In grade three and four Latin was added to these subjects. In the second phase of gymnasium, in both the classes of Humanities, Latin was replaced with Auctor. Interpr. et Stilo and Arithmetic with mathematics, while other subjects, taught in all the four stages of Grammar classes, remained the same. In his six years, course, Sprenger studied all these subjects as an intelligent student and secured a distinguished position in every class.

As soon as Sprenger completed his gymnasium course he got admission in Vienna University. The record of the University for the year 1832-33 bears his name and states that it was his first year in the University.¹⁰⁵ His course at the University included Philosophy, Physical Sciences, Medicine and Oriental Languages. Of these, he was most interested in oriental languages. In fact he had, from his childhood, a zeal for learning various languages and their comparative study. It was this zeal that enabled him to acquire command not only over various Western languages, such as Latin, Greek, English, French, Italian, Spanish but on Hebrew as well. So much so that he had prepared a comparative dictionary of these languages for his own use. His aptitude for learning these new languages was further sharpened by the intellectual environment of Vienna University. Especially, his association with Joseph von Hammer-Purgstall (1774-1856), the leading Austrian orientalist and pioneer of oriental studies in German-speaking regions, gave a fillip to his intellectual and linguistic capabilities. It was he whose masterly translation from Arabic and Persian literature nourished the oriental tradition in German literature and led a great poet like Goethe to produce *West-östlicher Divan*. Scholarly works on Arabic, Persian and Turkish languages and literature impressed all the orientologists of his age. Sprenger being very close to Hammer was impressed more than any one else by his scholarship. This influence can be easily seen in the form and method of some of his books, especially in the catalogue of manuscripts in the Imperial Libraries of the Kings of Awadh, in which he has closely followed the style of Hammer. Sprenger benefitted from Hammer's scholarship as long as he lived in Vienna, but after leaving Austria

¹⁰⁵ Matrikel der K.K. Universitaet Wien, (M II), 1832/33, p. 934.

he never had a chance to meet him again. But in spite of being far away they exchanged letters and remained in touch with each others' intellectual activities. In the ancestral home of Hammer at Hainfeld one can still see five letters, in German, that Sprenger wrote to Hammer from India.¹⁰⁶ In one of these letters, written on July 20, 1845, Sprenger briefly introduces the Delhi College and himself as the newly appointed principal of this institution. The other letters, written from Calcutta, describe the publication programme of the Calcutta Madrasah and The Asiatic Society of Bengal. Occasionally Hammer would get such information published in some journal.¹⁰⁷

Before coming to Vienna, Sprenger did not know any Islamic language. It was under the influence of Hammer that he embarked on a deep study of the Arabic and Persian languages and literature and began to write articles on various topics pertaining to them. This was the period when Sprenger decided to make history of these languages and their speakers the project of his life. He resolved to dedicate his whole life to the cause of introducing Eastern knowledge to the West¹⁰⁸ It was Hammer again who made him aware of the rich contribution that Indian Muslims had made to the realm of knowledge. One source of this knowledge was the literary work of Hammer in which he mentioned the poetical achievements of some of the leading Persian poets of India. Later on when, on his request, Friedrich Rueckert translated into German the seventh volume of the Persian dictionary "Haft Kulzum", published from Lucknow, and serialised, from 1828 onward, in a periodical of Vienna, that many of the scholars, including Sprenger, for the first time came to know of the intellectual activities of the Indian Muslims. It was also the first chance for Sprenger to know the cultural heritage of India.

¹⁰⁶ All these letters are still preserved in Hainfeld Schloss near Graz (Austria), the birth - town of Hammer.

¹⁰⁷ SKAW, phil.- hist Classe, vol. 5 (Vienna 1850), pp. 799-802.

¹⁰⁸ ".....under hat sich daher schon in frueher Jugend entsch-lossen, sich ganz asiatischen Studien zu widmen. Er machte es sich zum Lebensplan, das Morgenland zu besuchen, don, so viel als es in semen Kraeften stuende, zur Einfuehrung europaeischer Kultur beizutragen and hinwieder eine richtigere Kenntniss des Orients und seiner Literatur nach Europa zurueckzubringen".

(Das Leben und die Lehre des Mohammad ... von A. Sprenger, vol. I, Berlin 1861, Preface, p. V).

Another teacher who greatly impressed Sprenger during this period of his student life in Vienna University was Vincenz von Rosenzweig-Schowannau (1791-1865).¹⁰⁹ Basically he was a scholar of Persian and had translated into German some of the poetical works of Maulana Jami and Maulana Jalaluddin Rumi. He had produced into German a versified translation of *Divan-e-Hafiz* in three volumes and also elaborated some of its abstruse passages. Sprenger was deeply influenced by them and kept them before him while preparing the critical texts of books like *Khirdnama Sikandari* and *Gulistan*.

After completing his education at Vienna University Sprenger wanted to get an employment either in the faculty of Oriental studies of the University or in the old Oriental Academy of Vienna. His teachers also wanted the same but owing to the peculiar political and social outlook of the time, which was heavily inclined towards nobility, he could not get a job in any of these institutions. He was so disgusted with these setbacks that after sojourning in Zuerich and Paris he migrated to England. Once he arrived in England his problem of unemployment was over. He was engaged by the Earl of Munster (1794-1842). It so happened that the Earl who was at that time the elected president of the Royal Asiatic Society and had been, for many years, its Vice-President as well,¹¹⁰ was looking for a man of his calibre. The Earl was a professional soldier and had taken part in the war against the Mahrattas in India in 1817. On his return home he thought of compiling a history of the invasions of Mongols on India but very soon he changed his mind and made a plan for writing a comprehensive history of the Muslim art of warfare. Majority of the sources of this new project were in Persian and Arabic and he was not fully conversant with them. He needed someone who knew these languages and had a strong bibliographical grasp and could collect relevant material for the project. He selected Sprenger for this task on the basis of his high capabilities and vast knowledge. Sprenger worked as his assistant and also collected extracts from Arabic and Persian books for the project. To make use of libraries of other European countries, both of them, the Earl of Munster and Sprenger, paid a a visit to Germany, Italy, France Austria and

¹⁰⁹ Wurzbach, op. cit., vol. XXXII (1874), pp. 34-6.

¹¹⁰ Stuart Simmonds and Simon Digby (eds.): *The Royal Asiatic Society. History and Treasures*, London/Leiden 1979, p. 7.

Netherlands. On his return to England Sprenger prepared, in the light of the collected material, a comprehensive plan for the project. He drew a list of important sources and reproduced illustrations of battlefields, arms etc, from some of the manuscripts. He wrote all the details in Arabic. This unpublished Arabic catalogue is still available in the library of the British Museum. It does not carry his name but a copy of this manuscript, which he sent to one of his friends in Innsbruck, bears in his own hand his name as its compiler. The project was still in its formative phase when the Earl of Munster died. For want of resources Sprenger could not continue the project and was soon obliged to abandon it.

In 1838 Sprenger got the citizenship of Britain which solved many of his problems. His courses at the Vienna University also included medicine and he continued its study at various universities of Europe, like Paris and Oxford and researched on the services of the Muslims in the field of medicine. At last he submitted a brief thesis, in Latin, on the “Origin of Medicine under the Caliphate” to Leiden University on which he was awarded the post of an assistant surgeon in the army of the East India Company. Henry Horace Wilson, a famous scholar of Sanskrit, helped him a great deal in getting this job. In the meantime he had married a lady by the name of Catherine Mueler. Both of them sailed for India in 1842.

Sprenger arrived in Calcutta in early 1843. Calcutta was then the centre of the British power and was surrounded by many cantonments. Sprenger worked here for about a year and a half in various military hospitals. During this period he met some men of authority who were quick to recognise the great scholar in him. They were astonished to see a physician who knew so many languages and had such a deep insight into the Islamic sciences. They recommended the educational authorities to make proper use of his scholarship. Just then Felix Boutros (d. 1864), the French principal of Delhi College, proceeded to England on medical leave and Sprenger was appointed in his place.

The Delhi College is an important milestone in the history of Indian education. Established in 1792 A.D., it was originally designated as “Madrasah Ghazi ud-din Khan”. In the beginning it imparted education in Islamic sciences only. In 1825 the institution was reorganised and given the

name of “Delhi College”. In the new set up, English and certain Western subjects were also prescribed in its course. The basic purpose of these changes was that the Indians should also learn Western sciences, especially scientific subjects, alongwith their own. These changes were welcomed and there was a rush for admission to the College. The Delhi College not only made a valuable contribution in the sphere of education but also played a vital role in the intellectual and national renaissance of the Muslims. In fact most of the leaders who subsequently created a new wave of activity in the fields of education, literature and religion were all either teachers of this college or its graduates.¹¹¹ During the principalship of Sprenger all these gentlemen were his students at the college. Sprenger wanted to inculcate in every teacher and student a true spirit for knowledge and it was this spirit that motivated him to bring about reforms in the organization, teaching and the syllabi of the College. The religious institutions of some of the big cities of Northern India, like Agra, Benaras and Bareilly, were also under the supervision of Sprenger and he did his best to run them on modern lines. Sprenger was principal of this college for about three years and during this period most of the Madrasahs of Northern India were also under his control. On 6th December, 1847, he was transferred to Lucknow, as Extra-Assistant Resident, and, F. Taylor (d. 1857) was made officiating principal in his place.

Lucknow was then the capital of Awadh Kingdom and its last ruler, Wajid Ali Shah (r. 1847-56, d. 1887) had occupied the throne a few months back. By temperament a lover of art and luxury he did not have much interest in the affairs of the state. Some of the high British officers, like Henry Elliot, who were aware of the three Imperial Libraries of Awadh (e.g. Moti Mahal, Topkhana and Farah Bakhsh) perhaps had an inkling that the kingdom would not last long. They, therefore, wanted to secure the valuable manuscripts of these libraries before the end of its kingdom. With this end in view they sent Sprenger to prepare a catalogue of these manuscripts to know their contents and worth. The work was personally supervised by Henry Elliot and Sprenger used to send a quarterly report of the progress of his work to him.¹¹² Sprenger was well-experienced in the art of cataloguing and

¹¹¹ Mawlawi Abdul Haq: Marhum Dehli College (in Urdu), 2nd ed., Delhi 1945.

¹¹² M. Ikram Chaghatai (ed. & trans.): Shahana-e-Awadh ke Kutubhkane (in Urdu), Karachi 1973.

by virtue of this was able to prepare, within a short period of one and a half year, a comprehensive catalogue of ten thousand manuscripts of Arabic, Persian, Turkish, Hindi and Pushtu. He wanted to publish this catalogue in five volumes but could bring out only its first volume (Calcutta, 1854). The fate of the other volumes is not known to any one.

In January 1850 Sprenger was sent back to Delhi to resume his previous post but he did not stay there for long and was appointed, in the month of May, Principal of *Madrasah Aliya* (Calcutta). This Madrasah, one of the oldest institutions of India, was founded in 1780 and rendered unforgettable services in the intellectual and educational development of the Muslims of West Bengal. Besides this College, Sprenger also supervised the Hugli College. At this time he was also selected Secretary of the Asiatic Society of Bengal. In this capacity he got the texts of several Arabic books published, for the first time, from this Society. He worked on this post for four years. In 1854 he proceeded on leave. He sent his family to Germany and himself went on a tour of the Middle East. For about a year and a half he travelled in various Middle Eastern countries. In fact it was a kind of intellectual journey. During this long and arduous tour he had in view some specific purposes, i.e. to meet scholars, to know the true conditions of those countries, to benefit from the great public and private libraries and search for important manuscripts. He visited Egypt, Syria, Turkey, Iraq, Muscat, Lebanon and Saudi Arabia and succeeded in the task he had set forth for himself. This tour of Sprenger is an important period of his life but so far his biographers have not paid much attention to it. The private papers of Sprenger, lying in the State Library of Berlin, contain full account of this tour. The account is written in his own hand and discloses many secret aspects of his life.

Sprenger returned to Calcutta from this tour in early 1856 and after spending a few months there proceeded to Germany. If he wished he could go to Austria, the land of his ancestors, but perhaps the old bitter, .periences, especially the recollection of his days of unemployment, prevented him from going there. As long as Sprenger lived in India he occupied different high posts. All kind of facilities were available to him. He also had abundant opportunities for academic and research work but in spite of all this he left India for Germany. The main reason of his return was *his* constant ill health. Ever since his arrival in India he had been *busy* day and night performing his-

duties. In particular the pains he took to prepare the catalogue of the libraries of Lucknow badly affected his health. His tour of the Middle East made the matter worse and he finally decided to return. He had already sent his family and personal collection of books to Germany, and he himself left for Germany in September 1856. His family members were then living in Weinheim, a place near Heidelberg, and he joined them there. As soon as the cases containing his collection of books arrived he started cataloguing them. The catalogue, which had 1972 entries, was published in 1857.¹¹³ Sprenger had originally prepared it for the sale of his - collection. He wanted to sell this unique collection to Vienna University or the Austrian Academy of Sciences, but he did not get a satisfactory response from them. Then he turned for the purpose to the librarian of Berlin. After a few years' negotiations the terms were settled and the collection, comprising 1972 books and manuscripts, was purchased by the Library of Berlin. The correspondence regarding this deal, which took place between Sprenger and the librarian, is preserved in the State Library of Berlin and brings to light several new aspects of Sprenger's life, especially his acumen for reading the manuscripts. The sale of this collection gave Sprenger a great relief, psychological as well as financial, and enabled him to concentrate on the completion of his academic projects. At this time he was offered a professorship in Bern University, which he accepted. After teaching Islamic sciences and languages at this University for some time he left the job in 1881 and returned to Heidelberg where he spent the rest of his life. In the last years of his life he lived in seclusion and spent much of his time in writing. He did not have any teaching contact with Heidelberg University because the record of the University does not have any evidence to this effect. Sprenger died on 19 December, 1893 in Heidelberg.

(II)

Dr. Sprenger was basically an expert on Islamic studies and a scholar of the Arabic language. He was recognised as such in the academic circles. All his biographers have taken note of the contribution he made to Islamic and Arabic studies only. In this way his academic and research work in other languages of the Muslims, that is Persian and Urdu, has received very little

¹¹³ A Catalogue of the Bibliotheca Orientalis Sprengeriana. Giessen 1857.

attention. It is true that compared to Arabic his books and compilations in other languages are not numerous but their number is not so small as to be dismissed outright as unworthy of attention. In the following paragraphs I would mention some of the outstanding services he rendered for the development of Urdu language and literature and to overcome its shortcomings during his thirteen years stay in India.

The question as to what should be the medium of instruction in the educational institutions which were being run under the supervision of the British Government in India was already being debated before Sprenger arrived in India. The debate dragged on and on and the people for and against were divided into two distinct groups. Those who insisted on making English the medium of instruction were labelled “Anglicists” while the others, in favour of native languages, were called “Orientalists”. Ultimately the Educational Report (1835) of Lord Macaulay gave the verdict in favour of the Anglicists. Favoured by the majority and backed by the Government, English was included as an independent subject in schools, while the medium of instruction for other subjects remained the same, that is the native languages. However, it was decided that these languages should be moulded to suit the requirements of modern times and gradually Western Science translated into them to enable the people of India to have an access to the real source of the manifold Western advancement. The inclusion of these clauses in the educational policy was in fact the result of the Orientalists’ endeavours.

Sprenger belonged to the group that favoured the local languages for medium of instruction. Soon after his arrival in India he began to support the Orientalists openly. A year after his arrival in India he contributed a detailed article entitled “Three Opinions on the Education of Indians” to an English weekly *The Friend of India*¹¹⁴. The first opinion was that the people of India should be imparted education in their mother tongue because it would develop their capabilities and they will progress as a nation. Secondly, all possible means should be adopted to enlarge the scope of local languages and to remove their shortcomings so that they can become a true vehicle of their culture and civilization. Thirdly, a deep linguistic study of those

¹¹⁴ No. 483, vol. X (4th April, 1844), pp. 216-7; No. 484 vol. X. (11th April, 1844), pp. 232-3.

languages, living or dead, should be undertaken from which the local languages in vogue have borrowed their vocabulary. To elucidate his views Sprenger quoted several examples from the history of Europe and the Middle East and proved that the secret of their educational progress rested on these three principles. In his article Sprenger also severely criticised some of the Arabic textbooks of Fort William College and recommended their removal from the syllabus, on the ground that they did not represent the Arabic speaking people, and suggested some alternatives for them. In regard to Urdu he also expressed the following views:

- i) In order to work for Urdu on correct lines one must have a complete mastery over Arabic.
- ii) The teaching of Arabic in the Indian Madrasahs should be in keeping with the environment and temperament of Indian people.
- iii) Urdu was short of academic and scientific terms. This deficiency could be made up by the use of Arabic in coining new terms.
- iv) The contribution of native languages, such as Sanskrit, to the linguistic structure of Urdu should be kept in view and, where possible, their help may also be sought for the development and progress of Urdu.
- v) The government must do something to encourage the efforts being made, individually or collectively, to popularise Urdu.
- vi) Along with Arabic, English may also be used to make up the deficiency of terms in Urdu because this is a language that can prove helpful in rendering modern Western sciences into Urdu.
- vii) The old Muslim literature on science should be translated into Urdu to make the Muslims aware of the achievements of their forefathers in this field and to motivate them to learn modern sciences.

This article of Sprenger reflects his special views on education and the suggestion he offered for the advancement of Urdu language and literature are in line with his viewpoint. Here he has outlined the measures he thought necessary for changes in the educational sphere and which he actually enforced when he headed various educational institutions. The British officers in India certainly wanted to introduce Western sciences, especially the amazing scientific inventions and achievements that had resulted from them, to the people of India but the lack of suitable literature in Urdu was a

major hindrance in this enterprise. There was hardly any material in Urdu which would make the vanquished Indian nation accept the superiority of the rulers in the intellectual domain along with their superior position in the political sphere. With this end in view the government formed an Educational Committee in 1835, but it proved inactive. After few years, in 1843, a new society, by the name of Delhi Vernacular Translation Society, was formed for this purpose. Its objective was similar to the Educational Committee but in its programme priority was given to the translation of important books of English, Sanskrit, Arabic and Persian into Urdu, Hindi and Bengali. It is a different story that most of the translations, from English, Arabic and Persian, were done into Urdu only. Probably the world of translation into other languages was abandoned for want of resources. This Society was established as an autonomous body but subsequently it became an adjunct of the Delhi College and its Principal was made secretary of the Society. The main reason of this affiliation was that the objectives which led to the formation of this Society were already being fulfilled by the College. English was taught here but the medium of instruction was Urdu. The Principal of the Delhi College who became the first secretary of this Society was Felix Boutros. In spite of his poor health he did publish some textbooks and literature of general interest from the Society. In 1845 he went on leave to England and Sprenger was appointed in his place. As Principal of the College he also held the charge of the secretary of the Society. Soon after resuming the charge of the Principal he not only took numerous steps to improve the administration and teaching of the College but also accelerated the translation work of the Society with great enthusiasm. For him it was a golden opportunity to implement the ideas he had suggested in his above-mentioned article of 1844. He made full use of it and with the help of local scholars and staff of the College rendered several books into Urdu within a short period of two or three years. The speed, efficiency and devotion with which Sprenger did this work can be judged from the list of publications which appeared in the *Journal of the Asiatic Society of Bengal* in 1845. This list includes all the books of the Society that had been published until then, or were in press or had been approved for translation. The list was published by Sprenger. Besides this he also introduced, in 1848 and 1849, the publications of the Society in the *Journal of the German Oriental Society* (ZDMG, published from Leipzig). Sprenger, in his capacity of Secretary, also used to compile an annual report of the Society. The introduction of the Society's publications

and the reports that he compiled can give a fair idea of Sprenger's endeavours to make Urdu a scholarly language, capable of expressing all kinds of ideas and meaning. He was Secretary of the Society for about three years and during all this period he struggled hard for the advancement of Urdu language and literature. In fact his ceaseless efforts turned the College and Society into model institutions for future generations. So much so that the Scientific Society, established at a later stage by Sir Syed Ahmad Khan, was a new form of these institutions.

Sprenger was appointed the Principal of the Delhi College in 1845 and the same year he speeded up his efforts, through the Delhi College and Delhi Vernacular Translation Society, for the development of Urdu language and literature. The publication of an illustrated weekly was a part of these efforts. The name of the weekly was *Qiran-us-Sa'clain* and Sprenger started it in 1845. In his introduction to the first volume of his massive work on the life of the Holy Prophet (peace be upon him) he mentions this weekly in the following words:

“In 1845 I founded an illustrated journal, in the style of Penny Magazine. Its name was *Qiran'us-Sa'dain*. I thought as if East and West were Jupiter and Venus, the conjunction of which had occurred in this journal. This effort was the first of its kind. Eleven years later, when I left India, I was pleased to see that more than a dozen periodicals were being published in this style----- In my opinion it is the best reward of my endeavours that those for whose benefit I had struggled were so inspired by *my* efforts that the things they produced excelled even the original model, which will be useful for them and their country.”¹¹⁵

¹¹⁵ German text runs thus:

“Im Jahre 1845 zum Beispiel gruendete ich zu Delhi eine illustrierte Zeitschrift im Geiste des Penny Maganine. Sie hatte den Titel Kiran als'a'dayn, d. h. die Conjunction der beiden Gluecksplaneten Jupiter und Venus, worunter der Occident und Orient zu verstehen war. Es

When Sprenger brought out this weekly, Urdu journalism was still in its infancy. At this early stage, Urdu newspapers and journals were confined to the local and foreign political news, religious polemics, life histories of poets and their¹¹⁶ poetical works, and personal controversies of editors. *Qiran-us-Sa'dain* is certainly the first weekly in the history of Urdu journalism which gave an intellectual tinge to it and tried to fulfil the educational needs of the people. It also published, like other newspapers, news and verses but its real purpose was the introduction of Western ideas, especially the scientific progress of the West, to the people. Sprenger wished that the distance between East and West, at the intellectual plane, should be reduced and *they* should benefit from each other's cultural and intellectual heritage. He had resolved in his youth that he would introduce the knowledge and wisdom of the West to the East and acquaint the West with the intellectual treasures of the East. He also expressed his determination in the article mentioned above, which he wrote soon after his arrival in India. Its glimpses are also found in the *Qiran-us-Sa'dain*. His desire is reflected in the very name of the journal, which signifies the conjunction of two auspicious planets. The top of the title page of the journal carries the emblem of two hands shaking each other which also symbolises Sprenger's aspirations. As long as he lived in India this journal continued and kept on enlightening the public mind. Because of its contents the journal became so popular that many more periodicals, of the same style, were brought out within a short period. Among them two magazines *Fawaid-un-Nazireen* and *Mobibb-i-Hind*, published by the Delhi College, are notable. Both these journals were edited by Master Ram Chandra, a teacher and famous arithmetician of the Delhi College. He toed Sprenger's line in these journals.

With the start of *Qiran-us-Sa'dain* Sprenger also set up a printing press by the name of "*Matba-ul-'Uloom*" in Delhi. Initially it was a part of the Delhi College. After Sprenger's transfer to Lucknow its connection with the Delhi College was severed and it acquired the position of an independent press. As long as it was attached to the Delhi College all the newspapers and magazines

war dies der erste Versuch dieser Art. Elf Jahre spaeter, als ich Indien verliess, hatte ich das Vergnuegen, ueber ein Dutzend Nachahmungen zu sehen." (Das Leben und die Lebre des Mohammad Von A.Sprenger, I, Berlin 1861, Preface, pp. vi-vii)

¹¹⁶ Journal of the Asiatic Society of Bengal (Calcutta) vol. XXI, No. VI (1852), pp. 513-9.

of Delhi College and the books of the Delhi Vernacular Translation Society were published by it. In fact, Sprenger established this press as a limited company and most of the teachers of the Delhi College were its shareholders. The profit earned from the annual sale of its publications was evenly distributed among them. This printing press was installed at a time when there were every few presses in Delhi and for this reason it flourished so well in the beginning. Later on, when many more printing machines were installed in the city, its business declined. Gradually the investment was withdrawn by the shareholders and eventually it stopped working. During the course of its operation the press published books on various sciences, history, ethics and other social and literary topics. Its speed of publications can be judged from the fact that it published 81 books during 1849-1853.

Sa'di of Shiraz is considered one of the important pillars of Persian poetry. For centuries his books have been a source of literary and moral inspiration to the people. In the first half of the 19th century an interesting controversy began about him, the central theme of which was that he had also written some verses in Urdu. The reason which prompted the discussion was that in several biographical accounts of Urdu poets some Urdu verses had been ascribed to him. There were scholars who saw no merit in the case and attributed the controversial verses to Sa'di Deccani rather than Sa'di Shirazi. Those in favour of the claim suggested that when Sa'di came to India and heard its language he wrote the verses in question purely on impulse. Those who rejected the claim held that Sa'di who is credited with the Urdu verses was altogether a different person and belonged not to Shiraz but Deccan. Once the story of Sa'di's visit to India turned out to be false the Urdu verses attributed to him also lost their validity with the researchers of Urdu literature and these are now credited to Sa'di of Deccan.. According to recent scholars the author of these verses was a poet by the name of Mulla Sheri and not Sa'di of Deccan. Some scholars attribute these verses to yet another poet, Sa'di Kakorvi.

The man who initiated this controversy in the last century was Garcin de Tassy. In the course of his study of biographical accounts of Urdu poets he learnt that a Persian poet by the name of Sa'di had also written verses in Old Urdu. In the first volume of his *Histoire* (1st. ed. vol. I, Paris 1839) the French translation of these verses was given under Sa'di of Deccan. Later on, he

learnt through some accounts, the story which ascribed the authorship of these verses to Sa'di of Shiraz. So he wrote, in 1843, a comprehensive article in *Journal Asiatique* in which he tried to prove, on the strength of the extracts from the relevant accounts, that Sa'di of Shiraz is the oldest poet of Urdu. This article of Garcin de Tassy was also seen by Sprenger. He differed with de Tassy's views because he was fully aware of the traditions of the biographers in which these verses had been associated with a poet of the name Sa'di of Deccan, and not with Sa'di of Shiraz, Consequently, he wrote, in 1852,, an article entitled "Has Sa' dy written Rekhta verses?". In the article he refuted the arguments advanced by Garcin de Tassy and proved that the author of these verses was an Indian of the same name. Next year, that is in 1853, he wrote another article, bearing the title "Early Hindustani Poetry",¹¹⁷ in which he disclosed that Mas'ud Sa'd Salman and not Sa'di or any one else, was the first poet of Urdu. He learnt this from *Lubab al-Albab*, a biographical account of poets written in Persian by 'Aufi Yazdi, which states that Mas'ud had compiled three Diwans (collection of poetical works), one in Arabic, the second in Persian and the third in "Hindvi", here the word "Hindvi" stands for old Urdu. The collection of Mas'ud's Urdu poetry has been lost and it is difficult to say with any degree of assurance whether the word "Hindvi" in the context signifies the early form of Urdu or denotes the language which is now called "Hindi" or "Punjabi". But in his brief article Sprenger contended that here the word "Hindi" meant Urdu.

The essays which Sprenger wrote on the oldest poetry of Urdu were greatly admired by research scholars and they wrote articles supporting his views. In this connection the detailed letter that N. Bland wrote in 1852 to Garcin de Tassy is very important.¹¹⁸ It endorses the new information presented by Sprenger. The objections that Garcin de Tassy had raised were also published with this letter. He maintained his previous contention throughout. So much so that in the second edition of his *Histoire* (Paris, vol, III, 1871) he repeated his old arguments. Historians and researchers of Urdu accepted the new discoveries and arguments advanced by Sprenger. No wonder even now these researches of Sprenger are considered an important part of the history of Urdu literature.

¹¹⁷ Ibid., vol. XXII (1853), pp. 442-4.

¹¹⁸ Journal AAsiatique (Paris), cinquieme série, vol. II, Sept. - Oct. 1853, pp. 357-69

Sprenger was not only a scholar but a great expert of manuscripts also. He would always keep an eye on the internal and external qualities of a manuscript. His penchant for rare manuscripts of the Muslims owed much to the training he had from his teachers like Hammer. Later on when he had an opportunity to examine and catalogue the manuscripts of the great libraries of Europe this penchant turned into a passion. Initially Sprenger had only an academic interest in the manuscripts, but soon enough he became fond of collecting them as well. He could not fulfil this desire in Europe but soon after his arrival in India he did it to his heart's content. In the course of his thirteen years' stay in India he collected thousands of Arabic, Persian and Urdu manuscripts. Some people allege that he used to appropriate for himself the most important manuscripts in the libraries he was deputed to catalogue. But the manuscripts sold by him to Berlin Library do not have a single item which ever belonged to such libraries. All his manuscripts did come from India but he collected them in different ways. One of the methods he employed for the purpose was that he had the personal libraries of various rulers and nobles of Northern India catalogued and when any of them died he manoeuvred to purchase the important manuscripts from his collection. He had personal contacts with all the professional booksellers of Northern India and even of the Middle Eastern countries who kept him informed of the arrival of new manuscripts which enabled him to purchase what he needed. As Sprenger had been the head of various institutions and academies, he had friendly relations with scholars all over India and they would often present him, for personal motives, such manuscripts. Moreover he had issued standing instructions to all the teachers and students of the educational institutions he ever headed to inform him of manuscripts which came to their notice. Some of the teachers, who always had from Sprenger an advance amount for the purpose, were constantly on the lookout for manuscripts on his behalf. For about one and a half year he travelled in various countries of the Middle East and in this period purchased hundreds of manuscripts which he directly despatched to Germany. These were some of the means by which Sprenger succeeded in collecting such a large treasure of manuscripts.

Sprenger returned to Germany early in 1856. He prepared a catalogue of the manuscripts and got it published in 1857. This list includes 1972 books and manuscripts in Arabic, Persian and Urdu, a brief mention of which has

been made before. Out of them 135 titles relate to Urdu language and literature. Of these 135 titles one hundred are books which were published by presses of various cities of Northern India. The other 35 items are manuscripts. After some years this entire collection of Sprenger was purchased by the Berlin Library. Luckily, all the 35 manuscripts pertaining to Urdu are still safely preserved in Berlin.

The total number of Urdu manuscripts in the various libraries of Germany is eighty-five.¹¹⁹ Out of them 35 are those manuscripts which Sprenger brought from India. It means that about half of the manuscripts now available in Germany are the result of his efforts. Some of them are without a parallel in the world. In this connection *Karbal Katha* or *Deb Majlis* (by Fazli) deserves special mention. It was first written in 1732, during the reign of Muhammad Shah and Ahmad Shah, and was revised in 1748. This manuscript, written in beautiful *Nasta'liq*, narrates the events of martyrdom of the family members of Imam Husain at Karbala. It is one of the earliest examples of Urdu prose and has great importance from the linguistic point of view. This manuscript of *Karbal Katha* was first published in 1965 and since then scholars of Urdu have been writing on its linguistic and orthographical aspects, which reveal the early structure of Urdu prose in Northern India. Among other important manuscripts of Urdu in Sprenger collection *Majalis-un Nisa*, *Gulistan-e-Hind*; *Majmua-e-Naghz*, *Tabagat-e-Sukhan*, *Divan-e-Wali* and *Kanhavat* are worth mentioning.

In view of his vast experience of handling of manuscripts and cataloguing Sprenger was entrusted with an important responsibility in 1847. The kingdom of Awadh was then nearing its end and its annexation was expected at any moment. Most of its rulers were lovers of knowledge. They were fond of reading and had established some royal libraries in the capital of their kingdom, Lucknow. These libraries had thousands of rare manuscripts but with the decline of the kingdom they also fell a victim to the general disorder. The situation made Elliot, a lover of knowledge and a powerful administrator, to take steps to save these libraries from destruction. A catalogue of the manuscripts available in them was indispensable to assess

¹¹⁹ Urdu - Handschriften. Beschrieben von S. Mujahid Husain Zaidi, Wiesbaden: Steiner, 1973.

their importance. The man he selected to catalogue them was no other than Sprenger, who was at that time the Principal of Delhi College. He was temporarily transferred from there and on 6 December 1847 appointed Extra-Assistant Resident at Lucknow. He arrived there on March 3, 1847 and lived there until the first January 1850. In this period he prepared a comprehensive subject-wise catalogue of about ten thousand manuscripts. He had intended to compile it in five large volumes but he could publish its first volume only. It pertains mostly to Persian but the description of some Urdu manuscripts is also given at its encl.¹²⁰ The Urdu manuscripts, included in it, were preserved in the three royal libraries of Lucknow. In the upheaval of 1857 these libraries, alongwith their rare items were destroyed. Now this catalogue is the only source that gives some details of these manuscripts.

The catalogue prepared by Sprenger is virtually a mine of information but its most important part, from the stand point of Urdu language, is the one that deals with the biographical accounts of Urdu poets. It contains brief life sketches of 1519 Urdu poets, and covers both old as well as modern poets (upto 1854). *In* the case of certain poets, Sprenger has relied on his personal information, which we do not find anywhere else. It is in alphabetical order and its material has been drawn from fifteen different biographical accounts. These sources generally tend to repeat their information on poets but Sprenger has avoided such repetition. He has incorporated only those passages which furnish new information. This arrangement of Sprenger is unconventional as well as modern. If we want to avoid the repetitions of this biographical material, that abounds in the accounts written in Urdu, and wish to compile an account which includes only new information furnished by these sources, Sprenger's work will be an excellent model for it.

As long as Sprenger lived in India he was engrossed in completing his academic projects or kept on collecting material for them. During his stay here he edited the texts of various Arabic and Persian books, an enterprise in which he was generously assisted by the local scholars. Throughout the

¹²⁰ A Catalogue of the Arabic, Persian and Hindustany MSS. of the Libraries of the Kings of Oudh, compiled by A. Sprenger, Vol. I. Calcutta 1854, p. 605. (Reprinted: Osnabruck 1979).

period he was Principal of the Delhi College, its teachers, especially Maulana Mamluk al-Ali Nanawtavi, worked as his companions. Subsequently when he became Principal of the Calcutta Madrasah, its staff also assisted him. This co-operation was restricted to the editing of texts of Arabic and Persian books. Most of the work on Urdu language and literature was done by Sprenger himself and on certain subjects books were written on his suggestion or request. In his preface to the first volume of the biography of the Holy Prophet (Peace be upon him), written in German,¹²¹ Sprenger has listed some books which were written on his request. *Asar-us Sanadeed* is also included among them. One of the earliest works of Sir Syed Ahmad, it is a history of the ancient buildings of Delhi and is considered even today a standard book on the subject. The language of its first edition (1847) was very difficult and beyond the understanding of an average reader. In the second edition (1853) its rhythmical prose was made plain, most probably, on the advice of Sprenger, because he wanted to popularise simple and easily understandable Urdu. He advised everyone to write a prose that was easily understood by an ordinary educated person. Beside *Asar-us Sanadeed*, the first edition of the poetical works of Urdu Sufi poet Mir Dard (1847), was also published on Sprenger's request. It was arranged and edited by Imam Bakhsh Sahbai, a Persian teacher in the Delhi College. In the same period a book on Urdu grammar, bearing the title *Faiẓ ka Sarchashma* was written by Mawlavi Ahmad Ali, another teacher of the College. In its preface the author states that he compiled the book at the behest of Sprenger¹²² Mawlavi Karim-ud-Din, of Panipat, a brilliant student of the Delhi College who was subsequently appointed a teacher in Agra College, was also one of the close associates of Sprenger. All the work that he authored during his stay at Delhi and Agra was done on Sprenger's advice and encouragement and he has acknowledged this debt to Sprenger at the beginning or the end of each of his book.

In addition to these books there are several other publications which were motivated by Sprenger. The names quoted above are but a few instances to illustrate how great a well-wisher of Urdu he was. He not only

¹²¹ See note 16.

¹²² Catalogue of the Urdu MSS. in the India Office Library; compiled by Salim al-Din Quraishi and Ursula Sims-Williams, London 1978, pp. 48-9, no. 51.

himself worked for its advancement but also encouraged other competent persons to do the same by seeking their help in his endeavours. Sprenger succeeded in his struggle and his encouragement saw the appearance of several eminent authors in Urdu language.

This account of Sprenger's services to Urdu would not be complete without a reference to his private papers and documents now preserved in a collection designated as "Nachlass Sprenger". A memorial of Sprenger's stay in India it contains scattered material that he brought with him on his return. It is a huge collection and consists of eight large boxes, of which seven are in the library of Berlin (the last is in Deutsche Staatsbibliothek situated in the previous East Berlin). Most of the stuff relates to Sprenger's life and contains a good deal of new information about him.

For many years after Sprenger's death (1893) these boxes remained with his family and his son delivered them to the Library of Berlin at the beginning of this century. This collection is full of motley information but only those parts of it shall be discussed here which are closely connected with Urdu language and literature:

1) So long as Sprenger was the head of various educational institutions of India, people constantly wrote to him for employment or transfer or on similar matters. A large number of these letters is still found in the collection. They are ninety-two in all. Out of them twenty-seven are in Persian and the rest, sixty-five in number, are in Urdu. This collection of letters, written between 1846 and 1856, includes letters of famous scholars, literary figures and teachers of that period, like Mawlawi Mamluk ul-Ali Nanawtavi, Mawlawi Zulfikar Ali Deobandi, Mawlawi Karim-ud-din Panipati, Mawlawi Sadeed-ud-din Khan Dehlavi, Nawab Hamid Ali Khan etc. These letters make it evident that Sprenger had a fair knowledge of Urdu. Had it not been so the authors of these letters would not have chosen to write to him in Urdu. Moreover, these letters are written in *very* simple and easy language, so much so that even some of the excellent scholars of Arabic have also written in the same vein. They are also indicative of changing pattern of Urdu letter-writing during the first half of the 19th century. Sprenger -himself believed in simple prose and for that reason all his correspondents tried to use the simplest possible language to express their ideas. Another important

feature of these letter is that they shed considerable light on the educational, intellectual and literary conditions in India before the uprising of 1857 and bring into sharp focus the state of affairs in some of its educational institutions.¹²³

2) This collection of Sprenger's papers and documents also contains her a large number of newspapers and periodicals. All these newspapers, published from different cities of Northern India and Calcutta, relate to pre-1857 period. The files are incomplete and not in chronological order. Most of them, like *Fawa'id-un Nazireen*, *Mobibb-e-Hind* are those which were published by the Delhi College. Those who have compiled the history of Urdu journalism have found only a small number of early specimens of Urdu journalism and this is the reason why their information on this period smacks of scantiness. Infact most of the newspapers and periodicals of pre-1857 were lost in the upheaval and those which remained safe are scattered in various libraries of India, Pakistan and Europe and are not easily accessible. In view of this situation the newspapers and periodicals, relating to the early period of Urdu journalism, lying in the collection of Sprenger, are very valuable indeed. It is really doubtful if any other library in the world has such a large collection of pre-1857 Urdu newspapers.¹²⁴

3) Sprenger could read and write Urdu very well but no specimen of his Urdu writing has turned up yet. This collection also contains some papers which bear notes in his own hand. These notes, though brief, furnish clear proof that Sprenger could not only read Urdu but write it as well.

NOTES

Die Bedeutung der Werke Aloys Sprenger fuer die Arabistik und Islamkunde. Von Stephan Prochazka (in: *Tiroler Heimatblätter*, Innsbruck, 69. Jahrgang, 2/1994, pp. 38-42).

¹²³ An annotated edition of all these letters is being published in a quarterly journal "Urdu" (1984-, Karachi). So far ten instalments have been published.

¹²⁴ A complete book based on these newspapers is in preparation.

COMMUNICATIONS

METAPHYSICS---NON SENSE OR

COMMON SENSE?*

Javid Iqbal Amiri

Modern criticism of metaphysics—of whatever variety it might be rationalistic or religious—centres on the claim by the moderns that all metaphysics is based on an illegitimate_a priorism. This in turn has its roots in the total reliance and faith that modern science¹²⁵ has placed on its epistemology, namely empiricism or sense experience. Though we live in an age ruled by science and are overwhelmed by the many changes and revolutions it has periodically brought about in our lives we might as well pause here to consider if what modern thought_ and especially science—claims for its ruling epistemology is true and valid.

Science here has two faces. When treating of ancient beliefs and ideologies it points to its many and overpowering changes and innovations as

*If the reader should detect in this a dig at the Logical Positivists, one is certainly meant here.

¹²⁵ It will be seen that I have used the term 'modern science' It is not science, per se, or the methodology of traditional sciences, which were wedded to a wholistic and, one might rightly say, salutary wisdom (Hikmah) that is being criticised here. For more on this see the works of Rene Guenon, Titus Burckhardt, Martin Lings but especially Seyyed Hossein Nasr. Although all these authors are proponents of the traditional school of thought' they are not alone in criticising modern science and its methodology. In this connexion three other main strands in contemporary thought deserve mention. One comprises Western critics who base their criticism on moral and ecological grounds, people like Jerome Ravetz, Theodore Roszak, Nicholas Maxwell etc. They are joined by some outstanding Muslim scholars not necessarily representing the traditional school of thought and these are represented by Ziauddin Sardar, S. Parvez Manzoor, Munawwar Ahmed Anees and Gulzar Haider.

The third group, albeit a fringe one, can be called the subjectivists represented by Robert M Pirsig (see his *Zen and the Art of Motorcycle Maintenance*, London, Fontana, 1974 and subsequent editions).

proof of its validity if not truth, (Truth sounding as it does like an old word is not much in vogue therefore rationalists for one would like it if it were thrown out of the window. But here again, because of the aura of sanctity that the word 'truth' carries with it, it is pragmatic to retain it for some rainy day.) In pointing to its seemingly dazzling achievements as proof of its overpowering superiority over systems of yore, science assumes a pragmatic stance. This stance implies that there is nothing in science that is intrinsically superior to the systems that it condemns. The older systems then are criticised not on moral but on efficacious grounds. As long as its worldly, efficacy continues then by its own standards, science should not fall from grace, as it were, but only so long. But while the success lasts it has lent science such an air of overweening authority that to the common, therefore practically gullible, man all that science propounds is, to use a very strange transfer symbol here, gospel truth. All that passes the tests of science the standards of which are really set by some inner sanctum reminiscent of the mafia—(see below) is acceptable even if not true.

While the first face is characterised by unspeakable hubris the second is the exact obverse, one which is extremely modest. This is one which when, subjected to critical scrutiny, lowers its gaze sheepishly, as it were, and starts confessing the stochastic nature of its tall claims and its essential fallibility. Though this description is as yet admittedly vague we shall presently afford it more detailed treatment. But, it will be rightly asked, what is the cause of this volte face? Well, for one thing its epistemology namely sense experience. Sense experience for all its obviousness has the failings of being notoriously subjective and probabilistic. But while the problem of subjectivity may seem surmountable using extremely refined techniques and extremely precise and sophisticated equipment, Kant's bequest to his western descendants¹²⁶ is such that no amount of precision and sophistication can obviate the subjectivity that Kant believes inheres in all human experience. To elucidate, Kant showed—or thought he showed—that although all our knowledge comes through sense experience yet the experience does not remain unalloyed on its

¹²⁶ This is brought out quite lucidly by Hilary Putnam, Professor of the Philosophy of Science in Harvard University in his conversation with Bryan Magee, Fellow of All Souls College, Oxford. The conversation is published in *Men of Ideas*, edited by Bryan Magee, (London, OUP, 1985).

way to becoming knowledge. Briefly,...what happens is that elements of sense experience must pass through the (Kantian) inherent twelve chambered structure of the human mind which organizes and in the process refracts those elements. Although the refraction leaves us with something which is infinitely more organized than the principal sensations with which we started it leaves us all the more uncertain as to the essential nature of reality. So much for Kant's 'Copernican' revolution and its effects on modern science.

Let us not forget probability either. in the context of science what this means is that scientific theories for all the painstaking care at ensuring precision and sophistication are yet built upon the uniformity and similarity common to a finite number of instances hitherto observed and thence generalised to cover all such instances in future. But what shall ensure the recurrence of similar patterns in future given the absence of any Omnipotent Being in the scientific universe to bring this about? For this the scientist relies on what he calls the (Law of) uniformity of nature, a quintessentially metaphysical notion for sense experience fails to give us even one instance of this quaint thing called uniformity of nature. One might well remark that this is metaphysics sneaking into the scientific citadel with the full connivance of the custodians of that citadel, the scientists themselves, the high priests of scientism. -

Confront the high priests with this and they will apologetically tell you that if this small prop should help to keep a public enterprise going there should not be many objections, in fact this should be condoned. You might interject to point out that if their chosen epistemology poses such a great and fundamental problem for their seemingly monolithic edifice why not temper it with something more reliable, comprehensive and sound?- Here you draw a blank. And why is that

so?

On closer scrutiny and after some deep digging you will find that not unlike those schools of thought which science denigrates for holding a metaphysical position a priori and generating there-from a supporting epistemology, the scientists too begin from a metaphysical position_ this metaphysics being the most vulgarised the tradition has ever undergone_ that

is held a priori. It is the position that reality consists merely of matter and its various determinations and modifications and no other kind of reality no other level_ may be admitted of. They find no better way-to perpetuate this ideology than a fierce dogmatism¹²⁷ and a successfully beguiling dissimulation. Dogmatism pertaining to their insistence on matter as the sole reality and dissimulation regarding their a priori posture vis-a-vis that reality in contrast to their public exclamations of being totally empirical, therefore, a posteriori in their approach to study reality.

in view of all the above can we any longer regard methaphysics as mere non-sense? I think not. I think that all the differing even contrasting claims of the various schools of thought notwithstanding the various pressing issues that mankind has ever faced and will ever face, however varied and multifarious they might be can be discussed and a result means to their solution found only within the framework of a comprehensive metaphysics. And what better than a metaphysics which instead of condemning and denigrating the sensual level of reality, as, some of the ancient Greeks did, should incorporate this and other levels of genuine human experience into a salutary and salvational whole. By this, I mean, of course, Islam.

¹²⁷ As to dogmatism, this is quite clearly exposed by Martin Lings and Huston Smith, the former in his *Ancient Beliefs and Modern Superstitions* (London, Allen & Unwin, 1980, Lahore, 1988) and the latter in his *The Forgotten Truth* (Harper & Row, New York, 1976, Lahore, 1985).

BOOK REVIEW

THE IDEAL SOCIETY AND IDEAL

SOLUTION

Dr. S. A. Rahim

The topic of my paper appears to be a bit odd but it is not so. Apparently it looks to be a discussion between the nature of an Ideal Society and Ideal Solution, but in fact it is an examination of the relationship between philosophy and science which is a very old one. The relationship between philosophy and science was examined in every epoch of history when any significant development in the one affected the other.

Science separated itself from the mainstream of philosophy from the earliest times in the cosmology of the Greeks and in modern times the breach was widened by the development of natural and biological sciences. Philosophy and science are important different disciplines (philosophy was termed as the science of sciences or the mother of sciences and this expression is still true in more than one ways).

Science tries to study the pattern of events found in the Universe by the direct method of observation and experiments; whereas philosophy studies these events as they effect human being with the help of interpretation and it is here that a difference between matter and man is found. In the history of thought philosophy and science differed in the examination of various problems such as the nature of the Ultimate Reality, the Evolutionary Theory, the relation between mind and body, nature of space and time, etc.

When in the 16th and 17th centuries science succeeded in interpreting material world with the help of physico-chemical laws, it tried to extend its application to the phenomena of life, mind and society. It is at this point that philosophy became critical of science. Since then the battle between the two is going on for achieving supremacy in the explanation of the Universe.

*New Dimensions of Sociology*¹²⁸ by Dr. Mirza Arshad Ali Beg of the PCSIR, Karachi, was published by the Hamdard Foundation, Karachi. This book is an attempt to apply physico-chemical (especially chemical laws) to human behaviour. One prime analogy used in the book is that of an Ideal Society compared to an Ideal Solution. This book contains good comments by one able scientist Mehdi Hassan and Dr. Jamil Jalibi, the then Vice-Chancellor of the University of Karachi. My present paper is a critical examination of Dr. Beg's thesis.

In the 19th century history of thought, society was compared to a living organism and similarities were searched out between the two, but this organic conception of society did not work, as the dissimilarities between the organism and society were many. Dr. Beg has gone one step down in this attempt to liken the society to a chemical solution and tried to explain human behaviour in terms of physicochemical laws.

Dr. Beg attempts to coordinate two different kinds of experiences the physical and the social in terms of an analogical extension of a key idea derived from the one. It needs to be examined. For example he uses the key idea of solution and contends that the use of 'ideal' in both the cases of 'ideal solution' and 'ideal society' is identical.

Dr. Beg is constructing a theoretical model for society drawn from analogy with chemistry. It is to be examined what lies behind the significance of the key concept of 'solution' and what is the justification for its analogical extension to 'society'. There are two important questions in the use of such an analogy: (i) What lies behind the significance of some particular concept in a particular discipline, and (ii) what is the justification for its analogical extension to some other discipline.

IDEAL SOLUTION

This paper was presented as the General Presidential Address by Prof. Dr. S. A. Rahim, University of Karachi, at the 28th Annual Seminar (Tune 1990) of the Pakistan Philosophical Congress at Baragali, Peshawar.

¹²⁸ Dr. M.A.A. Beg., *New Dimensions in Sociology*, The Hamdard Foundation, Karachi, 1987.

Dr. Beg gives three reasons for the use of the analogy of 'ideal solution':

i) He says that physico-chemical laws are operative in human behaviour and so "compilation of chemical facts and observable human behaviour data could provide a strong base for the universal application of physico-chemical laws"¹²⁹. See the use of the terms 'fact' and 'behaviour' which have two quite different connotations. Fact refers to physico-chemical objects and happenings, but human being is not a 'fact' like a material object. It is an organism with consciousness and behaviour pattern. The term 'fact' when used in the context of 'historical and social facts' has quite a different connotation.

ii) An ideal solution can be compared to an ideal society. Dr. Beg says, if the interaction among solute and solvent are uniform, the solution would be ideal. Analogously, if the interaction among the components of the society are uniform, it could be an ideal society¹³⁰. Such an Ideal Society was formed in the life of the Prophet Muhammad (peace be upon him)

iii) Like affinity in different chemical substances, if there is affinity between human beings, the process of socialization could be explained. Dr. Beg explains other social processes as assimilation, motivation, polarizing, force, decline, revolution, etc. in the same way.

Another important question is of disanalogy between solution and society and how extensive it is. An important part of the significance of any concept is given by contrast, by showing the kind of things to which it does not apply.

After drawing our attention to some positive analogy, the theorists generally fail to say something what the analogy is supposed to prove or suggest while they convey the impression that somethings important has been proved or suggested. Bare empty concepts, bare functional or structural analogies do not work. For example refrigerator and automobile may be the

¹²⁹ Ibid., p. 22.

¹³⁰ Ibid., viii.

part of a mechanical system but this does not prove that a refrigerator is a kind of an automobile or vice versa.

Before examining the prime analogy between the 'Ideal solution' and 'Ideal society' I would like to examine some of the terms used in the physical sciences and their application to the social sciences. They are Solution, Laws, Model, Representation, etc.

SOLUTION: The scientist studies a solution, knows its ingredients and how they work. He can predict the formation of the solution. But when he applies this model or picture to the society, different results may emerge. The picture will be valueless. If the solution does not have any resemblance to society, and it will be unintelligible because the behaviour of the ingredients in the two cases (solution and society) will be utterly different.

“The physico-chemical laws that govern solution may not be the property of solution (nature) but of our way of looking at solution”. The picture we draw of nature shows certain limitations. We cannot draw a perfect picture but make two or more imperfect pictures which serve our purpose. Sometimes different pictures give identical and different information.

LAWS & NATURE: For the simplicity of the physico-chemical laws we cannot sacrifice the quite different nature of man and society. Beneath the deep flowing stream of reality are the appearances at its surface which contain certain distinctions (matter, life, plants, animals and men) which cannot be eliminated even for scientific reasons. The recent physics ..has shown that all attempts at mechanical models or pictures have failed and must fail (as) the ultimate process of nature neither occur in, nor admit of representation in space and time¹³¹, The true object of scientific study can never be the realities of nature but only our own observation on nature. 'Artificiality comes from man and not from nature'¹³². We read ourselves and also read nature which are quite distinct and different. The nature does not read us.

¹³¹ James Jean, Physics & Philosophy, p. 175.

¹³² Ibid., p. 183.

MODEL: A model taken from the physico-chemical laws is said to explain not phenomena at the physico-chemical level, but also at the social level. But this cannot be unless the model in some way corresponds to the reality lying in the social world. We can never be sure whether any model corresponds to the reality and we can have certain knowledge about the nature of the reality.

LAWS: Physico-chemical laws may be exact, fit or successful in the physical but when they are applied to the social they fail. They do not provide us with a coherent perspective. They are also not comprehensive because they fail to explain the diverse social facts of life. They are neither illuminating nor self-evident, because self-evidence changes from age to age. The scientific laws may be accepted, refuted, modified or given up according to their workability.

REPRESENTATION: The most important difficulty is to judge whether or not a scientific theory gives a true and faithful account of reality the obvious procedure of comparing descriptions with reality. There are many hazards in such a comparison of language with reality. It is at this point that practically all philosophical systems (from Plato down to Russell and Wittgenstein) have collapsed. Descriptions are human descriptions, the product of human experience and symbolizing. There are difficulties in locating and explaining what may be called physical and social facts. There are many conceptual systems which characterise reality and we cannot easily select one system among others and substitute one conceptual system for another.

The physical laws are applicable to some classes of objects and for some circumstances. When they are applied to man and society they need to be critically examined. For example a simple mathematical proposition that $2 + 2 = 4$ is purely formal and accepted in mathematics and logic. But when applied to social sciences it needs to be examined further what the two and two are? Are they things in existence or only in our minds? Are they numbers or objects (of what kind)? So even before asserting that two objects plus two objects or facts make four objects or facts we must find a definition of object or fact.

IDEAL SOLUTION & IDEAL SOCIETY

(1) According to Dr. Beg an ideal solution can be compared to an ideal society. He says, 'If the interactions between solute and solvent are uniform, the solution would be ideal. Analogously, if the interaction among the components of the society are uniform it could be an ideal society'. Such an ideal society was found in the life of the Prophet Muhammad (peace be upon him).

(2) Like affinity in chemical substances if there is affinity 'between human beings the process of socialization could be explained. Dr. Beg explains other social processes as assimilation, motivation, polarizing, force, decline, revolution, etc.

CRITICISM: One similarity between an ideal solution and ideal society is that in both cases the components interact uniformly. But some other differences are also found which are also very great and very important.

(1) An ideal solution is easily made whereas an ideal society is created after great efforts and struggle.

(2) Components in a solution come together naturally according to certain chemical laws but the components (individuals and groups) of the society are brought together by some force, factor, circumstance or person. (The human factor is very important because man creates history).

(3) The ideal solution stays whereas an ideal society changes very rapidly due to various socio-political factors.

(4) An ideal solution can be judged very easily but an ideal society cannot be so judged. It depends upon various factors, their interdependence and interpretation. It is very difficult to determine the criteria of an ideal society. Ideal societies have existed in different times of history in different groups and nations for different periods of time and for different reasons.

(5) To say that an ideal society existed in the life time of the Prophet (peace be upon him) is not enough, because the components of the society did not form such an ideal society on their own and by themselves, but it was the Will of God, the personality of the Prophet (peace be upon him) and his

untiring efforts and favourable circumstances that created the ideal society and soon after the death of the Prophet (peace be upon him), the process of disintegration set in. Moreover, the ideal society was formed in Medina and not in Mecca where the Prophet (peace be upon him) spent 50 years of his life. The conditions in Medina for an ideal society were more favourable than in Mecca.

(6) An ideal society consists of human beings when they interact. What is important here is the working of the human mind which acts and reacts on the environment and carves out an ideal environment for the society.

(7) While referring to the ideal society, Dr. Beg says when society is homogeneous, it is ideal, whereas when it is heterogeneous, it is not ideal. The Buddhists were an ideal society, whereas the Hindus were not. Similarly, Pakistani society being composed of heterogeneous groups working for regional interests and national benefits is not an ideal society (p. 27). But this is an oversimplification of the matter. Homogeneity and Heterogeneity cannot be so easily explained, They may be overlapping and there may be a mixed state. Both the two aspects may be found in one group at one time with different results. For example all Muslim countries are homogeneous so far as the Islamic faith is concerned, but they are heterogeneous in their national interests. Israel composed of heterogeneous national groups of the world is homogeneous in its national outlook, especially when faced with the Arabs. Similarly the heterogeneous groups of the Hindus unite when they face the Muslims. America, a country .of heterogeneous nations of the world, is ideal because the American national interest is predominant.

(8) Dr. Beg seems to be moving from 'is' of likeness to 'is' of identity between the ideal society and the ideal solution. Unless some kind of identity is found between the two, the physico-chemical laws cannot be applied to society.

DISANALOGY: I would now discuss the question of disanalogy between the solution and the society with reference to some terms used and observations made in the book.

When Dr. Beg explains economic, social and psychological phenomena in purely physico-chemical terms, he seems to be committing the fallacy of misidentification. The distinction and demarcation between the physical and the social are already ingrained in nature, because they refer to two different aspects of nature. See some of his remarks in the book. ‘The molecule cannot be identified from the other ...¹³³ but an individual can be from another individual. ‘An individual is like a drop in a glass of water. ‘but he is not. ‘Rural - Urban migration would be viewed as evaporation at higher temperature ...¹³⁴ and to interpret migration as the push and pull of two societies (rural and urban) and affinity, fugacity, motivation, etc. in purely physico-chemical terms is going too far (rather crossing the prohibited limit). The mechanism of evaporation works on the components of the solution as a whole, whereas rural-urban migration is selective and related to a part of society. Some of the individuals who are affected and motivated migrate, others stay behind in spite of unfavourable circumstances (e.g. Muslims in India). There is the difference between human beings and molecule.

Dr. Beg says, ‘Social changes could be viewed as a mix of physical and chemical changes¹³⁵ but this is not so. They are quite different in nature. ‘Conflict’ (p. 88) in groups of society is not as simple as the generation of heat in the solution, and ‘Peace’ some kind of an equilibrium in society. Heat and equilibrium are simple chemical processes but conflict and peace are complex many-sided social processes. Slums are compared to the formation of coarse-grained solid (p. 21) and Islamic society in the life time of the Prophet Muhammad (peace be upon him) to the crystallisation process. Societies are compared with solids, liquids and gases which refer more to the form than to the content of the society and is again an oversimplification. Dr. Beg says that the Muslim rulers of India were not the real servants of Islam. Being Kings and Emperors they build castles and monuments of beauty as the Taj Mahal. For him ‘the Taj Mahal is an example of polarisation or Munafiqat.¹³⁶ because the Prophet Muhammad (peace be upon him) objected to the construction of a house by a Sahabi. What would Dr. Beg say

¹³³ Dr. Beg., op. cit., p. 23.

¹³⁴ Ibid., p. 37.

¹³⁵ Ibid., p. 82.

¹³⁶ Ibid., p. 123.

to the present structure of House of God and the Masjid-i-Nabavi and their continuous improvement and extension? Do they need to be demolished and brought back to their original forms? Do the Bayt Ullah and Masjid-i-Nabavi not serve a religious need to house lakhs of people who come for Haj and visit Medina every year?

The Taj Mahal is a piece of Muslim architectural beauty. We cannot call the 'Muslim rulers as Munafiq'. They had the human weaknesses and were not religious divines. Their service of the spread and consolidation of Islam (in spite of their personal faults) cannot be minimized.

Dr. Beg is applying Occam's Razor to the society.' Entities must not be multiplied without necessity.' Dr. Beg thinks that complex social processes could be explained in simple physico-chemical terms and laws, which however is not justified.

CONCLUSION

Materialism introduce an unwelcome simplicity into human life. The whole world is constructed out of matter and motion, matter being the only reality an animal with a material body, his thoughts and emotions resulting from mechanical motion of the body. Man could not choose his path. He is fully determined a cog in the machine.

'The whole intricate fabric of civilized life was a standing record of achievement, not by atoms pushed and pulled by blind purposeless forces, but by resolute minds working to pre-selected ends'¹³⁷.

It is granted that chemistry is a wonderful science and that both the precision of its conceptual structure and its power to predict and control far exceed those of the behaviour sciences... Still it does not follow from all this that the way to solve conceptual problems in sociology is to abandon sociology altogether in favour of chemistry. If chemicalizing of sociology can solve these problems, then there are not really any problems at all. We can much adequately describe and explain the behaviour of people in our

¹³⁷ James Jean, op. cit., p. 2.

everyday language and in sociological terms than in the concepts of chemistry.

In spite of all this comment, I an all praise for Dr. Beg's pioneering effort in providing a 'physico-chemical approach to human behaviour'. The early behaviourists in Psychology (Dr. Watson) tried to furnish the physiological basis for the human behaviour in their attempt to deny 'mind'. Dr. Beg seems to have laid the foundation of a new interdisciplinary branch of knowledge in Pakistan which may be called 'Socio-chemistry or the Chemistry of Society.

INFORMATION AND COMMENTS

INAUGURAL SYMPOSIUM

ISLAM

and the Challenge of Modernity:

Historical and Contemporary

Contexts

1st-5th August 1994

INTERNATIONAL INSTITUTE

OF ISLAMIC THOUGHT AND CIVILIZATION

(ISTAC)

Modern science has often been set against religion and depicted as one of the principle agents of the retreat- of traditional religions in the modern world. From the 17th century forward, the sacred and mystical gave way to a view of the world as self-contained causal nexus shorn of providence. Religion was forced to account for itself and to justify itself both as a social

institution and as a collection of fundamental articles of belief about the world and its operations. This is the result of secularization as a philosophical program, which has evolved in the mind of Western man since earlier centuries, and which has led to the secularization of society and its disassociation from its spiritual concerns. The intellectual endeavour which fuelled this predicament was not, however, confined to the development of a new science'. Concomitant questions of morality, unity, psychology, politics, etc., also played an important part. The emergence of the modern mind and the problem of modernity, in general, is therefore not a local or an isolated phenomenon, it involves a comprehensive conceptual shift.

It is, however, important to note that some of the products of the modern science and humanities that are antagonistic to religion are rooted in the metaphysical worldview that is often associated with them. The problem of modernity is, therefore, not only the product of modern science but also the by-product of its metaphysical foundation.

Religion's regal status, on the other hand, lies in its commitment to seek the deepest possible level of understanding. One of the most profound human motivations is the need we feel to make sense of our experience, to gain a coherent and satisfying understanding of the world. It is a quest which unites science and theology for they are both attempting to explore aspects of the way things are. Each surveys the one world of experience from its own perspective and therefore there are possible points of contact between them. But once we realize that we need not accept the metaphysical worldview often associated with science, the interaction between human and revealed knowledge, which is actually what grounds the problem of modernity, can be seen in an entirely new light. This mutual interaction need no longer present itself as a clash; it can be viewed, rather, as an opportunity. After all both science and religion, though not of the same level of attainment in their perception of the ultimate reality and truth, are creatures of one and the same God. It is, therefore, the analysis and critique of the metaphysical foundation of modern human sciences that still remain the prime tasks of religious thought today.

From the Islamic perspective the problem looks even more compounded. The fragile socio-economic status of the contemporary

Muslim world has led to the erosion of its confidence, making Muslim ‘ intellectuals quite vulnerable to the influences and challenges posed by the rise of modernity. The need for a proper response and attitude towards such a challenge is thus more urgent than ever. "Isolationism", on the other hand, is neither possible. It is not possible because the modern means of communication has virtually left us with no hiding place. It is not desirable because Islam requires of us to attain a comprehensive rationality within which everything finds its just and proper place. The quest for a comprehensive understanding of the world requires us to take into account all other forms of knowledge and consolidate them into one single grand scheme. It is only by squarely facing the changing conditions of modern life and thought that Islam can remain a vital part of social and intellectual activity and play the role it once did in world history.

This is by no means an unprecedented endeavour as the intellectual heritage of the Islamic world clearly indicates. Faced with the new and challenging ideas emanating from ancient Greece and other cultures Muslim scholars showed a remarkable capacity to respond to, and digest those ideas, and to elaborate upon a new metaphysical foundation for a comprehensive, understanding of man and of the world. It is precisely for this reason that the contemporary discussions of modernity have to be conducted against the historical context of Islamic intellectual tradition. In general, any response to the challenges of modernity has to start by situating modern knowledge in its historical context. For not only what knowledge means has been confused from one historical period to another, its very conception has been shaped by each period's particular view of man and his relation to the world. Furthermore, modern Western interpretations and applications of ideas concerning knowledge, progress, and development have resulted in combination of wonderful achievements and deplorable and unending tragedies. Modern Western civilization needs to resume the dialogue with Islam for its own self renewal as well as for the sake of humanity at large. Against such a background, we need to consider the ways in which the modern and Islamic views of the world impinge upon each other, and to find a proper perspective from which their interaction can in fact be fruitful and enhancing.

A symposium highlighting these ideas was held on 1st to 5th August 1994 at the International Institute of Islamic Thought and Civilization,(ISTAC) Kuala Lumpur Malaysia.

Keynote address was delivered by YM. Prof. Dr. Syed Muhammad Naquib al-'Attas entitled, *The Worldview of Islam An Outline**. About 200 scholars, senior Government officers professionals and graduate students participated in the sessions of the symposium.

THEMES OF THE SESSIONS INCLUDED:

*** Modernity and Religious Worldviews**

Discussing models through which religion has interpreted the world and its conceptual interaction with science. This can be conducted within both historical and contemporary contexts. In particular case studies can be made of some of the attempts made by the early Muslim scholars to bring the practised sciences of their own age within an Islamic perspective (e.g., in philosophy, astronomy, medicine, etc.)

Modernity and Political Thought

The rise of modernity has shaken the foundation of political thought. We need to consider the sort of stance that Islamic thought may adopt in the face of the modern theories of such concepts as democracy, liberty, justice, etc.

***Modernity and the Changing Models of Naturalism**

Discussing the models through which the natural world has been analyzed and manipulated. This may involve an analysis of the demise of positivist schools and a critical discussion of the contemporary empiricism.

*** Modernity and Technology**

The emergence of modern science and technology has generated problems, such as environmental pollution, population growth, etc., which science itself is powerless to solve. It is important to see what contributions Islamic ethics can make towards solving these problems.

***Language, Literature and Modernity**

Language is not simply a means of representation separable from the 'content' of thought. That is why successive models of interpreting the natural world have made such an impact on the language of their time. Religious language has, in turn, been affected by such a change, culminating in the rise of secular mentality. It is therefore necessary to see to what extent the language of Islamic theology has affected (and been affected by) the language of other intellectual practices (e.g.; Greek philosophy, pre-Islamic Persian culture, Western culture, etc'), throughout history and modern times. This is related to the issue of islamization and de-islamization of the Muslim mind.

***Modernity and Values**

Given the fact that there is no value free science, the interface between science and moral accountability is something along which Islamic values can have relevance. Under different value-systems, different priorities are accorded to different subjects of scientific research, and different directions delineated for its practical application. It is therefore, important to consider these problems from the perspective of Islamic values.

Guest presenters included:

Prof. Dr. J.D.J. Waardenburg

(Universite de Lausanne, Switzerland)

Some Repercussions of Modernity on Muslim Thinking About Islam.

Prof. Dr. Alparslan Acikgenc

(ISTAC)

Toward an Islamic Concept of Philosophy: A Response to the Modernists

Prof. Dr. Huston Smith

(Syracuse University, New York)

Post Modernism and the World's Religions

Prof. Dr. Toshio Kuroda

(The Institute of Middle Eastern Studies, Niigata-Ken, Japan)
Metaphysics and Economics

Prof. Dr. Malik Badri

(ISTAC)

The Aids Dilemma: A Progeny of the-Western Modernity.

Dr. Ahmad Y. Hassan

(International Foundation of Science and Technology in Arabic and Islamic Civilization, Canada)

Some Factors Behind the Decline of Science in Islamic Lands After the Sixteenth Century

Prof. Dr. Aziz al-Azmeh

(St. Anthony's College, Oxford)

Quranic Reinterpretations of Abduh and Rida in the Light of Contemporary Scientific and Historical Knowledge.

Prof. Dr. Mehdi Mohaghegh

(ISTAC)

Revival of Islamic Philosophy in the Safavid Period with Special Reference to Mir Dan-tad.

Prof. Dr. Mehmet Aydin (Dokuz Eylul University, Izmir)

An Islamic Evaluation of the Modern Concept of Rationality

Prof. Dr. H.H. Dabbagh

(Iranian Academy of Philosophy, Tehran) Science as the Privileged Component of Modernity

Prof. Dr. Cemil Akdogan (ISTAC)

Historicism vs. Positivism

Dr. Suha Ozkan

Secretary General

(Aga Khan Award for Architecture, Geneva)

The Loss of Cultural Identity as Reflected in Architecture

Prof. Dr. Sarni Hamarneh (ISTAC)

Curricula and Methodology in Medical Education and Institution

Assoc. Prof. Dr. Hassan al-Naggar

(ISTAC)

Speaking with One Voice: The Politics of Language in the Modern Muslim World

Prof. Dr. Nochine Ansari

(Tehran University)

The Influence of Islamic Revolution of Iran on the Value System as Reflected in Children's Books

Prof. Dr. Marcia K. Hermansen

(San Diego State University)

The Challenge of Classical Islamic Religious Thought for Contemporary Muslim Intellectuals

A BRIEF HISTORY OF ISTAC

ISTAC was founded on 1st December 1987 under the able directorship of the world renowned Muslim thinker and scholar, Prof. Dr. Syed Muhammad Naquib al-'Attas, who is also its founder. Y.B. Dato'Seri Anwar Ibrahim, the Deputy Prime Minister is the Chairman of the Board of Management of ISTAC.

ISTAC, a research and post graduate teaching institution, "Seeks to inculcate knowledge which will be authentically Islamic and at the same time fully aware of the contemporary world and the challenges it poses for the Islamic peoples." Its student body comprises students from different parts of the Muslim World. The professors are selected from scholars who have thorough grounding in their respective sciences. The program at the Institute will emphasize the study of important aspects of Islamic thought and civilization, philosophies and civilizations of major religions of the world as well as those of modern secular civilization.

The design and supervision of the building of the Institute, the Conference Hall and the Mosque; the entire landscape and interior decoration are the work of Prof. Dr. Syed Muhammad Naquib himself. They reflect a unique synthesis of Islamic, Medieval Western and Malay architectural and artistic philosophies and styles. Its library in the present state consists of more than 60,000 volumes which include encyclopedias of religions, cultures and sciences, multilingual and authoritative dictionaries of major Islamic languages, the languages of the Orient and the Occident; bibliographies of various disciplines; catalogues of rare collections of Arabic, Turkish, Persian, Malay and other Muslim manuscripts kept in various libraries of the world; major works on religion, philosophy, metaphysics, theology, and jurisprudence, science and technology, languages, literatures, poetry, history, art and architecture, fine arts, education, and Arabic, Persian, Turkish, Malay and Urdu manuscripts dealing with diverse subjects and fields of knowledge. It is considered the best of its kind in this part of the world.