

The Psychology of Mysticism and its relationship to  
the Baha'i Faith

As a result of much work that has been done in the field of experimental psychology during the Twentieth Century, a great deal of important information has accumulated regarding the manner in which the mind works and the manner in which human beings perceive the world. This work has certain implications for the study of religion and, in particular, for the study of mystical states. The present paper has a two-fold purpose: firstly, to see what light the findings of this research shed upon the subjective experiences of mystics in the various religious systems of the world and also upon their various ontological systems, and, secondly, to see in what way our findings may be applied to the teachings of Bahā'u'llāh, the founder of the Bahā'ī Faith.

With respect to the ontological theories of the various religious systems, one of the greatest dichotomies in this sphere is between those religious systems that have a monist and those that have a dualist outlook and philosophy. Each side in this debate has claimed that it holds the truth and that the other side is either misinterpreting reality or holds a "lower" form of the truth.<sup>1</sup> As I hope to show, modern work on experimental psychology and neurophysiology sheds light on this question of monism, dualism and the interpretation of reality.

Psychological and Physiological Research

In this section of the paper, I will briefly describe a number of concepts which have emerged from psychological and neurophysiological research that strike me as being of particular relevance to the subject of mysticism and to ontological theories in general.

In the 1920s, Piaget brought out a number of books and papers

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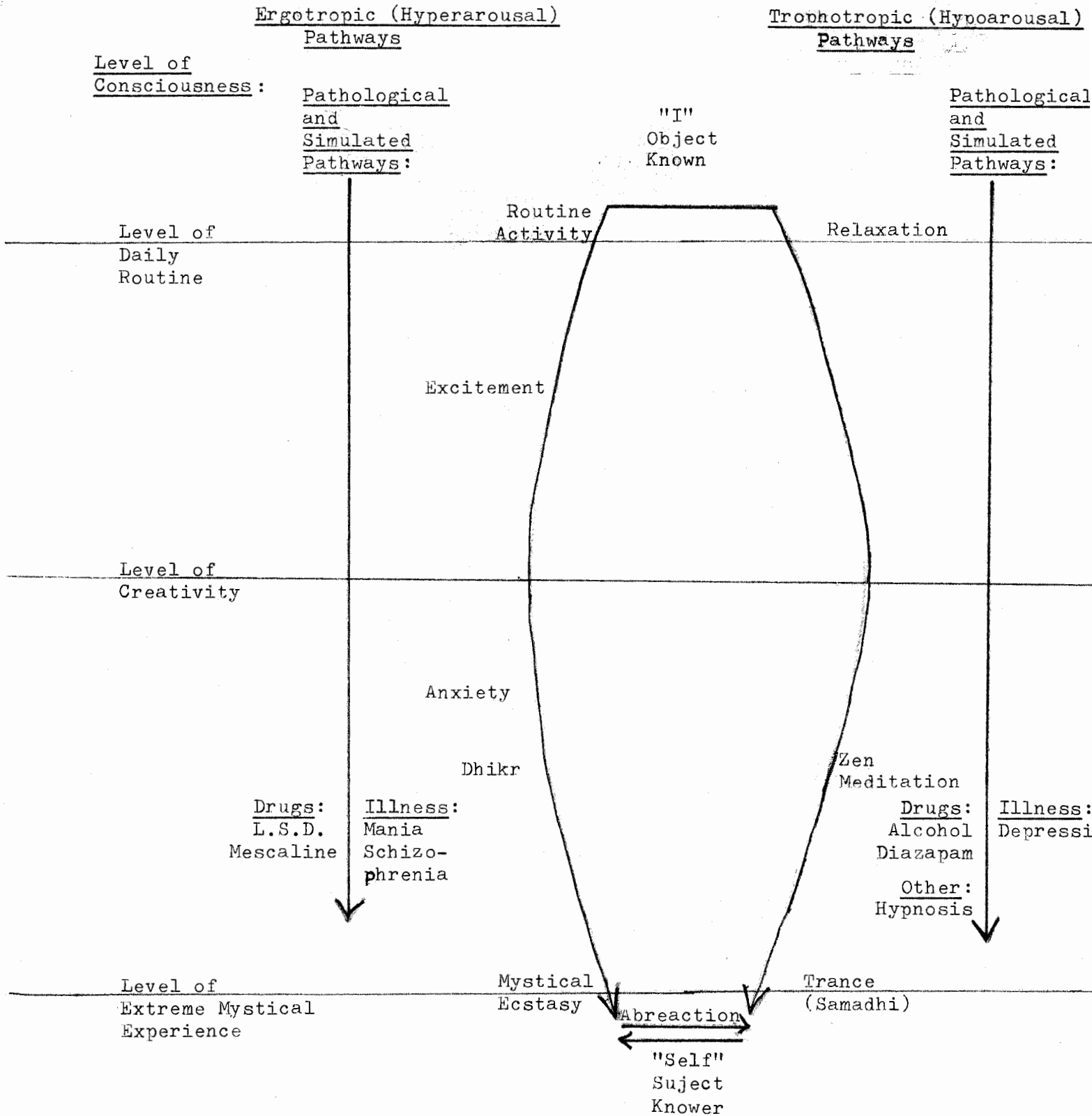
which, although much refined by later work, remain to this day the basis of scientific thought about the perceptual development in children.<sup>2</sup> Extrapolating back from his findings in children from the age of two onwards, Piaget considered that a new-born baby has no perception of itself as being a separate entity from its environment.<sup>3</sup> "A baby has no consciousness of self... There is a total continuity between internal and external experience."<sup>4</sup> It is only as the baby grows and begins to manipulate his environment that he learns by experimentation that the hand is part of "me" and the cot is "not-me". Gradually the child imposes schemata upon the external world and, after a while, these schemata become automatic and subconscious and do not have to be thought through each time. But even as late as the time when the child is learning to speak, there is no clear distinction between "thoughts" and "things". The word "chair" is considered to be an inherent part of a chair. It is only increasing age that brings about the complete subject-object detachment of adult thought. What this means in terms of the mechanisms of adult thought is that incoming stimuli are processed rapidly through the now-subconscious schemata that are thought to lie in the subcortical zones of the brain and are presented to the cortical areas of conscious thought already analysed and integrated into the meaning patterns built up during childhood. Although much more information can be processed in this adult way, each individual unit of stimulus must necessarily have less impact which is another way of saying that childhood sensory experiences are more vivid. To give an example, if an adult picks up a book to look at its title, the visual information regarding the size, shape and colour of his own hand will be suppressed and will barely register in conscious thought as it will be automatically processed in the subcortical zones and filtered out. Even the shape and colour of the book may not have any great impact on conscious thought as the adult concentrates attention on the title of the book. If a book is put into

the hand of an infant, however, all of the sensory information relating to both hand and book arrives in the brain making equal demand for conscious attention. The infant may therefore pause to gaze intently at his hand. The changeover from the infantile pattern to the adult pattern is a gradual process and goes through several intermediate stages in childhood and adolescence.

In adults, incoming stimuli are held in the cortical areas and compared with the schemata in the subcortical areas. The cortex is able, however, to act independently of the sub-cortex. In the infant, there is no separation of cortex and sub-cortex because the schemata have not yet been developed against which to compare incoming stimuli. It would seem likely that both cortex and sub-cortex are therefore within the consciousness of an infant whereas only the cortex is in the conscious domain of an adult in normal states.

Roland Fischer has collected data from both his own work and the work of others in order to describe the psychological and neuro-physiological of various mystic states.<sup>5</sup> He has described two directions in which consciousness can be altered. He describes these two pathways as the **ergotropic** pathway of increasing arousal culminating at the extreme in mystical **ecstasy** and the **trophotropic** pathway of decreasing arousal culminating in deep trance. These two pathways can be simulated by drugs such as L.S.D. and Mescaline for the ergotropic and alcohol and diazepam for the trophotropic and in other ways. These two pathways can be demonstrated to be different in that, for example, the **Electroencephalogram (E E G)** shows increasingly higher frequency discharges on the ergotropic and increasingly lower frequency discharges on the trophotropic pathway; saccadic eye movement increases while the just-noticeable difference in sensory input decreases along the ergotropic pathway while the opposite occurs along the trophotropic pathway.<sup>6</sup> However,

these two pathways should not, for reasons that will become clear presently, be considered as opposites for they are in fact paths that proceed in parallel. Some of the features of these two pathways can be seen in the following diagram adapted from Fischer:<sup>7</sup>



At the extreme end of the two pathways lies mystical ecstasy and deep trance respectively. However, in fact, these two states are not very far from each other and it is common to find a person in a high state of hyperarousal going directly into a state of trance without retracing his steps along the ergotropic pathway. This frequently-observed phenomenon is called abreaction in some studies and the rebound phenomenon in others. Movement in the opposite direction is also to be found in that a state of trance is frequently reported to be followed by a state of ecstasy. This link between the ergotropic and trophotropic pathways is not just confined to their endpoints. Experimental data indicates that each level of hyperarousal has an equivalent level of hypoarousal and that there is a close link between these two states. Thus, for example, it was found that a set of words memorised at one level of hyperarousal is better remembered at either the same level of hyperarousal or the equivalent level of hypoarousal but less well-remembered at other levels of either hyper- or hypo-arousal.<sup>8</sup>

What has been found experimentally is that as a person is taken from the arousal level of daily activity along either pathway towards the extremes of hyper- and hypo-arousal, a number of subjective and objective phenomena are consistently reproduced. These apply whether the mechanism for proceeding along these pathways occurs naturally, pathologically or is artificially induced. Firstly, the sensory-to-motor ratio (S/M)<sup>9</sup> which is very low at the level of routine activity rises. What this means is that in our routine activities, we maintain a high level of motor activity which continuously works to verify the perceptions of our sensory input. As we travel along the two pathways, our ability to perform voluntary motor activity diminishes and so we become increasingly unable to verify sensations. Man may be thought of as creating experience through his perceived interpretation (i.e. at the cortical level) of his sub-cortical activity. At the level of daily routine, man is to a large extent free to interpret his sub-cortical

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activity in a large number of ways. With increasing levels of either hyper- or hypo-arousal, however, the EEG shows decreasing variability and this is reflected subjectively in a decreasing independence of perception from sub-cortical activity. Thus with increasing S/M ratios we are left with 'an intensification of inner sensations, accompanied by a loss in the ability to verify them through voluntary activity.'<sup>10</sup> The overall effect of this is a marked diminution in our interpretative repertoire.

One of the effects of the decreased independence of cortical interpretation from sub-cortical control is that whereas, at the level of daily routine, there is a sharp subject-object definition and the individual is able to view himself and his actions in an objective manner, as we travel along these two pathways, we begin to lose this distinction. The boundary between observer and observed becomes increasingly blurred. Other boundaries also break down. The link with the chronological time of the physical world is broken and time can either appear to speed up or slow down depending on certain personality parameters.<sup>11</sup> A person who is in a high state of hyper- or hypo-arousal becomes increasingly impervious to external stimuli. In the hypoaroused state, the tendency is for all outside stimuli to be increasingly blocked. While the alpha wave EEG rhythm of an ordinary individual in deep relaxation is easily interrupted by external stimuli such as auditory clicks or flashing lights, a Yoga master in deep meditation shows no interruption in his EEG pattern despite flashing lights, sounding gongs, or the touch of a hot test-tube.<sup>12</sup>

The third area of psychological research that is of interest in understanding mystical states is the phenomenon of state-bound knowledge and meaning. This has already been briefly touched on when it was stated that a series of numbers learned at one level of consciousness is best remembered at the same level rather than at other levels. However, it is not just memory that is affected by varying levels of arousal. We have

already seen that as there is progress towards the extremes of hypo- and hyper-arousal, subject-object distinction becomes blurred. Most of our rational processes such as Aristotelian logic depend upon discounting any interaction between observer and observed and are therefore only applicable at the level of arousal of daily routine. Our system of logic and even the meaning of words begin to break down once we leave this level. Thus, as Fischer has stated; 'Meaning is "meaningful" only at that level of arousal at which it is experienced,' and so 'every experience has its state-bound meaning.'<sup>13</sup> Thus what is experienced in states of hyper- or hypo-arousal is, firstly, not so clearly remembered once the individual returns to normal levels of arousal and, secondly, even what is remembered can only be poorly expressed in terms of a vocabulary that is firmly bound to the normal level of arousal. In expressing these experiences, recourse can only be made to metaphor, symbols, art, poetry, or music.

Almost everyone has had the experience that when something particularly arousing (such as an unpleasant accident or an injury) occurs, for a long time afterwards, seeing or experiencing something that is a symbol of that episode leads to a sudden flashback raising one to a high level of arousal. After an accident at a crossroads with a red car, for example, for a long time afterwards, a driver will experience unpleasant symptoms of arousal whenever he comes to a similar crossroads or if he sees a red car similar to the one with which he had an accident. This then is the role of a symbol in religious and mystical experience. The symbol is an aspect of an experience at another level of arousal which when encountered during the course of daily routine is able to transport the individual immediately to that level of arousal in which he can again live that experience.

The fourth and last piece of experimental evidence that I consider illuminating for a consideration of mystical states is the neurophysiological results of split-brain experiments. Briefly, it has been found that if the brain is split (either due to an accident or for therapeutic reasons) into a left and right half, one half (usually the left) will be found to be the

active-verbal half of the brain that directs intellectual, analytical activity and the other half is receptive, concerned with spatial and other non-verbal intuitive, gestalt experiences.<sup>14</sup> The active-verbal half of the brain is usually referred to as the dominant hemisphere.

### Mystical Systems

Before proceeding with an explanation of how these findings from psychological and neurophysiological research help to explain some of the features of the mystical experience, it is perhaps timely to interpose one word of explanation. Some of those who themselves practise the mystic path may feel incensed and dubious about the fact that the results of research often obtained using drugs to achieve certain levels of arousal or resulting from highly-abnormal situations such as the split-brain or the schizophrenic patient should be applied to the mystical experience. But it is necessary to realize that all that is being asserted is that these various mechanisms (mysticism itself, drugs and pathological states) produce certain states in man. These states are consistently reproducible and have a number of common features. Therefore it is reasonable to regard these common features as being specific to the state itself rather than to the mechanism producing the state. And so it should be emphasised that science can only give clues as to the state of a person undergoing a mystical experience and to the manner in which he may interpret that experience. It can give no value judgement on the "truth" of the experience. Although it may have something to say about why a particular experience is interpreted in one system in one way rather than another, it has nothing to say about whether one system is closer to the "truth" than another.

The various religious systems of the world can be broken down into two major groups: the Western religions (the Judaeo-Christian-Muslim



traditions) that emphasize a dualistic universe with a God and each individual **having** an eternal soul, and the Eastern religions (the Hindu-Buddhist traditions) that look to a monist universe in which the self is considered to have either no reality <sup>or</sup> (individual identity) or is destined to merge **completely** into and Absolute Reality (or Void). This fundamental difference colours all other aspects of the teachings of these religions: **their** concept of evil, their idea of man's ultimate goal, etc.

It can readily be seen that the **infantile** state as described by Piaget may be considered to be a state of monism. For the infant there is no distinction between **him** and the world around him. This state **appears** to be similar to that of the extreme mystical experience. It is of **particular** interest to note that of the three main characteristics of the universe of the infant as described by Piaget: "first, the assimilation of the world to the self; **second**, the formation of emotional schemas; third, the special orientation of thought by emotional association and not by logical systematization,"<sup>15</sup> the first and third **apply** equally to the extreme mystic state.

The adult, however, operating at the level of arousal of routine activity is very much a dualist. There is no lack of clarity in the mind about the boundary between "me" and "not-me". Subject-object definition is very clear cut. And yet the work of Fischer and others has shown that if the adult experiences a level of arousal different to that of daily routine, the subject-object definition begins to break down until, at the extremes of hyper- or hypo-arousal, the individual again experiences monism. Thus each individual is capable of experiencing reality in both a monist or dualist manner.

It should not surprise us, therefore, that in those religious traditions where deep meditation entering trance states is encouraged (i.e. the Eastern religions), the usual world-view is a monist one, while in the Western religions, where there has been little encouragement of such activities,

the dualist view prevails. Nor should it surprise us, given the universal availability of both monist and dualist experiences, that even within each religious tradition, there are individuals and groups who subscribe to the views of the opposite tradition. Thus, within the dualist camp of Western religion, it is possible to find individuals such as Master **Eckhart** and groups such as some Sufis who **subscribe** to a monist view of the universe (and of course these are also the people who are most engaged in mysticism). And within the monist Eastern tradition, there is a substantial body of Hindus, the bhakti tradition, and some Buddhists, the Personalists, who subscribe to a dualist view of the universe.

Another manner in which these research findings help us to understand the differences between the experiences of Eastern and Western religion is in the type of mystic states experienced. We have seen from split-brain studies that each half of the brain appears to act differently. One side is active-verbal and the other perceptive-intuitive. Neurophysiologists have become used to calling the active-verbal side of the brain the dominant hemisphere but I suspect that this name is a culturally-based phenomenon. Most of the research in hemispheric function has been done in the West where action and verbalisation are more highly prized and so have become 'dominant'. This may well accord with the fact that most mystical states achieved in Western religions are of the hyper-arousal mystical ecstasy type - whether among Christian mystics like St Theresa or among Sufis. In Eastern traditions, however, mystical experience is usually gained through hypo-arousal techniques such as meditation culminating in deep trance. This corresponds with the fact that receptivity and intuition are more highly prized in the East and that if we were to repeat the hemispheric experiments in the East, we may well find that that/<sup>brain</sup>hemisphere (i.e. the receptive-intuitive, usually the right hemisphere) would be 'dominant'. Thus the type of mystic state experienced may well be a cultural phenomenon linked to hemispheric dominance.

Many of the features of mystical states can be described in terms of

this research. We have described how, in a mystic state, there is integration of cortical and sub-cortical activity so that there is, in effect, a loss of use of those automatic schemata whereby incoming stimuli are organised, interpreted and selected. Arthur Deikman has called this deautomatization and has shown how it explains several features of the mystical experience.<sup>16</sup>

Firstly, there is the feeling of realness associated with mystical experience. Mystics frequently assert that they need no evidence for the reality of their experience because of the intense 'feeling of reality' experienced during the state. But, in fact, this intense 'feeling of reality' has no connection with an objective judgement of reality. It may, for example, be experienced in dreams while objective reality may on occasion be deprived of the 'feeling of reality' as in the phenomenon of depersonalisation or derealisation. During the early stages of individual development, the 'feeling of reality' becomes fused with the objects of the outside world. In mystical states, however, the process of deautomatization breaks this link and the 'feeling of reality' can become attached to the feelings and ideas that enter awareness during this state. The stimuli and images of the inner world become thus endowed with the 'feeling of reality'. In addition, because in the state of hyper- or hypo-arousal, deautomatization means that stimuli are no longer systematised and selected before being presented to conscious thought, all stimuli, therefore, present themselves equally strongly to the consciousness which either eliminates them all or is only able to focus on one unselectively. That one stimulus which is picked at random, because it has had none of its features attenuated by prior sub-cortical processing, appears with the vividness that we have previously described for childhood. Thus, for example, it is commonly reported during LSD 'trips' that some usually-trivial sensory detail, such as a colour, is experienced with an intense vividness.

Secondly, there is the phenomenon of unusual perceptions: perceptions of infinite energy, dazzling light, etc. In mystical states where controlled

analytical thought is absent, the subject's attitude is one of receptivity to stimuli and there is heightened attention to sensory pathways (raised S/M ratio), it can be expected that psychic phenomena (e.g. conflict, repression, etc.) will be perceived by being translated via the relatively unstructured sensations of light, colour, movement, etc.<sup>17</sup>

Thirdly, we should not be surprised that the mystic commonly describes the world that he enters as being outside the bounds of reason and not attainable by the intellect. St Theresa, for example, says of the mystic state: 'As to memory, the soul, I think, has none then, nor any power of thinking, nor are the senses awake, but rather lost.'<sup>18</sup> This is to be expected because in moving along the two pathways towards the extremes of mystical experience, we are moving away from the realm of Aristotelian logic and intellectual analysis.

Lastly, the consistent reports of mystics of the ineffability of their experience and of the knowledge and understanding gained through it, may indeed be an expression of the state-bound nature of knowledge and meaning. Knowledge and understanding gained at the extremes of hyper- and hypo-arousal only have meaning in those states and cannot be communicated once the mystic has returned to the level of daily routine.

Although in the above description of the monist viewpoint, we have linked this with infantile patterns of thought, while the dualist viewpoint has been linked with adult patterns, it is very important not to make this point the basis of a value judgement. It would be incorrect to think of the monist view as more 'primitive' and therefore the dualist position as better in some way. As we have seen, both monist and dualist viewpoints co-exist in the adult. Just because the dualist mode is the usual one in everyday life, this does not mean that the monist mode is of less importance. Indeed, if we accept the views of most of the great theoretical psychologists from Freud onwards, it is the monist 'self' hidden in the subconscious that is the major motivating force in human life. Moreover, although superficially it may appear that man's greatest advances have come from the world of science where dualist modes of logical thought predominate, in fact, the

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greatest advances in science come from a combination of rational thought from the dualist sphere and intuitive insight emerging from the subconscious monist 'self'.

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### A Description of 'Inner Space'

Fischer has suggested that what we call the subconscious is merely the result of state-bound knowledge and that the subconscious is sub-conscious purely because the memories and experiences contained in it are associated with other levels of arousal than those of daily routine.<sup>19</sup> But even from Fischer's own writings, it is clear that we must go beyond this description. For, as William Hocking has said: 'What we call subconsciousness, far from being a sort of mental sub-basement, is at the center of selfhood, and the invidious term "subconsciousness" is an inept recognition of the fact that the primary springs of selfhood are not habitually at the focus of its outgoing interests.'<sup>20</sup> Deep within the subconscious, below the various levels of state-bound knowledge - perhaps we should even say beyond the subconscious (for reasons that will be stated presently) - lies the 'self'.

We have seen that in moving along the ergotropic or trophotropic pathways towards the extremes of mystical experience, man is, in a sense, making a journey into inner space. He is exploring that vast part of his being that functions below the level of normal consciousness. In taking this journey, he is travelling into a world where the laws of Aristotelian logic and intellectual analysis which applied in his normal world of waking consciousness no longer apply — indeed, where these become an encumbrance. In this world, the external world has no importance nor any relevance, he either becomes oblivious to it (on the trophotropic pathway) or feels that it is merging with him (on the ergotropic pathway).

At the extreme end of the journey into inner space is the centre of selfhood. Here the mystic has arrived at the deepest point of inner space which is the point from which his "self" looks out on his world of experiences and memories. At this point, the observer **has** become fused with the observed. But if man travels that far, he is caught in a situation where precisely because observer and observed have become fused, he is no longer able to describe his experience (or, to put it more accurately if somewhat more cryptically, at this point, he is no longer able to experience his experience - and this is why I have earlier suggested calling this point beyond the subconscious). His only recourse is to escape back along the pathway that he came and at the level of creativity (see diagram) to try and describe what he experienced. But we must question the usefulness of this. For, from what we already know of the state-bound nature of knowledge and meaning, all descriptions of this sort must be regarded as provisional and of dubious reliability. Given the overwhelming difficulties involved, we must suspect that all such descriptions are going to be influenced by and patterned upon the individual's religious and cultural background.

#### Mysticism and the Bahā'ī Faith

Having completed our survey of the light that research sheds upon mystical states, it remains to **view** the writings of the Bahā'ī Faith **in relation** to these findings. The first point that is noticeable is that although Bahā'u'Īlāh does not forbid his followers from trying to achieve extreme mystical states, he does not encourage it either. His writings contain exhortations to his followers to meditate, but there is nothing that can be seen as a system for achieving extreme mystical states nor is one of the existing methods recommended. Indeed, the only reference that seems to indicate some sort of acceptance of the Sufi technique of dhikr

is when Bahā'u'llāh is reported by 'Abdu'l-Bahā to have set aside one day in the year in honour of one of his companions, Darvīsh Sidq-'Alī.<sup>21</sup> On this day, those who wish to pursue such mystical activities are enjoined to gather and perform dhikr rituals. But there is no encouragement for the generality of Bahā'īs to do this and indeed one could even interpret the setting aside of one day a year for this activity as being almost a restriction on performing dhikr rituals at other times. This is not, however, explicitly stated.

However, Bahā'u'llāh evidently does not wish his followers to remain at the arousal level of daily routine either. His writings clearly imply that man should not regard the physical world as his real home. Bahā'u'llāh has, in his writings, produced an image, a map, of the spiritual world and has encouraged his followers to transcend their ordinary lives of routine activity and live in this spiritual world. This, he states, is man's real home. 'Abdu'l-Bahā has even referred to the physical world as a 'shadow'<sup>22</sup> and a 'mirage'.<sup>23</sup>

Thus Bahā'u'llāh appears to want his followers to occupy a middle position between the two extremes of the level of daily routine and the ecstasy/trance states of mysticism. This is the position at which man is in contact with both extremes and is able to utilise both viewpoints. It is the position of man's maximum creativity in all fields; science, art, philosophy and religious thought. In this position, man is able to obtain intuitive insight from the subconscious 'self' without being trapped in the extreme of the monist mystical state where the descriptive and interpretative repertoire becomes severely restricted and at the same time he is able to use dualist rational thought both more fully to describe and to work out the consequences of his intuition without being locked into the sterile logical progression of the extreme dualist position.<sup>24</sup>

We can see now why Bahā'u'llāh regards monism as being a stage that the mystic wayfarer leaves behind: 'the wayfarer leaveth behind him the stages of the "oneness of Being and Manifestation" and reacheth a oneness that is sanctified above these two stations.'<sup>25</sup>

The reality of man appears to be best expressed by recognising him as a bi-polar being. At one pole buried deep in the subconscious is the monist 'self' which is the observer, the knower. At the other pole is the rational, dualist 'I' which, with respect to the 'self', is the observed, the known. Man's ideal place is in maintaining an intermediate position between these two poles, avoiding the disadvantages of each and being able to utilise the advantages of both.

### Conclusions

And so the answer to the debate between the monist and the dualist positions appears to be that they are both correct. In physics, when some experimental results seemed to indicate that light was particulate in nature and some seemed to indicate that it was wave energy, Neils Bohr and others conceived the idea of Complementarity to resolve the issue, saying, in effect, that both are correct and it depends on the observer and the methods he uses to observe. A similar solution would appear to apply for the dualist and monist positions. Both viewpoints are correct and both are 'real' and depend only on the position of the viewer. Neither has exclusive access to the truth.

We have seen that Bahā'u'llāh regards man as being best situated at a level midway between the monist and dualist extremes. This, as we have indicated, is the position of maximum creativity and maximum ability to adapt either extreme to his use. In a sense, it can be said that this psychological position parallels man's position in the process of physical evolution. Man is the apex of physical evolution, not because he has gone furthest in specialising himself to fit a certain environment - the animals that do that enter what may be considered evolutionary blind alleys and when the environment changes, they cannot adapt and become extinct. Man's success lies in the fact that he has undergone very little



specialisation and so can adapt to all sorts of environments and even to major environmental changes. In the same way, those who spend all their time at the extreme of the monist pathway in trances and those who live their lives strictly by codes of rationalism and positivism at the dualist extreme are down the equivalent of evolutionary blind alleys. Those who maintain the middle position are best situated for creativity, fulfilment and advancement.

M. Momen

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#### Notes

- 1) See for example, Ninian Smart, A Dialogue of Religions (London, 1960), passim where these issues are discussed, see especially pp. 61-74.
- 2) The best compilation of Piaget's work is to be found in The Essential Piaget (ed. Howard Gruber and J. J. Voneche), London, 1977.
- 3) For the development of this aspect of Piaget's thought, see "The First Year of the Life of the Child" in The Essential Piaget, pp. 198-214 (first published in French in Brit. Jour. Psych. Vol. 18 (1927-8): 97-120).
- 4) Piaget, "First Year", p.205.
- 5) Roland Fischer, "A Cartography of Ecstatic and Meditative States" pp. 286-305 in Understanding Mysticism, (ed. Richard Woods), London, 1980/(originally published in Science, Vol. 174,(1971): 897-904)
- 6) Fischer, "Cartography", p.288-91
- 7) Ibid., p. 287
- 8) Roland Fischer, "State-bound Knowledge: 'I can't remember what I said last night but it must have been good'", in Understanding Mysticism, p.309, quoting work by Herbert Weingartner at the National Institute of Mental Health at Bethesda. Police and Intelligence Agencies in the U.S.A. and Israel have used this research successfully by bringing witnesses to a terrifying episode (i.e. one that causes hyperarousal) into an equivalent state of hypoarousal using drugs. In this state, the witnesses are able to remember the episode more accurately.
- 9) For methods of measuring this see R. Fischer et al, Dis. Nerv. Sys.

Vol. 3 (1970); 91ff.

10) Fischer, "Cartography", p. 294.

11) See R. Fischer, Ann. N.Y. Acad. Sci. Vol. 96 (1962): 44ff.

12) B. Anand et al, Electroencephalogr. Clin. Neurophysiol. Vol. 13 (1961):452ff

13) Fischer, "Cartography", p. 298.

14) The classical work on the Split-brain was done by Sperry and his associates; see R.W. Sperry, "Cerebral Organisation and Behaviour," Science Vol. 133. (1961) : 1749-1757; M. Gazzaniga et al, "Some functional effects of sectioning the cerebral commissures in man," Proc. Nat. Acad. Sci Vol. 48 (1962): 1765-9. A useful summary can be found in Robert Ornstein, "The two sides of the brain" in Understanding Mysticism, pp. 270-285.

15) Piaget, "First Year", p. 202.

16) Arthur Deikman "Deautomatization and the Mystic Experience" in Understanding Mysticism, pp. 240-260 (first published in Psychiatry, Vol. 29 (1966): 324-38).

17) Deikman, "Deautomatization", p. 253-4.

18) Works of St. Theresa (tr. E. Allison Peers, New York, 1946), Vol. 1, p. 328; quoted in Louis Dupre, "The mystical experience of the self and its philosophical significance," in Understanding Mysticism, p.456.

19) Fischer, "Cartography", p. 300 and/"State-bound knowledge", p. 310.  
idem,

20) William E. Hocking, The meaning of Immortality in Human Experience, New York, 1957, p. 50.

21) 'Abdu'l-Baha, Memorials of the Faithful (tr. Marzieh Gail), Wilmette, Ill., 1971, p. 38.

22) 'Abdu'l-Baha, Selections from the Writings of 'Abdu'l-Bahá (tr. Marzieh et, al), Haifa, 1978, p.178

23) Bahá'í World Faith, Wilmette, Ill., p. 386.

24) Fischer, "Cartography", p.296.

25) Bahá'u'lláh, The Seven Valleys and the Four Valleys (tr. Marzieh Gail), Wilmette, Ill., p. 39.