

VOL. 4

December, 1966

No. 3

# SYSTEMATICS

The Journal of The Institute for the Comparative Study of  
History, Philosophy and the Sciences

---

<b>THE EVIDENCE FOR INTELLIGENCES OTHER THAN HUMAN</b>	<b>181</b>
<i>J. G. Bennett</i>	
<b>EXPERIMENT AND THEORY IN THE AROUSING OF THOUGHT</b>	<b>202</b>
<i>A. G. E. Blake</i>	
<b>THE SYSTEMATICS OF A BUSINESS ORGANIZATION</b>	<b>248</b>
<i>A. W. Low</i>	
<b>BIOGRAPHICAL NOTES</b>	<b>281</b>

---

*Non-members*  
11s. 6d. or \$1.60 per copy.  
42s. or \$6 per annum.

*Members*  
8s. 6d. or \$1.20 per copy.  
30s. or \$4.30 per annum.

A

**The Aim of the Journal** is to promote enquiry into the working of human intelligence. In this sense it is interdisciplinary; but it seeks also to draw special attention to work in the field of structural thinking and organization. The Institute itself conducts researches into human development making use of the techniques of Systematics, and papers reporting the results are published regularly in the Journal. Systematics is a discipline for the extension of understanding which has grown out of twenty years of research at the Institute. The Editors will also consider papers bearing upon the operation of Intelligence in any field of human endeavour, the criterion of acceptance being originality, scientific and literary quality and relevance to the general theme.

**Subscription Rates** are 11/6 or \$1.60 per copy and 42/~ or \$6 per annum (post free), reduced to 8/6 or \$1.20 per copy and 30/- or \$4.30 per annum for members of the Institute. The Journal is published quarterly in March, June, September and December. Bound editions of volumes 1 and 2 are available at 45/- each, and indexes can be sent separately, free of charge. Subscriptions and orders should be sent to the Sales Editor, Systematics, 23 Brunswick Road, Kingston upon Thames, Surrey.

**Articles, Editorial Correspondence, Book Reviews and Advertisements** should be sent to: The Editors, Systematics, 23 Brunswick Road, Kingston upon Thames, Surrey.

**Information for Contributors.** Articles should be not more than 15,000 words in length, discussions between 2,400 and 4,000 words, and Book Reviews between 200 and 1,200 words. MSS should be typed on one side of the paper with double spacing and wide margins. Main headings should be in capitals, and secondary headings and words in italics underlined. Tables and figures should be clearly labelled with indications in the MSS where they are to appear. All references should be numbered and listed in numerical order of appearance, giving author, title, publisher or journal and date of publication. Authors will receive six copies of the issue in which their article appears. Reprints of articles can be supplied at reasonable cost: orders for them should be sent to The Editors, at least one month in advance of publication of the issue in which they appear.

## **THE EVIDENCE FOR INTELLIGENCES OTHER THAN HUMAN**

J. G. Bennett

To everything there is a season,  
and a time to every purpose under the Heaven;  
A time to be born and a time to die;  
A time to plant, and a time to pluck up  
That which is planted.  
Ecclesiastes 3.1.

For one who stands by the sea shore on a stormy day, it is not easy to discern the moment when the tide turns. So in the historical process it is hard for the contemporary student to recognize the signs of a new age. At periods of transition the attention of mankind is diverted by the ebb and flow of the waves /of culture and decay from an almost imperceptible change of direction which may be occurring in the course of human destiny. That which will be significant in the perspective of millennia is hidden from those who fix their gaze only upon the fluctuations of current events. The time span of immediate interest is very short for the average man, and the historian, whose profession is to see the process objectively, is usually dominated by the modes of thought that are fashionable in his own time.

In the present essay, I shall examine the connection between time and intelligence and try to show that the observation of temporal processes leads to the conclusion that intelligences other than human are operating upon a far larger scale than the human mind can grasp and that this must be postulated to amount for the course of events. The thesis can be called that of intelligent guidance in history. It postulates an evolutionary sequence, but rejects the belief that this sequence can be accounted for by universal laws operating by blind chance, which is the only 'alternative to intelligent intervention.

The notion of a direction in the evolutionary process is almost universally accepted, but the very meaning of the word "direction" is uncertain and contradictory. It is possible to argue that direction can have no objective meaning and is no more than a relative notion or a subjective whim. There are deep psychological reasons why man has nearly always been dissatisfied with the present state of his existence, and there have always been very different reactions to this dissatisfaction. There is the pessimism which sees the future in sombre colours and looks back to the good old times, and there is the optimism which see every moment in the historical process as the dawning of a brighter future. There is also the indifferntism that turns away from the larger realities to seek for immediate satisfactions, and there is the transcendentalism that regards the present no less than the past and the future as mere abstractions from an absolute but incomprehensible reality. Both pessimism and optimism imply direction, but if they are personal and subjective, little meaning attaches to hope and fear, even in those periods when the historical process passes through crises that affect the lives of all people. Hope and fear lose all meaning when there is a fundamental instability in the values by which men live. Nevertheless, it is just at such moments when the tide is turning that the mists that hide the secrets of human destiny disperse a little and deeper meanings can be discerned. When all is plain sailing, one can deny the very existence of a helmsman who steers the ship; but in moments of danger and crisis the passengers become acutely aware that their lives depend upon his intelligence and courage.



The significance of human existence turns largely upon whether the destiny of man and that of the earth are mutually indifferent, or whether they stand in a dynamic, living relationship the one to the other. The question cannot be resolved by the three means available to man, that is, sense perception, reason and faith, taken separately. We can accept nothing less than a total answer satisfying to all three parts of our nature, and this is why mankind has always searched and failed to find a final solution.

It might seem that the question whether man is linked with all life on the earth by something more than the relationship of part and whole must be capable of a simple answer yes or no. In this essay, I hope to show this supposition is a fundamental error that has, for the past two or three thousand years, bedevilled the attempts of philosophers to account for human existence. The issue turns only in part upon our knowledge of man and the Universe, for there is certainly some element that cannot be known, and yet must be taken into account. The term "intelligence other than human" is used to remind us that we must not start with any pre-conceptions as to the nature of the unknown element.

So far as knowledge is concerned, we are better placed than our predecessors, for modern science has taught us much about ourselves and the world, and in particular has given us strong grounds for taking the view that there is a definite evolutionary trend in human history which gives a meaning to the notion of a direction towards a goal. This trend is disguised by the rise and fall of empires, religions and civilizations and by fluctuations in the levels of culture which often seem to wipe out the gains of the past. To find a perspective distant enough to show trends not subject to reversal, we have to study the life of man over millennia rather than centuries. This may prove to be a painful undertaking, for it will compel us to question, and perhaps to abandon, our belief in some particular conception of "progress", to the realization of which human effort has for many generations been directed. There are certain trends in the life of mankind which, if continued, would lead to situations that could more or less be predicted. Whether or not these situations are in fact likely to arise, can only be determined if we know whether such trends can continue indefinitely, or whether a change of direction is probable or perhaps inevitable. Only when we have the data, can we profitably ask the question, whether the change of direction can be fortuitous or must be intelligent and purposive.

To determine what is happening to a coast-line, we have to disregard the tides, and fix our attention upon the small but cumulative effects of erosion and silting, and upon the slow movements of the earth's crust which will ultimately decide whether the coast-line will advance or recede. Sometimes there are local catastrophes, such as landslides or the shifting of river beds, which produce sudden and rapid changes that may give a false suggestion of the direction which the process will ultimately take.

If we wish to forecast the future of mankind, we must be on our guard against the errors which result from failure to use the right time scale in calculating rates of change. For example, it is commonly held that the progress of science and technology in the last few centuries has been an event of such decisive importance that it has permanently changed not only the course, but also the tempo of the historical process. For many, an even greater significance attaches to the development of the humanitarian ideal, and the growing concern with which the modern world regards the needs of all races and all classes. These conceptions of human responsibility are contrasted with the distinctions and divisions that existed in earlier centuries.

Behind these events, which appear to dominate the historical scene, are other long-term processes, which, although slow in their effect, will in the long run determine the outcome of the present crisis. One of these is the steadily increasing artificiality of life in the civilized communities which have the initiative in the modern world. Contrary to this is the slowly emerging realization that the new direction to be taken by the human spirit will be neither a continuation of the past, nor a revolt against it. This realization is the first dawn of the reawakening of the Conscience of mankind, which for many centuries has been sleeping under the hypnotic influence of an illusory belief in man's power to determine his own destiny. Those who cannot see the significance of these deeper trends react to our present situation in terms of pessimism or optimism, according to their own subjective habits and prejudices.

The false distinction between pessimism and optimism is well exemplified in current attitudes towards these events. The progress of science and technology brings with it dangers of destructive war and the premature exhaustion of natural resources. The care for human welfare brings with it the threat of an unrestricted growth of population, which would outstrip the means of providing food and shelter. The improvement in the means of communication and the larger scale organizations which these make possible, bring the danger of tyranny and oppression by small minorities controlling the means of communication and the weapons of propaganda and terror.

The pessimist does not see that all these destructive tendencies must necessarily evoke forces to oppose and eventually to neutralise them, so that no reliable prediction can be made on the basis of the negative tendencies alone.

To the optimist, the very same tendencies appear to be leading mankind towards a millennium of material prosperity and harmonious social existence. He sees technical progress keeping ahead of the wastage of resources, goodwill unravelling the skeins of tyranny, and propaganda used for the promotion of harmony rather than for the arousing of suspicion and hatred. The optimist does not see that the trends upon which he bases his hopes must also produce opposite results. The satisfaction of material needs must lead to discontent; the removal of danger to apathy; the harmonious organization of life to a state of passivity in which all progress must come to a stop. Fear and hope are equally unreliable guides to the future. Hope and fear are notoriously hostile to intelligence. The optimist and the pessimist are equally blind to the possibility that the course of events may be following on a course intended and planned upon a scale that is beyond their grasp. We must put away either attitude if we are to discover the significance of human life. There can be no “significance” unless there is some purpose or pattern in the content of which significance is to be assessed. This confronts us with the problem of intelligence as one that cannot be evaded.

It is strange that this is accepted as a philosophical or theological issue; but not as one suitable for scientific study. The result is that it is virtually disregarded at the present time, for religion and philosophy have not assimilated the data required to make their own new assessment, and science today lacks the interest in ultimate questions, to apply the knowledge it has gained. However difficult the question may be to ask, let alone to answer, it cannot be disregarded if we wish to look into the future of mankind, or even to decide how we as individuals are to make the best of our own lives. However ill-equipped we may be for the undertaking, we must embark upon it knowing that it will lead us into territory from which many an explorer has returned disillusioned, bereft either of his ideals or of his capacity for critical judgment. These two—the cherishing of an ideal and the respect for critical judgment—are like the sheep and the wolf of the fable, which the traveller must contrive to bring to his destination without the one losing its life or the other going hungry.

Man has sought always to understand the significance of his own existence, but has used, in each age, different instruments for this enquiry. It is not only the instruments that have changed and evolved, but more importantly the way in which the instruments are used. Man has the power of observation, but what he observes will depend upon what he feels to be important. He has the power of reason, but his use of it will be governed by the premises which he accepts as axiomatic. Man’s basic values and assumptions as to the nature of reality govern his behaviour, even though he may never explicitly formulate them for himself. The evolution of the human mind is associated with the development of man’s basic attitude towards life.

It would be generally agreed that this attitude has not been stationary since man first appeared on the earth about a million years ago, but has evolved towards a more conscious recognition of personal and social responsibility. It would, however, be taken that this evolution has not been universal, but very different as between self-contained communities in different environments. The usual view is that—at least within the historical period of the past ten thousand years—some communities have made rapid progress while others have remained stationary. In terms of social organization and the arts and techniques of social life, this is obviously true: but according to the views I have developed in *The Dramatic Universe*, the distinction between “advanced” and “backward” nations is relatively superficial, and does not apply to the basic attitude towards life. This seems to have changed and developed according to a different law from that which governs technical and organizational changes. It is as if the entire human race—irrespective of social, technical or environmental factors—has shared, over long periods of time, common basic attitudes. These attitudes remain more or less unchanged for periods of a few thousand years, then change dramatically and again remain constant for another period.

To illustrate what I mean by basic attitude, we can compare the respect for human and animal life in different periods of history. At all times, including our own, there have been cruel and brutal men with no regard for life. There have been wholesale massacres, enslavement of peoples, wars great and small, in which not only soldiers but women and children have been killed indiscriminately. But throughout the modern age that began about 500 B.C., such actions have been condemned as “inhuman” and only justified on grounds of self-preservation or self-defence.

It was quite otherwise before 500 B.C. We have only to read the early Hebrew scriptures to see that wholesale slaughter of the men, women, children and even animals of a conquered city was often enjoined as an act of piety and failure to “put every living thing to the sword” as disobedience that incurred divine wrath and vengeance. The inscriptions of priests and rulers claiming to be the devoted servants of their gods boasted of the slaughter of men, women, children and the utter destruction of cities. Human blood in the heroic age that lasted from about 3,200-500 B.C. had no value unless it flowed in the veins of a divine ruler or those of the priests who were his intermediaries with the gods. Human sacrifice and animal sacrifice were almost indistinguishable as meritorious acts that brought favour from on high. The obligation to kill was peremptory, overriding all practical considerations. Captives made useful slaves: but if the god required their death, their economic value fell to zero; not even their material possessions could be saved, for the obligation to destroy admitted of no exception.

The point of the comparison consists in the universal character of the attitude in each of the two periods. The moral conscience of mankind in the Heroic Age had not awakened to the notion that all human beings might have the right to live. The transition to what I have called the Megalanthropic Epoch’ consisted to a large extent in the universal recognition of the sanctity of the human person: a recognition all the more remarkable inasmuch as human nature remained unchanged and war, massacre and enslavement continued for centuries unchecked. The difference consists solely in a change of attitude. To replace such vague terms as “Heroic Age” or “Modern World”, I have proposed the term Epoch to designate the life of humanity throughout a period in which there has been a common attitude towards life. The attitude itself is called the Master Idea of the Epoch. The study of history shows that there have been five such Epochs since the end of the Ice Ages and that each Epoch has a duration of 2-3,000 years. There is clear evidence that in each Epoch the human mind makes a step towards a fuller understanding of its destiny. Long though the duration of an Epoch may be in comparison with a man’s lifetime, still longer periods can be discerned in the evolution of mankind. A Great Cycle of about 25,000 years elapsed between the appearance of Homo sapiens sapiens and the end of the last ice age. There are faint evidences of earlier cycles of about the same duration. The various periodicities are progressing and could best be regarded as stages of evolution.

Returning to Epochs, we have first the Megalanthropic, recently ended which began about 500 B.C. Before that, was the Hemitheandric Epoch or Heroic Age that goes back to about 3,200 B.C. Prior to 3,200 B.C., there is no evidence of societies based on ruler ship. The period is referred to as “pre-dynastic”, but this does not tell the whole story. The characteristic feature of the Exoteric Epoch from about 5,500 to 3,200 B.C. is to be recognized in the attitude towards communication and conservation. The period ended with the introduction of writing and inscription and hence of historical records. Knowledge that had previously been hidden by secret societies was made available for common use. This is not to say that skills which had been kept as the esoteric right of a privileged minority were transmitted to the new “middle class”, but that the results such as the calendar and the use of writing were made available. Commerce developed and with it the use of tokens and promises to pay. These developments were the visible consequences of a basic attitude of mind that is hard for us, living five thousand years later, to grasp. This attitude can be described as the expansion of the present moment. In earlier Epochs, connection with past and future and with distant places had been confined to groups of “magicians” who had in consequence a degree of mastery over the ordinary people that required no visible sanction either by force or by consent. The ordinary people were ignorant of past and future events that did not immediately concern them and of the existence of places they had not seen. They possessed rich languages but had not learned to use them for the communication of abstract notions or general ideas. They could not make plans or organize concerted undertakings. All these activities so commonplace to modern man—were the exclusive prerogative of magicians and ‘shamans: whose domination the ordinary people could not even think about, let alone actively resist. The Exoteric Epoch is so called because it was characterized by an out-going of interest which brought the populations in the main stream of human evolution in-to new interrelation, opened up new communications and culminated in the general adoption of writing about five thousand years before the present. Nevertheless, throughout the period the ascendancy of the “wise men” was maintained and the relationship of ruled and ruler as we know it had not arisen.

Going back still further into the past we recognize a long period of migrations and re-settlement. The visible causes of the great movements of population were the changes of climate that followed the withdrawal of the glaciers in the Northern Hemisphere.

These factors alone do not account for the mental climate of the three millennia that began about ten thousand years ago. We can reconstruct this climate partly from the evidence of technical and cultural progress of the Stone Age populations of Europe, Asia and North Africa and partly from the traces left in our languages, mythologies and customs prior to the earliest written records. During the Epoch of Diffusion men learned and developed their powers by change of environment. The characteristic of the Epoch was interchange by direct contact as distinct from interchange by communication that stems from the Master Idea of the Exoteric Epoch. Tribes of differing traditions met and learned from one another techniques, and cultural and linguistic elements. This characteristic is exemplified in the remarkable Neolithic settlement of Catal Hiiyiik in Anatolia, where men of at least two distinct racial groups lived together without trace of conflict and where agriculture and industry interacted to prepare the way for the transformations of the fifth millennium B.C.

The interaction of cultural streams reached its maximum intensity and productivity after the desiccation of the Iranian plateau and gave rise to the astonishing complexity of cultural traditions that were already fully developed before what is commonly called the “Dawn of History” that is the time of the earliest written records.

The Epoch of Diffusion began soon after the final withdrawal of the glaciers. It was preceded by one of the most remarkable periods in human history. I have given elsewhere (Dramatic Universe VIO-1. IV Section 17.47.2.) my reasons for assigning to the three millennia from 13,000—10,000 B.C. the creation of the root languages of modern man. By this step communication and co-operation were made possible in forms that had been totally absent from human societies of earlier times.

The problems associated with the origins of our modern languages have never received the attention they deserve. The theories that have advanced to account for the complex structure and rich content of the Hamito-Semitic, Indo-European and Sino-Turkic groups are totally inadequate. The suggestion that all languages are behavioural and have evolved by natural selection from primitive calls and gestures has long been abandoned. Theories have been proposed according to which language has been created by children at play or by primitive man’s love of mime and ritual, 'Or simply by the need to communicate the accidental discoveries of man’s hand and brain. None of these theories will account for more than a small part of the facts and all of them fail completely to explain the magnificent coherent structure of form and content that we find in all the great language systems of modern man. It is a remarkable fact that for ten thousand years, no new language has been created, although our existing languages are lamentably inadequate for effectual communication under the conditions of the modern world. The nearest to language creation has been the development of mathematics, the symbolism of which allows notions to be expressed that are beyond the range of our verbal forms. Men of outstanding genius have gradually built up mathematical formalism over a period of some 1,500 years: and even today mathematics can be used only for a narrow and specialized field of communication. Thus the rise of mathematics only serves to emphasize the prodigious creative feat that gave us the linguistic forms of the modern world.

The conclusion that seems to be forced upon us is two-fold. The great language systems of the modern World were the product of a creative and intelligent action undertaken by men of surpassing genius. Furthermore, this undertaking required foresight far beyond anything we can imagine: for the value and indeed the very purpose of these languages did not become apparent for at least five thousand years. I have given elsewhere in this journal<sup>1</sup> my reasons for concluding that our languages, cultures and traditional beliefs originated in four centres about twelve thousand years ago. These centres were probably situated as below:

The Indo-European Centre	Arctic Siberia
The Hamito-Semitic Centre	Africa
The Sino-Turkic Centre	The Far East
The Great Mother Centre	The Near East

Each of the four centres produced its own characteristic linguistic form, cultural ethos, traditions, beliefs and forms of worship. Each of them shows unmistakably the work of very high, creative intelligences.

---

<sup>1</sup> The Hyperborean Origin of Indo-European Culture, J. G. Bennett. Systematics Vol I, No. 3, December 1963.

These conclusions are not inconsistent with the evidence that late Palaeolithic man was anatomically equal in every respect to modern man and showed in his art and industry creative powers not inferior to those of his present descendants. There are, however, two features that are hard to explain. One is the evidence of foresight, far beyond anything that modern man could exercise and the other in the unmistakably purposive character of the sequence of events, over the past twelve thousand years. The creation of distinctive languages and cultures in four isolated centres makes no sense in itself; but becomes pregnant with meaning when we survey the succeeding Epoch of Diffusion and witness the cross-fertilization of cultures that produced the explosive advance of the past seven thousand years. Highly complex languages, adapted to situations that could not have arisen in the Ice Ages, proved indispensable for the Exoteric Epoch; and finally triumphed in poetry, philosophy, and jurisprudence and became the central medium of communication through the written word. The Exoteric Epoch was a preparation for the rising of great empires and the founding of the great religions, but it did not contain the causes or even the seeds of these developments. Indeed, there is a closer link between the Exoteric period from 5,500 - 3,200 B.C. and the Megalanthropic Epoch 500 B.C. - A.D 1850 than either had with the intervening Hemitheandric Epoch in which the common man counted for little or nothing.

Surveying the entire period, it seems most plausible to conclude that very great intelligences have been at work and that these intelligences have been pursuing a definite predestined aim: that of guiding humanity towards unification and responsibility. This conclusion is strengthened if we change our time scale to consider periods of ten to fifteen thousand years. We then find that there have been profound changes, not only in man's cultures and dominant interests, but even in man himself and that these changes have occurred rather suddenly at long intervals of time. In some instances these changes have been anatomical, as when Neanderthal man suddenly became extinct about thirty-seven thousand years ago, or when the modern races of man appeared as suddenly about twelve thousand years later. Looking still further back we can survey a million years of human history and perhaps two thousand million years since life first appeared on the earth. On whatever scale we examine the records, we see that events are to be explained not by what went before but by what followed later. We also see that the historical process has throughout been one of bringing *order out of disorder*. Modern information theory enables us to assess any organized complexity in terms of units of order. The present situation of life on the earth including man and his culture, represents a degree of order that must be measured in billions of units. All our experience confirms that a high degree of order calls for an intelligent operation: so once again we are forced to conclude that *history is and always has been an intelligent operation*.

This brings us back to the proposition stated at the beginning of this paper that the significance of human existence turns upon whether destiny of man and that of the earth stand in a dynamic relationship the one to the other. We can interpret this in terms of an intelligent, purposive action proceeding from an act or many acts of free will as opposed to a non-intelligent, causal or fortuitous action in which will and purpose play no part. Since the issue refers to ourselves and the world we live in, it must be decided by experimental evidence alone. There are no *a priori* grounds for supposing that there are or are not intelligences other than human. and still less are there any metaphysical reasons for assigning to such intelligences attributes like or unlike our own.

We are not concerned in this enquiry with an Infinite Intelligence to be conceived either as the Prime Mover or Artificer of the Universe or as the Deity of religious worship. We are not even concerned with the Universe as a whole. The Universe is so vast as to defy any attempt to assign purpose or absence of purpose to its totality. We can confine our attention to this earth and to the origin and evolution of life, including human life. This leaves entirely open the question whether there is or is not a Supreme Intelligence - but it does settle the question whether we are discussing an infinite omnipotent intelligence or one that is finite and therefore certainly not omnipotent, and most probably fallible and subject to the action of forces outside of its own control. To illustrate this point, we could conceive a very high intelligence that guides the destiny of the earth in terms not of millennia, but of millions or milliards of years and yet unable to prevent a cosmic catastrophe such as the near approach of a vagrant star that would destroy the earth and all life with it.



It is convenient to have a term to designate the kind of intelligence postulated in this scheme and I have proposed<sup>2</sup> to refer to it Demiurgic and to speak of Demiurges and demiurgic powers. In Vol. II of the Dramatic Universe, I put forward a scheme derived from Gurdjieff 's cosmology according to which the Demiurges represent a level of being that is superhuman but limited and certainly not divine or infallible. The demiurgic intelligences associated with the earth are presumed to have created life and supervised its evolution to the point at which an animal body (Australopithecus?) could accommodate a human mind. From that time — perhaps a million years ago — two kinds of intelligence coexisted on the earth.

One was the mature Demiurgic Intelligence able to plan and to act with an eye to the distant future and the other was the nascent Human Intelligence gradually developing towards the power to understand the reason for its own existence and assume responsibility for its own development.

There is no reason to suppose that the course of evolution has been straightforward or continuous. All the evidence points the other way. There have been false moves, mistakes to be retracted and much waste. Nevertheless, the picture as it discloses itself to palaeontological research is certainly dominated by a sense of direction and purpose.

According to the thesis that mankind has from the start been destined to develop a collective consciousness and a single free will; every stage in evolution must be understood with this end in view. The thesis is not new. It has been advanced with great eloquence by Teilhard de Chardin and more recently stated in terms of the "World Sensorium" by Oliver Reiser. These and other writers on the general theme of the place of intelligence in the evolutionary process, have not put forward any working hypothesis to account for the transition from a biosphere without man and hence without intelligence to the postulated noosphere in which intelligence is to play an ever greater part and into which man is eventually to be absorbed.

The phylogenetic sequence of living forms on the earth has developed without breaches of continuity, but with a marked tendency to proceed by an alternation of periods of rapid, almost sudden, advance and of quiescence or even apparent retrogression. The advances take the form of the emergence of a higher degree of ordered complexity and the quiescent periods have been characterized by the restoration of equilibrium in the terrestrial symbiosis.

The ordered complexity of the biosphere is not confined to the anatomical structure or physiological mechanisms. There has also been a complexification and organization of the capacity for sentient experience that is the precursor of mind. We can recognize several distinct stages:

			Years before present	Years before present
I	Azoic Stage	Transformation of Earth's Crust	3,000,000,000	12,000,000,000
II	Hypozoic Stage	Preparation for life	2,000,000,000	1,300,000,000
III	Proterozoic Stage	First life forms	1,200,000,000	600,000,000
IV	Palaeozoic Stage	Complexification of Sensitivity	600,000,000	230,000,000
V	Mesozoic Stage	Organization of Sensitivity	230,000,000	60,000,000
VI	Cainozoic Stage	Differentiation of Sensitivity	60,000,000	1,500,000
VII	Hyperzoic Stage	Arising of Mind	1,500,000	37,000
VIII	Creative Stage	Human Intelligence Emerges	37,000	

Each of these stages was initiated by a marked increase of order and a corresponding gain in potentiality for diversification and enrichment.

I have shown elsewhere that it is hard to account for any one of these transitions without postulating intelligent intervention. This does not mean a breach of continuity and still less the violation of any of the universal laws of nature. Human intelligence acts within the degrees of freedom that are compatible with the regularities of nature and we should postulate a similar limitation upon the operation of the Demiurgic Intelligence. We do not postulate intelligence as an arbitrary or capricious power, but as the combination of consciousness and creativity that allows the Will to introduce new factors allowed by the circumstances obtaining within a given region of time and space.

<sup>2</sup> Dramatic Universe, Vol. II, Chapter 35, p. 131.

According to our hypothesis, the organization of sensitivity in the mammals had reached an appropriate degree of complex order to permit the entry of consciousness towards the end of the Pliocene period about five million years ago. The demiurgic intelligences then took in hand the breeding of races of hominoid primates probably in Africa and possibly in the genus *Australopithecus* described by Leakey. At the appropriate moment, Demiurgic Intelligences entered into some individuals of this genus and so endowed them with consciousness. From this infusion of consciousness the first man appeared: the criterion of manhood being the possession of *Mind*. From that time, the evolution of man has coincided with the evolution of mind.

After the first explosion a very long quiescent period followed. During this time the Northern Hemisphere of the earth underwent a series of glaciations alternating with very favourable climatic conditions. The genus *Homo* consolidated but did not greatly diversify. This is not surprising for the other mammalian genera also failed during the million years of the Cainozoic era to produce new species. The surprising feature of the prehistoric record is that man, though giving every evidence of mind—human speech, industries, cultures—progressed only very slowly if at all in his level of culture. This point, when carefully studied, strengthens the case for postulating the need for a Higher Intelligence to bring about a decisive increase of order. We are, however, concerned with the human mind as we know it today. It is characterized by four levels of operation: automatic, sensitive, conscious and creative. The automatic level is common to all forms of life. The sensitive level operates in an organized manner only in the Chordata and fully only in the higher animals including man. We postulated the transition from pre-hominid to man as coinciding with the acquisition of consciousness and assigned to this important event a date one or two million years before the present. Three great stages can be distinguished. The first starts with a sub-species *Homo erectus*, having consciousness and hence true mind. but not capable of reflective mentation. The second stage lasted about 120,000 years and began with the transition to *Homo sapiens* including Neanderthal man. Man during this stage acquired the power of reflection. but was not yet creative. At the third stage, which began him, I follow the conventional nomenclature in calling modern man *Homo sapiens sapiens*; but add the definition that he is characterized by creativity as well as consciousness.

Creativity cannot be transmitted but must be built into the constitution by some effect that is distinct from genetic mutation. In the *Dramatic Universe Vol. IV*, I have put forward the hypothesis that man was not endowed with creativity until about 40,000 years ago by an extraordinary intervention of Demiurgic Intelligences who incarnated in human form and mated with women of the *Homo sapiens* stock producing offspring impregnated with creative energy. Within a few centuries races of the breed gained domination over the older sub-species including *Homo Neanderthalensis* which rapidly became extinct.

I must refer to *Vol. IV of the Dramatic Universe* for a detailed discussion of the history of life and mind on the earth and confine myself here to the two moments already mentioned that I have assigned to the transformation of the human mind brought about by the advent of creativity and the birth of human society by the creation of languages, traditions and cultures. The first moment occurred about 37,000 years ago and coincides with the establishment of *Homo sapiens sapiens* as a sub-species of the true human stock.

This was the start of one of the major cycles of human history the duration of which is about 25,000 years. Throughout the cycle, man was engaged in adapting himself to his new creative powers. These showed themselves in the explosion of artistic activity and the extremely rapid development of cultures. It is almost certain that whereas consciousness first appeared in Africa, creativity entered the human mind in the Northern Hemisphere during the height of the last phase of the Ice Age, known as the glaciation of Würm.

Somewhat less than 13,000 years ago, a new cycle was initiated with the Epoch of Language Creation already discussed. We can now place this event within the wider context of human evolution as a decisive stage in the development of Mind. For the first time, the human mind was provided with an instrument that enabled it to transcend the limitations of the sensitive present; i.e. the moment of time directly accessible to sense perception. Memory, foresight, planning and organized co-operation all require linguistic forms possessing a very much higher degree of organized complexity than those which suffice for the life of nomad hunters and food gatherers. In *Vol. IV of the Dramatic Universe*, I have introduced the concept of the Present Moment as the field of a single will. Since will varies in its power of embrace and can operate through a variety of instruments, the Present Moment, though unique, varies in extent and changes in content. The extent of the present moment determines the status of individuals and communities. The content is determined by the different influences, casual, purposive, formal, structural, destructive and constructive that act upon it, and therefore is only to a limited degree controllable by the will that defines it.

The extension of the present moment provides an objective criterion of the level at which the mind of a given person or the collective mind of a community is able to operate. We can recognize that during the past 12,000 years there has been a great expansion of the scale upon which people can perceive and deal with the present moment.

This expansion has developed at an accelerated pace. Especially during the last 2,000 or 3,000 years. By examining its operation we may hope to learn something about *Intelligence* and especially about the Demiurgic Intelligence postulated as the guiding spirit in the evolutionary process. In different Epochs the emphasis has been placed upon different aspects of the present moment. One of these aspects, concerns time and the analytical working of the mind that corresponds to the character of temporal process. Interest in time always stimulates the discursive reason in man. We “reconstruct” the past and “speculate” about the future and in doing so, apply almost exclusively the kind of thinking that works by analysis and comparison and seeks to reduce the structure of nature to a system of laws. This operation discloses ways in which man finds himself free to intervene in the transformations of matter and energy and the processes of life. When his intervention produces results that are pleasing, he calls it “gaining mastery over Nature.” During the past few centuries, mankind has travelled rapidly along this path and one obvious consequence has been an inordinate confidence in man’s own power and in his ability to solve all the problems that arise from his contact with nature.

The term “Megalanthropic Epoch” was used to designate the period 500 B.C--A.D. 1850, in order to express the high valuation accorded by man to himself and his race. The term is not intended to be pejorative. On the contrary, Megalanthropy represents an important advance over Hemitheandry when the common man was grossly undervalued. In the first century of the Megalanthropic Epoch a galaxy of extraordinary men --Zoroaster, Lao Tzu, Confucius, Gautama Buddha, Mahavira Jain, the Hebrew prophets of the Babylonian Captivity, Solon, Pythagoras and others whose names are almost forgotten--proclaimed in many forms. but with amazing unanimity of content, the doctrine that the human person is sacred irrespective of birth or rank. This noble theme led, in one direction, to the founding of the great religions; and, in another, to the rise of humanism and with it to modern science and technology. It also led, unfortunately, to an excessive self-reliance that made men lose sight of their dependence upon the Higher Intelligence that had guided them so far. Excessive glorification of man was not confined to the humanists; it was shared by religious people even when disguised by an attitude of humility before God. The belief that the earth is the centre of the Universe and that man is the summit of creation is a typical Megalanthropic fallacy. Many of our present troubles come from the failure to realize that man has been brought into existence, not to dominate; but, to serve all life on the earth.

The Megalanthropic Epoch served its purpose and prepared the way for the next step forward. If much now seems unbalanced and if man seems to have lost touch with the notion of a purpose to be served; we must remember that the progress made has been largely due to the development of those mental powers that are by their nature indifferent to the motivations of value. The gains made during the past centuries have been two-fold. The material progress is obvious. There has also been an advance in the human outlook that respects human life and condemns the wanton infliction of suffering on any living being. These gains have one feature in common: they both concern the outward life and behaviour of men. The losses of the Epoch have been mainly in the inner life, in those regions where discursive thought is unable to penetrate and therefore describes as “unconscious” or “sub-conscious”. These regions of the human totality are usually regarded as more “primitive” than the conscious regions. Even the “Superego” postulated by some schools of psychology is treated as an undeveloped though dominant element of the psyche. The tendency to identify man with his mental powers is typical of the Megalanthropic attitude; and it results in man cutting himself off - both in theory and in practice from his own Higher Intelligence, which is his link with the Demiurgic Powers and that of mankind with its great destiny.

This separation has resulted in a deep-seated conflict in human nature. Few will deny that modern man - both individually and in societies - is the prey to conflicting forces. The conflict was until recently seen as lying between science and superstition or between theism and atheism, according to personal prejudice. Viewed in this way, it appears that we must either take man as he is and put our trust in what he can know and do for himself, or else turn to an all-powerful and all-wise Deity by Whom all creation, including man, is governed and regulated. In either case, unacceptable conclusions are forced upon us by any logical reasoning. Wherever we turn, contradictions continue to haunt us.

In spite of all the advances in the techniques of scientific observation and analysis, human thought has not advanced very far towards the resolution of these conflicts since they were stated by the schools of Hindu and Greek and Chinese philosophy two thousand five hundred years ago. The history of the subsequent Epoch demonstrates that something has been missing, and that if we are to make progress, we must be prepared for very bold experiments, even to the extent of questioning our logical principles on the one hand and our religious and moral assumptions on the other.

The investigations described in the Dramatic Universe have been made with the assumption that such a fresh start is indispensable. This does not mean discarding what has been acquired just because it comes from the past; but the readiness to revalue everything that we think and believe in the light of new principles of explanation. The title of the book is intended to give an indication of the character of the principles of explanation on which it is based. We must start by recognizing that neither theism nor atheism, neither religion nor science, have succeeded in bringing the Universe to life. Still less have they succeeded in showing how it can have the dramatic character which is inseparable from all that we experience as significant and important. Mechanistic interpretations, which regard all the regularities of Nature as the expression of causal laws, can make no real distinction between past and future. They must lead, when applied to man, to some form of existentialism which places such drama as there is, exclusively within the finite self. The Universe as a whole cannot be dramatic if it has no direction, for without direction, there is no meaning in success or failure. Under laws which are exclusively causal, there can be no real conflict, therefore reconciliation or defeat must be words without meaning.

Conventional theism leads to much the same conclusion. When God is defined as the omnipotent Creator and omniscient regulator of all that exists; the world ceases to be dramatic, and every finite conflict is an illusion, for the outcome is pre-determined by the Divine Will. By various expedients, theism seeks to recapture the dramatic significance of individual life; but does not in general concern itself with the Universe. This way of thinking is particularly evident in both Christian and Islamic theology which bypass the Universe and place man in a direct relationship with God. In such a world, there can be no real struggle, for there is no real uncertainty.

Modern science has re-awakened our sense of wonder in contemplating the immensity of the Universe and duration of past and future time. We can only marvel at the simplicity and elegance with which order has been brought into the most capricious seeming of natural processes; but, so far as any dramatic content of the Universe is concerned, science, philosophy and religion have made a desert and have called it peace.

If we start with the basic assumption that uncertainty is inherent in the very nature of existence, we can legitimately hold to the belief that Existence itself has a goal to be attained and yet remain uncertain as to whether all or any part of the goal will or can be realized. The drama of the universe will then consist precisely in this uncertainty; but we have here to take into account the observation that disorder comes by itself, whereas order can be achieved only through intentional and purposive action. Thus the drama of the universe also requires that there should be purposive Intelligences, great enough to counterbalance the trend towards disorder, and yet not absolute in their operations, for this would destroy the drama and require a situation that is quite incompatible with all our experience. We take it as a principle universally valid that all existence is limited, uncertain and hazardous and therefore dramatic. In so doing we do little more than generalize from our every day and unvarying experience that nothing is certain and from the scientific attitude that there are no absolute laws. Intelligence, however lofty, is always fallible. We see nowhere in nature indications of a determinate, infallible operation. On the contrary, we see everywhere intelligence, human and non-human, struggling to assert order in the face of disorder and even destructive forces. This observation is so universal that we cannot find in any part of our experience situations in which it is not exemplified.

The belief that Order and Intelligence are inseparable requires that, if there is evolution of life on the earth towards a higher degree of order, then this must be due to the working of an intelligence commensurate in scale of its operation with the whole process of life which has endured for more than a thousand million years. The uncertain and faltering progress towards order in the Biosphere is inconsistent with the belief that the process is following a plan that is intended to lead to an end point foreordained from the start. All that we learn from the geological and palaeontological record strengthens the belief that a combination of ordering intelligence and disordering hazard has been at work.



This theme is developed in the fourth volume of the Dramatic Universe, though inevitably with such a complex subject in which new discoveries are constantly being made, the treatment can be no more than an indication of what could be done, given the time and the resources to re-examine and re-assess the data.

Briefly, the thesis that I have formulated is that life on the earth is evolving towards a new mode of being in which a single will and creative conscious power is destined to guide the destiny of the Biosphere and all its constituent species of man, animals and plants. In this destiny, mankind is being prepared to play a special part and the evolution of humanity is being intelligently guided in preparation for the task to be performed. We are at an early stage of our development, and in each Epoch some element is carried a step forward. In the past Epoch, it has been man's capacity to think for himself. In the next Epoch it will be man's capacity to organize his life in communities.

On the larger scale of the time periods, that I have called Great Cycles, the gap that separated the early stages of primitive man from the guiding intelligence has gradually been reduced. Man must learn to co-operate with the Demiurgic Intelligences. For the past 12,000 years, this co-operation has been confined to a very small number of men in whom higher modes of perception have awakened. Before that time, for 25,000 years, the co-operation was of a different kind, for the "great men of old" still walked the earth in the form of the direct descendants of the Demiurges. Earlier still, Homo sapiens sapiens did not exist and the Demiurgic Powers acted directly.

In the future, the communication with the higher Intelligences will have to be shared by greater numbers of people. \*Before this can happen, man will have to abandon the false view that has grown up in the last Epoch that he is or ever can be self-sufficient. The attitude to the higher Intelligence should not be one of either indifference or revolt or submission; but of understanding and co-operation. This is why I have referred to the age we have now entered as the Synergic Epoch to draw attention to the all-important requirement that men should learn to work together not only among themselves but with the higher intelligence that is guiding our destiny. The synergy or co-operation must take four distinct forms:

1. *Co-operation with the Demiurgic Intelligences.* This requires the ability to recognize their communications and distinguish them from those emanating from our own imagination or possibly from unseen powers hostile to man. It also requires patience and persistence to work over long periods of time for aims to be realized in the distant future.

2. *Co-operation between different levels within humanity.* Our thesis pre-supposes the development of a small proportion of people to higher levels of consciousness and power. For a long time to come there will have to be special channels of communication between ordinary men. and the Higher Intelligence. In Vol. III of the Dramatic Universe (chapter 41), I have put forward a scheme for an ideal human society composed of three main groups, each divided into four sub-groups. 199

XII	Messengers	} Subgroups	Psychoteleios group: Men who can communicate directly groups with the higher Intelligence and can exercise higher powers.
XI	Prophets		
X	Saints		
IX	Guides		
VIII	Initiates	} Subgroups	Psychokinetic group: Men who are in process of transformation and in whom supra normal powers are being developed.
VII	Counsellors		
VI	Specialists		
V	Candidates		
IV	Leaders	} Subgroups	Psychostatic group: Men whose concern and interest is I groups confined to the worlds of matter and life in whom the urge to develop has not yet awakened.
III	Craftsmen		
II	Producers		
I	Dependents		

The co-operation of the second kind is mainly concerned with the exchanges required between the twelve sub-groups.

3. *Interregional Synergy*. If the earth has the characteristics of an organism in course of development, each region of the earth's surface, the land and oceans and also the atmosphere and the interior has a definite contribution to make to its evolution. Man, as the seat of biospheric intelligence should recognize the characteristics of each region and the forms of life that occupy them and so organize the human society as to enable each part to make its optimum contribution. In its simplest expression, this means that each region should produce the most appropriate products and adopt the most effectual form of social organization. There can be no single universal pattern of society applicable equally to the circumpolar, the temperate and the tropical zones, to plains and mountains, to regions of high mineralization and those of high fertility. New concepts of co-operation must develop if the growing needs of the Biosphere are to be met.

4. *Biospheric Responsibility*. This requires the hardest change of all in man's attitude to life. At the present time we still hold to the Megalanthropic concept: "the Earth is for man to do as he pleases and all life is for his use." To abandon this in favour of the doctrine that man is the ruler and servant of all life and that he is obliged to sacrifice his immediate well-being to enable the evolution of the entire Biosphere to go forward harmoniously, is for most people of our time an unthinkable absurdity. And yet the time must come when this will be universally recognized.

In postulating these four types of synergic action, I have put aside any question of co-operation with non-terrestrial intelligences. There has been much speculation about "life on other planets" and even in "outer space", and the possibility that highly evolved beings may exist on our own or other solar systems. It seems to me that we should start by weighing the evidence for non-human Intelligences associated with the evolution of our own planet. In this essay, I have done little more than suggest ways in which this evidence may be marshalled and assessed. In the Dramatic Universe, I have gone into greater detail; but such studies are still in their infancy.

One thing alone is certain and that is that we are entering a period when we must co-operate or perish. It is almost equally evident that man, as he is today, is incapable of true synergic action in any of the four fields enumerated. We cannot agree even upon such obvious necessities as the sacrifice of personal and national pride and self-interest in order to end war. It seems to follow that we are still in the Age of Tutelage needing help and guidance from the Demiurgic Powers. In the last chapter of the Dramatic Universe, I have given my reasons for believing that we are now in presence of the intervention of a very high Intelligence that will lead man into the new Epoch along paths that he can neither see nor choose for himself. If this conclusion is valid, the future is illuminated with a wonderful hope: but this is not to be interpreted as the promise of a material Utopia or a human society responsible to man alone. Our hope for the future consists in learning how to co-operate with the Higher Intelligence making the fullest use of the powers that we now possess; and other powers that we may be destined to develop.

## BIOGRAPHICAL NOTES

### **J. G. BENNETT**

Born 1897. Formerly Director-General of the British Coal Utilization Research Association and Director of Research at Powell Duffryn Ltd. Author of scientific papers on coal and fuel technology and mathematical physics. Books published include *The Crisis in Human Affairs*, *The Dramatic Universe*, *Concerning Subud*, *Witness*, *A Spiritual Psychology*, *Energies*. At present Director of Research at the Institute for the Comparative Study of History, Philosophy and the Sciences.

### **W. Low**

Born 1928 in London, England. BA. Lectured in Human Relations with emphasis on communication. Personnel Manager for five years in South Africa. Presently employed as Salary Administrator with responsibilities for developing supervisory succession programme and for assisting in development of organization structure.

### **A.G. E. BLAKE**

Born 1939. B.Sc. (Hons.) in physics from the University of Bristol. Post-graduate studies in the history and philosophy of science at Cambridge University. Taught physics and fundamentals of science at Brunel College of Advanced. Technology. At present Research Fellow of the Institute for the Comparative Study the History, Philosophy and the Sciences in the History of Ideas and Methods of Thought.



THE INSTITUTE FOR THE COMPARATIVE STUDY OF  
HISTORY, PHILOSOPHY AND THE SCIENCES

Founded 1946

*Chairman of the Council*  
HARRY STUBBINGS

*Hon. Treasurer*  
HAROLD VIGURS

*Joint Hon. Secretaries*  
IAN McCOIG, BRYNHILD W. THRING

*Director of Research*  
JOHN G. BENNETT

*Senior Research Fellow*  
*Education:* A. M. HODGSON, B.Sc., A.R.C.S.

*Research Fellows*  
*Structural Thinking:* A. G. E. BLAKE, B.Sc., CERT. HIST. PHIL. SC.  
*Scientific Methodology:* H. BORTOFT, B.Sc., and K. W. PLEDGE, B.Sc., A.R.C.S.

*Charles Marston Research Fellow*  
*History and Archaeology:* J. D. BRISTOW, B.A.(CANTAB.)

*Joint Hon. Editors Journal of The Institute*  
JOHN G. BENNETT, KARL S. SCHAFFER

AIMS AND OBJECTS OF THE INSTITUTE  
extracted from—"Memorandum of Association"

3. The objects for which The Institute is established are:—

- (a) To promote research and other scientific work in connection with the factors which influence development and retrogression in man and their operation in individuals and communities; to investigate the origin and elaboration of scientific hypotheses and secular and religious philosophies and their bearing on general theories of Man and his place in the universe; and to study comparative methodology in history, philosophy and natural science.
- (b) To promote and prosecute theoretical and experimental researches in the physical and biological sciences particularly in the field of psychokinetics.
- (c) To provide facilities for post-graduate courses related to the objects of The Institute by means of research fellowships and bursaries to be held at The Institute or at any recognized University or place of learning.
- (d) To organize courses of lectures and practical demonstrations by members of the staff of The Institute or by extra-mural authorities.
- (e) To prepare, edit, print, publish, issue, acquire and circulate books, papers, periodicals, gazettes, circulars and other literary undertakings and to establish, form and maintain museums, collections, libraries and collections of literature, statistics, scientific data and other information and to translate, compile, collect, publish, lend and sell, and endeavour to secure, or contribute to, the translation, compilation, collection and publication, by Parliament, Government Departments and other bodies or persons, of any such literature, statistics and information, and to disseminate the same by means of the reading of papers, delivery of lectures, giving of advice, the appointment of advisory officers.

Membership of The Institute is open to all those who subscribe to the Aims and Objects and are interested in furthering its work.

The membership subscription is £2 12s 0d per annum, dating from April 1st. Members receive the *Bulletin of The Institute* free of charge and can attend and vote at annual meetings.

Members receive the *Journal of The Institute* at a reduced rate of £1 10s 0d per annum. For full particulars of membership write to Membership Secretary, 23 Brunswick Road, Kingston-on-Thames.