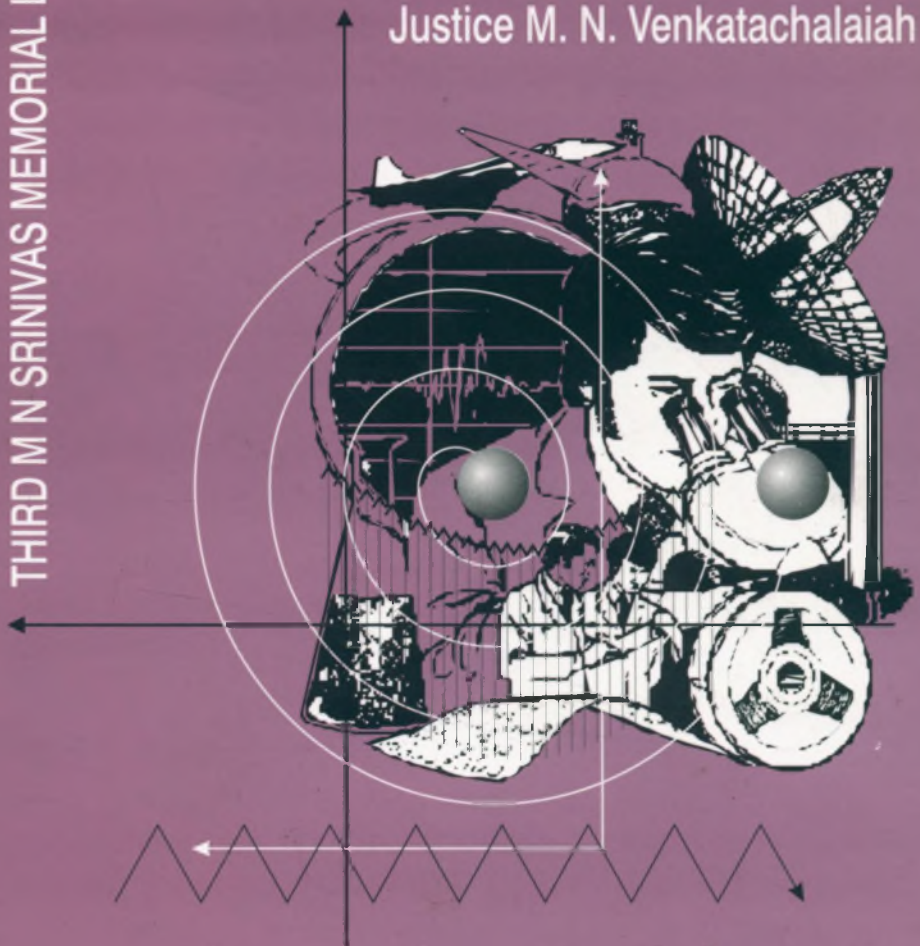
THIRD M N SRINIVAS MEMORIAL LECTURE

Teleology from Bergson to William Halal

Justice M. N. Venkatachalaiah



NATIONAL INSTITUTE OF ADVANCED STUDIES
Indian Institute of Science Campus
Bangalore 560 012 India

The Third M N Srinivas Memorial Lecture

Sponsored by the Syndicate Bank

Does Technology Re-invent a Purpose in Civilization?

Teleology from Bergson to William Halal

JUSTICE M. N. VENKATACHALIAH

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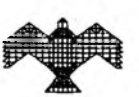

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The M N Srinivas Memorial Lecture, given every year at the National Institute of Advanced Studies, is sponsored by the Syndicate Bank, which has been a pioneer in introducing social banking in India.

Prof. M. N. SRINIVAS

Prof Srinivas was born on 16 November 1916 in Mysore and graduated from Mysore University in 1936. He obtained a PhD degree in 1944 at Bombay working with G S Ghurye for a thesis on the religion and society of Coorgs. In 1945 he went to Oxford and obtained another Doctor's Degree (D.Phil.) there. After being appointed to a lectureship in Indian Sociology at Oxford, Prof Srinivas returned to India and carried out field work in the village Ramapura, near Srirangapattana, before returning to Oxford to continue with his appointment. The book he wrote on this work, called *The Remembered Village*, written largely from memory when he was visiting Stanford in 1970 after his notes were burnt down, has become a cherished classic. Prof Srinivas returned to India in 1951 to work as Professor of Sociology in the MS University of Baroda. In 1959 he went to Delhi to set up a department of sociology at the Delhi School of Economics. He returned to Karnataka in 1972 and played a key role in founding the Institute of Social and Economic Change, where he was Joint Director during 1972-73 and a Senior Fellow till 1979.

In the year 1992 he joined this Institute and continued a vigorous intellectual life. Among his last publications were a collection of essays titled *Indian Society Through Personal Writings* and an edited volume on *Caste: Its 20th Century Avatar*. On 7 October 1999, weeks before his death on 30 November 1999, Prof Srinivas spoke at NIAS on *Obituary on caste as a system*, setting out his view that the old economic and social relationships that were characteristic of the caste system had broken down, but that caste had survived as a means for securing access to resources of different kinds.

At various times during his career he held distinguished visiting positions at many famous overseas universities, including Oxford, Cambridge, Stanford, Cornell and Canberra.

Prof Srinivas was widely honoured for his scholarship, both within the country and abroad. He was a Fellow of the British Academy, Honorary Fellow of the Royal Anthropological Institute and Foreign Honorary Member of the American Academy of Arts and Sciences. He was awarded the *Padmabhushan* and the T H Huxley Memorial Medal of the Royal Anthropological Institute in 1976 and the Kannada Rajyothsava Award in 1996. He received honorary doctoral degrees from the universities of Nice, Mysore, Chicago and Delhi, among others.

Before Mr Justice Venkatachalaiah's address, Prof R Narasimha spoke as follows.

Mr Justice Venkatachalaiah, ladies and gentlemen,

I have great pleasure in welcoming all of you to the third M N Srinivas Memorial Lecture. Prof Srinivas was one of the world's leading sociologists, and for the last seven years of his illustrious career he was J R D Tata Visiting Professor at this Institute. What distinguished Prof Srinivas from many other scholars was that, apart from the path-breaking contributions he made to sociology and social anthropology, he was a person with an extraordinarily broad world view that was at one and the same time both very Indian and global. He moved easily not only with his professional colleagues in the disciplines he pursued, but also with scientists, engineers, businessmen, bureaucrats, politicians, theatre personalities and so on. We were very fortunate to have Prof Srinivas at this Institute, in particular because of the many interactions that so many of us had with him, even on the subjects of interest to ourselves. This breadth of interest, coupled with his unusual cultural optimism about Indian society, made him a most valuable colleague.

The first lecture in this series was given by another distinguished sociologist, Prof Triloki Nath Madan, who spoke on *Religion in the Modern World.* He was followed by Prof Kenneth Keniston of the Massachusetts Institute of Technology, whose theme was *IT for the Common Man.* Continuing in this tradition we are most fortunate to have

today a most distinguished jurist, Mr Justice M N Venkatachalaiah, as the Third M N Srinivas Lecturer. Mr Venkatachalaiah has rendered signal services to the country in various capacities. He was Chief Justice of India during 1993-94, served as the Chairman of the National Human Rights Commission during 1996-99, and has been Chairman of the National Commission for the Review of the Constitution. Mr Venkatachalaiah has unmatched experience with the legal system of this country, and has spent much of his professional life upholding and strengthening its legal and constitutional fabric. He is addressing today the question *Does technology re-invent a purpose in civilization*? As I have mentioned earlier, Prof Srinivas's interests included the role of technology in society, and he enthusiastically helped us to analyse in particular the potential role that Information Technology, for which this City is now so widely known across the world, can play in Indian society. We are therefore privileged to have Mr Justice Venkatachalaiah to address a question that Prof Srinivas would have considered very important.

This lecture is made possible by a generous grant from the Syndicate Bank. I take this opportunity to express our gratitude, on behalf of NIAS, to the Chairman of the Syndicate Bank and his colleagues, for their generosity in sponsoring this lecture in memory of a great Indian scholar.

I now have great pleasure in requesting Mr Venkatachalaiah to deliver the Third M N Srinivas Memorial Lecture.

I. Prof. M.N.Srinivas

I am indebted to Prof.Roddam Narasimha for the privilege of this invitation to deliver the Prof. M N Srinivas memorial lecture. Prof. Srinivas, in his long and scholarly career, contributed to a re-definition of the focus of sociological research in India. The tools of evaluation of social change that he developed imparted a new inter-disciplinary character to sociological studies and research. His massive scholarship, clarity of vision, his penetrating intellect earned for him an enduring place in the academic world. As a profound thinker and philosopher, his analysis of the processes of social empowerment and the economic and political costs and consequence of a fractured, fragmented and non-inclusive Indian social order provided clearer perspectives. Experience of economic development in third world countries compels the inference that public goods are not the rewards of economic development but are

crucial to the processes by which such development can at all be achieved and that it is more relevant and appropriate to focus on the economic gains of social reforms than on social rewards from economic development. The architecture of an inclusive society is crucial to a stable, inclusive, representative democracy. It is my privilege to join in this tribute to the memory of a fine scholar.

II. Teleology and Mechanism

How do we integrate the theme of today's talk with sociology? "Belief in a world of purpose" says W.T.Stace "was a part of the intellectual heritage of the western world for two thousand years, from the time of Socrates until the seventeenth century. What happened to it as a result of the birth of the scientific spirit? The idea of 'Newton's world-machine' arose. The thought that the universe is a machine spread like wild fire through Europe. Not only is the world a whole machine, but everything in it is mechanical." The German philosopher Leibniz once said of Newton that "Newton's God was a mechanic, and a poor one at that since he could only make a machine which could be kept going right by frequent tinkering".[1]

"The modern mind" it is said, "is the product of seventeenth century science." That era saw the birth of modern science, as it is understood today, and was exposed to the thoughts of Kepler, Galileo and Newton and to newer speculations on creation and cosmology. There was the expected and inevitable confrontation between the

'teleological' and 'mechanical' theories of evolution: whether there was 'purpose' or 'consciousness' in evolution or whether it was merely a causative factor. Science is generally associated with 'mechanism' and religion with teleology. Logic, Bergson said, belonged to the inorganic and intuition to the organic. The discerning of a purpose in evolution was considered unscientific. This scientific temper militated against the religious concept of the world as a moral order and the declaration implicit in it that moral values were objective. Modern science postulated propositions which were inconsistent with objective moral values. Newton was unaware that the 'Celestial Calculus' of his science and his own devout Christian faith did not square with each other. On the contrary the assumption implicit in his faith was that the laws of science pre-supposed and evidenced a transcendental intellect and a superior power.[2]

W.T.Stace wrote:

> Surely God can as well exist with the earth going around the sun as with the sun going round the earth. Or is the existence of God consistent with circles but not with ellipses, or can he not exist in a universe which follows Galileo's law of motion, but only in one which follows Aristotle's? Finally, is the law of gravitation atheistic or incompatible with belief in a divine being? What then was there in the scientific revolution which could be inimical to religion?[3]

That was an age which produced Hume, Gibbon, Galileo and Voltaire. It accentuated the spirit of scepticism. "On the heels of the seventeenth century came the most sceptical age of the modern world, the eighteenth century. This was the age in which an English king could complain that half his bishops were atheists."

III. Scientific and religious quests: Search for unity of purpose in science and religion

Scientists, though struck by the arcane and mysteriously ordered system and the beauty of nature, stopped short of imposing a purpose in evolution. A scholar observes:[4]

> ...the driving force of evolution comes from the accumulation over countless generations, of chance genetic changes sifted by the rigours of natural selection. In describing the consequences of this process, it is only too easy to use a form of words that suggests that the animals themselves were striving to bring about a change in a purposeful way- that fish wanted to climb on to dry land and to modify their fins into legs, that reptiles wanted to fly, strove to change their scales into feathers and so ultimately became birds. There is no objective evidence of anything of the kind ...

But to Newton, "the motions which the planets now have could not spring from a natural cause alone but were impressed by an intelligent agent." Stephen Hawking writes

that we find ourselves in a bewildering world. We want to make sense of what we see around us and to ask: what is our place in it and where did it and we come from? Why is it the way it is?

> However, if we do discover a complete theory, it should in time be understandable in broad principle by everyone, not just a few scientists. Then we shall all, philosophers, scientists and just ordinary people, be able to take part in the discussion of the question of why it is that we and the universe exist. If we find the answer to that, it would be the ultimate triumph of human reason – for then we would know the mind of God.[5]

Physicists, though, claim that nothing is beyond the scope of their subject and everything is amenable to be reduced to the laws of physics. They also concede that in practice their understanding of most systems is woefully limited. Systems as basic as clouds and snowflakes are notoriously hard to model using the familiar laws of physics. As for biological systems, even the most primitive of organisms such as a virus or a bacterium defeats the efforts of the physicist by virtue of its overwhelming complexity. Nevertheless, this practical impotence tends to be dismissed on the grounds that however mysterious a complex system may be, its behaviour must ultimately be dictated by the laws of physics, and nothing else.[6] The vast web of knowledge became a "jigsaw patch work puzzle of multitudes of discoveries and theories of all

our diverse branches of knowledge" and divided into watertight compartments between which communications are not yet fully open.

Aldous Huxley [7] makes these instructive remarks –

> It is from the more or less obscure intuition of the oneness that is the ground and principle of all multiplicity that philosophy takes its source. And not alone philosophy, but natural science as well. All science, in Meyerson's phrase, is the reduction of multiplicities to identities. Divining the One within and beyond the many, we find an intrinsic plausibility in any explanation of the diverse in terms of a single principle.

Sir James Jeans once remarked that the universe begins to look more like a great 'Thought' than a great 'Machine' and that the mind no longer appears as an accidental intruder in the realm of matter. Freeman Dyson said:

> When we examine matter in detail... we see it behaving as an active agent rather than an inert substance. It makes what appear to be arbitrary choices. Between matter and our own consciousness, there seems to be only a difference of degree but not in kind.

A belief in the unity of the sciences is attributed to Thales of Miletus in Ionia, in the sixth century B.C.– the Ionian enchantment, a conviction far deeper than a mere

working proposition, that the world is orderly and can be explained by a small number of natural laws. Edward O. Wilson, in speaking of this enchantment says: [8]

> ... The enchantment, growing steadily more sophisticated, has dominated scientific thought ever since. In modern physics its focus has been the unification of all the forces of nature – electroweak, strong, and gravitation – the hoped-for consolidation of theory so tight as to turn the science into a perfect system of thought, which by sheer weight of evidence and logic is made resistant to revision. But the spell of enchantment extends to other fields of science as well. And in the minds of a few it reaches beyond into the social sciences, and still further, to touch humanities. The idea of unity of science is not idle. It has been tested in acid baths of experiment and logic and enjoyed repeated vindication. It has suffered no decisive defeats.

IV. From Bergson To William Halal: Henry Bergson

Henry Bergson, the great French philosopher, divided the world into two disparate portions, on the one hand life, on the other matter, 'or rather that inert something which the intellect views as matter.' Bertrand Russell presents the Bergsonian thesis this way:

> Bergson maintains that evolution is truly creative like the work of an artist. An impulse to action, an undefined want, exists before hand, but until the want is satisfied it is

> impossible to know the nature of what will satisfy it. For example, we may suppose some vague desire in sightless animals to be able to be aware of objects before they were in contact with them. This led to efforts, which finally resulted in the creation of eyes. Sight satisfied the desire, but could not have been imagined beforehand. For this reason, evolution is unpredictable, and determinism cannot refute the advocates of free will. This broad outline is filled in by an account of the actual development of life on the earth.[9]

Instinct at its best is called intuition. By intuition he says, he means instinct that has become disinterested, self-conscious, capable of reflecting upon its object and of enlarging it indefinitely. "The account of the doings of intellect is not always easy to follow, but if we are to understand we must do our best."

The intellect, Bergson says, always behaves as if it were fascinated by the contemplation of inert matter. It is life looking outward, putting itself outside itself, adopting the ways of unorganized nature in principle, in order to direct them in fact.

Prof. William E. Halal

Prof. Wiliam E Halal of George Washington University wrote and published recently a monograph on the *life cycle of evolution: Power, progress, and purpose in the advance of civilization.* In a letter the professor said:

> I 've published several books and many articles, but this piece is particularly dear to my heart. I worked on these ideas for more years than I would like to admit, occasionally publishing a version or two along the way, but the argument never felt whole until this latest attempt came together with a satisfying conclusion. Evolution is an extremely complex, messy topic, yet I feel that this framework captures a fascinating perspective with profound insights.

I was myself fascinated by the implication of a purpose in the evolution of life cycle and advance of civilizations. His theory discerns, in the organic process of planetary development, the operation of forces driving toward heightened awareness and existential choices as a matter of sheer necessity.

There is, it is true, no organic inter-relationship between the philosophy of Bergson and the interpretation of the significance of progress of technology and discerning a purpose behind it, argued by Prof Halal.

To Bergson the creativity of evolution was unpredictable. But to Halal the purpose of the cycles of evolution looks destined.

In the following paragraphs I present Professor Halal's interpretation – of the life cycle of evolution with the focal point that new technologies – agriculture, manufacturing, services, information, at the macro level, transcend specific inventions to focus on how they drive social change.

According to Prof. Halal, technological change drives a cycle of organic development of the entire planet, although on a scale of such magnitude that it almost defies comprehension. We are not used, he says, to thinking in such broad terms, but the Earth as a whole appears to be evolving through its own life cycle that is roughly similar to the life cycle of ordinary organisms, but vastly larger in scope and duration. By carefully seeking a few meaningful patterns in this grand drama, Prof. Halal identifies the characteristic path that civilization follows in the great scheme of things and gains a faint glimpse of where we are going. The key to understanding evolution, according to him, lies in the viewing of the rapid changes of our time as cultural equivalents of biological evolution. Theodosius Dobzhansky (1962) noted that "Biological and cultural evolution are parts of the same process." Humans today are not very different genetically from their ancient ancestors, yet civilization has progressed enormously since then. The dramatic changes occurring now – computerization, biogenetics etc. – are a result of technical advances created by sophisticated societies. In Table 1 Prof. Halal summarises the seven stages that comprise the entire life cycle of evolution using data from established sources. Biological evolution comprises the first stage, while the remaining describe cultural forms of evolution. The first six stages are historic fact, while the last – Existential Era – is a logical but somewhat speculative projection.

In figure 1, Prof. Halal describes the waves of technical progress observing that evolution does not move through these stages in discrete steps and that a more advanced technology rises to challenge the status-quo; it causes the old social order to yield to a new social order; the new era then flourishes for a while and it finally recedes to lay a foundation for the next wave to repeat this process again.

Thus according to him the evolution advances along the crest of waves of technological innovation. He observes:

> Civilization began when the invention of farming permitted stable communities that formed agrarian societies. Later, manufacturing technology introduced the industrial age and began to automate farming, reaching a crossover point about 1850 when factories replaced farms as the primary employer. The next crossover point occurred at 1950 when the automation of factories moved the bulk of the labor force to white collar work (Bell 1973).
>
> The service era then emerged based on the use of "social technology". Although the concept of "social technology" is not generally understood, it also fits the broader definition used here. Just as physical technology is derived from application of physical science, social technology draws on various social sciences to design and lead social systems.

Just as in previous stages, service economies are being automated by the next higher level – information technology. The computer is eliminating clerical work (automatic bank tellers, word processing), sales (on line marketing), middle management (virtual organization) and other routine service tasks. The cross over point began using intelligent information systems in homes and offices connected by global communications networks such as the internet.

Beyond the information era, we may witness a "spiritual revolution" powered by "mental/ spiritual technology" to produce an "existential age". This is speculative, obviously, but it follows logically from the order of increasing abstraction as evolution progresses from farming to industry to social relations to information and finally to spiritual concerns. Tonybee (1954) observed an historic trend toward the "etherealisation of life". Spirituality is often dismissed as ignorance or fantasy, but that's because its very nature transcends rational logic. As we shall see, spirit comprises that vast domain beyond knowledge.

An impressive body of evidence is accumulating to demonstrate the utility of spiritual technology. Medical research shows that strong practices are growing in business, sports and politics. Roughly 1000 books appeared recently with "soul" in their title. These are not technologies, but they fit the definition used earlier. Mental/spiritual technologies are used to shape emotions, mood,

understanding and other facets of awareness to cope with life's challenges.

Thus spirit is more than "bliss" or "goodness" – it is a state of mind that is manifested in "existential" acts. As many philosophers have noted, life is actually lived moment by moment as we make crucial decisions that determine the course of events. And because spirit sets our perception of reality itself, all behaviour flows out this private "sense of being" or "stream of consciousness" that people inhabit. Many claim the biggest problems in modern society – crime, drug, abuse, sexual promiscuity, conflict, etc., stem from the lack of worthy values, the absence of emotional support and other failures of the spirit. Spiritual technology offers a means by which people can gain control of their lives, and so the existential era represents a vast frontier beyond the information age in which society can be guided more effectively.

In short "civilizations progress up a hierarchical order toward "nonphysical" technologies that offer increasingly greater power. Social interaction and information are abstract phenomena that behave very differently than the physical world. Co-operative relationships can harness the energy within a social system, and knowledge increases when shared (Halal 1998). Mental/spiritual technology is more powerful still because beliefs motivate all behaviour."

V. Epilogue

The rudiments of life emerged, precarious and fragile as they were, some four billion years ago. The co-existence a right mix of physical and chemical conditions on this planet rendered possible the emergence of certain systems, which we recognise as the "living". There are, it is said, "certain anomalous properties of water, in conjunction with unusual powers and space relations of the carbon atom, along with exceptional conditions of radiation and temperature, which are shown to form a sort of conspiracy of circumstances allowing life to be and here and now."

This was "in the backward abyss of time when our planet was not yet a place possible for the life now around us". The dramatic event was described by a scientist thus:[10] "A stage ensued, however, when things would by a bare margin just permit the type of energy – system we speak of as living. Slender though that chance, it was, so to say, seized. Life appeared. Perhaps in some warm runnel of tidal mud or frothy ooze. It would, we must think, be a tiny thing, perhaps clustered and numerous; to all outward appearance impossibly fraught with what it has become today!". After an awesome gap of cosmic time, humans emerged some three million years ago. They settled down to organised societies some 7000 years ago. But in the last 150 years the process of consummation of the purpose of human creation and destiny – if there is one – quickened its pace through the Industrial Revolution, the Information Revolution and the Knowledge Revolution to a possible

Spiritual Revolution. What is based on but beyond knowledge could only be a Spiritual Era. Professor Halal's enlightened optimism delivers man from the morass of moral and spiritual nihilism.

However, much remains unanswered. Do scientific temper and scientific method really need to be ethically neutral? Or are objective moral values mere subjective noises? While we plod through the wilderness of life's experience, we may never, in the confines of this life, achieve finality on these. But this is not, in the words of Lord Hailsham, to surrender to agnosticism or to worship doubt; but only to say with Wittgenstein "that of which we cannot speak intelligibly is something about which one is bound keep silence; but it is silence of worship and not of ignorance."

References:

1. Leibniz' correspondence with Clarke: letters.
2. W.T. Stace: *Religion and the modern Mind.*
3. W.T. Stace: *Mysticism and Philosophy.*
4. David Attenborough: *Life on Earth.*
5. Stephen Hawking: *A Brief History of Time* .
6. Superstrings: *A Theory of Everything.*
7. Aldous Huxley: *The Perennial Philosophy.*
8. Edward Wilson: *Consilience (Unity of knowledge).*
9. Bertrand Russel: *History of Western Philosophy.*
10. Sir Charles Sherrington: *Man on his Nature.*

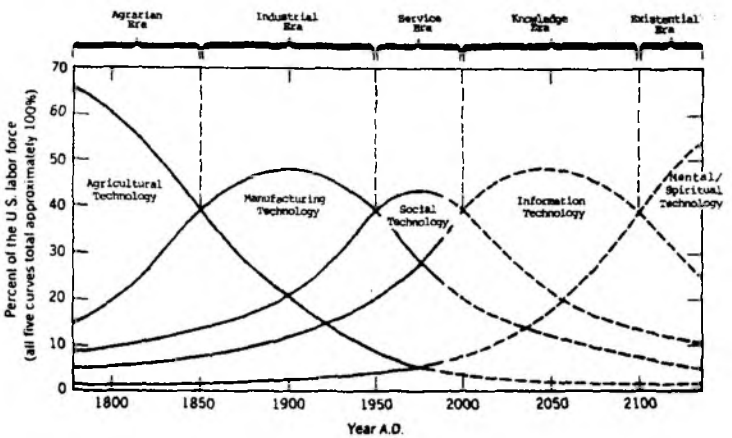
ANNEXURE 1

Table 1: Stages of Evolution

(Excerpted from Prof. Halal's Monograph)

Stage of Evolution	Biological Era	Nomadic Era	Agrarian Era	Industrial Era	Service Era	Knowledge Era	Existential Era
Technical Base	Genetics	Primitive tools	Farming	Manufacturing	Social Systems	Computers	Mind/Spirit
Beginning Of Era	Creation of of life – 4 billion BC	Development of humans 3 billion B C	Agrarian Revolution 7000 BC	Industrial Revolution 1850 A D	Post Industrial Revolution 1950 A D	Information Revolution 2000 A D	Spiritual Revolution 2020 A D
Form of Organisation	Organisms & Ecosystems	Clans & Tribes	Feudal States	Factories organisations	Complex networks	Information order	Global
Energy Source	Biomass	Human labour	animals	Fossil fuels	Attitudes & emotions	Information	Values & beliefs

Figure 1: The Evolution of Technology (Excerpt from Prof Halal's monograph)



Justice M. N. Venkatachaliah

Justice M.N. Venkatachaliah was the Chief Justice of India from Feb 1993 until his retirement in Oct 1994. He served as the Chairman of the National Human Rights Commission between 1996 and 1999. He was also the Chairman of the National Commission for the Review of the Constitution, which submitted its report in March 2002. He is presently Chairman of the Indian Institute of World Culture in Bangalore and Founder Trustee of the Sarvodaya International Trust.