CHAPTER IV
WAYS AND MEANS = TOOLS TO WORK THE UTOPIA

One of the criticisms levelled against the utopians is that they were impractical and idealistic. They did not suggest a means to achieve their goals. Some did not have any means at their disposal at all owing either to their epochs being not developed sufficiently or to their ideals being far fetched. But utopian history shows that wherever comprehensive means had been provided the dreams had been achieved, or nearly at least achieved. Plato, Jesus, More, and Bacon to name a few successful utopians have provided elaborate and essential means to achieve their dreams and their dreams have become realities and remain to this day as expanding ideas.

The nomenclature 'utopia' popularly stands for the unachievable, and the idealistic. The connotation that utopia is a no place originated from 'udepotia' a place name meaning 'neverland'. The credit of coining this word goes to Thomas More. More combined the Greek 'ou' which stands for a negative with the Greek 'topos' meaning place or region to give the meaning 'no place'. In place of the 'ou', More substituted the Latin 'u'. More then used it as 'Eutopia' which connoted positive attributes like good, ideal, prosperous, and perfect.

If we understand 'utopia' in the manner More wanted it to be, the ideal place should signify the embodiment of the best desirable in terms of social life. Optimum societies to this day strive towards a desirable social life. Plato's Republic has for its goal the pursuit of good. The dream of utopians was to create desirable social life. It has been mentioned that the utopian dreams are doctrines of ends and not of means. It was
also seen that advancement of society was in relation to intellectual progress. Intellectual progress has given modern man means to analyse the society. New avenues of knowledge, modes of analysis, and new thoughts have endowed the modern Faustian man with tools to probe what was inscrutable for historicists of the previous ages. The search has brought us into application of psychology to history. Psychohistory opened up more avenues to understand human development.

It should first be granted that society is taken to have been based on certain empirical laws, and, within the freedom allowed the utopist must endeavour. It has been established in the just concluded chapter that the utopians' means should be in logical continuation with the times. In the erstwhile times some notable utopian dreams were put into practice, and their dreams to a considerable extent became realities. An examination of these utopias brings to light the plausibility of their dreams and the secrets behind the success of their dreams. Invariably, these plausible ideals were clearly spelt out along with the ways to achieve them. The utopians to be analysed here have provided the means to realize their dreamlands. Their dreams were at once practical and ideal. Ideal because they were out of the world concepts at the time of their proposal, and practical because if the suggested changes were adopted their utopias could be realized. The measures proposed were particular and targeted and of course when we look into them in isolation we would only be divesting them of their contexts.

There were, to begin with the religious utopists or the Apocalyptists. Their utopia was, first the promise of Jerusalem
and a kingdom of the righteous. Their hope was to bring about The
Kingdom of God, with Jerusalem as the centre. The cause of this
dream for a new Jerusalem was historical. Nebuchadnezzar had
destroyed Jerusalem. The Apocalyptists therefore dreamed of an
Israel and a Jerusalem. Very soon the Roman Empire would give
cause for the emergence of Jesus. The ideal of the Apocalyptists' utopia would be righteousness of God to the righteous men. The utopia in real terms would be the establishment of Jerusalem with room for the righteous alone, a biased dream. Soon when no kingdom on earth is possible a promise of a place in heaven, reunion with Jehovah serves as the utopian ideal. The kingdom wished for being a place in heaven, it is far removed from the present and is of a metaphysical nature and therefore of intellectual interest only.

The Apocalyptists' ideals are also doctrines of ends not of means. The Apocalypses are anticipations based on unrealizable dreams. They are plans without any attempt at how to attain the end. They rely on miraculous intervention of the Most High. Their idea was a biased goal in that they promised good only for the elect. They either failed to recognize or ignored the others as unworthy of being in their utopia. They were of the belief that the present rule of evil was divinely decreed, and the day of its end was set. The good had only to wait. This as can be noticed is deterministic in its very conception. Jesus' ideal, contrastingly, was not a personal reward here or hereafter. The new social order was to be the result of the love of righteousness and truth. The new social order is a now world, not a world of the hereafter. Jesus saw the reign of God being
set up in men's lives, in their every day lives. In Matthew 13:24-33, Jesus is contemplating a continuous social change. The change would be a certainty. There is not any longer a Davidic or Messianic King as with the Apocalyptists, but the king is a king at once by Divine right and by his place in the hearts of His people. This society is a society founded on the democratic principles of love, service and equality.

Moving away from the Apocalyptists, individual utopian ideals originated, each suggesting a novel ideal which each believed would revitalize the times.

Amos, a religious utopist held that Jehovah is to be served only with the social relationship of men. Fair play between man and man is the end of Amos' utopian ideal. Hosea, a utopian thinker advocated love between man and man. Restoring divine love is the essence of his utopia.

The Prophets could not think of a society free of politics. They conceived of a kingdom of select individuals with a political organization. What they aimed at was elimination of corruption and appurtenances. Their new Kingdom had Davidic kings, and their new society was permeated with the spirit of Jehovah. Ezekiel pictured in detail the architectural and administrative details of his theocracy. The Apocalypse of Peter gave a detailed account of heaven and hell.

There were the others, more modern, Saint Simon, Fourier, Babeauf, Cabet, Louis Blanc, Owen of England, Edward Bellamy, Hertzka, and others until our time.
But, Jesus struck at the place the evil lay. He felt that the individual was given to sin and he wanted to redeem the individual. Social reconstruction started with the individual.

Like the Apocalyptists, Jesus of Nazareth was a product of "Bad Times", the iron rule of Rome and the brazen rule of their own stilted, decayed religious orders. There was division even among the religious orders of the day. There were the skeptical Sadducees, the ascetic Essenes, and the hypocritical Pharisees.

Jesus was both a socialist and a revolutionary. His interest lay in folks and their relationship. Jesus was not interested in theology or ritual or even ecclesiastical orders. His was one of the first bodies of ethical precepts. They are not to be mistaken to represent a creed, or confession of faith or body of divinity. Jesus said for sure that there must be a church. He had nothing to say of its constitution or its laws. Jesus taught the world that wealth consisted in character, not in accumulation of material good. He was keen on liberating the individual's mind from subjection to civil powers that existed then, i.e. Herod the ruler. When Jesus' ideals are compared to the ideal of the Apocalyptists, theirs appear to be less imaginative, in fact fantastic. Jesus' contribution was the conversion of these abstractions of the Apocalyptists into concrete realizable facts and actual practices. "He gave us a practicable and universally applicable plan of social and individual redemption.... In his teachings we find the summit of utopianism." (Hertzler 70).

His utopian ideal was so convincing that the proof of it exists to this day after nineteen centuries.
The utopianism of the Prophets and Apocalyptists were at a tangent. Jesus promised a kingdom that would come not from the influence of the outside force but out of the social organization that Jesus was to create from out of the individuals and their realization. The outsiders in Apocalyptists' scheme of things had no place. It was partisan and doled out rewards to the few who approximated to their prescription.

The society Jesus wanted to create had a different beginning. His ideal is based on the belief that when individual men were brought into conformity with their Divine Will, it would become an external social order. The change sought to be effected came from within. This is one of the basic epistemological features of any utopia. Some utopists worked a change from without, namely, the society to bring about a change in the individual, while, some others tried to bring about a change from within. Jesus tries the latter way. Here is the recognition that the individual and the social order are inseparable. Later psychohistorians and environmentalists assumed the same of the mutual relations between the individual and the society. "To separate the inner life of individuals from the social order was really impossible, for they react upon one another always ..." (Hertzler 71). In Jesus' teachings lie the rudiments of the notion that environment and the individual are mutually dependent. Behaviour psychologists like B.F. Skinner would emphasize this factor for operant conditioning of individuals in society.

Jesus gave full recognition to the law of development in human life. The Kingdom of God is thus an evolving process of
social and spiritual progress. To Jesus spirituality was not a disembodied ghost. It was an attainable goal. Jesus saw that a good community answered both the demands of the individual and that of the community. The individual's quest was eternal life, whereas the quest of the community was a kingdom. Thus Jesus' ideal is universal benevolence as the basis of a new social order. The society that took to the ways of Jesus would shun covetousness and Mammonism. Love is reckoned as a fraternal obligation. Every individual became the harbinger of a stable society. In Jesus' society every one would be forgiving for he tells in (Matthews 6:14-15) "If ye forgive men their trespass, your heavenly father will also forgive you" (Matt. 6:14-15). The individual's social role finds expression here which would recur with the social thinkers.

Jesus' ideals were not immediately absorbed. It took many more years for his ideals to convincingly evolve as the guiding cannons of our civilization.

We may even include Marxism here which vested the individual with the power to change history and exhorted the individual to devise the history that best suited him while propounding a change towards socialism.

Considering it as the guiding principle Augustine spoke for Christianity in 400 A.D. Augustine's utopianism centred around the ideal of arranging one's life according to God. His utopianism lay in getting rid of baser instincts and adopting the Christian ethics. Ultimately there would be a City of God. There were two classes of men according to Augustine. Those who lived after the spirit of God and held the self in contempt and those
who loved the spirit of the self and lived in contempt of God. Since to Augustine no one was a sinner by nature. He taught us to hate the vice that made man a sinner and not the sinner with the vice. Man is pristine by nature. It is vice that transformed him. One must love the man and hate the vice. Imperfection in man is the result of perversions of original perfection through sin.

Augustine's utopia depended on his conception of a State, a City of God on Earth. He defines a State as an assemblage of reasonable beings. This is a beatific vision of a social life in which the personality of the individual is bound to that of other individuals through God. Another element of Augustine's utopianism is injure no one, do good to everyone. He does not neglect the family. Family is the unit of the State. But, Augustine did not believe in the individual. Hence he turned to God. Augustine's mysticism is that man communed with God through the Church. God built His City through the spiritual institution. Augustine thus championed ecclesiastical Christianity. The City of God is the culmination of ecclesiastical organization. This City of God is the origin of the Holy Empire that would replace the Roman Empire, in which the Romans, the Christians and the barbarians alike had a place. This hierarchical system led through Gregory VII and Innocent III to the setting up of a theocratic hierarchy over nations and kingdoms.

The person who gave the world the word 'utopia' was Sir Thomas More. Perhaps the most influential empirical utopian dream was More's 'Utopia'. After the Wars of the Roses, Church was in a
shambles, rampant corruption was eating into the innards of the church. In England, the practice of enclosures in the Manorial System resulted in an increase of the unemployed labour which resulted in increased incidence of thieving in general. Controlling the new development necessitated maintaining a large army. To keep the armymen shipshape, wars had to be thought about and indulged in. On the social side, rich became richer and the poor stagnated where they were. The rich displayed their wealth in such an open manner that, it showed the misery of the poor in bold relief. Thomas More portrayed this England of his time. His commonwealth is a contrast to England of his days. A new England could be made according to More if social control were adopted and socially desirable institutions were established. More was persuaded to suggest alteration in the then set-up because of his conviction that human nature was capable of melioration. His diagnosis of his society and its ills led him to point out evils in industry and economy. Therefore, any solution to the problem should be based on these two sources of evil. He connected the two and gave a complete scheme of restoration.

More's new society was to be the most dematerialized one. There shall not be any claim to property. In the new society of More no one shall own anything. More adopted the City State of Plato. More gives elaborate systems of control over everyday life: a plan for the lives of the citizens, prescribes his activities or rather restricts the citizens' activities to a given set of variations by limiting the activities to a definite number, all of these leading to a designated end. Designated
pursuits lead to designated ends. The ultimate goal of all sorts of pursuits would be the creation of his fond Utopia. More's idea was not to curtail the freedom of the common populace but to direct them to a definite goal. Viewed in the modern light of probability theories, More handles the probability question deftly by limiting the set of variables a member in a society could possibly choose from, thus enabling evaluation of a society and its direction of growth. (Later pages would deal at length on this factor that probability is a factor achieved against a homogeneous set of variables rather than a heterogeneous set of variables.)

Plato's utopia is based on philosophy. It is an abstraction -- the pursuit of the Ideal of Good. Plato's Republic is based on the concept of a City State and not a Nation State. It had no place for the individual. Individual and the particular fall away in Plato's concept of society. It is the masses who are important. The utopianistic ideal of Justice is to be realized in Plato's Republic. It is plausible only through two great institutions -- communism and common education by the State. Family is decried. Family is the first enemy of the State for it took away one's allegiance to the State. This is in contrast to the theocracies and Augustine's ideals, where family was the State in miniature. Plato's utopian ideals are at least two millennia ahead considering the fact that these were to be the practices of the present day socialists. Plato entrusted the care of the City State in the hands of guardians who are men of wisdom. Here he becomes the forerunner of many later day theorists like Comte and Condorcet who wanted the care of conducting the society be left with the elites. Here is the
beginning of the idea of giving the responsibility to the wise elite, in the modern scientific world, the scientific shamans. B.F. Skinner, urging a technology of behaviour, would approach the question from a similar angle, demanding approval of an institution to plan and ensure a better future for the existing young. The present democracies should openly abet a control of the future. Still, Plato's notion is not one man running the State.

His pursuit of the idea of Good rests on finding the good in everything. The Good to run the country, to be warriors to protect the State, to be common men. The best rose to heights. Ultimately these would go to inhabit the islands of the blessed. To make the nearest approach to the cognition of the Idea of Good is to achieve the greatest possible likeness to God. The Republic should lead. This concept of Plato, to train men to the superior position, is found in Carlyle's "hero", Schopenhauer's "genius" and Nietzsche's "superman". All these new thoughts bloomed in one and the same eighteenth Century. The concept of training men to the superior position is to give each person his due place, when it is believed much benefit would accrue the State. Plato's governors will be philosophers with a vision and coordination like the men of Asimov's Second Foundation. Plato envisions the creation of an Er or Erus in which individual freedom and individual responsibility are delineated. Man achieves success or failure of his fate through his choice of the woman. "Every man, individually, is "the guardian of his life, and the accomplisher of what he hath chosen" (Hertzler 117). He may not have had the first choice, but he can do as he will with
the last choice. This is described as the hortatory way of attaining reformation. With this element of following truth and justice we remain close to the gods and live dear to one another. The Republic is an attainable goal. It is not vague and fantastic. Plato's ideal State is based on the physical side of man's existence.

For a thousand years after Augustine there was no utopian vision. Again utopic visions start after the fall of Constantinople in 1453. This ability to visualize was the result of the smuggling of ancient manuscripts from Greece by fugitives fleeing from Greece into West Europe. During the Renaissance, the humanists turned to Plato's Republic to bring about changes in human affairs. The Republic became the model for ideal commonwealths. Coinciding with this was the introduction of inventions and ideas from Asia. The Europeans realized the shallowness of their former ideal of life. Suddenly they were possessed with the power of controlling the forces around them to make their life more livable -- with the import of new ideologies, a new method of life could be forged. Utopias sprang up to give new vistas of life. They realized a new life was possible if their old beliefs and superstitions were cast aside. This vision of new life resulted from the serious contemplation of historical and social evolution in the past seen in the light of the development of human thought in the present.

Modern utopias are more close to reality since they are fashioned according to insights gained from a study of history. In addition to new insights since the Enlightenment days, the twentieth century has added newer concepts, especially the psychological view of life and history.
Psychoanalytic view of history is supposed to have originated from Giambatista Vico. Later, Hegel is seen as the forecaster of the emergence of the psychohistoricist. In the pseudo historical prefix from a fictional galactic encyclopaedia in the first chapter of the *Foundation*, the first book of the Foundation Trilogy, Asimov observes with reference to the contribution of his hero Hari Seldon, the mathematician, "Undoubtedly his greatest contributions were in the field of psychohistory. Seldon found the field little more than a set of vague axioms; he left it a profound statistical science ..." (F 9). In these unmistakable echoes of Julius Caesar's achievement for Rome, Asimov stakes his claim for the fictional experiment of applying psychohistory to social problems. Asimov's promise of a reduction of a long period of misery, thirty millennia, to a single millennium and the promise of a maintenance of the Second Galactic Empire to emerge from the operation of the Seldon Plan, is clearly spelt out by him. In the story at least the renewal is successfully accomplished.

Asimov does not want his readers to make any mistake with regard to the technology involved in renewing the disintegrating galactic empire. It is born out of the agony after the devastating Second World War, reminiscent of the post-Roman Empire European condition.

PSYCHOHISTORY ... Gaal Dornick, using non-mathematical concepts, has defined psychohistory to be that branch of mathematics which deals with the reactions of human conglomerates to fixed social and economic stimuli...
Implicit in all these definitions is the assumption that the human conglomerate being dealt with is sufficiently large for valid statistical treatment. ... A further necessary assumption is that the human conglomerate be itself unaware of psychohistoric analysis in order that its reactions be truly random ...." (F 21)

Hari Seldon predicted disaster on an approximation, and wanted the other probabilities leading to disaster for the Empire to be considered as well. To this Seldon wants added the other probable besetting factors:

Add to this the known probability of Imperial assassination, viceregal revolt, the contemporary recurrence of periods of economic depression, the declining rate of planetary explorations.... (F 21)

In the eyes of the rulers of the empire, Hari Seldon is performing a "forbidden socio-operation" (F 22). This is a reflection of the prevailing resentment to this emerging science of history, psychohistory, that Asimov the problem solving writer is required to tackle.

The numerical probability of the prediction is put at 92.5 percent. His reading of the psychohistory of the Galactic empire is that the imperium is shaky, and it cannot reveal it for want of courage to admit defeat. Probability notions should be applied in assessing psychohistoric operations. Hari Seldon's own chance of being executed is put at 1.7 percent. All these probabilities are taken into account when computing the
possibility of a something happening or not happening. The predictions carry a high rate of coming true since they are not moral predictions, but mathematical predictions. Asimov does not favour metaphysical decisions while dealing with problems of social nature being a hard science fiction writer.

Hari Seldon, being no ordinary mortal, claims a better knowledge of history of the great Empire during its past 12,000 years, with a population of a quadrillion and exhorts the detractors to "Listen with the ears of psychohistory ..." (F 33). They would be able to hear the empire-tree creaking.

Asimov's convictions about history as a spiralling cycle makes him a believer in inevitable change. Though one may not be able to stop the downfall of the Empire his "group" will be able to reduce the anarchy that would prevail necessarily in the interregnum between two civilizations, the old and the emerging. "Fifty men and women" ... "Fifty martyrs" .... "They brought the Plan through ... (SF 235). This is the insight that psychohistory has provided. "The onrushing events must be deflected a little" (F 34).

Even though psychohistory could deal only with large human conglomerates, Hari Seldon demonstrates that psychohistory can be applied even to predict single individuals though such predictions are fraught with dangers. This is a shortcoming with the science of psychohistory itself, about which, more follows in these pages.

Soon after this showdown the table is all set for a psychohistoric drama to unfold. These speeches and observations
of Hari Seldon, the alter ego of Asimov set the framework within which the Foundation Trilogy is to be understood.

The issues at stake are: the efficacy of psychohistory to deal with social issues; the contribution of mathematics to make psychohistory a probable statistical science; the other prerequisites of this science, its pitfalls, and its quantifiability.

Psychohistory is advanced as the mainstay in the analysis of Foundation Trilogy. Like all utopians who could clearly visualize their utopias, Hari Seldon, the fictional counterpart of Asimov, is able to propound a course of action for his renewal colony, this time the whole galactic empire.

Traditionally empirical historians have been known to interpret the past with their subjective and objective insights. Since the days of Freud, to the historians' tool has been added the powers of psychoanalysis. It was discovered that between the past and the present there is an emotional and cognitive communication. Freud further affirmed that there could be an unconscious link between the past and the present. One need not go through the conscious to get at the unconscious in history. The analysand's unconscious is perceived by the analyst in his own countertransference responses, since, as Freud said: "Everyone possesses in his own unconscious an instrument with which he can interpret the utterances of the unconscious in other people" (Freud qtd. in Loewenberg 4). The historian is one like the psychoanalyst in establishing an emotional union with the past. The historian is not unfamiliar with this aspect of getting at the past and interpreting the past subjectively. The
advent of depth psychology of Freud opened up new vistas of the shaping forces behind historical change. Yet Freud was not the first to get at the psychological influences behind events and change.

The psychohistory that Hari Seldon refers to has been in vogue for an indefinitely long time. Plato is known to have used it to analyse the question of the leader. Plutarch used it in his *Lives of Greeks and Romans*. In fact Plutarch is reckoned as the first psychohistorian in the western world. Freud is believed to have begun a systematic study of the past to make his study of the general psychology complete and he found psychology as a viable tool. This approach to history was adopted even by Locke and Hume.

An "artificial turning point" was given to the application of psychoanalysis to history by William Langer in the year 1958. This event is considered as "The New Assignment" which urged the application of psychology to history. Another momentous happening at the same time was the appearance of Erik Erikson's *Young Man Luther* a psychohistoric study of Martin Luther. With this it could be said that the modern psychohistorian born.

Application of psychohistory to unravel the meaning of history was urged by well meaning historians too who wanted to understand the past to enable them understand the present to build a better future. One of the questions that lay beneath historical analysis is motivation. Psychoanalysis is better
suited to understand motivation. Hitherto, history was perceived merely as a linear record of events. "Psychological theory legitimately frames questions of motivation in history that define the psychohistorical endeavour" (Strozier 64). Hitherto, history was perceived as a linear record of events.

After all these attempts of psychohistorians to interpret history we are left with the Freudian, Eriksonian, Liftonian, Kohutian views of history. Still the regrets is, "[n]either Kohut's work nor anyone else's offers a theoretical panacea. ... But we must know our past to have a future" (Strozier 77). This observation clearly identifies the lacunas in the science and the need for further investigation into the science. Isaac Asimov's intention is to examine this feature in the Foundation Trilogy, in which the motif or the idea is the virtual hero. Idea is the protagonist in any hard science fiction of which Asimov is an apt example.

In sf, as Amis effectively argued fifteen years ago, the real hero is an idea rather than a person. The development of the plot depends not on the subjectively motivated actions of a living 'hero' but on certain scientific or technological assumptions -- the idea -- possessing an intrinsic logic and coherence which makes them acceptable to the reader. (Griffiths 167)

Asimov's protagonist Hari Seldon, a psychohistorian could put the empire back on its renewal path by a socio-politico-economic renewal and a cultural renewal through restoration of knowledge. The latter agenda is peculiar to utopian thinking, unique to Asimov. Though knowledge is a natural socio-cultural heritage
during troubled times it does not get passed on to progeny. In this Francis Bacon is the only historico-literary counterpart of Asimov who wanted it happen in his time and the fallout of which is our present scientific society. Asimov's desire appears none too exclusive, except that he is convinced of the need for social constancy and determinacy for sustained furtherance of knowledge and hence the need to preserve socio-political peace. Socio political crises impede progress. Psychohistory offers itself as a means to preserve, in fact, create socio-political peace and thus ensure inheritance of knowledge. Psychohistorians' search is similar to Asimov's, that of searching for constancy, predictable constancy in the face of change.

Psychohistory occupies a position between history and psychoanalysis. It is an interpretive approach to history, helping us to find the latent or unconscious themes that bind the myriad historical data. Psychohistory helps study history from a specific point of view. Dialectics can discern patterns that our commonsense and formally structured logic cannot. The dialectician has a psychic capacity to find patterns by a creative process of the human mind. The western world considers change a problem and it aims at staticity and uniformity. Use of psychohistory is therefore further accented by the need to get at our own past, and the search for a method is not over yet. "The past is an inferred reality that depends upon the conditions that generate the inference: the definition of subjects, the temporal conventions used, and the purpose involved" (Esposito 62). The purpose involved in the present times is to gain control over unmitigated change.
The psychoanalyst and the historian make a subjective analysis of history and achieve an empathy at the unconscious level, which is sometimes described as communication achieved at the preverbal level. This is possible because of the psychological method termed transference and countertransference between the analyst and the analysand as stated earlier here. The historian and the psychoanalyst possess "the third ear" to comprehend the unconscious. History reveals the latent forces at work beneath the socio-cultural, socio-political events when psychology is applied to it. Therefore, "[p]sychohistory provides a new tool for historians with which to analyse their data and interpret the complex configurations of human behavior in the past. Historians have applied it both crudely and well, both daringly and conservatively" (Loewenberg 34). The new urges of the modern social planners require this approach since their views, as said earlier, are to gain mastery over the phenomenon of change, not merely to understand history but also to control it. The modern social planner cannot be a silent witness and a meek slave to changes. The new society has been advancing towards this goal steadily. In this changed situation the new historian has a new role to play. His old tools would not suit the new longing. "To the historian of the next decades falls the task of moving beyond these beginnings to explain mankind's past and current behavior with greater sophistication and certainty" (Loewenberg 34). The need of the present generation is certainty, certainty about the agencies that caused the changes. The next generation of historians would have to be armed with the psychohistorical outlook. Psychohistory is the science that can help interpret history with certainty. The historian need never
be wary of applying this new tool of understanding, since, in both psychohistory and history, the "entire context of observable behavior is indicative of particular unconscious content. ...The historian ... is confronted in his research with innumerable facts, ideas, and communications from which he must synthesize a coherent story" (Loewenberg 21-21). The only difference between psychoanalytic history and history is the former's insensitivity to time and the latter's adherence to time. The psychohistorian's approach ignores the existential phenomenon in the emergence of an ideologue, while history is very conscious of it. The psychohistorian generalizes while the historian particularizes the phenomenon of change.

The need of any society is an ideology to conduct the society and an ideologue to embody the spirit. This is the issue in the analysis of the nature of leadership and followers. Erik Erikson's 'Young Man Luther' is an example that examines this question, from a psychohistorical point of view.

The need for psychoanalytic analysis of history developed into the formulation of dialectical psychohistoric utopias. The endeavours of the new psychohistorians led to the idealization of a theoretic basis for human development. A branch of thought considered that human development is subject to biologic determinism. Another school of thought held that human development is subject to historical determinism. Exemplars of these schools of thought consisted of Freud, Erik Erikson, Marcuse, Brown and Lifton.

Freud belonged to the earlier of the two schools of thought namely biological determinism. He was given to the postulates of
the evolutionists, Darwin and Lamarck. His approach therefore is described as originology. In 'Totem and Taboo' Freud traced the early influences that coloured human development especially the tribes. This notion of our origins holding us to ransom led to his development of the theory of Oedipus Complex, the origin that colours all our actions and activities. Social and religious practices owed to this factor in us. We are genetic slaves. Man is under a "leash" with his origins dictate terms as unconscious drives. His view partakes of the Lamarckian evolutionary view that our genes store our traits and progress according to a preserved programme. Freud's submission to psycho-Lamarckianism further strengthened his views that man is conditioned by his origins. Haeckels's law of biogenetics, which held that the ontogeny of man reflected his phylogeny also reinforced Freud's views. Freud characterized phylogeny and ontogeny as Eros and Thanatos respectively. Eros is the unifying principle while Thanatos is the individuating principle. With Freud these two tendencies were always at conflict with each other. Finally it was Thanatos or the individuating principle that won over Eros, since man could overcome his servility to Eros by taking to the 'nirvana' principle. The later psychohistorians reversed this view of Freud since they felt that human development was possible through the Eros than through the Thanatos. It was in the eighteenth century during the Enlightenment days that a force in collective action was discovered. "In the collective human will they beheld a power, which, if set in motion along superior lines will determine the course of humanity" (Hertzler 287). Erik Erikson postulated his theory of leadership which established the idea of mutuality in
the egos of the leader and the led, thus claiming a victory for Eros than for Thanatos.

Freud, along with the other evolutionists postulated that man is held by certain traits that are genetic. The endogenous influences are so powerful that they can never be influenced by exogenous factors. The endogenic programme in man would hold forth and cannot be held back, no matter what the exogenous influences were. Freud's submission to evolutionists goaded him to propound that there was no hope for redressal of the misery of mankind, alleviation of which is incidentally the object of psychohistoric analysis, since our genetic origins were themselves undermined. According to the evolutionists, our genetic origins had in themselves the degenerative traits. Since the origins had a supervening effect mankind is bound to live in gloom with no hope for betterment. Hence, the end of dialectic reasoning was that our origins circumscribed our development according to Freud, the other evolutionists and also the geneticists. In other words, history can neither escape nor ignore biology. History without biology is only half story. This biologic view of history considered history as "the enormous transposed enlargement of what the microscope reveals" (Moraze, Charles qtd. in Esposito 53). Cultures, therefore, are living entities that contained their own genetic information, and it was capable of replicating itself in a cyclical process whereby great amounts of genetic information one preserved and passed on. Under great stress on the other hand only fragments of replicated material are preserved. Asimov's protagonist Hari Seldon, facing inquisition by empiricists, draws attention in his
introductory speech to this scattering of knowledge (F 34), especially scientific knowledge.

The other view of human development, as mentioned earlier, is historical determinism. Human development is historically determined according to this view. Biology or genetics had no role in the making of history. "[I]t will be seen that the general trend of history is inevitable..." (Darwin 167). In this view man is an "empty organism". He could therefore be shaped by social, political or economic institutions like the government. Man's behaviour is amenable to artificial influences, and other exogenous factors. Darwin, though an evolutionist, had already negatived the idea of teleology in the development of organisms. Development in organisms had about themselves an ambient dependency. Necessity mothered change. Again, Darwin ruled out the possibility of a design and purpose in organisms. History looked in this light could not have an intrinsic purpose or design. A branch of this school gave history a purpose and design. The purpose being historical development itself and the design being realization of a superior constancy from mutability. Hegel belonged to this latter school. This school of thought looked at history as an organism, and invested history with anthropomorphic images. The Hegelian dialectic, held that history had its own motivation and maturation, the end being the ultimate Reason, the rational dialectic taking control of the irrational forces. History in Hegelian dialectic was the unfolding of the great Reason, the growth of the Absolute Spirit.

In general, whether one subscribed to the biologic or
Historic determinism, psychohistory studies motivation in an historical context. Psychohistory therefore tends to be biography centred. This view of psychohistory is a debated issue and it is disapproved by historians, since, 'some' is applied to 'all'. The efforts of the psychohistorians resulted in pathobiographies. Pathobiography tries to find pathological connections between the private and public life of the leader.

Modern psychohistoric analysis unravelled the predicament that human development had landed man in. The historic man suffered under what Freud described in his *Totem and Taboo* as "surplus repression". The historic man appeared dominated by historic, political and economic forces that stood in the way of his realization of his ego. He suffered desexualization. The psychohistorians' attempts were all directed towards finding a dialectical panacea to liberate man from this situation. The answer to the predicament was sought in structuring reality. Psychohistorians' quest is thus therapeutic in intention, a concern for preserving order, and identification of forces that disrupted order.

Psychohistorians' concern for order and causation in society is the result of their tendency to preempt change. Historians' concern is also change through time. While the historian analyses history after the event -- after accepting the phenomenon of change -- the psychohistorian takes an antithetical, preemptive approach to change. The objective of the psychohistorian is to master the phenomenon of change, and, as it obtains in other natural sciences, order and control change, better still predict change. The psychohistorians' interest lies then in causality behind change than change *per se*.
The difference between an historian and a psychohistorian lies in this basic attitude towards change in history. One of the reactions to change as seen above is structuring reality in order to master social reality. Karl Popper a philosopher of science "suggested that anxiety about change might be associated with the historicists' strategy for structuring reality" (Pomper 23). In his book The Open Society and its Enemies he writes,

The more modern social philosopher appears to react very differently, since they accept, and even welcome change.... ...though they have given up any hope of arresting change, as historicists they try to predict it and thus to bring it under rational control; and this certainly looks like an attempt to tame it. (Popper, Karl qtd. in Pomper 23-24) 

Man is emerging from the position of a slave of history to a master of history.

Society is perceived in this new dispensation as the reflection of the collective id. The leader represented the collective desire of the masses that willed a change. Man had already lost his importance as an individual in the Enlightenment days. Collective good and collective thinking had come to replace the individual and his private aspirations. Collective human will had a force never before understood. Since the Enlightenment days groups have been relied upon to mitigate human misery. Modern systemic approach to world order also favours men in groups to achieve change as this observation suggests, "[I]ndividuals are the key to world-order reform ...individuals
can indeed do something effective in the area of world-order....they ought to do something about this problem" (Laszlo 66). By their nature the individuals can bring about change, as stated here: "the individual was ... the manifestation of the collective impulse" (Manheim, Karl qtd. in Griffiths 99). But rather than single individual, individuals in groups, had much to do. Number is an important prerequisite, since: "individual persons, when acting in sufficient numbers and with sufficient motivation, both can do something about world order and believe that they ought to do whatever they can..." (Laszlo 66). The possibility of individuals effecting change was seen by Freud who felt that the leaders and ideas held individuals in a group together. There was the levelling effect in a group and except the elites all the rest were subject to this leveling effect. The scientific elite did not fall within this group. "The great mass of humanity partook of group psychology and its illusions, and would always do so unless lifted to the level of enlightened elite. The scientific elite lived without communal faith and hope" (Pomper 10). But Freud was suspicious of this method. He strongly believed that group movements, religious, social and political cannot lessen the misery. In fact misery cannot be removed at all. The problem can only be mitigated with the use of psychoanalysis. This view of Freud upset the intelligentsia that set its faith on movements for human development. The twentieth century intelligentsia, however, has come to doubt the efficacy of group therapy, for, "Dispensers of group salvation are saviors pro tem ..." (Pomper 10). The French Revolution was a temporary salvation. Communal therapy is now held obsolescent. The individual has to do something in the light of the above and he
has to be liberated to do what he ought to do. Any idea for the future had to consider these two questions, the 'can' question and the 'ought' question. But the 'ought' question would preempt the 'can' question.

The new school of psychohistorians, in particular, the post-Langerian edict period, that is after 1958, propounded methods of getting at the crux of the problem before them, namely, an explanation of history. Though they took varied stands on the question of therapeutic suggestions, they all converged on a problem that crippled human development, what Freud called, and to repeat, "surplus repression". The repressed ego of man, they concluded was far from gratifying itself. The man of history is a repressed man, whereas the man of the tribes and aborigines is not. The solution lay in liberating the individual from economic, political, and personal domination. Perhaps the repression of man in society was the result of the cooperative good that characterized the growth of society, especially in the last couple of centuries and even earlier, extending to Plato.

The psychohistorians' examination of human development over the last centuries revealed that the causality behind change can be attributed to drives failing to inspire the society beyond a certain historical time. The rationale behind change directly brings into view the question of leadership. Unlike the historians the psychohistorians have always insisted on motivation behind change as stated above. Motivation could emanate from an individual, the leader. Loss of inspiration in an existing ideal or drive is natural.
With passage of time, vital faiths lose their full meaning and the attendant therapeutic benefits. To be sure, they may be revitalized in every generation, with varying degrees of success. When revitalization fails, the aged faith becomes a burden -- a dead weight of the past with little meaning or inspiration for the living. (Pomper 10)

There is something inscrutable about the ideal inspiring a society or culture. But this could be explained otherwise. Any culture needs to be challenged by an opposing tendency. When the opposing or antithetical tendency fades, or is eliminated, the culture that grew in opposition to it wilts. The cultures sans challenge wilt due to the setting in of a complacency in the driving ideal behind a culture. It happened thus with the Greeks, and later with the Romans. Approach towards immutability, therefore, could be suicidal since it precluded growth of cultures. Therefore, plans for a perfect society or ultimate utopia could also be self defeating. In history, a moment like this, when a driving ideal lost its inertia, augured well for the emergence of a leader with whom the led have a psychological relationship. This is clear from the study of pathobiography as seen above. Pathobiography is a recommended means because, "[m]any leaders carry their own pasts awkwardly on their sleeve..." (Strozier, Introduction 6). History being an adaptive discipline, it requires a leader to adapt history to the needs of a moment, which is as Jean Paul Sartre felt, and Erikson found true, is an existential question.

Psychology has tried to understand the phenomenon of the leader and leadership. The first psychological basis of
leadership is normally attributed to Plato. Plutarch, coming next, was well aware of "how an individual leader's psychodynamics, or even psychopathology, organizes his style of leadership" (Strozier 15). It may be necessary to include here even the childhood influences on behaviour. But, while Plutarch does not dwell on childhood, psychohistorians like Erikson would dwell on childhood studies and its effect on adult behaviour from the point of view of object relation theories to bring out childhood psychological influences. Plato also has brought it out well in his Republic that just laws build in control in society so that virtue can flourish. Since the "good is fragile" (Strozier 15) it requires a leader to ensure the continuum of control. When control wanes, despotism sets in. Asimov has taken note of it when he made his protagonist say (F 33) that he was worried about the prolonged anarchy that the fall of the first Galactic Empire would occasion.

With Plutarch, leadership, however, is a conflict psychology. The leader is constantly in a conflict, fighting evil from his position of good. There is not only a clash of virtues but a clash of emotional states as well, allegiance to one and not to the other.

Though history is considered as the effect of group achievements, a leader, in the light of the description given above, is often seen as the prime force behind group movements. A leader is he who solves for society what he could not solve for himself. The social issue being more complex it involves enlightenment of the great majority on whom depends chances of change. The leader suggests the vital ideal that will spur the
society. He does so by appealing to the egos of the other individuals. As Erikson felt, there is a mutuality build-up between the leader and the led that effects a therapeutic change, which in effect is a movement like the Lutheran movement or Gandhi's Satyagraha.

The concept of the leader and the led then assumes greater significance. The explanations given here could clearly answer the ethical question that the Foundation Trilogy raises, whether one man can change the course of history. They can also answer the question of justifying the audacity of a peer member tampering with the flow of events. A leader is shown as doing what everyone wants done, since he reflects the phylogenic temper. There is perhaps an internal message between the ego of the leader and that of his followers -- an embedded drive in each, uniting the ontogenic individual with the phylogenic call given by the leader.

A leader is invoking by his call the love of order inherent in the ontogeny of an individual. Externalization of this innate love of order is social reality. The ego is always in search of reality. This drive is at the basis of the unconscious mind and it is otherwise described as the "omnipotence of thought". Looking at society from this point of view, history is a reflection of this common drive. Human progress is itself is cumulative drive-realization. There is in culture first and later civilization, then, the id or the drive, the ego of the individual enabling realization of the drive, and the superego preserving the culture of societies. It can be seen that while the id results in creation of a culture, the superego sustains
the culture brought into reality by the ego thus establishing a cyclic relationship among the three. Herein can be espied a room for environmentalism.

This view of formation of culture as the manifestation of the superego is reinforced by the environmentalists, who have recognized this phenomenon in their own fashion. Environment is seen as the result of the wishes or actions of men and the same environment influences in shaping the individual wishes. Influences of environmentalism on behaviour is dealt later here.

But, the "empty organism" theory of the individual would run counter to this view of the individual. The "empty organism" theory would not vest an individual with innate order, and hence his amenability to shaping from outside. Hegel subscribed to God's position as the ground of Being and Order. The new intelligentsia on the other hand took to ethics without God; meaning and purpose in history without divine scheme of things. The modern intelligentsia could see in history a benign human development, and the purpose of life is found to be maximization of human values - justice, freedom and equality. Systems theory of society discussed here in the following pages also supports this view of society.

Therefore, the call of a leader could emanate from fathers, kings, and presidents. Identification between the egos of the leader and the led serves as a cohesive principle in groups. The group has perforce to emulate the model as Freud observed from his study of group psychology: "A group ... is an obedient herd, which could never live without a master. It has such a thirst
for obedience that it submits instinctively to anyone who appoints himself its master" (Freud qtd. in Strozier 46). Groups form and remain as such because of their sharing the same ego strength. Heinz Kohut, nicknamed Mr. Psychoanalysis, devised a method of studying the groups. He called it self-psychology which explains the mutual interdependence of the leader and the follower. He defines group-self as, "the sum total of those clusters of interconnected experiences of each individual that prevail in consequence of his temporary or continuous submersion into the groups ..." (qtd. in Strozier 75).

A group is not far different from an individual. To bring about therapeutic social development, effectually, a group rather than an individual is better placed. This method is exemplified in the systemic architectonic discussed here.

The intelligentsia began to probe the question of an order independent of history and social structure. Their dialectic led to fate being replaced by laws and probability. God was removed from being the architect of change.

Owing to the interests peculiar to the psychohistorians, they had to switch to structured reality to obtain control over change. Their approach is owing to history being considered as anthropomorphic. History is viewed as endopsychic anthropomorphism and endogenic anthropomorphism. These two views are physiognomic in their origin. Endopsychic anthropomorphism finds history as the reflection of the behaviour of man while endogenic anthropomorphism finds history as the course of development contained in the gene of the species. While endopsychic anthropomorphism is modifiable, the endogeneic is
not, since, it is governed by its own logic of development. Psychohistorian, Erikson subscribes to the endogenic view of history. While Freud, who took to the evolution theory, saw no possibilities of human redemption from its predicament. Erikson does find possibilities of psychological generational renewal through the inspirational lead of the leader since he felt that the species had in itself a capacity for rejuvenation. This is a stark departure from Freud who saw no such possibility.

Rejuvenation of society became a realizable objective through structuring reality. The psychohistorians' attempt to structure reality resulted in evolving five different architectonic patterns. It has been said that the idea of structuring reality is an attempt to evolve a pattern. The five architectonic patterns are perceivable variations in the outlook of the exponents of psychohistory. They are classified as the genetic, epigenetic, systemic (or cybernetic), dialectical, and catastrophic. Architectonic patterns structure process of development. The five ways suggested here are ways to realize therapeutic utopias. These architectonics are meta principles and they are not peculiar to psychohistory. They find application in biology, psychology and history equally well. We are warned that a complex process cannot be structured by using any one of the architectonic principles exclusively and by itself alone. Therefore it is presumed that a complex society cannot be analysed from any one of the principles stated above. This warning is appropriate since the Foundation Trilogy is to be analysed from various architectonic principles, since, more than one of the architectonic principles to be discussed here finds
application in it. The Foundation Trilogy presents by all standards a complex society, a mega society at that, spanning many millennia, and many worlds. The warning is clear and sound; "no complex process can be structured exclusively through the use of a single architectonic" (Pomper 23). It is but proper that a society of this magnitude with the sworn objective of achieving the designated goal of all social planners, (theoretical, practical and imaginary), namely, the creation of an optimum society and the responsibility of maintaining an optimum society technologically, be informed of this misconception.

Knowledge of architectonics can help us order human development since they are structural principles deemed to operate in the shaping of society. It must be borne in mind here that the architectonic approach can reveal not only development but degeneration of society which is also the concern of the psychohistorians. Just as much as psychopathology of the leader helped us analyse the behaviour of the followers, psychopathology can help us arrive at the normal in relation to the abnormal.

Freud made available to the intelligentsia of the twentieth century the idea that much of our behaviour is determined by a mental underworld of unconscious drives. The apparent world is but a manifestation of the psychologic inner world of man. His theory is based on the naturalistic theories and models. From this view of the psychologic man comes the genetic architectonic.

Genetic architectonic is otherwise known as 'originology'. Freud is an exponent of this method as mentioned above. It has reference to the ideas of inherited psychological tendencies preserved in phylogenic memories. Information deposited in the
genes of the human species decided their behaviour. This predetermined state of the human species is almost a cursed position, since there is no liberation from the genetic hold whatever the exogenous circumstances. Though the human process could be influenced by exogenous influences, the endogenous events had a profound influence on later events. The initial events acquire a greater significance in the serial events that constitute development. "We are controlled by the vast weight and living power of the past" (Pomper 34). Whatever the efforts of man to influence the behaviour of man from outside, it is bound to remain ineffective. As stated earlier here we are on a leash with our past.

The next pattern known as epigenetic architectonic also has it that the process of development is intrinsic in the genetic programme of organisms. Though the exogenous factors may influence them, they cannot prevent them from developing towards the predetermined state ultimately. The epigenetic principle governs not one stage, but a sequence of stages of normal development. Erik Erikson is the major exponent of this architectonic method.

While the genetic architectonic almost disregarded the influence of the exogenous factors, the epigenetic architectonic allows for marginal exogenous influences. Thus, the latter is less conservative than the former. This method allows for exogenous influences to affect the sequence of development, though the effect cannot have any significant effect. The exogenous and endogenous factors act upon but do not essentially alter the epigenetic sequence. This method found that the,
"Cultural communities respond to the challenges of history with both general species capacities for adaptation and the special gifts of individuals" (Pomper 36). Epigenetic architectonic, while accommodating intervention in human development, does not provide for limitless growth possibilities. The epigenetic ideal envisages the timely intervention of a leader figure or an ideologue to influence the formation of a community culture. This method lends itself to maximize the possibilities of development through the gifts of individuals. In the absence of individual interference, the culture in question must fall before challenge of history. Epigenetic architectonic thus allows for resistance and growth with individual initiative and resourcefulness.

The next method is systemic (or cybernetic) architectonic. This approach recommends a systemic planning of human development. It presupposes a complex unity or whole, sustained by a complex programme for integrating many levels of mutually interdependent subsystems. The system itself can be thought of as a superordinate whole with a programme for optimal self maintenance that governs its subordinate parts or subsystems. Systemic architectonic takes into account exogenous factors which can affect the health of the system. Since the developments are to be assessed as approximations, any factor adversely affecting the system is viewed as lessening the probability ratio. The relationship between the superordinate and the subordinate systems are interdependent since this cybernetic concept results in the formulation of a homeostatic system. In biological systems homeostasis is intrinsic. But, in sociological systems
homeostasis has its own disadvantages which are dealt with later.

The desirable system emphasized is an open system, that shows dynamic morphology, rather than a closed system of the mechanistic physics. The open system cannot be sustained with the cybernetic model of fixed self-regulation. They follow a dynamic regulation. Whatever the exogenous influences, the organisms of the open system reach an equilibrium final state or "equifinality" as systems theorist Ludwig Von Bertalanffy noted. A similarity between Hegel's ultimate development of Reason approaching a position of no more change and Bertalanffy's equifinality can be noticed here. This is again teleology of a different sort.

The systemic principles are usually concerned with the optimal states of systems, the climax or equilibrium states, and are dynamic in character. The religious utopians also considered a final state of things in their millenarian ideals, but their ideals were static equilibrium states. Systems architectonic ideals have a dynamic final goal in view, and their strategies are formulated to achieve the final goal already set. Systems architectonic helps social planners to suit developmental sequences to the predetermined goal and also modify the relationship of the subsystems to fit in with the designated goal. This feature of the systems architectonic, especially, lends dynamism to the system. A concept of the final state is a prerequisite. The Foundation Trilogy has for its epistemological goal the installation of a Second Galactic Empire. The manner of approach adopted affirms to this final goal that it is a Systems approach. It must be granted that almost all the psychohistorians
have a final vision of a psychic bliss, except of course Freud who felt doom awaited the evolutionary man.

In the systems architectonic the optimal state might be achieved through the dominance of a preferred part. That is, one system in the set of systems in the sequence may occupy a special status. With Freud and Erikson the preferred part is the ego. In the Foundation Trilogy the psychologists in disregard of the mathematicians are endowed with supervening powers, the protectors of the Seldon Plan.

This systems strategy could take one of two forms—a passive theodicy or an active theodicy. The passive theodicy engenders the idea of the invisible hand guiding the system towards equilibrium. The active theodicy allows "midwifery" intervention for the purpose of fine tuning the progress towards achieving the goal. This holistic thinking perpetually sacrifices the subordinate parts of the constituted unity to the whole, since it is the ultimate goal that is of prime importance and all other parts are subordinated to this final ideal. In the Foundation Trilogy both the passive and the active theodicies are in operation, and the system adopted in the Trilogy supports the introduction of individuals as subparts helping the realization of the whole.

In such systematic structures free will is dispensed with for purposes of common good. It can be seen that the fear of the mathematicians that there could be another supervisory body in existence upsets their idea of free will and independence of action. They are a dispensable part in the system of the
Foundation Trilogy. The individuals also are dispensable as we find them coming and going as time passes. Hari Seldon pronounces this phenomenon when he says in the first book that individuals are none too important, even the first generation of the Encyclopaedists on Terminus are immaterial. What matters is the compilation and readying of the encyclopaedia by the time the second galactic empire is ready to emerge because of the protracted operations of the institutions in the system. The compilation of encyclopaedia is the goal of the First Foundation, and it is dubbed the "Encyclopaedia Foundation". Everything about the First Foundation is geared to meet this end. If the first foundationers feel that they have been robbed of their free will, it is their fallacy resulting from ignorance of the architectonic employed. Also, it is one of the assumptions of the Trilogy that the affected individuals be kept in secret about the plan to force a natural reaction. Individual intervention is very much pronounced in the form of Seldon appearing at moments of crisis and the secret interference of the psychologists. In the role of the individuals we notice the working of the other architectonic namely the epigenetic architectonic. There are leader figures. Even the Mule is a hastening influence like the leaders are hastening figures. We notice that these heroes are remembered and their actions are gloriously talked about. Seldon wants the events to be deflected a little, which is what the individuals can do in this system.

In this system clash between the member parts is not extraneous to the design. Conflict is part of the realization process like it is observed here:
The most influential systemic vision of the modern intelligentsia have incorporated the dialectical architectonic. In these systemic-dialectical ideologies, the unfolding parts of the system ... enter into conflict with each other. Yet the conflicts serve the achievement of the optimal state of the system -- indeed, the end of division and conflict, of superordinate - subordinate relationship. A vision of undifferentiated unity, the transcendence of division and hierarchy, has inspired millenarian revolutionaries, particularly anarchists. (Pomper 39)

The systemic architectonic can support a great many intelligentsia attitudes or postures, and it is fundamental to the construction of the great abstract unities to be realized in the system.

Next in the line of available strategies is the dialectic architectonic. This is a conflict driven architectonic. It is found in operation behind revolutionary changes. This type recognizes a process of progressive change around conflicts. Development is structured according to "contradictions" and "negations". This is adopted to give the principle a dynamic character. In this method each stage develops into a totally new stage but never in the absence of the earlier stage. The preceding change is a necessity for the emergence of the next stage. Dialecticians strongly adhere to the epigenetic principle of sequential development with each stage in the sequence making an essential contribution towards the ultimate goal, but in the said order only. Marxism is fashioned on this model. Each stage
is systemic in itself. Each stage generates its own revolution and conflict. The ultimate development is a cessation of all conflict, which will be unlike all other stages. This strategy is millenarian in objective since the final goal is a no conflict stage. The dialectic architectonic combines in itself both the aspects of the systemic and epigenetic architectonic while adding to the two the new principle of a dramatic emphasis upon conflict.

With these psychohistoric advancements at our disposal it should be possible to control the society for a definite end. For a very long time the utopists and the renewal colonists have pondered over change from the objective of achieving maximum good for the community. With these dialectic findings it should be possible to locate errors in society and at the same time plan a different form of society, with a defined goal.

A strategy with a definite goal can be implemented only when we are possessed with the measurement tools necessary to assess the effect of the strategies employed. The most important tool is probability. While probability estimates can be made with large numbers, the very possibility of dealing with large numbers is given by mathematical methods known as organized and disorganized complexities.

There is then the problem of numbers. The protagonist is concerned about it as shown above in the extract from the Trilogy. Decisions on social sciences have to necessarily deal with the question of numbers and the need for numerous variables to arrive at conclusions. Warren Weaver's postulate of
disorganised complexity and organised complexity comes in handy at this juncture. Disorganised complexity denotes that though there may be variations in individual behaviour, the system as a whole possesses certain orderly and analysable average property. This average product is quantity enough to arrive at decisions in our practical life. Psychohistory is a science based on this phenomenon or hypothesis. Once the hypothesis had been postulated there seemed to exist various areas to apply the findings.

A wide range of experiences come under this label of disorganised complexity. Usefully, the method applies with increasing precision when the number of variables increases. The hypothesis is in operation in telephone exchanges on the number of calls that can be handled at a time and the financial stability of life insurance companies. They suggest a whole array of applications of such statistical techniques. To qualify for this theoretical necessity Asimov had chosen to project a galactic history, because, it alone can satisfy the epistemological need occasioned by the statistical science. These statistical methods point to greater degree of approximations if the number they deal with are abundant. It cannot be effective where the number to deal with are smaller. Therefore Asimov says:

It seemed to me that if we did have a galactic empire, there would be so many human beings—quintillions of them—that perhaps you might be able to predict very accurately how societies would behave, even though you

As has been pointed out there is free will and determinism.

In the recent years, the intelligentsia had been heading to reach certainty in practical affairs, for practical ends. Einstein's observation that God is not playing dice with the universe is a summing up of the intelligentsia thinking in the modern era.

Certainty is normally given to a small field of sensory experiences. Whereas, our claims to knowledge in general are based upon probability or near certainty. The word probable is derived from Latin 'probare' which means to try, 'to prove'. In ordinary understanding probability means the existence of more evidence for than against.

Knowledge is based on evidence or ideas relative to it. Probability is an attempt to measure the degrees of tenable knowledge or degree of rational belief on the basis of the evidence.

Social sciences are based not on certainties but on approximations. Certainties are not possible in the field of social sciences for the simple reason that the forces causing the social happenings are numerous and unpredictable, leave alone the fact that they have not been ascertained to the full as yet. Mankind is at a very young stage in relation to the knowledge of
the social sciences. Yet, approximations need not be vague and
wild just because they are based on probabilities. Natural
sciences are also based on approximations. The difference
between natural science approximations and social science
approximations is that the natural sciences enjoy a high degree
of probability, while the latter have to do with a lesser degree
of probability. Natural sciences are based on numerous
confirmatory evidence and therefore they could be inductive in
their approach to statement of fact, but the human sciences could
only be deductive owing to their less probable nature. This is
another problem dealt with in the Foundation Trilogy.

The investigative science of psychohistory can turn into a
credible science only if it promises a certain degree of
probability. As a therapeutic science, psychohistory can
deductively point towards the malady in society and suggest a
therapeutic solution. But the actual realization of the
dialectical utopias suggested by psychohistorians is possible if
there is a probability of achieving them. In the Foundation
Trilogy the protagonist puts forth his arguments only on the
basis of probabilities. Asimov underscores thereby the intrinsic
requirement for probability assessments in psychohistorical
predictions. Psychohistory is an aposteriori science as it is a
deduction, based on the foregoing events and happenings. In the
Foundation Trilogy this science is a perfect statistical science.
The fictional architect of this science is a mathematician. The
first foundationers are mathematicians and the Second
Foundationers are psychologists, or mind-readers. There is no
mistaking the author's intention that psychohistory can claim to
have grown into a science to be considered on a par with the
natural sciences only if it includes mathematics, a natural corollary, because of its estimation methodology. Asimov has clearly linked the disciplines of learning that are at the basis of this psychohistoric science. As mentioned earlier his protagonist is both a psychohistorian and a mathematician. His first foundationers are all mathematicians.

In our everyday life we depend upon estimates based on probability. There are two classes of probability estimates: 1) Mathematical probability, and 2) Empirical theory or frequency theory.

Mathematical probability is purely deductive. This means that the probabilities follow logically from the assumptions, axioms, or postulates used as premises. The mathematical probability that any event will occur is given by the ratio of the favourable ways in which the event can occur to the total possible ways, favourable and unfavourable taken together. These must be equipossible.

Praxeology is another science that deals with predictions. Praxeology is an a posteriori science that relies on past and present evidence of repetition and predicts the future based on the repetition possibility, or probability. Though this scientific possibility is not discussed at length here, existence of this science is pointed out.

The law of chance reads thus: "The mathematical probability that any event will occur in the ratio of the favourable ways in which the event can occur to the total possible ways, favourable and unfavourable, these being equally possible" (Searles 263).
The formula that enables us to assess the probability in the above method is as follows:

\[ P = \frac{f}{f + u} \]

namely, \( \text{Probability} = \frac{\text{favourable}}{\text{favourable} + \text{unfavourable}} \)

For arriving at the probability of a something happening or not happening one must be certain about the number of possible ways in which an event can or cannot happen, that is, favourable alternatives in which similar results could be obtained. In the classical example of a tossed coin coming down heads, probability is fifty fifty. To explain the example, the total number of possible ways the tossed coin can come down is two. The chance of head coming down is one out of two, which is fifty percent. Again to take another standard example is a pack of cards. The probability of picking Ace is 4 out of 52, which is 1 out of 13.

From the probability ratio arrived thus, it is possible to work out the odds against a something happening or not happening. In our first example of the tossed coin, the odds are fifty percent against. In the case of the playing cards, the odds are 12 against one. It can be seen that where the odds are less the probability ratio is high and vice versa. In the Foundation Trilogy, the protagonist Hari Seldon harps on this probability factor, and his panacea for the galactic empire lies in lessening the odds against his design to bring about a renewal of the empire. This would be achieved by taking to contingency contracting discussed later. It would be a success in all likelihood so long as we are to deal with the game of life with as much as quadrillion population.
The other theory of probability is known as Empirical theory or frequency theory. Our lives have many examples of this kind. In fact, life is impossible without resort to frequency theory. We are able to take decisions only on the basis of frequency or possibility of recurrence of events in life. Our experiences contribute greatly towards taking decisions. We act upon observed actuals. While mathematical probability depends on finite alternatives, nature and society offer numerous possibilities and they are not equipossible. Nevertheless, frequency theory does afford a means to predict the future. Hari Seldon exploits the usual response of the rulers of the realm to exploit Terminus to begin his social reconstruction.

Another tool that enables an analyst, historian or psychohistorian to arrive at basic causes, is symbolic logic. Symbolic logic is reducing logical forms into symbols for cognitive convenience, for example, constructive forces and destructive forces -- Seldons and Mules. The logic that informs natural sciences and the human actions is the same logic. "The logic of science is not different from the logic resorted to by any individual in the meditations that precede his actions or weigh their effects afterwards" (Mises 305). In the natural sciences, whatever the manifestation, the ultimate given is the cause. Discovery of the basic cause results in a scientific truth. Manifestations of scientific phenomena are analysed for basic causes. The precept that enables us to arrive at the germinal cause is termed logic. Just as natural sciences are based on induction, human sciences have to be based on reduction, as they work on approximations. Human sciences adopt logical
principles to arrive at a consensus as regards motivation behind various human actions. Failing application of symbolic logic, a social thinker would be confounded with a plethora of apparent forms. Approaching certainty, which is the sole motif behind the pursuit of psychohistory, would then become a mirage. The Foundation Trilogy employs this method in characterization and pointing at events. Because of the application of symbolic logic, Asimov achieves economy of words and events. The characters play a representative role, and events are not many considering the scale at which the human drama is narrated. For a novel that deals with quadrillion population, spanning a fictional chronological period of 400 years, the length of the novel is very sketchy. Indeed, this is construed adversely by critics that the Foundation Trilogy is sketchy and wanting in elaborate dialogue or action. If it is understood that the Foundation Trilogy is a presentation of seminal events and conflicts following the principle of symbolic logic, the Trilogy would loom into an almanac of activities that result in the renewal of the galactic civilization. Economy of words, events, and characterization is a sign of deftness of the author than a deficiency. Symbolic logic is employed even where language because of its inadequacy fails to convey the intended meaning.

The Foundation Trilogy requires us to witness a sequence of activities that culminate in the renewal colony. Being science fiction there can only be a maturation of a concept rather than a linear progression of events. Events are significant only in so far as they contribute to the ultimate goal. As seen earlier, the systemic architectonic that Asimov suggests as the method for renewing a civilization is one which is built on close
relationship between the various member systems in the greater system. The events in the member systems can only contribute in a small but definite way, never as the only way. Therefore the Trilogy itself is divided into nine novellas thus forming a set of hierarchic systems for renewing the galactic empire, the ultimate holistic goal of the system. The nine novellas work in an ascending chronologic sequence. Going by the principle of this holistic architectonic, more than a sketchy account of advancements might result in a waste of words.

To go back to logic, by itself logic illuminates problems that have been discussed for hundreds of years with little or no avail. It does away with the innumerable different names for the one and the same. The principle of gravity, for example, could explain so many of the activities we normally come across. Algebra is logical mathematics that can reduce the complex into the simple. The objective of logic, in general, is to remove confounding due to variety. "[C]lear expression is a reflexion of clear concepts; and clear concepts are the goal of logic" (Langer 42). Logic deals with the arrangement of parts in an orderly manner. It reveals the structure of things. Structure by itself means the orderly arrangement of parts. Structuring reality in the systemic approach to change, requires not alone identifying the parts to lead towards a goal but it also necessitates assigning priorities for the parts in the system. There could be two different things with the same logical structure. Apparently different things, then, are deemed analogous. Our world of reality consists of many analogous manifestations. A logical form may be physical or abstract. An
abstract form is one without a context. Logic does not require context for explaining things. Concepts are therefore abstract.

Nature presents many analogous forms and therefore nature could be understood if the fundamentals are understood. Interpretation of phenomena is applying abstract concepts to happenings and ideas. Use of symbols is important in the study of logic. Structures can be studied only with regard to symbols. Institutionalised practices are symbolic in their content and message, and are passed on as such from one generation to another. When the symbols lose their referents, institutions lose their place to superstition and go out of recognition. Hence, the changing institutional practices from time to time.

The Foundation Trilogy demonstrates various attempts by the empiricists at running the empire without the least effort to consolidate the empire that had splintered. Except the Mule the other warlords do not endeavour to reinfuse any principle into the system to consolidate the empire. The Mule's effort thus forms the only possible way to re-establish the empire, though the method adopted is an irrational method and therefore untenable according to modern passion for scientific certainties. It would be shown later how the chances are a fifty fifty between the Foundationers and the Mule. At the same time, some of the techniques to be discussed here, especially the behaviour modification techniques, are aimed at increasing this probability ratio.

Another enabling tool found employed in the Foundation Trilogy is behaviour modification. Normally, a certain uniformity in human behaviour is expected because of our past
experience. It is this uniformity in human behaviour, that makes it possible to predict behaviour of individuals on the basis of observed evidence. Behaviour is predictable only from the point of view of universality of behaviour. Probability based on evidence helps us make inductive generalizations. Our predictions would be based on the experience of previous instances brought to bear over the present and the future. Such presumptions work and thus our behaviour is reinforced. However, in predictions concerning nature, generalization is difficult since nature presents numerous possibilities. Going by the probability equation, numerous possibilities increases the quantum of unfavourables, resulting in a reduction of the probability ratio.

Still, if the natural occurrences could be grouped together on the basis of a limited number of independent qualities, a logical reduction that is, the probability ratio could be increased, as is inferred from the following observation of Keynes.

The assumption that the objects in the field, over which our generalizations extend, do not have an infinite number of independent qualities; that, in other words, their characteristics, however numerous, cohere together in groups of invariable connections, which are finite in number. (Searles 273)

We can broadly arrive at human behaviour patterns. Psychohistory has done that with its dialectical patterns. Group theories have
evolved certain patterns of group behaviour. Modern man aims at groups rather than individuals. Individuals being different from each other they form a heterogeneous denominator reducing the probability factor. This is a clear warning to social workers and others dealing in economics, politics and morals.

Probability theory cannot be applied at random to unspecified objects. This concept must of necessity be understood in terms of the purpose of one using the concepts. In these purpose oriented concepts, variables are not always of a definite number. They vary according to the goals set. Therefore, it is imperative that the Foundation Trilogy specify a goal to achieve -- and there is only one, namely, renewing the galactic empire. It would be pertinent to recall that systemic strategies for social order also insist on fixing a goal for planning a society. Nonetheless, the ultimate goal in any plan cannot sway from the decided objective of all social thinkers, and designers of society, namely, human well being. Human well being is at once a metaphysical and an empirical goal.

When the goal is an ultimate good, the variables can never be many. The odds are nil from an ethical angle. The odds can be little or nil, since the detractors from this ideal of good can alone upset the odds. In the Foundation Trilogy there is a systematic approach to nullify the odds with the use of behaviour modification. This is justified in the epilogue, when the First Speaker confesses to having controlled the behaviour of the mentioned characters. As earlier, Asimov suggests ways of controlling the extent of probability by hitting at the vulnerable areas. It
would be better to remember again that the protagonist is a psychohistorian and mathematician in one.

Since we choose to rely on probability, certainty in social matters is rendered an elusive principle. There can only be generalizations and approximations, and as such predictions cannot be certain only probable. "Probabilities become certainties in the sense that very probable things will be happening most of the time, while less probable things will still happen, but only for a small part of the time" (Darwin 169). By verifying the past it is possible to assess the probable on the basis of evidence.

The next concurrent field of enquiry that has a direct bearing on causation is environmentalism. Rene Descartes in the seventeenth century postulated that man is a slave to his environment. Before Descartes environment was almost insignificant as an agent of change. Descartes was led to this conclusion by the effect of the animated garden during his time, wherein the visitor to the garden turned certain valves as he walked his way into the garden. The valves thus thrown open allowed water to flow and thus the plants were watered without the aid of any direct human involvement. There was also the enactment of the tale of bathing Diana and Acteon. A bathing Diana went into hiding as strangers neared her, and Acteon appeared at the scene. The effect of this automated garden on the visiting public was enormous. Descartes, taking cue from the effect that this automated garden produced went on to postulate that environment had a role to play in shaping human behaviour.
Following Descartes, modern thinkers feel that environment had a significant role to play in the behaviour of humans, as this observation finds: "Human action is conscious reaction to the stimulus offered by the condition under which man lives" (Mises 325). Mises finds two kinds of environment that influence human behaviour. 1) The doctrine of physical or geographical environmentalism, and, 2) the doctrine of social or cultural environmentalism.

The thoughts and actions of the people are determined by the physical, geographical and climatic conditions, as well as flora and fauna of a region. In this light human actions appear as passive reactions to external stimulus from nature.

The second view considers that there is necessarily a continuity in civilization. A rising generation has only to step into a milieu created by an earlier civilization. Having come into a milieu which is not his own creation, an individual is in a circumscribed spot. The psychohistorian recognized this and felt that each generation is on a 'leash' with the earlier generation. Historical determinism also considered any generation as a continuity with the past. Institutionalized values tend to pass on valid cultural norms to the succeeding generations. This situation informs social and cultural environmentalism. It has become certain that each generation should continue on the given in any historical context, and more than that it should also contribute to the continuation of values and tradition for the sake of the next generation and the future. The argument that there must be a realization of this responsibility on the part of each generation appears justified, from different points of view.
An individual being at a spot in history does not mean that the individual is prevented from acting the way he wants to. The individual enjoys free will in this respect. An individual is not in any way prevented from being the way he wants to by the milieu, though it is almost certain that each generation lives in a predetermined environment. Still, human nature being such, an individual need not react in the same manner as his forebears. His response could be entirely different. This in effect is the indeterminate tendency with regard to human reactions, that encourages the enemies to willed social design abhor converting the social sciences into a technologic tool.

Environmentalism takes a different turn when it is adopted by behaviour psychologists. Pavlov demonstrated that organisms behave by responding to an external stimulus. Pavlov's hypothesis is based on the supposition that there existed an autonomous nervous system that was not subordinate to the supervening mind. Freud postulated the dynamic behaviour of humans as slaves of the mind. Early twentieth century behaviourists thought that our world was a world of stimulus and response. In 1945, Otto Fenichel considered that stimuli from the outside world or from the body initiated a tension which was relieved by a motor secretary discharge. This hypothesis went in line with Pavlov's salivating dog exposed to an external stimulus. Otto Fenichel also found inhibiting tendencies opposing the discharge tendency.

Coming later B.F. Skinner thought otherwise. In his opinion behaviour was not a response to a stimulus. Behaviour is caused and sustained by subsequent reinforcement. Since Pavlov's
explanation of behaviour as a response to a stimulus did not fully explain behaviour, B.F. Skinner wanted to show that there was more to behaviour than response to a stimulus. Skinner found in addition to stimulus and response a reinforcement to behaviour because of the consequences. As a result of this stance, there was a paradigm shift between Pavlov and Skinner, from a priori conditioning of behaviour to a posteriori conditioning of behaviour. Consequences retroactively produced a reinforcement of a response and encouraged and warranted its recurrence. Thus operant conditioning looked into what happened after behaviour occurs. In the Skinnerian behaviour theory, consequences had a profound role to play. Skinner's choice of the role of consequences is believed to be the result of Edward Thorndike who had earlier demonstrated that learning is enhanced if the student is rewarded for achievements. Thorndike's hypothesis is termed as pragmatism and it pertained to learning. Since behaviour was found to result from consequences, Skinner postulated that behaviour can be shaped by operant conditioning, which is creating an environment that reinforced the actions of humans, both positively and negatively. Yet, there remained unchallenged the Pavlovian autonomic reflex action. The inference was, environmental contingencies did condition behaviour, whether or not there was an autonomous nervous system.

The system that B.F. Skinner opposed while he postulated operant conditioning was the system propounded by Bentham in the last century. The Benthamite system sought to control human behaviour by the opposing principles of reward and punishment. Over the years the system established after the fashion of Bentham failed to produce the desired result. Punishment did not
lessen the number of criminals. On the other hand it created more criminals. B.F. Skinner suggested that there could be a different way of conditioning behaviour rather than by punishment and reward. He suggested operant conditioning. His objection to the Benthamite method was that it produced repressive behaviour. Repressive behaviour produces a suppressive society. A respressed society is a dysfunctional society. "[N]o species can survive in such an environment. The human being ... has been able to accommodate much more suppression than can other living things, but even he can take only so much" (Wheeler, Introduction 6). Operant conditioning is not in any way a new method of controlling behaviour. The world has been always an operant conditioning world. Therefore the moral question whether operant conditioning is ethical is not sustainable since it existed much before behaviourism was discovered. It can be said that Benthamite world also is an operant conditioning world, in that the punishment is intended to goad the individual to desist from bad and tend towards good. The discovery of operant conditioning only sought to lessen punishment in the environment, for the very reason that a society based on punishment was a negatively biased society. Operant conditioning promises an expressive rather than a repressive society.

In the domain of the new outlook on behaviour, probability no longer referred to the measure of frequency distribution. It has become a measure of what operationalism considered as the effect of reinforcers on behaviour. There were both positive and negative reinforcers as mentioned earlier. Whatever increased the probability rate is considered as positive reinforcer and
similarly whatever lowered the probability rate is considered negative reinforcer. A combination of positive and negative reinforcers could result in a premeditated, predictable response. A new dimension to the study of a posteriori conditioning of behaviour is that the subject revealed the kind of reinforcers that he is influenced by. It can therefore be inferred that operant conditioning could be tuned to the subjects' idiosyncracies. It may be recalled here that idiosyncracies in human behaviour was adduced as the cause for and excuse against psychologic patterning of behaviour. Human behaviour had all the time been regarded as complex and therefore eluded analysis. Contrarily, Skinner's hypothesis opens up new possibilities. In the new scheme of control of behaviour, control can be exercised by planting and removing positive and negative reinforcers.

In the Foundation Trilogy these kinds of control are encountered. To begin with, from the point of view of the empiricists, removal of Hari Seldon to the distant fringe galaxy, Terminus, is a removal of a negative reinforcer from the milieu the empiricists, the vested interests, want to continue with for their own narrow ends. Whereas, later on in the Trilogy, when the Seldon Plan is in operation, the visits of the Traders to a retrograde empire, is a positive reinforcer. Their visits infuse trust in the scientific and cultural superiority of the Foundation, of which so little is known that the visitors from the Foundation are almost magicians. They are so very out of their world, physically and culturally, that they are myths with apparently no perceptible origins.
Even the First Foundationers, who are mathematicians and who form the coordinate organisation are manipulated, or controlled, into believing that they had free will in their enterprise, by carefully removing all signs of control from their environment. Positive reinforcers beguile the First Foundationers into thinking that they are able to implement their decisions without ever realizing until almost the very last that they are not able to exercise their volitions. Indeed, the very location of the Second Foundation as being on the other end of the spiral arm of the galaxy is a positive reinforcer. The definition of the location is a verbal charade and therefore the First Foundationers are beguiled into believing that the Second Foundation is at a remote corner, while it existed all the time right in their midst. The charade is broken into only at the very end and that leads to certain other undesirable conclusions. Asimov uses these instances to explain the dangers approximations may lead to.

An encouraging factor in spite of the Skinnerian operant conditioning in the study of behaviour is that man has changed his behaviour only in response to changing condition, never in anticipation of a coming event. If the conditions are altered a behavioural change could be effected. That is, if stimulus \( A \) is offered, response is guaranteed. The imperative is that behaviour can and must be controlled to bring about the desired effect in society if the society is to survive. There is as such much opposition to control of behaviour especially from the common masses. As Dennis Pirages, in his essay 'Behaviour Technology and Institutional Tranformation' (Wheeler 87-90) discusses: "Behaviour modification and social engineering are at
least discussed in polite society, although more often in a negative than in a positive context" (Wheeler 63). Once again, this observation points to the established notion that social change is the concern of the elite. There must come about a turn around in attitude. The Foundation Trilogy is targeted to achieve it. Behaviour, it appears, can be moulded by social institutions. To alter or modify collective behaviour, the institutions that shape that behaviour must be correspondingly altered. As already seen in chapter II institutionalised change is feasible. "Man not only responds to institutionalized contingencies, but he can understand them and create new ones" (Wheeler 70). Dennis Pirages suggests formation of behaviour 'controllers' to device ways to formulate planning mechanisms to ensure a better world for the future of our generation. This is a theoretic sanction to Asimov's conception of the Second Foundationers in the Foundation Trilogy. He urges the formation of groups of controllers who would not only find policies but also implement them because they would be insulated from criticisms of others. He asserts: "A fairly effective technology of behaviour is currently being developed, but we have an inordinate fear of recognizing it and harnessing it for the common good" (Pirages in Wheeler 70). The refrain is clear that the formulation of a control mechanism is only for the promotion of common good.

The technology that Asimov wanted in the Foundation Trilogy is available. The Trilogy could forge ahead with its Seldon Plan.