CHAPTER VI
CONCLUSION

Considering the relation between facts and theories, we understand that theories are precursors to facts, unlike hypotheses that are vague perceptions. Theories cannot be considered as insubstantial. Theories must be granted certain credibility, since they are closer to facts. The theories that find application in the Foundation Trilogy are firmly grounded in empirical and instinctive perceptions.

Within the preconditions given in the last chapter, it seems possible that the 'society desired' could be designed, developed and maintained. Asimov is not alone here since there have been theorists, social thinkers, and social experimenters as expounded in the previous chapters. Asimov was not employing an alien science either. He has followed meticulously the winnowed best of the prerequisites of engineering a civilization. It had been the practice of fable writers to employ this medium to convey new science. Francis Bacon's House of Salomon is an institution for altering the future in man's favour. Campenella's City of the Sun is another. In Bensalem, Francis Bacon provides a humanistic paradigm of what society can be, given certain rational assumptions (Armytage 1968). Asimov, we noticed earlier, had to operate within certain assumptions. There are critiques questioning this ability of Asimov to paint a future history with the use of psychohistory. Donald Wolheim is one such critic who finds that Asimov's dream is impossible of achievement, when he says:
At present, to do it with all humanity, to predict accurately the historical events ... is beyond our capacity at this time simply because in the relatively primitive state of our information there are too many variables, too much that is obscure or unclear about our past events, and our science of psychology is still in a formative stage. (Wolheim 38-39)

There are without doubt, inherent pitfalls in this science. But, the preceding chapters are intended to highlight the fact that these insights that Donald Wolheim talks about in his book as impediments have begun to grow clearer and the future history seems possible, without of course the desirable degree of certainty. However, it was seen that Asimov himself does not propose a perfect future. Asimov has chosen to do it his own way by taking fictional liberties. His choice of mind control is one in point. While we agree that psychologic history could predict to some extent the flow of events, especially in these changed days of the psychologic study of the inner workings of the mind, especially the discovery of mob behaviour, we cannot approve of the claim that the emotions of man could be controlled the way it is stated in the Foundation Trilogy. Asimov should only be allowed the liberty of a fiction writer. The Foundation Trilogy is necessarily a fiction and not a monograph. It is an account of the shape of things that could come to pass. It may be his desire that the mind reading abilities popularly known as hypnosis, ESP and Clairvoyance should be developed into sciences. Asimov would not be wrong even if he did think so, since, "[i]t is generally considered that a hypnotized subject relinquishes considerable social and behavioural control to the hypnotist".
(Grünbaum 288). The modern man is accused of having taken to developing the physical sciences since there was more to benefit from it by conditioning the physical forces around him, an immediate and easier gain. Modern scientific man did not bother about the mental sciences which are responsible for the changes in the very fabric of society. Asimov is justified in making a case for the pursuit of mental sciences as the road to happiness.

Yet, however sure we may be of the mental sciences, there always is the one pitfall -- the chance occurrence. Given the fact that mob behaviour is predictable, and can be controlled, given the fact that psychohistory can decipher patterns in history, there is that discovery also, that all may not go in the predetermined direction. The paranoia is so realistic that an organization known as the Club of Rome has been formed to save the world from disaster of this kind.

But Asimov accommodates such unforeseeable upsets in his scheme, and incorporates an appropriate superordinate body in line with the suggestion of systems planners. The Seldon Plan allows room for pitfalls. But, it is reserved on the ability of psychohistory to predict the individuals and their idiosyncrasies to any greater accuracy. The Second Foundation finds that the upsets and interventions are due largely to the introduction of individuals in the scheme. They have to consider and deal with individuals in the scheme, ever since the advent of the Mule, the mutant. But it is dismissed as a chance occurrence, that is unpredictable. The individuals who emulate the bad model of the Mule are controlled by an ever alert Second Foundation. Such surprises are not discounted, but deftly
included in the Plan contributing to increasing credibility in the scheme. There are the protectors of the Seldon Plan who would take remedial action. After all, the Plan is based on probability and probability is not a certainty, but a near certainty. The lesson is that social sciences can function as sure sciences only on this basis -- on near certainty. Asimov and others demand a scientific status for these near certainties, just as physical sciences are accorded, which are also near certainties, and not absolutes, as the gas laws of Asimov, mentioned in the introduction here. But, that itself is much considering our experiences in the past, when civilizations were simply inscrutable and man was a slave to vagaries of fortune.

Another hurdle normally encountered towards applying this science to any use is its inability of being quantified. Ideas are emerging to allay fears in this regard. The science of prediction relies on probability. It is now possible to quantify probability in parascientific matters on the analogy of the physical sciences. Matters of recurring nature are being quantified with the ideas of probability, otherwise known as periodicity or the recurrence principle. The only hesitation is that the probability rate may be more or less. This is driven home by the First Speaker in the Second Foundation when he admonishes the new student not to use the word "never", but to interpret the result mathematically.

Much ahead of the Next Assignment of Langer in 1958, Asimov has taken psychology to history. One of the aims of science fiction being to present a world in advance of its time, the Foundation Trilogy does it fittingly. The architectonic patterns
may have been patterned after Asimov had published his Foundation Trilogy. But, the visionary in Asimov had absorbed and employed the architectonic patterns. As observed earlier in the last chapter, it would be incongruous to pigeonhole a systemic planning for the future into any one of the five patterns seen earlier. The system followed by Asimov falls under many systemic patterns at once. Asimov is employing psychohistory as the tool to get at the patterns. He is making use of behaviour modification solutions adopting the operant conditioning method propounded by B.F. Skinner. Both positive and negative reinforcers are used to bring about a purported action. In the final analysis, however, the Foundation Trilogy is an outright systemic plan for a better future.

The architectonic pattern followed in the Foundation Trilogy, though predominantly resembling the catastrophic pattern, also resembles the systemic or cybernetic architectonic pattern in that, there is an ultimate goal, of achieving a Second Galactic Empire, under the supervisory care of the psychologists. There are superordinate and subordinate parts. Individuals and subsystems are subordinated to whole systems. There is what is described as a closed theodicy in the intervention of the Second Foundation, since there is secrecy about the other superordinate body regulating the matters in the system, thus keeping the programme on definite lines.

In the matter of conflict between the First Foundation and the other extraneous agencies, it resembles a dialectic architectonic, since, there are contradictions and negations. But this is a systemic plan found in revolutionary changes only.
The changes brought about in the Foundation Trilogy is not revolutionary, since there is no suddenness in movement, but a deliberate one, over a 1000 years that is, allowing for the forces of history to take their normal time to mature and effect changes.

The restoration which happens in the Foundation Trilogy is close to catastrophic architectonic, since each of the crisis that the First Foundation faces is termed a Seldon Crisis, which purports that as soon as a stage is reached there would occur a catastrophe. Catastrophes are not natural but maneuvers, of course, by exploiting the natural growth of social forces, by planting certain operant conditions. Each Seldon Crisis forces the Foundation into a certain economic and political environment and the First Foundation, using its resourcefulness, must find a way out of the crisis. It is a method of creating social situations and allowing a society to grow out of it. The first Seldon Crisis achieves alienation of the Foundation so that it could be safe from the decaying tendencies characteristic of the dying civilization, and continue on its scientific progress. The second crisis achieves supremacy of the Foundation over the other neighbouring kingdoms using scientific development as its tool. Want of metallic resources makes the Foundation miniaturize the gadgets, using advanced atomic science. The Foundation adopts the religion of science, and the mythology of science to conquer the neighbouring kingdoms. Asimov stays close to the belief that knowledge degrades to myth due to remoteness and disuse.

The third crisis onwards, it is not a pronounced development. Asimov uses these crises to demonstrate certain
causes that lead to the fall of societies. For, the Foundation goes into undesirable political growth, and its reliance on tradition has robbed initiative to salvage itself from crisis, which is a deleterious tendency in a society. The Foundation begins to fall from now on. It yields to the empire-making designs of the temporary warlords, until, the Mule the mightiest of all warlords, and apparently the invincible, is brought to a halt.

In fact, the third and fourth appearances of Hari Seldon go unnoticed. Yet, the Seldon simulacrum pronounces deviation in the plan due to the lethargy of the Foundationers. It is at this juncture, when the open wing of the systemic plan is erring, that the superordinate body, the Second Foundation, interferes with its midwifery correction. Midwifery intervention is recommended in planning future societies since any plan for future societies cannot foresee all the contingencies accurately. Asimov does provide for midwifery intervention in his Foundation Trilogy. The last two crises also take to the need to keep the plan a secret, a theoretic question in any systemic planning. The First Foundation questions the very formulation of the two layer system on the grounds of loss of free will, and liberty to act. But, if we are to use a theoretic suggestion of the systems planners then Asimov is given to not a two tier system, but a three tier system consisting of Phase I, Phase II and Phase III levels of planning mentioned in Chapter II. There is but one reservation, that Asimov does not very well fall in line with the Phase II level, namely, "the organization of multi level decisions".

The Foundation Trilogy, in spite of its tendencies of
certainty, does not promote homeostasis, but does promote a heuristic order in which changes are welcome only towards a definite goal on an experiment and evaluation basis. Homeostasis is the step towards changelessness, which is undesirable, and unproductive. Also, it was already seen that perfect systems are unachievable and therefore to be shunned by social architects of the modern times.

It was noticed that in achieving the design for a Second Galactic Empire, the Second Foundation is actively employing behaviour modification techniques. The means to effect behaviour modification is by using operant conditioning. Another effective means to condition behavioural response is through environmentalism. At each step the conditions are so set that the First Foundation as well as the enemies of the First Foundation are forced into a particular course of action predetermined by the science of psychohistory. To achieve a certain stage of growth to establish political consolidation, environmentalism plays a key role. Environmental manipulations are in the nature of economic and social forces, that push and pull the society.

Another aspect that the systems designers insist upon to create future societies is dynamic response to stimuli in contradistinction to static response. Throughout the Foundation Trilogy, Freud's dynamic response to social stimulus is encouraged. For, as has been pointed out, a static response would only result in stereotyped action that would never be in keeping with the novel challenges that history is sure to throw up from time to time. The first hero of the Foundation, Salvor
Hardin clearly shows the advantageous results of adopting a dynamic response. Static response to social stimulus is downplayed by an event wherein the First Foundation is found to have gone into a presumption that it would always be successful, no matter what others might be able to do. A static response costs the Foundation a fall at the hands of the Mule the mutant. An evolving plan would have protected the interests of the Foundation. Hari Seldon intended thus: "He never created a finished product. Finished products are for decadent minds. His was an evolving mechanism" (SF 78). A dynamic response would result in an evolving design. This is in answer to the criticism against the rigid and millennial utopias of old. A flexible design, based on the evolutionary sociological principle can accommodate new ideas as time unfolded new challenges. This is in keeping with the leading thinker of this century, H.G. Wells, who held the opinion that:

The Modern Utopia must not be static but kinetic, must shape not as a permanent state but as a hopeful stage, leading to a long ascent of stages.... we have to plan a flexible, common compromise in which a perpetually novel succession of individualities may converge most effectually upon a comprehensive onward development. (H.G. Wells, qtd. in content note Hertzler 313)

The Foundation Trilogy shows that a static strategy is bound to fail, since, long term planning cannot afford to be static. Contingencies will demand new measures. Contingencies cannot be predicted since they are the result of socio-economic operation
that are too various to decipher. On the other hand, strategies can be altered to suit the contingencies. Neither the contingencies nor the strategies to meet them can therefore remain fixed. One of the reasons for the fall of the First Foundation in the Foundation Trilogy is that it did not understand this since it was overreliant on the Seldon Plan for safety.

The Foundation Trilogy is built on the science of psychohistory. In the world of reality, psychohistoric studies of history were the basis of achievement only in two of the famous works. Erik Erikson's *Young Man Luther,* David Donald's *Charles Sumner* along with Erik Erikson's other works are the finest products of this science of psychohistory. They are simply lives in the modern mode, and not the result of the applications of clinical method. Results are guaranteed only in theory and rarely so in practice. Therefore the objection that this is a infantile science. But, surely enough, as pointed out in the previous chapter, the Mule is a typical product of object relation class dealing with childhood maladjustment. Psychohistoric findings on the pathobiography of individuals is finding application here. Also, the manner in which the forces inimical to the emergence of the Second Galactic Empire are managed is the result of the application of the behaviour tendencies of individuals and groups. Without this knowledge, behaviour modification cannot be resorted to.

Another object of attack is the use of psychohistory to achieve certainty. The psychohistorian reaches certainty by first making use of the historian's fact to infer but resorts to
other methodologies, psychologic and scientific to assert. The psychohistorian relies for his inferences on depth psychology, that is, "inductive generalization from repeated observation". A historian never generalizes. With the historian facts and inferences are never the same. The objection to using psychohistory to study and establish historical facts is stated to stem from the metaphorical nature of depth psychology that relies on symbol and analogy. It is contended that historical facts are not featurely products to be measured in a monistic manner, because: "[h]uman actions -- or inactions -- depend on a rich mixture of motives; it is one of the functions of history to keep reminding us" (Barzun 44). The psychohistorian further assigns only "projections" as causes, since he relies on a something that takes place in the depths of the human psyche. He tries to offer a scientific explanation to overt happenings by showing a link between facts known and definable causes. The motive, Jacques Barzun accuses, is one of action. The psychohistorian studies the mechanism of historical change, deduces formulas in order to direct action towards changing the course of history. This is a total misdirection since one is not expected to reduce things to a causal pattern to understand. A historian recreates facts only by imagining, visualizing, reliving and individualizing.

Another subject of adverse criticism is the use of psychohistory as the science the panacea for the ills of change. Primarily the objections are directed at the very application of psychology, as noticed earlier, since "it relies on a parochial psychology that is mainly presumed to hold across space and historical time" (Runyan 265). Specifically, since psychology
is of a recent origin, its powers to unravel the secrets of past history is redoubtable, as this vociferous opinion shows. "How can we as historians make use of psychology which is the product of observation carried out on twentieth century man, in order to interpret the actions of the man of the past?" (Runyan 275). The question of using psychohistory or depth psychology therefore hangs on reservations about antedating the science.

However, the psychologic studies hold that the emotions of man do not undergo any change ever, which, is incidentally the opinion of Isaac Asimov as he says in the essay entitled 'Social Science Fiction'. (Knight 29 - 61)

If psychohistory is one method of achieving predictability, yet another method of achieving predictability is through quanto-history, which stands for counting the number of occurrences. An objection to this method of arriving at decisions is that counting is possible when the matter under discussion is homogeneous. Man's life, contrarily, cannot be subject to quanto-history since man and his life are not homogeneous. The quanto-historic method ignores the dissimilar. The dissimilar occurrences lose their significance in protracted planning, while in fact, the dissimilar might change the course of history. The dissimilar could be the chance element.

Another debatable issue that the Foundation Trilogy seeks to address is the question of free will in these managed societies. Knowledge of the supervisory body in the Seldon design results in two debilities. First, the First Foundationers grow complacent ever since they come to know that the Seldon Plan
protected them somehow. But their reaction changes to one of anger out of a hurt self respect, once they find out that they are subordinate to another more powerful governing body more responsible than themselves in seeing the Seldon Plan completed. Complacency of any kind is discouraged. For, strategic planning requires that there is constant monitoring of the progress of the planned history of the future. Complacency costs the very loss of the First Foundation and all its purported action. Asimov makes use of this event to demonstrate the ill equipped nature of our modern science that is given to lopsided, partisan interest towards the development of the physical sciences. A readiness for the indeterminate forces rearing their heads is essential, and anticipation equips us well for the chance occurrences.

In a systemic design free will is a necessary casualty. Though B.F. Skinner may have said that man was never free, the free will that one asserts on is limited to the needs of society. It should be recalled here that Plato, as well as Augustine, have sought to limit the relevance of free will by prescribing the very ambit of its application. According to them, man could exercise free will within a certain range predetermined by the particular social design. The free will of man is not an expression of volition either. Considering the fact that when one gets born into a society, he is a slave not only to legislated laws but also to all the social ethos peculiar to that society. From this point of view, man's free will can never be an objective reality to be cherished. Not even our First Parents in the Garden of Eden were free, since they were forbidden from tasting the fruit of knowledge.
Social engineering had gone on well, at least in fiction, in the Foundation Trilogy. But a social engineer cannot get away with his design for a future in as facile a manner as it appears in the Foundation Trilogy. In the world of practice, the desire to control change has been investigated by various specialists in the fields of history and parasciences. They had always had to contend with the diehards who would not want man to meddle with man's future, at least, not any greater than he had been so far. But, as always, the phobia is against anything new and untried. Generally the fear is the result of man's ignorance about the technologies adopted for behaviour modification, though it is averred that behaviour modification has been applied for some time now. It may not be easy to pass a plan for the future, but slowly it is bound to happen and by and by the permissible frontier would extend to newer limits. Because, we are living in managed societies, not just in the present age but had always been even in the previous ages. We had always been slaves to ideologies and personalities. Only that we were not consciously led into it. The able and the influential had their say from time to time. They masterminded our societies silently, and sometimes furtively. The systems planners at least are articulate about their designs, whether covert or overt.

Asimov makes it all seem not only plausible but also possible that societies could be planned and managed though there are some ethical questions to answer. Still, sf writers in general do not stray too far away from what the world is used to at the time of their writing. The sf writer's goal is always to
find a way out of the present crisis. Here, Asimov is busying himself with the already discussed idea of saving the cultural produce from the ravages of historical change. Asimov's attempt could well be exonerated on the ground that he chose to work with the available insights. But, to be sure there are objections quite too many. There have also been experiments that have failed.

A primary objection is to one man instituting change. The question concerns the concept of a leader/seer. A leader is a metaphysical entity far beyond empirical considerations, except in terms of the environment giving rise to this metaphysical entity. As seen earlier, a leader is inspired to change society by some force of historical necessity. St. Beuve is stated to have believed "that at any given moment a sudden decision of will by a great personality might redetermine the course of history" (Hook, Sidney 84). We have always had leaders, religious and empirical. It is contended that no man in his historical milieu can perceive the movement of history. Though Spengler, the historiographer, was averse to making a scientific study of history, he did feel that "historical understanding is innate, creative, gained by a perceptive genius with insight" (Gardiner 189). A leader is an existential product, as noticed earlier. There are very many examples of one man instituting change towards a better order by sympathetically enlisting the others in restoration of order. His moral right originates from his innate sense of order, which he wants reflected in the society that he intends to refine as well as redefine. The phenomenon of a leader inspiring his followers is a metaphysical one. History has benefited by this.
The second objection, and a serious objection at that, pertains to behaviour modification. Man's increasing power to control other men has raised many important questions concerning 'ethics', 'values', 'freedom', and 'power'. to name but a few areas. Behaviour modification is used to achieve "contingency contracting" (Stolz 10). Social planners and utopians have always had to contend with the need to grapple with the myriad number of complexities that a society poses, inhibiting any attempt to devise change. Behaviour modification, by enabling contingency contracting, lowers the complexity in social planning. In behaviour modification, it has been established that imprinting is possible just as equally as removal of behaviour in organisms. Earlier, it was brought out that Plato, Augustine and others aimed at reducing the number of variables in society by prescribing the very variables.

Reservations about behaviour modification technology stem from the mistaken impressions about behaviour. It is true that "intelligent men and women, dominated by the humanistic philosophy of the past two centuries cannot view with equanimity what Andrew Hacker has called "the specter of predictable man" (Grünbaum 302). In the opinion of the orthodox critics, behaviour is autonomous and therefore inviolable. It is the opinion of some that controlling behaviour is denial of free will and loss of dignity. Contrarily, behaviour is found to be a reflex, conditioned by circumstance. B.F.Skinner's investigation holds that behaviour had never been autonomous, but always controlled. Behaviour has always been conditioned by others' behaviour operating as reinforcers and freedom had never been absolute.
Any other explanation other than this would be unscientific according to Skinner. Not only behaviour can be modified by operant conditioning, but other scientific means are also possible. Earlier it was mentioned that surgical interference is available to control depression. There are other ways available these days. Now physical biology is linked to human behaviour. Biochemical intervention is recommended to control behaviour apart from surgical intervention. The term used is "lesion", which is used "to encompass not only the usual technique of severing tracts or ablating small areas of the brain, but to the alteration of the normal biochemical chain of events which are likely to be correlated with behavioural changes" (Grunbaum 203). Our protagonist Hari Seldon's orchestrated crises are all such prods and lashes that put reinforcers in the path of the Foundationers to goad them into a certain course. Further, Skinner dispels the notions that what constitutes dignity has always been culturally determined. With the result, one is able to assert these days that: "ninety percent of behaviour of ninety percent of the population can now be predicted. The ability to predict, of course, can soon be followed by the ability to control" (Wheeler 68). So much so, that the now advanced technology of behaviour modification does only substitute newer ones, in place of the ones that already existed, in ever so many forms.

Symbolic logic is yet another method of reducing the variables enabling contingency contracting. In the Foundation Trilogy, however, symbolic logic is applied to decipher meanings behind verbal communication. Asimov was forced into using symbolic logic in his Trilogy at the insistence of Campbell,
whose theory it was that symbolic logic could be employed to get at "the mysteries of the human mind" (Gunn James 41). But, as said in Chapter IV, symbolic logic could decongest our perceptions by taking us to the roots of forms, whether verbal, physical or ideological manifestations. Symbolic logic, used as a tool could reduce the number of contingencies in systems planning.

The reactions of the otherwise inclined who base their arguments on ethics are themselves conditioned. It is held that ethical mores are contingencies in the environment. Ethical mores have a reinforcing effect, but only over a long period of time. From this point of view, ethical mores are themselves the controlling factors, that are responsible for conducting the bearing of an individual. Ethical mores themselves are behaviour modification techniques, with "manipulative connotations".

There are also philosophical objections to behaviour modification. First, behaviour modification challenges the inherent worth of human beings, when it seeks to change behaviour using extraneous influences. Second, behaviour modification downplays cognition as an independent causal factor. Whereas, even ethical or prescriptive statements are indirect references to controlling contingencies, as seen above. Our behaviour is conditioned by no less a persuasive force than that we call ethics.

Since a systemic pattern of society has to deal with a right kind of future, as said elsewhere, there is a need to reduce the number of variables in social reconstruction. Behaviour
modification technology, by enabling what is termed as contingency contracting, enhances the chances of achieving a goal with a greater degree of certainty. It is the numerosness of variables that hampered evolving a technique to engineer change in society. Rather than abhorring the technology of behaviour modification itself, and since we cannot but be a manipulative society, it would be better, for the sake of the future to shift our attention to a different, a more relevant issue in behaviour modification. "The basic moral question is not whether man's behaviour will be controlled, but rather by whom, by what means, and for what ends" (Stolz 10). As noticed earlier, behaviour modification achieves moral justification when it anchors itself on the end, which has been given as noble and human, namely, social regeneration to preserve human good as pointed out by the following observation. "The social message for the present in the Foundation Trilogy is that in any age of rapid anarchic change, human cultural achievements - one of the frequently unsung benefits of intellectual progress - must at all costs be preserved" (Ash 173). This justification is the bedrock of the Foundation Trilogy, and the technology suggested is seized of this goal.

It is generally held that the Foundation Trilogy is rooted in behaviourist psychology as propounded by B.F. Skinner. The moral righteousness of the behaviourists rests on the assumption that the scientist-shamans know best which course human kind should take. (It is not the scientist shamans, but, a Seer, a no ordinary man as we have already seen who first propounds change). The scientist-shamans constitute the "definite class of men" in whom we entrust the care of the society.
Surprises do occur in the Foundation Trilogy, e.g. the Mule. It is assumed that no surprise is too great, or too unexpected to overcome the firm grasp of science upon human destiny. In his work *Craft of Fiction*, Reginald Bretnor, enumerating the assumptions, claims that this attitude is due to the assumption that science can produce a surprise-free future for mankind, which according to him is another Skinnerian tenet (128). Another assumption the Foundation Trilogy is given to is that politics would not undergo any change at that time in the future. The answer to such objections is that the changes sought here are more for the present than for the times these stories apparently talk about. Even then it was seen that, given a set of extraneous influences or stimulus, response could be predicted.

Asimov achieves something unique in suggesting a shape of the future, a tailored future. His is a pioneering work, and is sure to face lot of odds. It was seen in the previous chapters how well the suggestion of Asimov stays close to the existing, trends that have emerged before and after Foundation Trilogy was written and accepted by the sf readership. Asimov's achievement could be commended with this observation. "It is always more difficult to blaze new trails than to drive down a familiar freeway - but that does not mean that it can not be done, given the talent, the training, the equipment, and will to do it" (Bretnor 6). Asimov faced a problem, at the time of the Second World War. But, it could be any war, in any age, since, the effects of wars are always the same -- annihilation of all the good. As an sf writer, Asimov, did what he should. "The science fiction writer cannot avoid man's problems; by the vary nature of
his craft, he must meet them head on" (Bretnor 19).

Some are afraid of science as an agent of change. On the contrary, science can be an agent of good to society. It has to be admitted that "the social role of science is still more a matter of faith than of precise understanding" (Dubos 42). Science had done lot of good and of course, lot of bad too. But the good outweigh the bad. Our modern life is a boon which is the result of science. Ironically, it is this society that holds science to blame for the ills of society. The western man is accused of having studied science not to understand it but to master it and use it as his agent and a tool. The whole exercise could be a misdirected one, as this observation points out: "It is much early to be sure that Galileo, Watt, and Edison have contributed more lastingly to human advancement and happiness than have Socrates, Lao-tze, and Francis of Assisi" (Dubos 50). Asimov's, as much as B.F.Skinner's, insistence that the physical sciences have been unduly pursued for their prowess, at the expense of social sciences is a thought provoking proposition. B.F.Skinner insists that less attention has been paid to the study of man's behaviour freed from the ancient belief of an autonomous agent controlling human behaviour. He finds no difference in the degree of complexity between the natural sciences and the human sciences. The reasons for not developing a technology of behaviour according to B.F.Skinner is a puzzle as he observes here:

The difference is that the instruments and methods they [physics and biology] use are of commensurate
complexity. The fact that equally powerful instruments and methods are not available in the field of human behaviour is not an explanation; it is only part of the puzzle. (Skinner, B.F., 12)

The Foundation Trilogy makes a case for developing the mental sciences in place of the physical sciences for the sake of controlling change in history.

B.F. Skinner urges study of human behaviour. He asserts that the study of behaviour that has been known to be the causative agent of societies had not been taken up for several centuries. "For more than twenty-five hundred years close attention has been paid to mental life, but only recently has any effort been made to study human behaviour as something more than a mere by-product" (Skinner B.F. 12). It is high time that the modern science directs its attention towards this useful factor in the shaping of societies.

Reasons for alarm towards behaviour modification are not too difficult to seek. Apart from the usual fear of the new, B.F. Skinner feels that the alarm is primarily due to ignorance about how human behaviour is modified. Next, the concern is about the right vested in those who suggest psychological intervention. This second issue is the result of our notions of right and autonomy, which have been known to be false. In fact, the very terms employed in the behaviour study and modification such as modification, shaping, and control bespeak connotations of manipulations in the human psyche. As noticed earlier, humans in society had always been conditioned by influences, not in the
know of the individual professing his rights. Politically, behaviour modification could be used to impose an orthodoxy of "appropriate conduct" to avoid political dissent. In general, it is held that the exercise of behaviour modification dehumanizes people. In our world, already, behaviour modification is perpetrated through education, advertising and political campaign techniques. Generations of people have been swallowing this pill without questioning.

Behaviour modification technology exists today as affirmed by B.F. Skinner. In a candid manner he asserts: "[A] behavioral technology comparable in power and precision to physical and biological technology is lacking, and those who do not find the very possibility ridiculous are more likely to be frightened by it than reassured" (Skinner 5). The Foundation Trilogy is not an escape from the present and the painful. The critics of sf usually deem this genre to be an escape. The Foundation Trilogy of Asimov is not an escape. Surely enough science fiction could be "blueprints of tomorrow, looks backward, looks forward, allegories, idealisations of contemporary society, quizzical exegesis of Plato, essays in social criticism, overt programmes of reform..." (Armytage 13).

But the Foundation Trilogy is no escapist extravaganza. Admittedly, there are fictional elements in the Foundation Trilogy. It all seems too facile to achieve. Mind control appears a romantic concept, though hypnosis and clairvoyance are coming to be adopted in daily life more and more.

Yet, it may not be all that facile as it is made to appear. There have been controlled world order model projects whose
results have not been very encouraging. To add, there was the other school diametrically opposed to artificial control of society. This school believes that reliance on chance element is much safer compared with the still underdeveloped science, lest, a Frankenstein were to emerge out of our enthusiasm. Still, in small measures we have had doses of this artificial planning and controls and they have been successful, productive and fetching.

One of the prime critics to behaviour modification is Jacques Barzun. His reservation about "the longing for certitude" points to what in his opinion constitutes a science of history: "The common effort ... was to get rid of the human mind and will" (Barzun 61). This may be a distorted view according to the other schools of thought that would like psychology applied to the study of history, to get a control over change. Some of the leading exponents seeking a science of history are: "The French "Fatalists" of the 1830s and 40s, Buckle, Marx, Tolstoy, the latter-day Positivists, the post-Darwinian historical schools at the close of the last century, the "new" historians..." (Barzun 61). But their interests cannot be blamed if we consider the context in which they wished to get a hold of the science of history as this observation holds: "it is only human that historians should have wanted to be scientific in an age when science has been enjoying such prestige" (Gardiner 313). The historians' interests are only contemporaneous.

Dystopian visions of the future are quite many. Freedom loving individuals think that planning the future is deterministic. Anticipation, by itself would mean fatalism. Knowledge of our future has many undesirable effects affecting
human creativity, since, fatalism would definitely promote passivity. It would mean submission to the inevitable.

Forecasting in science fiction began with H.G.Well's The Discovery of the Future. In it, Well's basic thesis is that, just as one can reason backwards in time from the present to the prehistoric state of things, so one should be able to reason forward. It is simply a matter of understanding the "operating causes" and following the deduction chains rigorously and without sentiment. A systemic planning that employs a technology of change to control the movement of history has to be deterministic, since, a majority of the masses are indifferent to change and conserving order. Determinism is not therefore an accident at this level of engineered civilizations but a compulsive prerequisite.

These objections raised by historians and other social thinkers are mostly emotional in content. Their reluctance to come out of the traditional and the tried puts them on the defensive, resulting in stiff opposition to any attempts to control change. Any systematic approach at a purposive future cannot brook an emotional approach. "[U]nderstanding is the work of reason emancipated from all forms of unreason like emotions and partisanship" (Bendix 8). Asimov's approach in the Foundation Trilogy is absolutely unemotional, which might seem brutally unemotional. For the experiencers of the post Second World War trauma, rationality might have appeared as the appropriate attitude. Curiously, the trauma is not over yet.

Objections and assertions being numerous, the ways and means
proposed to arrive at an understanding of society, and the estimation methodology that could be adopted to assess the working of these orchestrated societies are not ends in themselves but a means to achieving an end, a knowledge to control, to get at a truth behind historical change, since, "truth is achieved once the proper methods of inquiry are applied" (Bendix 9). Man could free himself from the bother of change, and approach a temporary stasis. The society purported to be brought about in the Foundation Trilogy is the work of experts, some experts only. Out of theoretical necessity it has to be a specialist enterprise closed to the ordinary. But there could be objections to this approach, as this observation implies:

Asimov and few others like Heinlein approve of governing not on the principle of equality but according to a hierarchy of merit. It is a society like Saint Simon's.... Since they were men of genius, would have the right to determine human destiny. That the Seldon Plan would come to pass is another sense of fatalism. Que-sera-sera. (SFS 3:1 1976 32)

These shamans would bring about a Second Galactic Empire. None else would share in the glorious task. In the Foundation Trilogy, all the characters except the Mule and the Second Foundationers who are also the guardians of the Plan are slaves. The characters are nondescript if there is any description worth them. It is feared that accumulation of power in the hands of a few would produce opposite results than intended. The bulk of the population has little or no influence on the course of events. It was seen in Chapter II that social thinkers like

248
Warren Wagar suggested that a body should insulate itself from the rest and work a renewal. But, contrarily, and characteristic of social sciences, an opinion prevails that scientific renewal colonies would be counterproductive.

Planting a scientific renewal colony away from civilization would aggravate the split in mankind. Since an increase in information generates an increase in entropy elsewhere in the system, (libraries destroy forests), it is likely that a leap upward to a new informational class contained in the colony would generate an increase in entropy in humanity ... and the colony would stimulate the very destruction it was designed to forestall. (Thomson 66)

This being a dangerous observation, the very same author expresses his doubt if social renewal could be achieved by a different means. "[I]f we abandon the prospects of escaping to a colony, the prospects for fixing up the world on its own terms are not very high" (Thomson 66). Asimov's estimate of a world renewal on its own terms in the Foundation Trilogy is 30,000 years. Therefore the need for a technology.

It is feared that determinism would kill enthusiasm and initiative. Subdued or quenched initiative would result in stagnation. "Stagnation would result from the fact that where there's control there would be less creativity" (SFS 8:2 1981 153). With the result, a society without the managerial control is a desirable end in itself for ever so many unexplained reasons. Modern man may be wrong in hungering to bring everything under control. The parody to the Foundation Trilogy
written by Herbert, namely the Dune Trilogy, leaves future to the vagaries of time. Herbert's Dune Trilogy is a philosophical comment on the question of controlling human future. The Dune Trilogy does not seek certainty, but it leaves future to chance.

All said and done, Asimov's work is remarkable from many points of view as it quintessentially brings into focus the parasciences that are devoted to this field of knowledge. Faithfully, Asimov has absorbed into his thoughts the whole gamut of theoretic and practical endeavours at obtaining control of society for common good and on his own has come out with an answer in the tradition of hard core science fiction. Psychohistory is already an advancing science of sociology. What is to be found is the means of implementing and gauging psychohistorical findings.

Nevertheless, it sure leaves many questions unanswered, typical of any developmental science. The queries are intended not to stall the direction of thought but to enable this new science to inquire into other areas whence such issues arise. Resolving such issues could catapult psychohistory into a better tool to regulate the society. The Foundation Trilogy stands as a testimony of the definition of Robert Heinlein about what constitutes science fiction: "[R]ealistic speculation about possible future events, based solidly on adequate knowledge of the real world, past and present, and on a thorough understanding of the nature and significance of the scientific method" (Heinlein qtd, in Clareson 22).

Lastly, the question remains whether one can engineer a
society towards incessant growth. It is the intention of social engineers that growth should be a sustained one, towards an ever widening vista of the future. But, it appears that growth cannot sustain for ever if one considers the skeptical view of Toynbee, whose opinion it is that there can never be an incessant growth:

In a growing civilization a challenge meets with a successful response which proceeds to another and a different challenge which meets another successful response. There is no term to this process of growth unless and until a challenge arises which means a cessation of growth and what we have called a breakdown. (Gardiner 202)

Failure to meet a challenge will end only one historical cycle. But there will be another and yet another cycle of history, ever occurring in a spiral manner, occasioning what Toynbee calls a contemporaneity in the successive societies. Toynbee finds a three and a half beat in the rhythm, expressed in military terms, "rout-rally, rout-rally, rout-rally, rout ..." (Gardiner 202). Asimov is quite aware of this recurrence of historical cycles. His attempt in the Foundation Trilogy is not towards achieving a perfect form, a stasis in history. His endeavour is only to sustain a situation a little longer by employing science. The inevitability of history is only sought to be deferred, and in the event of the worst happening, salvage the product of historical progress, namely, knowledge. Toynbee pictures the temporary attempts to stop the decline of the Graeco-Roman empire by the Pax Romana of Augustus, which brought about temporary tranquility only to yield to Christianity which inherited the
Empire heritage, after the irreversible collapse of the Graeco-Roman empire in the third century of the Christian Era. Contrary to this belief, cyclic history is not a stagnation in the Jewish and Zorastrian dispensation, which consider cyclic change as progress since each cycle might be a stage towards a final stage, like the Hegelian postulate that history is heading towards a stage of no more growth:

While civilizations rise and fall, and in falling, give rise to others some purposeful enterprise, higher than theirs, may all the time be making headway, and, in a divine plan, the learning that comes through the suffering caused by the failures of civilizations may be the sovereign means of progress. (Gardiner 210)

Perhaps, one could glean the meaning of this progress with the use of psychohistory, as suggested in the earlier chapters, and by Asimov.

Toynbee's idea of meeting the challenge of history with a response to keep the civilization alive and viable seems to be the undercurrent of Asimov's imagination. The Second Foundationers are perennial problem solvers. It is an institution for problem solving. The Asimovian touch is revealed in the discovery and equipment of the devices and tools to meet challenges incessantly. The psychohistoric analytic edge along with its appurtenances like statistical analysis, decision making on probabilities and psychologic insight into human progress and mind, and behaviour modification using stimulus diffusion and reinforcers together invest the modern man with powerful tools in
meeting challenges. We would be able to know the causes of breakdown of civilizations, and this is a priceless knowledge to guide us into the future.

Thank goodness we do know the fates of other civilizations; such knowledge is a chart that warns us of the reefs ahead. Knowledge can be power and salvation if we have the spirit to use it. (Gardiner 312)

And Asimov's Foundation Trilogy emphasizes just this -- the power of knowledge over the shaping of human destiny.

In fashioning a society, it boils down to this, that, one set of values on which the society is sought to be built need not necessarily be the set of values. Changes are bound to be there. A rigid society on a definite set of values cannot be continued. As said earlier, common good, the greatest good to all concerned should be the sustaining value whatever the eon in which man lives. The ethical parameter behind continued social change should approximate to this value system, all else being secondary.

The theory behind the work of reconstruction, as noticed in the preceding pages is fraught with doubts and suspicions. There are conflicting opinions. Some are outright positive and some are forthright in their attack on the very idea of reconstruction as seen before. However, some headway had been made in theory and in practice concerning civilizational change. Attempts have
gone on in spite of the conservative pronouncements. This is true of all scientific advances and now it has been advanced to social sciences as well.

The innate man, however, always longs for constancy and growth, and that is what the Foundation Trilogy attempts to preserve in a scientific manner. This wishful thinking is in spite of the realization that,

"[h]istoriography from Gibbon and Hume to Asimov himself contains nothing that can be called "absolute". Rather it recounts continuing movement from one faction to another, by spurts and long slow declines, with repeated variations on the images of equilibrium and disequilibrium". (Hassler, SFS 15:1 (1989:41)

There sure is room for refinements to civilizational change, just as the Foundation Trilogy promises, as otherwise we would not have come this far.

With the Hegelian theory of social evolution in history, utopias had died and in their place utopianism survives.

It is not necessary in modern times to emphasize the enormous prestige of measurement in both pure and applied science, nor to stress its importance in prediction and control. If anything, we need to learn caution and reserve in claiming quantitative results in certain fields.... (Searles 278)
The social thinker is left with the effective option of conceiving scientific renewal colonies. Asimov's Foundation Trilogy is one such hopeful attempt.

Hope is an astonishing human capacity. It is future-directed, never directed to the past; it is always factual... It is an emotion, yet its existence requires a certain kind of world. It is neither prediction, forecast, nor expectation, yet it leads to all three.

(Green, Thomas F in Bundy 35-44)

The Foundation Trilogy does not close on a note of mere hope. It does more than that. Asimov closes on a note of certainty, especially with all the opinions discussed above.