METHODOLOGY OF SOCIAL ENQUIRY : A MARXIAN PERSPECTIVE

A Thesis submitted to the University of Hyderabad for the award of the degree of

DOCTOR OF PHILOSOPHY

IN

POLITICAL SCIENCE

By

M. BHARATHI

DEPARTMENT OF POLITICAL SCIENCE
SCHOOL OF SOCIAL SCIENCES
UNIVERSITY OF HYDERABAD

1995

C E R T I F I C A T E

This thesis titled METHODOLOGY **OF SOCIAL ENQUIRY : A MARXIAN** PERSPECTIVE being submitted by M. BHARATHI in partial fulfilment of the requirements of the degree of Doctor of Philosophy, is entirely her own work and has not been considered for the award of any other degree at this or any other University. I recommend that the thesis be forwarded to the examiners for evaluation.

Professor G. HARAGOPAL
Supervisor

University of Hyderabad
Hyderabad
Date: 31-1-91

D E C L A R A T I O N

I affirm that the research for this thesis titled **METHODOLOGY OF SOCIAL ENQUIRY : A MARXIAN PERSPECTIVE** being submitted to the University of Hyderabad, for the award of the degree of Doctor of Philosophy, was carried out entirely by me.

Hyderabad

Date: 31-1-95

CONTENTS

ACKNOWLEDGEMENTS

On the eve of completion of dissertation, a look into the past made me remember large number of friends who offered their help in making my dream transform into a reality. When I am craving for a social identity, it is the collective, in the form of the family, extended their helping hand, not one but three namely Rao, Kavita and Vijay, who made me realise the strength of the collective when all of them in one tone supported my struggles and my intellectual activity by which I can acquire a social identity. In the collection of B-l Jyoti Vihar, I learnt my first lessons that human being is creative and there is a concrete relation between creative activity and social identity of a human being. In a way collective B-l has shown that collective is not an oppressive force for the individual but given it freedom conditioned by the external situations. As a member of the collective, my attempts to thank the collective result in thanking myself but still I openly say that I am really proud to belong to the collective B-l who paved a path for me to realise my identity. Here, another interesting individual, called Pankaj, located himself in B-l and demanded an equal status in the family by which he gave a new definition of family, not that of socially accepted relations such as mother, father, son and daughter, but defined the family based on the cultural criteria people believe and act with a similar values can also form a family with strong bonds between them. I have to struggle to achieve his expectations of my capacities to know what I am ? But the entry point became severe hurdle.

Next, my travails to get an entry into a university was repeatedly crushed in Poona and also in Sambalpur, mainly for non academic reasons. In such a depressing situation, it is to the credit of Political Science Department of Central University, Hyderabad which was more open than the really open university with their broad vision and gave me an opportunity to continue my work for which I express my gratitude to the faculty of Political Science Department. Such broad vision can really pave way in a concrete sense to interdisciplinary discourses. At a time when I was nervous to face the entrance examination in Political Science discipline, it was Prof Haragopal who made me realise the knowledge base of any science when he told that science is the result of abstraction of human being's understanding about the reality and not something sacrosanct which has to be memorised. He gave me the courage and helped me to root the Political Science in my understanding of the society around. This acted like a 'mantra[1] to me and came out in flying colours proving Prof Haragopal's abstracting regarding sciences.

When once the teething troubles became a passing phase, my real struggles started in the choice of my topic. I was in search of 'standard books' in Gokhale Institute, Poona. Prof Venkataramaih, a family friend, was amused about my adventures but willingly gave access to the higher rational knowledge available in their library. It is here that I came across Popper and Kuhn who became an obsession to me until now. During the span of three years, I could develop a frame work of analysis with the help of which I tried to understand the

society in its motion from the fundamental principles alternately from the building blocks with the help of motion centric methodology which can also be called Marxian methodology, which is different than Marxist methodology. I used this tool rather freely in analysing various phenomenon such as Public Policy and Myrdal's methodology. In this juncture, I affectionately remember Prof Sivalinga Prasad from Ambedkar University, Prof D. Narasimha Reddy from Hyderabad University, Prof Radhakrishna, Prof. Krishnaji, Prof. J.V.M. Sharma & K.S. Reddy from Centre for Economic and Social Studies. Hyderabad, who never discouraged me when I am attempting to 'walk' and they even enjoyed my toddler's walking, sometimes falling and sometimes running. I would like to specially remember Arun Patanaik from Centre for Economic and Social Studies who continuously posed a challenge whenever I expressed my opinions. In fact, it is his pointed challenges which made me understand the difference between concepts such as Marxist, Marxian and Dialectics. He always cautioned about my limitations due to my science background which I constantly tried to overcome and in that same his interventions are invaluable.

There is another set of relations in the domain of culture which I like to fondly remember, Chandra Mahapatra, Prasanna. K. Tripathi and Jatin Naik, who are always ready to do any help, academic as well as non-academic who constantly encouraged me and made me feel that I can complete the dissertation successfully. I also demanded help from younger generation such as Deenabandhu, Uma Rani, M.V.Rao, Deborah C. Vaz and others.

I respectfully remember my mother who always created

a protected environment in the house and encouraged ray adventures and intellectual activity and remained a guiding force. Without her help, the scope for my social enquiry could have been restricted.

I also remember the occasional `students' coming to the house who put forward a different perspective of the reality, different than that of formal students which made me think the relevance and meaning of methodology in Social Science research. I would like to particularly express my thanks to these `students'.

My experience with Balmundi, a tribal woman belonging to the displaced families in Koraput and her demand of daily employment but not a developmental project, meaning she wanted to be her own agent, opened my eyes to the facts of reality which has serious implications for methodology. Balmundi and her multiple descriptions became such an enigma to me that my dissertation to some extent is an attempt to understand Balmundi, the human.

Finally, since I see myself as an ensemble of so many social relations, I accept, with humility, that my achievement and success in this endeavour, if any, is result of these interactions expressed through me in a concrete shape of a dissertation. My understanding of all these social relations is consolidated into a concrete shape of a Ph.D, and in that sense it is a result of collective work which got expressed through me, the individual. Also, any wrong formulation or mismatch in the construct is due to my incomplete understanding and necessarily not the collective inexperience.

"Natural Science, like Philosophy, has hitherto entirely neglected the influence of nan's activity on their thought; both know only nature on the one hand and thought on the other. But it is precisely the alteration of nature by men, not solely nature as such, which is most essential and immediate basis of human thought, and it is in the measures that man has learned to change nature that his intelligence has increased "

- Engels.

CHAPTER I

PROLOGUE

Introduction:

In social sciences, the problems of researchers are **far** more complex due to the non-amenability of the concerned object which is a collective of human individuals equipped with a brain that possesses an expanding capacity. In Natural Sciences, the object, Nature has autonomy and the causal forces are internal, it gives an impression to the subject that it can not only distance itself from the object but also can observe the motion in the object. This also enables the subject to quantify, to predict and to conceptualise the object. However, the subject is limited to an observer role, but in reality it should be incorporated in the role of a participator to get the full knowledge of the objective reality in which it is a part. Although the physicsts do confront problems in studying electron which is in constant but unpredictable motion, it was discovered that the cluster of electrons follow a pattern which can be studied. In case of Social Sciences, the object which is in motion is far more complex and unpredictable than the electron. The object, a human collective, is in motion, but it is a part of the collective and its motion. It is precisely this reason why Peter Medavar observed that the study of the human system is far more complex than study of Nature.

The question raised in social science research methodologies move around the questions of quantification and objectivity. The relation with Nature could be altered or adjusted as the subject has succeeded in a large measure in quantifying the motion and in

distancing itself from the object. However, the debate about objectivity still continues in this regard. In case of social phenomenon, the subject is almost denied of these two advantages. It is this complexity that accounts for the general inadequacy of under development of social Knowledge. It is striking to note that the best of minds in social sciences reflected on this theoretical question, but they did not devote adequate attention to the methodological problems.

The study of human in the human collective poses variety of problems for analysis, it has a dynamic character in the sense that it has a brain which can think and guide action accordingly and some times conceal the thought process, it assumes the role of a subject also which can model the researcher and act accordingly. This human in a collective, unlike the electron in an ensemble, is heterogeneous in character who form not a single collective, but different social and interest groups which act like a pressure group directing the motion of the collective. In addition, since the human is special species which has a mental capacity to think and also act accordingly, but in the process models the researcher and react depending on its assessment of the researcher. The main difference, as modelled by the object and also the object does not change itself depending on the subject. In that sense, normal science based on paradigms, as suggested by Kuhn, is possible, but in case of Social Sciences it is not possible because of the complexity in the human nature. Myrdal also tried to model the society in motion where disputes become a common phenomenon. He

introduced concepts such as beliefs and valuations which can be changed with the help of autonomous STATE and its intervention. In this, neither the social groups nor the interest groups found a place and the society is visualised as a homogeneous entity.

Presently, Political Science theoreticians recognise that the society is in motion and they are occupied with questions such as social change and its relation to human action. Even in the modern political analysis, almost every political analyst evinced aninterest in studying the object in motion, nobody seriously reflected on the methodological problems such as the source of motion in the object. They concentrated on methods of analysis. The one exception is David Easton, professor in University of Chicago. Easton recognised the crisis in the discipline of Political Science in the neglect of general theory and absence of theoretical orientation at one level and lack of proper methodology at another level. He attempted to improve the general state of discipline. In the course of doing it, he did deal with the methodology. Easton broadly suggests,

1. Enlarging the scope of discipline so as to subsume the other inter related processes and also space for innovation.
2. Altering the tools and techniques so as to gather more reliable data
3. Developing a value framework by the subject studying the object.

He proposed a general equilibrium model for studying the process in the object. However, the idea of equilibrium did

create problems. The general equilibrium model of Eastern is such that, it proposes that all variables in a political system are functionally interdependent. They tend to act and react with each other to a point where a state of stability, if even for a moment, is obtained. As a consequence, the concepts such as interdependence and hence multiplicity of social forces got added to the mode of analysis. In this general equilibrium model, there is always a tendency for the object to maintain a given equilibrium conditions, where a uniform motion is accepted as a condition of rest. This idea of stability of an object however got enlarged and was defined not as absolute rest or lack of motion, but it is only a hypothetical situation which can be useful as a point of reference and a heuristic tool.

The Eastonian methodological exercise is more an acknowledgement of the problematic and not a break through in the subject-object relation. For, the break through is not possible unless the methods and methodology succeed in capturing the social laws of motion and identifying the cause of motion internally, which were beyond the Eastonian comprehension. Thus, the best contribution coming from modern political analysis stream proved to be no match to the complexity of the problem.

The next phase of development of Political Science came around 1990. Contemporary violent international conflicts in the world scenario demanded that development of a correct theory which can analyse the conflict so that remedies became plain. The new

field concerned specially with the nature of conflicts as a generic human problem and with techniques or initiatives that might be applied productively in addressing conflicts so that its resolution became a part of a political philosophy. Richard Burke, university of Maryland, is the prime architect of such a theory in which conflicts got internalized. Burke differentiates conflicts from disputes and defines that conflicts are likely to be intractable and lead to behaviours that seriously prejudice the physical and psychological security and the future development of the individuals, groups, societies or nations concerned. Then, resolution of conflict, he defined as, transformation of treatment of the problem that are the source of conflict by coercive means, or by bargaining or negotiation in which relative powers determine the outcome. Further he coined a new term called provention, different than prevention, that remove not merely the conditions that create an environment of conflict and the structural change required to remove the conflict, which has a negative connotation, but promotions of conditions that create co-operative relationships, in which human dimension is taken care of. Finally, introduces a third party. for prevention of the conflict with an underlying assumption that both the parties involved in a conflict are not likely to have sufficient knowledge either of the sources of their conflictual relationships or of the solution available to resolve them. Therefore, a most knowledgeable and skilled 'third party' becomes a necessity. So in the theoretical formulation, there are two interacting protagonists and a third party facilitator and tagged with an assumption that only with the

presence of the third party, necessary insights are likely to emerge. Burke finally suggests that conflict provention is ultimately a question of education and an altered consensus.

Altogether different theoretical formulation, constantly competing with the existing theoretical formulations, is present in which the meaning of conflict is enlarged and viewed as a contradiction between two opposing forces in a phenomenon and contradiction becomes internal to the object itself which generates motion in the object. The one scientist who was able to grasp the problem of contradiction and motion of an object was Marx. Although, it was Hegel who attempted to capture the motion through dialectics, it was Marx who brought the methodology on to the ground and located it in the concrete. It opened up several new possibilities of studying not only subject-object relations through the materialist dialectics in their historical context, Marx tried to locate the laws of motion in the changing needs of production and claimed that if a subject can capture the mode of production, his understanding of the human system can be as precise as that of physicist. For this purpose he proposed productive forces, property relations and super structure as tools of analysis. While this optimism of Marx held a new promise in the study of social motion, this has not been fully realised in the course of advancements in social enquiry. The terrain that Marx opened has not been carried forward as much as it should have really been done. The discussion on Marxism occupied enormous space in the domain of a theory, ideology and strategy of change.

This methodology of Marx became compressed into an Ideology, a doctrine, and the debate centered around Marxism at an ideological level. In the process, the human being in the collective who is responsible for motion in the collective receded back and the laws of the collective became sacrosanct and were debated under the title Marxism, which came under severe criticism, forgetting the concrete from which they were abstracted. In the process, there has been considerable neglect of the methodological aspect of Marxian laws.

E.P.Thompson is a political philosopher who brought forward Marxism as a methodology in which he tried to incorporate motion of the object and groped for a suitable model which can capture a moving object. He proposed that the model should be such that its elemts also should possess this character of motion. The study proposes to examine the problems of study of motion at multiple points. An examination of this kind may touch much larger issues than power relations. This problem is intrinsic to any methodological exercise. In fact, the neglect of research on methodologies is partly an account of boundary problems. Any study on methodology, by definition, would cut across the disciplinary boundaries as methodology is more universal in its relevance and application than the discipline. The whole discussion on interdisciplinary research remained a rhetoric as it has to achieved first at the level of methodology. And research on methodology is impaired because of disciplinary constraints. It is a vicious circle. This study seeks to tackle the problem at

its base. But it might get into several trapping if the criteria applied remains conventional.

The one question that can always be raised is the question that what is 'Political' in the enquiry. In an enquiry about enquiry, political can only be the reference point and not the subject matter. If the study is restricted to the study of "political[1], it ceases to be an enquiry into the adequacy of the methodology in studying the motion. The study does use the material related to power relations in different domains as extensively as possible. However, it did touch certain facets which may not be political or power relations in the conventional sense. This is done more to enlarge the scope of the discussion. If it were to be restricted only to what is called 'Political' in the conventional sense, it would end up where David Easton ended in spite of his competent treatment of the subject. Further, the relevance of the subject-object relations in a methodology is verified in different disciplines, in addition to Political Sciences, such as Economic and Semiotics of language studies and also examine whether the researcher can be transformed from an observer role to a participator role. For that purpose, the problems a researcher experiences in describing the object and also the causes for the non amenability of object should be taken into account.

The basic objective of research in any sciences-be it a study of Nature or that of Society-is to understand the reality

around in terms of the relation of human being with nature or with the rest of the society. A researcher, called as subject from now onwards,experiences number of problems in acquiring knowledge about the reality/called as an object from now onwards. Research methodology deals with the problems a subject faces in its quest for knowledge about the object and it also equips the subject with necessary tools of analysis. Krishna Bharadwaj [1980] expands the limits of the purpose of acquiring the knowledge by the subject about the object from mere understanding to that of transforming the reality when she says , "In Social sciences where the basic task, it would be argued by many, is to understand and interpret the process of social change at work and actively utilise (in the view of some) such knowledge to influence that process, the theoreticians, however lofty his ivory tower and abstracted his mode of reasoning, can not but imply a view about the nature and structure of social relations and the manner of their functioning." [Bharadwaj (1980) ; P-23 . Haragopal and Vanamala [1984] expressed a similar opinion about knowledge and its usefulness when they say, "For in the learning process,people come to a new awareness of self hood and begin to look critically at the social situation in which they find themselves and often take the initiative in acting to transforming to the society [Haragopal et al(1984); P-54]. Further, describing the growth of knowledge and its close linkage to approaches and methods used in investigation,they said, "These methodology courses attempt to equip the social scientist with most of the statistical skills to enable him to quantify the qualitative variables." [Haragopal et

al(1984); P-56]

Among the innumerable objects present in reality,subject gets attracted to a particular object. What interests the subject? May be, the subject has familiarity/acquaintance/belief in some particular theories about reality and develops an interest about theories. Students in Physics laboratory perform experiments with simple pendulum to verify the value of the acceleration due to gravity, an already known constant, which theorises that earth has an inherent gravitational force with which it attracts the bodies on earth. Similarly, they do experiments with plane mirrors to verify the already known laws of reflection and refraction which theorises the nature of light. This also means that the subject's disbelief, may be intuitional, about the veracity of a particular theory, forces it to collect evidences by which one can disprove the existing theories. Altogether a different case is, Subject, in the process of discovery,may come across such evidences that it enriches the knowledge about the object. Magnetic properties of iron were discovered like this. Thus, the subject locates itself in the already existing theories and in the process of research, either verify/falsify/improve/alter the already existing knowledge about reality,which shows that the entry point of the subject to the object is through theory; and the primacy of the subject is theoretical model of the object.

In an altogether different process of research, the subject

develops interest in the problem as it is not in correspondence with the theory it was acquainted with. Some of the reasons for a subject to develop interest may be as follows. Northtrop, according to Young and Schmid [1974] suggested that the scientific inquiry starts, "When something is unsatisfactory, when the facts necessary to solve a problem are unknown; when the traditional beliefs are inadequate in explaining the problem" [Young and Schmid(1974): p-5].

Haragopal & Vanamala [1984] identified, as one of the factors which, direct the scholar to prefer one topic over the other is," . . . to satisfy a personal interest or curiosity" [Haragopal et al(1984): P-62]. Young and Schimd, [1974] identifies 'wonderful restlessness', a lively curiosity, endowed with imagination in the study of man. The entry point of the subject now is through the problem .

This different routes to research, through theory based on intellectual curiosity or through problem, are visualised in terms of differing entry points available to the subject to reach the object. These routes, some researches view, as theoretical research and applied research. Misra R.P classifies basic/pure

[1] Subject uses (1) techniques of observation such as field studies, questionnaires (individual as well as collective), case studies and interviews (2) Computation techniques between the variables, mathematical, Statistical as well as econometrics-such as mean, median, frequency distribution, standard deviation, correlation ....sophisticated techniques to establish a relation between the variables and constructs a picture of object in the mental space of the subject.

research as that "involving the asking and answering of questions that do not, involve immediate solutions of pragmatic problems and applied research as that directly concerned with mundane needs - food, clothing, shelter, life styles, institutions etc, [Mishra(1989); P-1]. Goode and Hatt[1952J, though differentiates research into pure and applied, not as mutually exclusive but with an interplay and feels "Good theoretical research may be applicable to practical problems, and applied research can contribute to theoretical sociology".[Goode and Hatt(1952); p-38] .

This seemingly simple process of understanding the object, in fact creates a number of problems in practice for the subject, making the process a complex one. Why the subject faces problems ?

Problems Faced by the Subject

Subject faces problems in understanding the object due to the following reasons.

1. The subject is temporarily distanced from the object.
2. The subject is spatially distanced from the object.
3. The subject had conceptual differences about the object.

A subject, if it is interested to study an object belonging to the past by which the subject and object are separated by time frame, naturally the subject faces number of problems. For example, if a subject is interested to study the role of political and social organisation, or the existence of classes or the role of religion in Mohenjedaro, an ancient civilisation of the past,

It experiences problems. Similarly, a study of poor people and their life styles and their dependence on the rulers such as Akbar, Asoka or Krishna Deva Raya of the past; or the differential performance between male and female in Vedic period, which are happenings of the past, creates problems for the subject.

A subject, if it is interested to study an object at a distance by which the subject and object are separated by a space frame, it faces problems. If Sun is the object and subject is interested to study the elements in the Sun, their reaction pattern, or the solar flames and Sun spots; or aboriginals of Africa or Tribals of Orissa are the objects and the subject is interested in their relations of production and their culture. This creates problems in understanding the object for the subject.

Conceptual differences about the object also leads to difficulties. Concepts are abstract notions, generally of qualitative nature. For example, the concept `development' is captured by the subjects by its manifestations with the help of specific indicators. Thus development can be seen in terms of material development or human development. Similarly a family can be conceptualised as cohesive, close knit democratic fusion of individual members or an explosive variable-separable, undemocratic union of individual members, ready for fission. Similarly, a human can be visualised as a political animal as Aristotle does or `Man's true self is love' as Plato does or an ensemble of human relations as visualised by Marx. The conceptual

differences create problems to the subject to model the object.

Problems Posed by the Object:

In addition,the object makes it self non-amenable for the subject for various reasons

1. Object changes its form, suddenly and also frequently, generating variability in the object.
2. Object conceals its essence.
3. Object projects wrong appearances.

Earthquakes, Bhopal gas tragedy, Vijayawada riots or demolition of Babri Masjid are examples of sudden changes in the object. Atrocities on dalits, women and racial disturbances are examples of frequent changes in the object. Illustrations of objects concealing the essence is seen in the secrets stored in the core of Earth, atomic structure, DNA details in human body, or most importantly, if the object is another human being with logical thinking, this object conceals its essence. Object projecting a wrong appearance can be seen in the difference between appearance and essence. The colour of light appears as white but the essence is, it has seven colours. Election promises, democratic voting procedures can also be grouped in this. It is a known fact that election promises are never fulfilled or role of money/liquor is well known, making it an undemocratic process. In fact, the subject's path from the appearence to essence give rise to various sciences.

In Marx's opinion "In natural world, Sun appears to move

round the earth,but the matter is essentially the reverse,and we need a natural science, astronomy, in order to find this out" [Marx(1965); P-316]. Bhandarkar expresses this concept of Science differently when he says, "Science is the attempt of the human mind to find a connection between the world of ideas and world of phenomenon" [Bhandarkar(1979); P-1]. Popper, in a way to distinguish appearance and reality,says "Appearance (say a reflection in a looking glass) have a sort of reality; or in other words, there can be a surface reality that is an appearance-and a depth reality" [Popper(1971)].

All the above reasons, independently or together, creates problems for the subject in understanding the object. Some of the problems the subject overcomes by improving the techniques of observation such as invention of telescope and microscope which made it possible for the subject to study the object which is until now, non-amenable , or improve the concepts by computation techniques, theories for better understanding of the object. With the help of observations about the object, subject attempts speculating about the object i.e., subject describes the object.

Summary:

One can summarise the problems in research methodology into three categories: firstly, an object has, instead of a unique description, has number of descriptions depending on the different entry points. The number of descriptions are not unrelated, they are related as well as variable. The existence of number of

descriptions for an object and its variability, the relation between variability and motion is detailed in chapter two and three. Secondly, the subject encounters problems in understanding the object which are discussed in chapter four. The object creates problems for the subject which are discussed in chapter five. Implications of the above problems for research methodology are consolidated in chapter six, and the methodology is illustrated with three examples.

In this context, questions such as, what exactly is the discription? What are the causes for the existence of multiple descriptions for an object? now occupy the centre stage which requires a satisfactory answer and the following chapters are an attempt in this direction.

CHAPTER II

ON DESCRIPTIONS

Introduction:

The concept of 'description' and the existence of multiple descriptions for an object is examined at two levels. At an abstract level, the existence of multiple descriptions are illustrated mainly with the help of methodological formulations of famous political economist A.K.Sen. The existence of multiple descriptions of a dam in general and Hirakud dam in particular is captured from the various evaluation reports on the dam and its effects on the displaced people. This exercise is an attempt to capture not only the concrete of a problem, but also arriving at an understanding of the problem at macro level. This would help in gaining an insight into the nature of the STATE and its policy interventions. This is also an attempt to see how a policy undergoes a change in the light of the consequences that it generates at the level of concrete. This is taken as a reference point to discuss the motion in the phenomenon both at the abstract and concrete levels of subjective as well as objective levels. The subsequent chapters attempt to grasp this complexity by examining the different dimensions and dynamics of motion with a Marxian perspective.

Description as a mental Construct:

Description can be seen as a mental construct of the subject about the object. Each subject chooses/gathers information about the object with the help of sense perceptions. The knowledge thus obtained is called perceptive knowledge. S/he classifies, codifies, synthesises and rationalizes this knowledge with the

help of the brain to construct a model of the object. Knowledge thus obtained is called rational knowledge. This mental construct is projected by the subject as a description of the object. Thus, a description about the object is a mental construct, which is a resultant of cognitive process. Different perceptions by the subject lead to different rationalizations which result in construction of different descriptions about the object. Burke, reacting to the role assigned to Philosophy by Wittgenstein as essentially a descriptive one, puts forward the problems involved as, "For any subject matter, after all, there are definitely many descriptions, and which we count as good or bad, correct or incorrect, depends, in particular part at least, on the purpose for which we undertook the description in the first place."[Burke (1982): p - 263 .

Another example of practical importance *is as* follows. Balmundi is one of the oustees of Upper Indravati project, who got resettled in a hamlet Dong Jharan in Koraput. How will a subject describe the object Balmundi? State government counted her as a member of the many families displaced by the project, officials in charge of rehabilitation and resettlement see her as a nuisance, voluntary organizations working in that area view her as a potential member who should be enumerated as a separate household, demographers view her as a woman and also unmarried, political organizers view her as a potential agitator who could be easily mobilized for an agitation, women's organizations consider her as a victim of oppression, of both State and patriarchy.

Sociologists study her ways of adapting in an altogether new hostile environment. For the revenue department, she is not only a defaulter but also a trespasser since she occupied a piece of forest land, contractors view her as cheap wage labour who can be cheated easily, landlord of the area sees her as a future bonded labourer. For a male, she is a female who can be sexually assaulted, and for a researcher, she is all rolled into one, for Tribal Welfare department, she is a tribal - threatened with destruction by the dam, both culturally and economically. Thus each description of Balmundi is a mental construct of the subject concerned. Amartya Kumar Sen brings out this concept of descriptions very succinctly and even tries to locate a basis of such a concept.

Sen's concept of Description:

Amartya Sen[1982], an internationally renowned philosopher economist, in his volume titled `Choice Welfare and Measurement*, concludes his introduction with an interesting comment regarding his choice of the essays in the volume. He says, "Since quite a few different motivations have been explicitly or implicitly invoked in the rag-bag of essays reprinted in the volume, the methodological position. . . .may be seen as unduly comforting to the author. But not, I believe, the only truthful one." [Sen (1982): p - 38]

His choice of essays, or in other words, his description and the associated concept of description opens up new frontiers for

understanding the social reality. Description of an object/phenomenon is usually considered as a simple accounting exercise - an unchallenglng simple intellectual exercise - which involves mere observation and reporting as it is, or at the most, summarising in a systematic way. The description is accepted if it is observed to be true. Sen, however, proposes a different view of description, not that of just observing and reporting, but as a complex and difficult exercise involving selection. According to him, "Description can be characterised as choosing from the set of possibly true statements, a subset on the grounds of their relevance."[Sen 1982, p - 433]. He further adds, "Any conscious act of description contains some theory - usually implicit - about the relative importance of the various statements dealing with the subject matter."[Sen (1982) P - 133]. He calls this the choice base of description.

This conceptual process of description - of selecting a subset from a whole set based on particular relevance - changes radically the way one can observe reality. In the earlier case where the description is viewed as a simple accounting exercise, an object/phenomenon can have a unique description, at the most it may be incomplete, and cumulative addition of new facts makes it complete. Alternatively, as per Sen's description, where description is a complex process of selection, it is possible for an object to have a number of descriptions depending on the observer's selection criteria. Hence an object/phenomenon instead of having a unique description, can have a number of alternate

descriptions, each implicit with its own theory, expressed in terms of choice of the observer.

After defining description, as that of selection of a subset from a set of true statements, he proceeds to differentiate between a description that is `good' to give and a `good description' based on the objective behind the description. In this process, he summarily rejects the relation between truthfulness and a good description by asserting "...truth is neither a sufficient condition nor it is a necessary condition for a description to be good."[Sen 1982, p - 447]. He opines that a false description if it fulfills the objective for which it is intended, then the description can be termed as good. For this purpose, Sen even supports a deviation from the actual truth. To strengthen his point, he gives the following interesting example "Your child asks you, `How large is China?' and you reply, *Very large, it has 900 million people.' You roust have enlightened him, but you have almost certainly made a statement that is untrue in terms of exact numbers."[Sen (1982) p - 434].

He introduces a criteria of usefulness for judging a description to differentiate between a description that is `good' to give and a `good description'. According to him, a description of true statements is good to give; and a description, though false, is a good description if it fulfils the objective for which it is intended. With this concept of description, he focuses his attention on existing methodologies, specifically in economics and

identifies their limitations **in terms of their concentration only** on predictive and prescriptive interests as motivation for inquiry; he adds 'intellectual curiosity[1] to **the** above two as an agent for stimulating inquiry. To support this, he proposes various descriptions of China to a question "Is China a large country?" "We accept the answer Yes; it has 900 million people, basing the notion of the size of the country on the size of the population. However, China has less surface area than India, few polar bears than the Soviet Union and according to some early enthusiastic accounts - no flies at all. The case for describing China as larger than Canada, India or Soviet Union clearly rests on our greater interest in human beings than in square miles, tigers, polar bears and flies. But it is not a reflection of some greater predictive merit, nor some obvious prescriptive interest."[Sen (1982) p - 440].

He advocates strongly the intellectual curiosity concern which is non-predictive as well as non-prescriptive which plays a dominant role in human being's understanding of reality. Sen's exercise on China shows that China can have a number of descriptions, and each description has a choice basis behind it, grounds for selection may vary a great deal. It can be for purpose of predictive, prescriptive as well as for satisfying intellectual curiosity.

Dams and multiple descriptions:

In the contemporary Indian scene, **the most** controversial

debates **take** place **with respect to large** dams **and their** consequences **in displacing** a **large** number of people. Narmada Sagar transformed into a burning issue, both political as well as social, which generated powerful agitations both for and against the dam. World Bank was forced to intervene and impose conditionalities for a successful rehabilitation, non-compliance of which will result in stoppage of funds for the dam construction. People continue to agitate, the state visualises the agitation as a problem of law and order, the debates continue. In such a context, a look at the existing alternative descriptions about the dam will be of much help. An attempt is made to capture the various descriptions about dams in general and Hirakud dam in particular with the help of various evaluation **reports/studies.** The descriptions are however only illustrative and not exhaustive.

Hirakud dam is an earthen cum concrete dam, famous as the largest earthen dam of the world, located at Hirakud, eight miles from **Sambalpur** town in Orissa State on the river **Mahanadi.** The unique character of this dam is that the foundation stone was laid in March 1946 in **pre-independence** India and was carried forward into Independent India when a second **foundation** laying took place in April 1918 and was inaugurated by the then Prime Minister Nehru. Thus Hirakud dam was the first major planned capital investment project attempted by the Indian state, in the foot steps of Tennessey Valley project in America, to activate the Indian economy.

The three coastal districts of Orissa-Puri, Cuttack and Balasore - were regular victims of either devastating floods due to heavy rains or to wide-spread famines due to insufficient rainfall. Sri Visweswarayya, the famous Chief Engineer from Karnataka, on the request of Orissa Government, after the devastating floods in 1937, visualised flood control by construction of water reservoirs. He stressed the multi-purpose nature of such reservoirs as follows, as quoted by Sovani and Rath[1960] "If a reservoir is constructed, it may prove useful in several other ways as well for extending irrigation, generating electric power etc.. Once flood come under effective control, the whole area may be transformed into a prosperous region." [Sovani and Rath (1960):p - 1] For Chief Engineer Visweswaryya,

> *Hirakud dam is primarily a flood control device but will benefit in other ways also.*

The first official document regarding the Hirakud dam project titled "The Mahanadi Valley development, Hirakud dam Project, June 1947" described in detail, the schemes and estimates relating to the project. The report opines that irrigation can be provided in Sambalpur to 1.1 million acres of land, flood protection to delta regions at a relatively small cost, power can be developed to the extent of 350,000 KW, regulated release of water can improve navigability of Mahanadi. The total cost is estimated as 47.81 crores and flood control is only Rs 6.11 crores. Thus the dam's primacy of flood control aspect is expanded to a four fold objective of the project. Thus,

Dam, a multipurpose project, bestows benefits in four fields

However, the revised estimates report on the Dam 1952, included some modifications in the original scheme and hence the costs went up from Rs 17.81 crores to Rs 80.90 crores, which again raised to Rs 100.02 crores by Majumdar Committee, a committee to review the estimates. Thus not only costs went up, but benefits also changed.

First stage of dam was completed in 1957, and the then Prime Minister inaugurated it on January 1957. All the reports visualise dam as a heavy capital investment which will bestow multiple benefits, a concept shared by politicians as well as academicians. One such first major evaluation of the benefits of dam was attempted by academicians Sovani and Rath[1960], Their report starts with a foreword by D.R.Gadgil "The survey was directed towards assessing, as comprehensively as possible, benefits that are likely to accrue to the State from the construction of the Dam, and related works on the Mahanadi at Hirakud."[Sovani and Rath (1960):p-III].

The report planned to estimate systematically the projections of future cropping patterns, the agricultural production after irrigation; the extent of flood control and benefits that accrue from effective flood control; generation of electric power and economic development that may follow and finally calculate the cost benefit analysis in the lines evaluated and practised in United States to assess the profitability and

financial returns of the project, and also estimate the total income of the area affected by the Hirakud irrigation with the help of projections of future cropping patterns.

After careful examination of all types of benefits, they analysed the changes in cropping pattern, increase in agricultural production, crop yield per acre of various crops, increase in employment in return of man days and converted all these benefits into money form. The costs are calculated in terms of cost of construction, then cost benefit analysis is assessed. The following are the aggregate figures. For both irrigation and power together,

Total benefits	(B)=	4,480.56
Total costs	(C)=	3,863.40
Total B/C	=	1.15

The report concludes "If the Hirakud project is considered as a whole i.e., irrigation and power together, it is seen to be economic whether we take into account only primary or total benefits, and whether we take 10% or the other lower rates of interest suggested by the project authorities for our calculations."[Sovani and Rath (1960) P - 211].

However, a major lacunae in the report is its complete silence about the people to be displaced due to the formation of the reservoir even though Majumdar Committee recommended. Neither the agitation of the displaced people nor the environmental destruction, nor the costs involved in rehabilitating the people,

nor the environmental conservation gets included in the costs of the project. Contrastingly, one finds a mention in terms of benefits, though very nebulous in nature, as "Besides agriculture, the dam will also affect favourably or adversely forests and their produce, grass land, fish and wild life, and the balancing of both sides in these respects will also have to be done to estimate the benefits from them."[Sovani and Rath (1960) p - 17].

Another example of the authors' foresight in calculating benefits, in its intricacies can be understood in the following comment - "As the water level of the Hirakud reservoir falls every year in the winter and summer months, the shore lands from which water recedes becomes available for the cultivation of fodder and other crops of short duration. The production will have to be added on the benefits side."[Sovani and Rath (1960) p-163].

In the process of rounding off this catalogue of benefits, authors mention in anticipation "We may mention the beauty spot created by the Hirakud dam and the reservoir, perhaps it may become an attractive spot to tourists. The benefits resulting from this cannot be estimated, even vaguely, at this stage, "but mention of it they certainly have to make.[Sovani and Rath (1960): p-163].

The report draws a heavy curtain on the prolonged agitation of the people and the costs associated with the problems of law and order maintenance, the loss to the displaced people and the costs to the government in giving compensation. All such costs

never **became** costs **of the project in the comprehension of the** authors. **As** per **authors' mental construct** -

Dam, is a source of multiple benefits to the State

In their mental construct, the authors are, however, silent about the costs to be incurred by the State in providing compensation and rehabilitation package to the affected people; or the costs to be borne by the affected people because of loss of their property as well as their lifestyles.

Bureau of Statistics and Economics, Government of Orissa, undertook an agro-economic survey in the villages of Command area of Hirakud dam to assess the benefits of Hirakud irrigation. The basic objective of the study, as visualised by the economic adviser in his technical note is "to cover the entire irrigated area of the Hirakud dam in order to assess the net effect on the economy as a result of availability of water in terms of growth of prosperity over a period of time." [Bureau,1968, p - 2] . Behind this objective, there exists an implicit description of the dam as a project which facilitates benefits in irrigation. Though dam is a multi purpose project which brings benefits in four spheres, the present report is concerned only with benefits in irrigation for reasons unspecified.

The Bureau planned their survey with an implicit primary assumption that all changes occurring in the region can be interpreted as benefits, resulting due to irrigation which bring

in prosperity to the region, and their schedules were designed to collect data on changes in land utilisation pattern, cropping pattern, yield rates of different crops, money income derived from agriculture, capital formation and changes in values of the land. An elaborate survey was conducted in 13 blocks and captured the following changes as a consequence of irrigation. As per the summary, the value of land and also the demand for land increased.

* The sale and purchase of land became a continuous process making the land market active.
* The price of all kinds of land increased. Barcha-bari, the most fertile lands, has a cost of Rs. 4500 per acre, which registered a 145% rise.
* The number of crops such as ground-nut, sugar cane, new variety of potato are cultivated in Rabi season also.
* The use of fertilisers and manures increased
* The yield per acre increased.
* New credit institutions such as government sponsored organisations came into existence with cultivators preferring cash loans.
* Importance of money lenders decreased.

Thus changes brought in agricultural production are visualised and interpreted as benefits, and the Bureau recorded each and every change brought into the region with the introduction of irrigation.

What the Bureau could not comprehend is that all changes

brought in by irrigation can not be termed as benefits. A particular change brought in the economy can bring in benefits to specific households but may turn out to be not a benefit but a loss to some other household. For example, let us consider the changes brought about in 'Credit' market with the introduction of government sponsored organisations, which give loans in cash form to the cultivators who can provide security against their landed property. The report also noted that large households are taking advantage of government credit. Small holders are not in a position to take this advantage. They are at a disadvantage because of their repaying capacity in the same cash form is severely limited. Since the importance of money lender decreased with the introduction of government sponsored credit organisations, the source of credit for the small holders gets slowly wiped out. Thus this particular change - introduction of government credit institutions and which wiped out the local money lenders - will turn out to be not a benefit but loss to small households.

Same is the case with the change - increase in land market activity - with the advent of irrigation in the region. A cultivator has to invest initially for land reclamation, improvement of land, bunding, levelling etc. which may become a heavy burden for small land holders. Cultivator requires cash to make the land suitable for irrigation and a small land holder in due course of time, sometimes has to part with the land due to heavy burden of debt he has to incur for incorporating the suitable changes. The parting of land also sends a signal that

the land market is active. This change, a result of irrigation, cannot be classified as benefit. However, the report visualises all changes, which are a result of irrigation into a broad category of benefits. Hence in their opinion,

> *Irrigation, a consequence of the dam, brings in many changes, all beneficial to the economy.*

The benefits in the spheres other than Agriculture or the losses to the displaced people could not find a place in the bureau's mental construct.

People of the Hirakud region were waiting for the promised benefits coupled with a complete transformation of their lives, their regions as well as the nation, where it will be 'all milk and honey' with increased production in agriculture, introduction of variety of commercial crops like sugarcane and groundnuts, increase in industries and plenty of employment opportunities. They were gradually awakened to the hard facts of reality where life for the displaced people, displaced due to the formation of a huge reservoir in the course of dam construction, turned miserable. The magnitude of displacement came to the forefront after nearly four decades of the dam construction. It was estimated that Hirakud dam submerges 217 villages, life styles of one lakh of population will be adversely affected and 1.7 lakh acres of agricultural lands get submerged. People, apprehensive about the future, became restless and started agitating against, not only this dam, but any developmental projects such as Balco, Nalco and Baliapal Project.

In such a context, Tripathy and Nanda revisited the rehabilitation colonies to assess their condition in 1987. Tripathy and Nanda[1987] focused their attention on the large scale displacement of people, an inevitable consequence of construction of major dams as a tool of modernisation of post colonial economy. They started with the theory behind the development experience of West as that of a modernisation programme consisting of a two step simultaneous switch-over process, one step being the displacement of traditional socio-economic structures namely 'displacement of feudalism' and the second step being that of formation of modern socio-economic structures namely 're-integration into capitalism*. In the above switch over process Capitalism played a lead role, using modernisation as a tool to reorganise the society in two steps.

Authors then analyse Capitalism in its imperialist phase where colonial structures became a part of capitalist development giving rise to, non-correspondence between the specific and general interests of capitalism. In such a situation, capital resorts to all types of compromises. With such an alignment, modernisation in terms of large dams, "will displace the people physically, but not from the feudalism, without reintegrating them." In such a colonial environment, authors opined, modernisation could successfully complete only the displacement aspect but failed in the second aspect of re-integration. Hence, dam as a form of modernisation could not resolve the contradiction between Feudalism and Capitalism and hence it became an incomplete

solution for the re-organisation of the society. Capital, in the form of a dam, could not become a motive force for development.

As a consequence of such incomplete attempts by capital, large scale displacement by either a large dam or heavy industry - generates two opposite points of view, one justifying the large scale displacement for the broad interests of society which rationalises the sacrifices to be done by the displaced people, the other typified as displaced people's point of view, which opposes such large scale displacements and questions the very assumptions about the necessity, neutrality of modernisation and put forward alternatives to dam.

Armed with such a "hi-fi" theory, the authors proceed to examine conditions of displaced people and "the nature of changes in these rehabilitation colonies over the last thirty years." They also examined the history of agitation against the dam in order to capture their point of view regarding the dam. Their survey found that, out of one lakh people displaced, only 10.86% of the displaced people utilised the facility of rehabilitation colonies provided by the government and even those 10% could not be settled. Their survey arrived at the following conclusions. "At an aggregate level of all the settlement camps,one notices the decline in the economic,social and political status of majority of sample households drawn from the displaced people."[Tripathy and Nanda,1987, p-10] They conclude that "Poor peasant and agricultural labour sections were affected badly where as a small section of middle and richer sections of old society are keeping

intact the old life styles and also strengthening it."
[Tripathy and Nanda,1987, p-10]

In terms of compensation, they found that "the feudals remained the major beneficiaries in the process."[Tripathy and Nanda,1987, p-33] Consequently, the displacement resulted in physical displacement, but not from the traditional social structures. From the point of view of the capital, dam construction served its specific interests in introducing industrialisation. To that extent, it presented 'itself as a part of that development process which failed to offer re-integration frame-work. Thus according to authors' description :

> *Dam, in the specific context of India, resulted as an incomplete solution to the contradiction between capitalism and feudalism.*

The drawback of this construct is that it has pushed behind the curtain all the numerous benefits that have to accrue to the people downstream and to the State.

During 1980's, environment movements all over the world felt that huge developmental projects are hazardous to environment and they demanded a development, especially in the developing countries, which is ecologically friendly as well as people friendly. As a consequence, clearance by Ministry of environment became essential for any project; and the knowledge about the effects of projects on environment gained primacy. Armed with such an environment consciousness, Abbasi[1991] tried to examine

the environmental impact of man-made developmental projects.

Prof.Abbasi,observed that the Indian planners and executives viewed the large dams and the reservoirs as a panacea of all nation's ills which is supposed to provide nuclei for the vigorous growth of a nascent nation. After a period of time, in addition to the benefits that accrue due to a dam, the adverse effects also become visible. This situation, Abbasi summarised as "Four decades later, we find that something, which had not been foreseen, has gone wrong. That something is environmental dimension."[Abbasi(1991) : p -l]This unforeseen and unwanted after effects of dam construction such as dislocation of people in the reservoir area, water logging in command area, depletion of forest cover, health hazards, land slides, induced earthquakes, siltation affected the environment adversely. Abbasi attempted to gather and summarise the information on environmental impact of water resources projects in Krishna, Mahanadi and Godavari river basins. For this purpose he defines environment as "the aggregate, at any given time, of all physical, chemical, biological, social and temporal factors liable to have a direct or indirect effect, immediately or at some future time, on living creatures and human activity."[Abbasi(1991) :p - 6]

The survey explored 75 aspects of environmental impacts covering reservoir catchment area, feeder streams impounded water and down stream. The entire gamut of physical, chemical, biological and socio-economic impacts were covered. Of all the aspects surveyed, they found that the only aspect for which

qualitative information was available is water logging, for the other 74 aspects, information was sparse and rarely quantitative.

The overall status of Hirakud dam is as follows. The Hirakud reservoir appears to have catalysed deforestation in areas surrounding excessive silting which will decrease the life of the dam to 77 years from lll years, heavy silting resulted in climatic imbalance, decrease of rainfall in some areas, increase in humidity failure in controlling floods are some of the results the survey highlights [Abbasi (1991) : p - 123].

After gathering all the details of environmental impact of water resource projects, the author recommended "Attempts should be made to sponsor 'total impact assessment studies' that could provide accurate answers to the raging controversies relating to the dam based projects."[Abbasi (1991) p - 123] Therefore, to Abbasi,

> *Dam construction results in substantial environmental backlash which becomes visible only with a time lag.*

In Abbasi's mental construct, neither the beneficial aspects of the dam nor the backlash of dam construction on the lives of people could find a place.

Around 1990's, modernisation cum liberalisation path followed by the state resulted in the introduction of a variety of new technologies so that Indian society can be taken into 21st century as a powerful and strong country. This modern technology,

which is expected to **transform the society and push it to a higher** level of development, in reality, seems to be strengthening **the** tradition. In such a situation, the attention again is focused on sub-altern people, their movements and their life styles and their culture. Baboo[1992] attempts to capture the effects of modern technology on social transformation, especially of Hirakud dam and the consequent social costs,

He accepts the fact that technological innovations, no doubt, has revolutionised the life of humanity during the last three hundred years. It resulted in a number of material gains which affected the economy, but it also resulted in destruction of total life of large population as well. Author specifically tries to understand the construction of large dams which are supposed to bring in multiple benefits, and the social costs associated with it. In the domain of benefits, Baboo finds that they fell far below the expected benefits, such as increase in food production is not proportional to the investment and the increase in areas ravaged by flood. Even with this ill effects, the dam construction is continuing. He identifies the co-existence, in the society at the same time, of four perspectives regarding the dam construction.

1. Government proposes the dam construction, sometimes in unsuitable areas, primarily for achieving political ends, with bureaucracy toeing the same line for their own benefits.
2. Scientists and environmentalists are more objective who go strictly by the feasibility criteria.

3. People of the Catchment **area** oppose the dam **because of their** unwillingness to start life afresh and uncertain.
4. People of command area support the dam because of anticipated agricultural prosperity.

Baboo proposes to capture the social dimension of the Hirakud dam project. For this, he documents the history of agitation, dam construction process and finally condition of displaced people in their resettlement colonies, and their method of adjustment to this technological onslaught. With the help of the survey, he spoke on the ill effects on displaced people thus, "It was observed that the 'oustees' have not been rehabilitated properly as yet,and are still in the process of shifting from one locality to other."[Baboo(1991):p-145]

Speaking about the benefits of the dam, he says, "It has failed in its major objectives like electricity, irrigation, flood control and enhanced agricultural production."[Baboo(1991):p-149]

However, Baboo felt that the government wanted really to solve the problems of floods and drought and develop Orissa, but the social costs were least attended to for various reasons, and Modernisation, in practical terms, resulted in distorted development. Commenting on the reasons for adopting a capitalist path of development, he said, "They prefer such giant multi purpose projects not because of any genuine desire to develop the lot of the bulk of the down-trodden but to serve the interest of the capitalist class which helps them in coming back to power

again and again" [Baboo(1991):p-149].

He advised that the mad rush for big dams should be stopped at the earliest and search for alternatives such as small dams which are eco-friendly and people friendly to be intensified. In his mental construct,

> *Large darns, of which social costs are enormous, serve the interests of capitalist class and should be abandoned.*

Upper Indravati Multi-purpose river water project, launched in Koraput/Kalahandi districts of Orissa in 1978, resulted in displacement of 5000 families in the initial phase. State offered certain rehabilitation package, but this could not match with the expectations of displaced people, a fact which became evident when people refused to move into rehabilitation colonies such as Sasahandi established by the Government. The reasons, according to the report by Agragamee, are : "Some of the villagers went to Sasahandi but were thoroughly dissatisfied as the place is unsuitable for cultivation, forest is not nearby, and drinking water is not available." [Agragamee(1990):p-39].

This forced the government to reassess the magnitude of displacement problems as well as their rehabilitation package. Agragamee, a voluntary organisation, was entrusted with this responsiblity of conducting a baseline socio-economic survey and prepare a new rehabilitation package, keeping in view the expectations of the affected people. The report identified the

major problem as "Dam construction is highly scientific and technical method and is done with meticulous precision, planning, detailing the minutest aspects of the material and men involved in the process. But when it comes to reconstructing the economic life of the people who are losing their established patterns of life, such meticulousness sometimes is not possible but most of the time, it is not attempted, while a wave of sympathy exists for the displaced persons, the sympathy does not get transferred into action for preparing an implementable plan" [Agragamee(1990):p-55].

They identified the broad trends and contours of the problems in their interim report, and in the final report furnished the details of the process. The report visualises the difficulties regarding the study of such a rehabilitation process as follows: "To study anything in motion is methodologically a difficult task, the problem becomes further difficult when one has to study social groups that are forced to move under conditions of uncertainity; and without much of organisation." [Agragamee(1991):p-10].

The report tries to study the lacunae in the policy itself, in the way the R.R committee were bogged down with legalities regarding the 'physical property' that needs to be compensated for. The report suggests "The compensation though need to be in the context of land acquisition act in terms of physical property, the approach for rehabilitation need to be in terms of compensation for life patterns, which include in addition to property the human effort, the human knowledge and the culture

that went into the context."[Agragamee(1991):p-56].

The report, in addition, pinpoints the discrimination practices towards small holding families and women. A demarcation line was drawn keeping a landholding of four acres, where the compensation rates are different on both sides of this line, thus introducing an element of discrimination between the displaced families as well between the different phases, Regarding women, the committee in the latest rehabilitation policy defines a son, who is more than 18 years of age, as a separate family, whether married or not. Report commented in this situation, "A similar treatment is not given to the daughters of the family." [Agragamee(1991):p-56]. Thus the report felt that there is a built-in inequality in this formulation of the policy itself in terms of class as well as gender.

It documented the changes occured in the lives of the people in the new resettlement colonies when compared to their old life styles. In addition, it specially tries to comprehend the displaced people's point of view by tracking them from their old submerged village to new resettlement colony, with a special reference to women and children. The people migrated in different directions without any organisation or help from Government. In the absence of such assistance, their migration become shock migrations, which compelled the individuals to migrate to different places; their main consideration being the certainity their property gives them or the community life, friends and relatives can offer. In such a situation, "These shock migrations

shatter the village community without creating a new village settlement." [Agragamee(1991):p-36].

Individuals settled in different types of clusters individual settlements, new settlement or became an appendage to an already existing settlement, the formation of which increases pressure on the surrounding villages, which can be visualised in terms of frenzied land transactions. The report felt that out of all these clusters, "New clusters has maintained its level of self employment, it has added a bit to wage labour." [Agragamee(1990):p-55].

The report documented the condition of the displaced families in all details and puts the blame completely on the government when it opined, "Lack of initiative from the government spelt disaster on displaced families and a valuable opportunity to resettle these families at a higher level of economic well being was lost." [Agragamee(1990):p-55].

The report has the following observations to make regarding women. In tribal society, women perform multiple roles by which she occupies a centre-stage in the tribal economy and accordingly she has a different status in society, different than that of a Brahmin women. This is the situation which possibly explains the existence of equal sharing of compensation among sons and daughters in a family. In such a context, the introduction of modernisation in the forms of dams which operates, in general, on patriarchial norms, has become a disaster, because, "Modernisation

has become a one shot affair without any continuity **and without** any proper planning." [Agragamee(1991);p-30]. None of the women were taken into confidence in any discussion making matters, even in those decisions such as selection of homestead land and agricultural lands, which increase their work load and decrease their employment opportunities. In this process of displacement and resettlement, women's role and status was considerably reduced and they lost the social security of the joint family for marraiges and other purposes, It represents a situation where, "Tradition is broken down without modernised institutions replacing them." [Agragamee(1991):p-58].

Moreover,the compensation and rehabilitation when it operates through patriarchial property concept, "Women get recognised only after the husband's death or when she is disabled or when the husband divorces her " [Agragamee(1991):p-60]. An active working woman thus can not get recognition. This one shot affair of modernisation reduced the role as well as status of women. In such a situation, "Women are likely to be sandwitched between negative aspects of tradition and those of modernisation."[Agragamee(1991);p-60].

Thus ,in their mental picture,

> *Dam, a highly scientific and technical productive force, failed in practice to change the property relations suitably and restructure the economic life of people.*

Unlike the other studies relating to dams where the primacy is given to the dam and its benefits/effects on the

economy/people, the objective and hence the primacy of the paper by Bharathi[1992] is women in the backward regions of Koraput, Kalahandi districts of Orissa and the impact of State interventions - a capital intensive highly technical Dam - on women and the consequent changes in their role and hence their status in the community.

The article categorises the economy of the region as use based natural economy, with low level of technology associated with low level of division of labour, low level of infra-structural facilities, villages with almost cent percent illiteracy. Further, the integration of this region with the rest of the economy is minimal where the imports are limited to salt, kerosene and clothes and exports in addition to rice are Niger, an oil seed of commercial value and the unlimited forest products. There are variety of state interventions into the region such as forest laws, land settlement laws and excise laws to which the local people respond some times by giving bribe and sometimes resisting them creating tensions. The above interventions are followed by a moneylender/trader and "this element only help in the process of disintegrating the system further than integrating the region with the main economy."

In such an economy, women become centre of the economy and the house management depends solely on the creativity of women. Starting from house construction and maintainence, production and maintainence of the family, including exchange of goods in the market, women play a dominant role. Women project themselves as a

collective (except cooking in their houses), and they share a community life.

The paper then identifies the implications of such a women centric economy and women collective on the form of property that exists and the associated status of women. Unlike the exchange value economy where owning a natural resource, such as land, is having a property which can be sold or purchased. In a use based economy, the access to such a natural resource can be termed as property and in that sense women in this region haveproperty which gives them a collective togetherness. The second implication of female at the centre of the economy is that it gives women special status in the family which is reflected in their age of marriage, customs of marriage which are quite different in a commodity world. Thus a daughter in a tribal community is a valuable asset before marriage as well as after marriage and parental family respects the girls and does not look at her as a burden. Into such an economy, the State intervened strongly with a plea to develop the region. It started constructing Upper Indravati Project and the formation of the reservoir submerges 20,000 people from 3825 families in both the districts, where 50% population belong to tribal communities such as Paraja and Kandh. The changes in status of women which this State intervention brings in has been visualised in two phases - that of submergence and rehabilitation where in the first phase a compensation is paid to the family for the lands and houses they loose because of the dam, and the second phase a rehabilitation assistance is given to the family to resettle and start their lives afresh in the new

situation. The paper proceeds step by step in both the phases to show how patriarchy takes advantage of State intervention to push women from centre of the economy with high status in the family to back stage of the economy and a low status in the homes, Thus,

> *Dam, a powerful intervention by the State for developing the region, in fact, strengthen patriarchy and submerged women,*

Fernandes[1992], armed with the methodological premise that development projects bring in development, analysed eleven representative cases of dams, factories, sanctuaries and others - in Orissa to assess the 'situation of development induced displacement/loss of land and the state of rehabilitation.' In the process, identified two major problems-absence of a serious data base and absence of a comprehensive rehabilitation policy in the whole exercise of development, displacement and rehabilitation process. To fulfill the "need to find a more reliable data base by extrapolating the present estimates and recalculating the numbers involved" [Fernadas(1992):p-2]; considered all the particulars of dam such as its height and its relation to quantum of displacement, industrial establishments and their capacity to displace, kind of mines and their potential to displace including miscellaneous schemes via roads, railways, Universities, government offices etc. opined "Estimates from displacement from 1951 to 1990, extrapolating from existing case studies and official data, range from 185 to 300 lakhs."[Fernadas(1992):p-161].

Displaced population is categorised into what is called

Socio-economic status (SES) class based on their 'differential access to services, to asset ownership and to income according to the basis of four inequality viz., economic class, social status, habitat and sex'[Fernadas(1992):p-60]. Based on this categorisation, the sample family is given a score and the total sample is grouped into five classes, and the bottom two, namely lower lower-class(LLC) and lower class(LC), indicate low income, lack of access to service and somewhat low level of asset ownership-account 60% of respondent families, who are the most affected. He came to the conclusion "While the situation of both the tribals and dalits has deteriorated, the former are worse off than the latter."[Fernandes(1992):p-1643 . However, the condition of women follows a deterioration path only, whether they are within their environment or they move out of their environment. He says, "In either case the situation of women deteriorates more than that of men." [Fernandes(1992):p-165].

Portraying the unsatisfactory condition of rehabilitation colonies as there exists no comprehensive rehabilitation policy, he further comments that traditional concepts of displacement and rehabilitation are inadequate and stresses the need for a good rehabilitation policy. He also proposes a different cost-benefit analysis. He analysed the present lacunae in cost-benefit analysis, took the Bargi dam example and quoted from Paranjpe[1990] that, "Apart from cost overruns, according to one estimate, time overrun reduces benefits to the proportion of 1:1. If the cost escalation going beyond inflation is added to it, the real benefit be below 1:1.[Fernandes(1992):p-173]. This makes the

project economically non-viable. Finally he proposes for a search for alternative development techniques - an environment friendly, people friendly projects as a solution to the "national development whose benefits are to reach all the segments of society. This, he maintains is possible only when all are involved in this search and poverty alleviation becomes a national challenge." [Fernandes(1992):p-179]. For him

> *Dam, as a development project,has a serious consequence which marginalises the already weaker sections from the main stream social and economic and cultural life of nation.*

Nath and Agarwal(1987) view the agitation against the dam as an alternative description of the dam. They tried to work out the dynamics of agitation in terms of existence of conflicting interests in the society, with the help of a case study of village affected by the Rengali dam, a multi-purpose project on Bramhani river in Western Orissa. With the announcement of the dam in 1970, the affected people agitated which lasted for almost a decade. The agitation came to an end when state used the military force to suppress it. In the author's perspective, agitation represents the struggle between conflicting interests, between capitalists and feudals at a broader level, and between landowning feudal lords and land less peasants at local level. The resolution of conflict in the form of construction of the dam served the interests of the capitalist class. But rehabilitation programmes resulted in strengthening and re-establishing the old feudal hierarchy in the new resettled colonies. In their mental image,

Agitation, synchronous with dam, demands an alternative development strategies.

B.B.Vohra[1985], Chairman advisory board on energy, proposes an alternative water policy "since major and medium irrigation seems to have become unbearably costly as veil as ecologically hazardous." [Vohra(1985): p-7]. He even suggests that state government should get over the near obsession of creating additional irrigation potential through big projects "as these have been found to be economically unviable, environmentally hazardous, difficult to manage and very slow to complete and yield results."[Vohra(1985): p-12].

Hiralal[1985], describing the historic Gadchiroli agitation 1984, visualised the dam as not a development agent but as a destructive agent, destroying the forests in the name of development.

Tata Institute of Social Sciences[1993], who were involved as monitoring and evaluating agency of rehabilitation of Sardar Sarovar dam opined that Dam, a project symbolising development, has caused deprivation of people, who lived beyond development strategies for centuries.

Not only objects like dam but a phenomenon like development also has a number of descriptions. This concept of alternative descriptions about development was visualised by Morgan, Power and Wieigel[1993], in terms of the existence of six strategic pathways

to move from 'point A' (generally the status quo) to a definable 'point B' (typically understood in terms of improved state of affairs or a progressive vision of development).

The six strategic pathways are strategies focussed on :

1. The creation of global issue regimes.
2. More developed countries as initiators of change.
3. Less developed countries as initiators of change.
1. Creation of alternative institutions.
5. Resolution of international conflict.
6. Global value transformation.

In an interesting story written by a progressive French author Vercor (referred to by E. V. Ilyenkov[1982]) illustrates the existence of various descriptions for a human being where an unknown species-named as 'tropi', by the author, was to be identified whether it is a human being or not. In his story, different people with different functions to perform, have* categorised the 'tropi' differently.

From the above examples, one can safely infer that the object of study - be it a physical object like a dam or a phenomenon like development or a human being - can be described not necessarily in a unique way, but in a variety of alternative ways.

Implications of multiple descriptions:

An examination of the various descriptions about the dam

reveals an intersting fact. The descriptions are not similar and complementary in nature but some of them turn out to be contradictory and conflicting as well. The existence of such multiple descriptions raises a number of questions and has serious implications for practical purposes.

1. If the Object has neither a unique description nor a permanent description, and also each description is based on true statements and hence a true construct of the object, it indicates that these descriptions are located not in a single domain but indifferent domains. The existence of number of true descriptions about an object implies that the object has a dimensionality and each description is a true construction in a particular dimension.

2. It is possible that only one aspect of the object can be studied accurately at a time, that too at the expense of accuracy in other aspects, a la Heisenberg's uncertainity principle where the distance of electron can be measured accurately at the expense of its momentum. Hence each description becomes a partial description which is very accurate, and the total picture of the object or a totality of the object is obtained by a summation of all possible accurate and partial descriptions.

This gives rise to the problem of summation i.e., what type of summation one has to perform? Is it just a simple qualitative summation, in the sense of putting all of then; in a basket?"[1] Or is it a qualitative algebraic summation, which takes into account

This process of summation is similar to the proverbial story of an elephant and five blind men where all the five descriptions separately of the elephant added together to produce a true construct of an elephant.

all positive aspects separately and negative aspects separately and then get a resultant description? The main problem in performing the summation arises particularly when these descriptions are not complementary but in fact contradictory and even conilicting. For example, one construct of the dam highlights the developmental aspects of the dam as that giving a lot of benefits while some other construct focusses on destructive nature of the dam, as that of destroying the life styles of displaced people, and both these descriptions are not cumulative.

A review of the descriptions of Hirakud dam reveals that the descriptions have undergone a drastic change over a period. During the early phase of its inception in 1950's the mental construct that got generated is that the darn is a source of multiple benefits which will result in great, prosperity to the people, to the region and also to the nation. It propagated a dream of a new world where every body will get benefits. By early 70's the expected benefits did not accrue, anticipations of people could not. materialise. In addition, the promised better rehabilitation by the government turned out to be unsatisfactory and the lives of displaced people became miserable. Other problem such as destruction of environment, health hazards, waterlogging etc. came to the forefront. The State was forced to increase the compensation money and to formulate a new rehabilitation package with better opportunities for people. Thus the rosy picture of

the dam of 50's receded back and the thorny picture of dam with all its ill effects got prominence. The inference of such a changing construct of the dam is that, the dam, the object of study is in motion.

Another simple explanation for a subject to generate different descriptions, according to E.P.Thompsons language, is "To each according to its Shiboleth' which means that different subjects describe the dam differently, and in the subject's point of view, it is a true description. Other reason for the existence of number descriptions can be located in the subjects' limitations in understanding the object. Subject is not equiped properly and hence the subject initially could construct only an incomplete picture, gradually subject acquires new skills, new concepts and new methods, the subject slowly adds to the already existing picture and makes it complete. The inferences of this is that the subject over a period improves the knowledge about the object and in this process,the subject is in motion.

Summary:

Description is defined as a mental construct of the subject about the object. The subject constructs this model with the help of processes called perception and abstraction. At the abstract level, Sen characterises the description as a conscious act of choosing,and provided a base for a description. He opined that it is possible for an object to have multiple descriptions depending on the subject's selection criteria. It was also found that not only an object such as a dam,but also a phenomenon like

development and a humanbeing as well can be described in multiple ways. The multiple descriptions of the object, for example dam, range from one extreme to the other. This descriptions are not only varied but even opposite to each other, which means, at the concrete level, they become conflicting and even contraditory to each other. The problematic of methodology is that why the subject who is describing the object is arriving at such varied and opposite descriptions ? This leads us to the analysis that the subject is capable of capturing only a part of the object and not its totality. The totality seems to be located in the contradictions that the object generates. This can be tackled by analysing all the descriptions which can proivde a comprehensive understanding of the phenomenon. But the problem is far more complex because of the motion which is both a cause and consequence of the phenomenon. It is here that the temporal dimension assumes importance. The question is "Is it possible to anticipate all the contradictions that the object generates at the point of initiation of the project ?" The study reveals that several questions arise in the course of unfolding of the phenomenon in the concrete social context. The subject who is studying itself may change the description or method of looking at the object. Thus the descritions of Hirakud dam bring out the motion of the object and the subject in its dimensionality. Thus, the existence of multiple descriptions to an object leads to the following inferences.

1. The object, instead of being a monolithic entity, has a dimensionality.

2. The subject, over a period of time, acquires skills, concepts and methods and in due course complete the description by which the subject can be seen to be in motion.

3. The object, over a period of time, changes and can be said to be in motion.

This raises questions such as what is the source of such multiple descriptions ? Whether they are unrelated, or there is any relatons between these variable descriptions and the motion of the object ? Which will be discussed in the subsequent sections.

CHAPTER III

MOTION VARIABILITY AND DESCRIPTIONS

Introduction:

An attempt is made in this chapter to investigate the sources for multiple descriptions such as intersubjective variability as a part of the problematic in methodology. One of the reasons for making the intersubjective variability as a problematic in the methodology is the linguistic differences among the various subjects. This language is a communicative medium through which methodology gets expressed and hence the prime requisite for any methodology is to minimise the distortions in its interpretation among various subjects. Further, language is viewed as a present form of expression reflecting the social experience of the past and the problematic inherent in language is its evolutionary character. In addition, no languages is neutral to the subject except computer language. Thus the problems of methodology is the problems a language as a communicative medium creates to a subject, and also the problems of any scientific discourse cannot be independent of the social relations. Natural science, to a large extent, has solved this problem by developing a concise dictionary where a term and its interpretation was specified independent of the subject's interest and this interpretation is to be accepted by all the members of the community who practice the same language. But in case of social sciences discourse the problems inherent in language creates more difficulties where a term or a relation is interpreted differently by the subjects. Before we enter into sources of variability this elementary problem of non-neutrality of language in social science discourse, a major problem is methodology, has to be understood. Only to illustrate this difficulty, the social relation 'Mother'

is chosen here as it is one social expression common to all and an individual without a mother is an impossibility. It was shown that this social relation 'Mother' acquires different meanings in different language contexts. Once a research methodology minimises distortions in the interpretation of language, the source for multiple description to an object is examined. The whole exercise is an attempt to transform the subjective base of descriptions to an objective base of descriptions. In the process, the source for multiple descriptions to an object is examined with the help of intersubjective variability in the levels of perception of the subjects, variability in the levels of rationalisation of the subject, and lastly the variability in the object itself. The methodology has to examine these crucial dimension. So far, they have not been examined as a part of the methodological discussion and exercise. This chapter proposes to cover these neglected aspects of Marxian methodology.

The source for the existence of multiple descriptions to an object is located in three sources namely variability in the levels of perception and rationalisation of the subjects and variability of the object itself. The notion of perception was explained, at an abstract level through the formulation of physicist Christoffer Gefwart and it is related to different perception about the dam at the concrete level. The notion of rationalisation was illustrated to the works of mathematicians Uspenski and Ruzavin at an abstract level. Infact, Uspenski's formulations are the basis for understanding the importance of rationalization; which was again related to the existence of

number of descriptions for a dam at concrete level. Further, the variability in the object itself was initially illustrated at the concrete level using the examples from Nature. At the abstract level, the formulation of an Economist Kate Carter was taken into consideration which expanded the scope of 'learning by doing' and described the variability in the object. Finally, an attempt is made to conceptualise the relation between variability, change and motion of the phenomenon at a theoretical level.

Inter Subjective Variability in the Language :

Each subject practices a particular language as a means of communication of its thoughts to others. In a language, each object is identified by a particular term and the equivalence between a term and the object is accepted by all the subjects who practice that language. Different languages may have different terms to describe the same object. A metaphoric example can be seen in 'Mother' being described by different terms in different languages, such as Mother in English, *Amma* in Telugu, *Maa* in Hindi, *Aai* in Marathi and *Nenko* in Russian. However, a term in a language is not a linguistic artifact (an expression used by E.P.Thomson) created by a subject with its expertise and workmanship in the use of a language. An examination of the origin of the term shows that a term, an expression in the language, is the result of the abstraction and symbolises a relation with a particular meaning in the context of the language. 'Mother', a term in language symbolises, not the female, but is a relation between the female of a species and its progeny, female can be either a human being/women or an animal/dog; the progeny

can be either a male or female. 'Mother', the relation attains different meanings in different context of languages, language can be linguistic, or language can be of social or natural sciences.

'Mother' in the domain of Nature, also termed as productive forces, represents a biological relation which helps continuation of species, where a female has specific roles to perform : of giving birth to a child, nurturing, protecting the child to maturity. If these roles segregate, 'mother' also segregates into *Kanna Talli*(Mother by birth) and *Pempudu Talli* (mother by adoption). In the language of Genetics, Mother attains a different meaning, it symbolises, as a transmitter of genetic traits through DNA from mother to child. Colour of the skin, hair, physical features, height and even some defects/disorders are attributed to the relation 'Mother', which transmits hereditary messages.

'Mother' in the domain of society, called as property relations in a broad sense, is a carrier of property from one generation to the next generation. 'Mother' depends on the property that is to be transferred from mother to child. In propertied sections, here large amount of property has to be transferred, the bond between mother and child will be very strong. In the case, where there is no property to be transferred as in property less sections, the relation becomes very delicate and is ready to snap with a slight pressure on any side. This aspect was highlighted with the help of a short story 'Aarti' written by Kalipatnam Raroarao, a progressive writer from Andhra

Pradesh [See Bharathi(1984)]. In the story, Sannemma, a young agricultural labourer, was invited both by mother and mother-in-law to come to the house only prior to the festival Sankranti. The reason behind both mother and mother-in-law vying with each other for Sannemma's arrival before Sankranti is that Sannemma earns some money as wage labour in agricultural activities only before the festival. The non-obeyance by the daughter of the mother's demand will even result in snapping the relation between them, which focuses on the economic base of the relation between mother and daughter. With the help of another story - 'Sankalpam' - by the same author, Kalipatnam Ramarao, one can demonstrates the differential relations in different property contexts, [See Bharathi(1993)]. In the story, Subhadramma, the main character, was initially located in a village set up in the context of immovable landed property and she is a supremo with all powers of decision making in her small world inside the family that made her daughter-in-law obey all her demands. In the course of time, landed property is reduced. When her sons are employed in cities which signifies the movable property associations, the joint family gets disintegrated. In the changed property relations, the same Subhadramma, once all powerful in her small world, loses all her decision making power and she felt, that she was not a welcome guest in the house. Mother, in a capitalist society, assumes a commodity character, where mother and child become independent for all practical purposes, leading their own lives. The non-existing relations, however, come into existence when the live relation actually snaps with the death of the mother for purposes of claiming insurance benefits.

The relation depends on the sex of the progeny. This relation 'Mother', in the case of progeny being a girl, symbolises all difficulties, difficulties associated with dowry and the related expenditure involving a financial burden in getting her married. Any expenditure on the girl is seen as a wasteful expenditure since it is believed that she belongs to another house. In case of son, the belief that son enhances the prestige of the family, increases the craze for a male child, and all expenditure on a son is seen as a gainful investment. This sows seeds of hatred for a female child, hatred reaches such heights that mother is ready to kill the girl child at the birth itself with her own hands.

Mother assumes a different meaning when viewed through Ideology. Ideology which places the mother in the context of family in a particular position provides an interesting observation. Katyayani[1993], while explaining the impact of drought on the family, visualises family as an institution where wife and husband together propose to provide all protection for children and to jointly involve in the upbringing of children with all love and affection. She opines that the occurrence of drought has destroyed all these love and affectionate relations among the members of the family. In her description, an ideal family is one where love, affection and close relations exist among the members of the family. She even abstracts these relations to represent ideal and human relations. However, alternatively, one can visualised the above family, with closed knit and harmonious relations, as highlighting the unity aspect of the family, which

gives rise to concepts such as *Bharata Mata* and *Telugu Talli* propagating the Unity aspect; mother in the family loses her identity. The author introduces struggle aspect in the family. Family, instead of compelling mother to find an identity through the struggles of others which propagate the unity aspect inside the family, should encourage mother to struggle in the family to change the relations in the family and get an identity of her own [See Bharathi(1993)]. The same struggle aspect is highlighted by the same author with the help of Gorky's novel 'Mother'. In this, Nilovna, mother of Pavel, a revolutionary, initially was a tortured woman inside the family. With the power of circumstances, she was forcefully attracted to the social movements. When Ludmilla, Pavel's friend enquires the mother about hardness in her life, mother talks about people's suffering instead of hers; and remarks, "How can you think of yourself apart from others when you love this one, and that one, and afraid of all of them and pity all of them, all that great crowd of people in your heart? How can you draw apart from them?" [Gorky (1985)]. In the novel, Mother, a biological relation between Nilovna and Pavel gets transformed into a social relation and she visualised herself as the mother of all struggling children.

A single object 'Mother' when placed in different language contexts, produced a different meaning. Similarly, a dam also can be seen in different language contexts to produce a different meaning. Dam, in the language of productive forces can be seen as a human intervention which generates multiple benefits in many areas. In agriculture, controlled irrigation can be provided with

the construction of the dam through out the year to all farmers so that agricultural output of various crops increases, commercial crops can be developed, markets get regularised, employment opportunities will increase and all these improvements yield greater revenues to the state. In industry, the hydel power that gets generated because of the dam can give rise to a number of new industries; floods can be controlled so that new lands can be brought under cultivation, navigation can be improved, tourism can get a thrust etc.. All these will bring prosperity to the region which in turn will result in increased benefits to the state. Sovani and Rath(1960) ventured to calculate the benefits that will accrue to the state, they also estimated the costs as well so that cost benefit ratio can be computed to assess the economic viability of the Project. Bureau also followed this path, it was interested only in assessing the benefits due to irrigation, may be with an assumption that accrual of maximum benefits to the state is possible through only irrigation not the other areas.

Dam establishes new property relations by changing the old relations of production in command area. With the availability of irrigation throughout the year, the land previously unsuitable for cultivation now turn into fertile lands, but the cost of such adjustments into system with new relations of production may be large which a small land holder can not afford and they are reduced to landless labourers. Apart from benefits, some sections of population get pauperised. In reservoir area, a number of villages get submerged, large number of households, mostly tribals and scheduled castes get displaced and are adversely affected. The

Inadequate compensation and poor rehabilitation **policies** marginalise the displaced people of which women are the worst sufferers. Other important effects of the dam are the environmental degradation and destruction of forests. All these changes will result in changes in the property relations. Tripathy and Nanda[1987], tried to capture the dam through the language of property relations, and they documented the amount of deterioration in quality of life of the displaced people and the failure of the government in fulfilling their promises of better compensation and good rehabilitation and resettlement. Fernandes studied deteriorating status of Tribals and scheduled castes, the present author examined the declining status of women, Abbasi focused on environmental destruction.

State introduces the ideology, development through dams, with an honest purpose of accelerating and modernising the economy, with a full knowledge of the possible deterioration among some sections of people who were forced to sacrifice their lands for the sake of the country. The affected people may not accept such an ideology and their unwillingness finds expression in their agitation against the dam. Nath and Agrawal[1987] tried to capture dam through agitations which put forward the need for an alternative to dam.

Inter **Subjective Variability in the Level of Cognition**

A subject cognises the object in two steps, namely perception and rationalisation, which in practice gets verified or rejected. Level of cognition depends on the level of perception

as well as rationalisation. The subject perceives the objects with the help of five senses[1] and rationalises with the help of mind.

Variability in the levels of perception :

The subject utilises its sense organs such as eye, nose, ear, skin and tongue to get information on the object and passes onto the brain in the form of electrical/chemical impulses. Here, sense organs are the source of knowledge. In the common parlance, it is called bucket theory of knowledge and called as Tabula rasa in philosophical terms. In this, mind is visualised as an empty bucket into which sense organs pour the knowledge, and the level of knowledge increases overtime.

Mao proposed another model explaining the process of cognition in his article "From where do Ideas come from?" which will be dealt in detail in chapter IV.

A different model is proposed by Christopher Gefwart[1983], a Physicist by profession, by which a recipient constructs a picture of the object (Fig 3.1). The model is as follows. The world consists of all objects, and they are beheld by consciousness, the subject or the ego. Subject receives sense impressions from the objects in reality, which are organised and

A debate continues on the question of the criteria which makes the subject recognise the existence of a given object. *One set* of philosophers view the object as a pre-supposition or a priori conception of the subject (Idealists) and another set visualise in terms of object making its existence felt by the subject(Materialists).

sorted according to the categories of pure reason, paradigm, cannons of induction and others into iterative complexes through which we can have knowledge of reality. The most objective account of the world is a picture constructed by human subjects, in short, a picture that is objective for us rather than the objective in itself. Christopher locates some unsatisfactory features such as :

1. It gives an uneasy oscillations between the oppositeends of the picture(Realist version of the picture emphasises the right side i.e, the side of the object where as Idealist version has emphasis on the left side). However, he felt that emphasis on one side of the picture or the other will not alter the picture substantially. He also located a lacuna in such a presentation that it was silent about how the two sides of the picture are connected.

2. It is also silent about the process by which connection is set up between the impressions and the objects they are impressions of; and the principles that regulate the construction of the pictures of these objects.

3. The subject is separated from the object/reality as it were by a plane glass. The subject is a spectator,or observer watching the shadows on a wall or an internal theatre, which raises major philosophical question - Is the subject then unreal not a part the world ?

To remove some of the lacunae he modifies its subjective aspects so as to allow intersubject uniformity[2], through their use

[2]Popper's inter-subjectivity (proposed in the logic of scientific

of language.(Fig.3.1). This picture, he feels, manages to explain the objectivity of the world to some extent and it achieved symmetry,with respect to the observers. In such a representation, he again locates the following deficiencies; that it still leaves the observer outside the world; and the connection between the language and the world is obscure. The second aspect, i.e., the connection between the language and the world consists essentially of three separate parts[3] (Fig.3.1). They are:

1. The reality which is independent and prior to language.
2. We set up language to communicate among ourselves as observers, the facts we have discussed about reality.
3. We assign non-linguistic items to linguistic ones as their denotations, thereby showing their meaning and setting up their interpretation. The fundamental mistake, he again locates is that the whole system gets sharply separated into linguistic, non-linguistic, with the observer, the 3rd part, which connects them in the presentation. The crucial problem he faces continuously is - How to incorporate the subject in an objective way into the world of reality? In order to achieve this, he opines, that Scientists and philosophers should be promoted to participatory status from being mere observers. He takes help of Wittingenstein discovery) holds that 'Scientific theories are never fully justifiable or verifiable, but they are nevertheless testable; he visualises objectivity of a scientific statement lies in the fact that they can be 'inter-subjectivily tested*.

Popper's three world phenomenon where he calls the physical world as 'world 1'; world of our conscious experiences 'world *2'*; world of the logical contents of books, libraries, computer memories, and such like 'world 3'; He feels that 'world 3'; is autonomous, where one can make theoretical discoveries in a similar way in which one can make the geographical discoveries of 'world 1; (Realism and the aim of science).

who identified the problems of such separation of subject from the objective world as "The subject does not belong to the world; rather it is a limit of the world, where in the world is a metaphysical subject to be found ?"[Gefoert(1983);p-18]

Thus the problem remained unsolved and came to the conclusion, "As long as we have not. achieved understanding of the different languages we use, e.g., in Mathematical and physical practice, that is, we have not incorporated the subject as a participator, so long will our understanding of nature be imperfect."[Gefoert(1983); p-44]

In such a presentation, Christoffer did not permit intersubjective variability(among observers) in the conception of the object. He assigns intersubjective variability to the problems of interpretation of the language, a problem that has to be evened out to get a uniform picture of the object by all observers. The problems of interpretation are reduced with the preparation of dictionary which is conglomeration of terms where a one-to-one correspondence between an object in reality and the linguistic term are specified. The second criteria put forward is the objectivity a subject has, to practice in conceptualising the object. He did not permit a variability in the object over time. Thus the drawbacks of Christoffer's model is that it neither permits any intersubjective variability in the description of the object, nor a variability in the object itself. If one introduces a variability, in the object as well as subject, it gives rise to a condition where object has a number of descriptions.

Hirakud dam, the first attempt of modernisation by the Indian state, was planned keeping Tenessey Valley project of America as a model. Hirakud dam was also expected to yield similar results. Rath and Sovani[1960] may be with this perception, elaborately documented all kinds of benefits that may accrue due to the dam construction, any deviation from the expected benefits are just pushed aside. Hence, costs of compensation, rehabilitation and resettlemnet of displaced people never could become a part of the accounts of costs and benefits. Proximity to the dam and the deteriorating condition of displaced persons might have forced Tripathy and Nanda[1987] to investigate the displaced persons in their rehabilitation colonies. Financial gains may be another factor which makes a subject perceive an object in a particular way. For a contractor, dam is like any other construction through which he can make money. Self interest and political gain may form the basis for perception. A ruling party visualises the construction of the dam which promises 'milk and honey' to the region, is a vote catching device. The opposition highlights the destructive character of the dam and even encourage the demands of the people for a Sambalpuri State, separate from Orissa, only to come to power, once they come to power, their anti-dam stand transforms to pro-dam stand, as happened with the Janata government in Rengali dam context. In some cases the financial agencies dictate the perceptions to the recipients. Orissa state government financing the research institutes, dictates a perception of the dam and requires the researchers to estimate the multiple benefits that may accrue to state, as

happened in the case of Rath and Sovani. Bureau was dictated by the department of Agriculture to assess the benefits due to irrigation in Agriculture or Tribal welfare ministry financed Fernades to capture the effects of dam on tribals. Sometimes perceptions get determined and differentiated on gender, caste/class lines. The perception of the dam by a female differs from that of the male, perceptions of agricultural labour about the dam is different to those of the landlord, even the perceptions of dalits on the dam differ than those of socially advantaged classes, or even tribal and non-tribal perceptual differences will be there. Thus variability among subjects in their levels of perception will give rise to a number of descriptions for an object.

Intersubjective Variability in Rational Levels :

Subject transforms the knowledge acquired at the level of conception about an object/reality (first step) into rational knowledge (second step), with the help of thought process. In this process, subject constructs structures/ models/ theories with the help of axioms, by which a subject describes a given object/reality.

Uspenski, a famous Russian mathematician proceeds with the assumption that "the formation of general, abstract concepts in the human brain is a complex process, this belongs more to the realm of psychology than to that of logic."[Uspenski(1991); p-504] He classifies some concepts as primary concepts which are assimilated not from verbal definitions but rather from immediate

personal experiences. He illustrates this with the abstracts concept of sphere, which was defined in Mathematics, as the loose of points in space having a given fixed distance from a given point, which is the centre of the sphere; and commented that this is an abstraction, when defined in a class room creates confusion among students and even asserted, "However, we can hardly find any one, who come to know what is sphere, first of all, from this definition."[Uspenski(1994); p-504] Further he proposes that a person can easily assimilate the concept of sphere in childhood from examples of a ball, a globe, a ball bearing and a billiard ball. Thus, the origin of abstraction about, the object, he located, in perceptions, experiences of the subject in reality, but not from verbal formulations and hence the concept of sphere he considers as primary.

Thus a subject builds up a theory/model, only as a mental construct, with the help of primary concepts/axioms which are accepted as true statements based on subject's experience. These axioms themselves are not verifiable, which lands the subject in famous Godel's theorem, "whatever may be the proposed concept of formal proof, there would be such statement about the natural numbers, that neither itself, nor its negation may be formally proved within the framework of the proposed concept "[Uspenski(1994); P-526] Even if such a proof is attempted it may become tautological.

Bourbaki[4] elaborated the requirements of a structure as, "In

[4] French mathematician, writing under the pseudonym of Bourbaki, who as a team, developed structural approach in Mathematics to a

order to define a structure, one or more relations, containing their elements are first, specified, then it is postulated that the given relation or relations satisfy certain conditions (these are listed and they constitute the axioms about the structure under consideration). To construct an axiomatic theory of a given structure, is to deduce logical conclusions from the axioms about the structure without admitting any other pre-supposition in respect of the elements under consideration (in particular staying clear of any kind of hypotheses regarding their nature)."[Bourbaki(1994); p-494]

However, when a subject accepts the structures, it gives an illusion to the subject about the a priori character of the abstract structures, or the illusion may be about a pre-established harmony among structures and empirical reality. These abstract structure are defined by their axioms and subject has all freedom of choice of axioms. Structures visualised in this way, seem to be like conventions agreed upon by different subjects. The famous French mathematician A. Poincare subscribes to this view when he proposed that, "axioms of geometry are conventional agreements and while choosing them, the mathematician is guided exclusively by the demands of convenience."[Ruzavin(1994); p-500] This conventional character of axioms are contradicted by E. Mach when he felt "These structures should neither be considered to be a priori constructions of human mind, nor conventions, nor agreements devised for ordering empirical data or for "economy" of great extent.

thought".[Ruzavin(i994) ; p-199] Engels, agreeing to all the above, still felt that axioms do not play a self sufficient role and it be correctly understood when a structure is considered in the process of historical emergence. They serve a practical purpose of understanding reality. Lenin viewed abstractions as, the abstractions of matter, of law of nature, the abstraction of value etc., in short, all scientific (correct, serious, not absurd) abstractions reflect nature more truely and completely.

The moment a subject constructs a model, subject acquires a tool for analysis at its command and it creates problems for the subject. If the subject is not permitted to utilise this knowledge, subject gets alienated not only from the reality of which the subject is a part, but also from the rational knowledge it developed and the tool became redundant. Subject gets frustrated and gets alienated and commit suicide. The other option is to fight this alienation and get organised in a group to struggle against the conditions that restricted them; in the process, movement gets generated. On the other hand, if the subject is permitted to practice, the subject finds itself trapped in the abstract structures and operates from the ivory tower of theory. The vision of the subject gets restricted to the field permitted by the theory. Subject is in search of those informations which are in confirmity with the theory. He is in a fetish of theory. Engels observed that. "as in every department of thought, at a certain stage of development, the laws which were abstracted from the real world, become divorced from the real world, and are set up against it as something independent, as laws

coming from outside, to which the world has to confirm." [quoted from Ruzavin(1991); p-501]

Conformity between model of reality and reality shows existence of harmony between objective laws of theory and subjective experiences, or between collective morals and individual experiences. A situation where the subject's experiences do not confirm to objective laws creates hurdles for subject to pursue research. This problem is tackled by Positivists who suggested repeated observations, Popper suggested falsification criteria and Kuhn proposed a paradigm shift.

Ruzavin adds a new dimension - that of progress to abstractions when he says ."Progress in mathematics has always been connected with the growth in the abstractions of its concepts and theories "[Ruzavin(1994); p-493] which means increased level of abstraction of a subject provides better grasp of reality and hence a better description. Hence, intersubjective differences in the levels of abstraction generates different descriptions. Such intersubjective differences can be a result of either increase in subject's perceptive knowledge leading to higher levels of abstraction or exposure of the subject to higher level of abstraction, which can be adopted by the subject. Again, turning the attention to descriptions of the dam, Agragaraee, a voluntary organisation stationed in Koraput in the same vicinity where the displaced people of Upper Indravati Project were trying to resettle, came into contact with the displaced people which resulted in a better perception of the reality leading to better

abstraction. Their description of the problems of the displaced were totally different from other descriptions. For example, their descriptions put forward recommendations such as compensation is to be paid, not for the loss of physical property of the affected people, but to the loss of their life styles and culture and the definition of the family should be in such a way that son and daughter get equal treatment for rehabilitation purposes.

Illustration of the second kind can be seen in the description of the dam by the World Bank, which finances such projects all around the world against the description of the recipient countries. In a World Bank description, Displacement and Rehabilitation and Resettlement of the oustees is a major problem that has to be tackled effectively in order to reap the benefits of the dam to its full capacity. World Bank has to force a set of bench marks as conditionalities that should be fulfilled by the recipient country. However, the recipient country's description is such that benefits of the dam can be obtained in full, irrespective of whether they tackle the oustees problem or not and oustees problem is only an aberration which gets solved in due course of time.

Variability in **the** Object :

Variability in the object itself forces the subject to describe the object in a number of ways. A subject/researcher chooses an object in Nature, for example, a Mango tree as **the** object of study, the subject finds lack of uniformity in the Mango

tree. All fruits of 1 he tree are not identical in shape or size. It neither gives uniform yield every year. One year, it may provide bumper yield and the next year, the yield is so little that it is as good as no yield at all. Not only this, the object Mango tree differs from the rest of the mango trees of the neighbourhood. It differs from other trees in its growth, yield quantitatively, but differs in taste, size, shape and juiciness of the fruit. The variability becomes more prominent if the mango tree is seen as one of the many species in nature. A Champak tree is similar in size to a mango tree but champak gives only flowers and no fruit, a peepal tree gives only a shade, an orange tree gives fruits only in winter, a jasmine gives only flowers in summer. Mango tree requires mango seed for reproduction where as a rosewood tree reproduces through roots. A subject thus observes enormous amount of variability in the mango tree, the variation in itself, among intra species as well as inter species. The same is true for any other different objects such as "earthquakes or seasons. Occurrence of earthquakes can be predicted if it. occurs in quake prone areas such as Himalayan foot hills. It can occur suddenly in an unanticipated places such as Lathur in Maharastra. The earthquakes differ in their intensity and its effects on the local population. Some quakes, such as those that occur in Delhi, are very mild which do not cause destruction but felt by people and can be measured by seismographs. At each place, the object 'earthquake' demands a separate description. Similarly, there is variability in the object 'Seasons'. The subject observes three distinctly different seasons namely, summer, rainy and winter seasons. Summer is identified by high temperature, rainy seasons

by continuous rains and winter by low temperatures. Seasons at a place over the years varies, one year summer may be severe another year rains may be heavy. if these seasons are compared across the space, mountain ranges of Himalayas are always capped with snow and summer season becomes non-existent, where as southern parts of India, non existence of winter in the strict sense can be observed. Chirapunji in Assam is famous for maximum rainfall where as Jaisalmer in Rajasthan is famous for highest temperature in summer, with Simla and Ooty for low temperatures in summer. One can even observe wide variability in the rainfall over the years at a particular place. One year it is heavy rains causing floods and the consequent year it is no rains leading to severe drought conditions. In fact, the purpose of constructing Hirakud dam on Mahanadi is to protect the coastal areas of Orissa where floods and drought occured repeatedly with a regular and anticipated frequency.

The subject/researcher chooses an object of study in society around, subject observes a variability in it. For example, if the object is 'Form of property', subject observes that the form of property in tribal areas is different to that in non-tribal areas. In tribal areas, the property is net in terms of owning natural resources, but it is expressed in terms of the access to natural resources such as water and forests. In non-tribal areas, ownership of natural resources is accepted as a form of property. It can be a piece of land in agriculture dominated areas and a person owning larger amount of land is considered a more propertied man. Various other forms of property, such as

ownership of a factory, having a bank balance/gold, or even possessing a number of shares of a multinational company, also exist in the society. In the same way, if the object of the study is 'family', variants can be seen in the object 'family' such as a joint family where two or three generations of families stay together in the same house and organise the family affairs collectively, a nuclear family where one pair (wife and husband) stay together and organise the affairs in the family, female headed family where the wife assumes the role of the head of the household in the absence of the husband due to his migration to other places in search of employment or the death of the husband. Many new forms of family are emerging such as a (male-male) family,or a (female -female) family or even a single woman family where the husband, one of the constituents of the family is being erased. The variability in the family becomes wide spread if a subject observes the family across the countries. Krishna Bharadwaj's[1980] family implies "a whole set of social and interpersonal relations, may connote very different entities in different cultural systems". A subject, if it has worker as the object, subject observes that worker is differentiated by gender, a worker can be a male or a female. A worker can be a female in a put-out system such as lace makers of Narsapur, or can be a worker in a household industry such as Match making, beedi rolling, agarbati making and paper bags where a worker can stay at home and perform the work. Alternately, a worker is employed in large multinational establishment which is capital intensive such as NALCO (National Aluminium Company at Angul in Orissa) or a labour intensive jute mill of Calcutta. In addition, worker varies in

accordance with the occupational hierarchy in a particular industry. A worker such as a Managing Director of the firm placed at the top of the hierarchical ladder is different from a worker at the bottom rung of the hierarchy. A skilled worker is different from a non-skilled worker, a permanent worker is different from a daily wage labourer. The variation can be seen across the countries also. A worker in British textile mills is different from its counterpart in an Indian Textile mills. Such a wide variation creates problems for the subject in describing/modelling the object 'worker'. Kalpagam[1985] observed the differences between a worker in British factory production and a worker in various industries in India. She recalled the views of Marx and Engels who explained the process of British factory production and introduction of machinery as a process where large number of women were drawn into workforce, and in doing so they displaced male workers. But in the Indian context of modernisation her observation is that female workers were displaced by men. Kalpagam attributed this contrasting result to the multistructural labour surplus society of India. Nirmala Banerjee [1985] locates sharp differences between modernisation of Britain and India. In Britain, women workers moved from domestic sector to other service sectors and half the population of the work force is women. In India, the only expanding occupation of women in modern sector came to be a domestic sector and the share of the women workers in total work force is only a small percentage. She attributed such contrary results to exogenous nature of modernisation. Alternatively, another way of explaining is "The much talked about inversions in India can be better

explained if periodisation of capitalism and the alliance, capitalism in its monopoly stage makes with the feudals in colonies, is taken into account."[Bharathi( ); p-]

Kate Carter[1994], a researcher, from New Hall, Cambridge, differentiated the object 'worker' through their differential cognitive abilities. Carter recognises the existence of a theoretical proposition that a worker acquires abilities through "learning by doing' but was of the opinion that the above process neglected (1) The nature of the process, (2) The cognitive abilities thus acquired, and she proposes to introduce them. Modern cognitive psychology offers an explanation of the relationship between mind and the experience that is not necessarily conscious or explicit at all times, with a contraproposition that "new initially unstructured observations and ideas from the environment are perceived, organised and interpreted by the mind in relation to a context of prior understanding"[Carter(1994); p-189] . This reduces the learning process as an automatic response to external stimuli. Instead, Carter visualises cognitive process as a live process and a worker as "Idiosyncratic", meaning the "differences in individual understanding are inevitable because every one starts with a unique vision and is exposed to different sequences of data from the environment and progressively modifies that vision by a personal combination of reaction and reflection"[Carter(1991); p-188]. Carter's major objection to the above process of cognition is "Although knowledge can be acquired during work, its form and content and utilisation are empirical **questions"[Carter(1994);**

p-188]. She takes recourse to empirical evidences and demonstrated the manifold characteristics of 'learning from work' such as the cognitive abilities acquired varied according to the range and levels of ability of a worker and the components of the job; they can be progressively extended by the work itself even if the work remains unchanged; and the worker develops more extensively the cognitive abilities when unfamiliar production problems created marked incongruity between them and the prior understanding. She further adds that a degree of thoughtful effort is intrinsic in a worker, at all levels of work from the apparently simplest manual work to the highest expertise which differs in degree. This explains the relation of form of work to the cognitive abilities. Regarding the relation between the content of work and cognitive abilities, Carter says, "they can not be observed by either a worker or a supervisor, may be reveled when a worker successfully draws upon it to cope with a problem beyond the range of previous experience"[Carter(1994); p-189]. Thus cognitive abilities of a worker are not the skills acquired by the worker but is a full set of abilities which makes it possible to deal with contingencies, which differs from one worker to other i.e., the worker is 'idiosyncratic' and workers are heterogeneous. For Carter, variability in the object 'worker' is due to variability of cognitive abilities of the worker.

Coming back to the dam, as the object, a subject observes Tenessey river valley project as a dam, as a human intervention which brought prosperity to the region and transformed the American economy. Subject observes the Tehri dam in Himalayan

ranges as a state intervention which is causing environmental destruction and Chipko agitation is symbolic of this description. Subject visualises Krishna, Godavari anicuts as a state intervention which developed the region and increased the trade. The growth of Vijayawada and Rajahmundry as trading centers symbolises this description. Subject sees Hirakud dam as a state intervention which submerged a lakh acres of cultivable land and displaced and marginalised one lakh population and marginalisation and misery of the people in the rehabilitation colonies serve the description. Upper Indravati project in Koraput with no developmental projects around exhibits its destructive nature to the subject even in the construction stage itself which not only displaced around 400 families in the initial phase, but resulted in a human tragedy, what is known as a tunnel tragedy where number of workers died during the construction of the tunnel due to faulty planning. The discontinuation of the construction work forces the subject to describe the dam in terms of its destruction.

If the object is 'Balmundi', a symbolic woman of the displaced families in Upper Indravati Project, subject observes her as a wage labourer who worked in the dam construction and presently unemployed due to the discontinuation of the dam. She was an agricultural labourer, or a self employed woman selling 'Mudi' and 'Chuda' (puffed and parched rice), she is a woman duped by the contractors; subject locates her as an old lady who became lonely and helpless after her son settled in the new colony, she is a tribal woman who got a share in the compensation money, she

is a 'gowda' woman drawn inside the home due to the prosperity of the family, the is an unmarried tribal girl under 18, who lost the social security she had earlier, she is a cowherd, looking after the family in the absence of her husband, she is a widow and became the head of the household since her husband died, she is a woman who threatened to commit self immolation unless the government concedes to the demand that sons and daughters in a family should be treated in equal footing for all practical purposes, she is young, energetic, ambitious who demands that the government should provide her employment opportunities instead of constructing a dam to develop them.

Motion, Change and Variability

Though variability indicates unpredictive behaviour, one can observe some patterns or a regularity in such a variability. Let us consider Fig.3.2, which is a configuration of a set of four elements [The configuration may belong to subject or to the object the configuration in reality need not be closed, meaning the elements in the set are known and predictable. However, a closed figure is only considered since it can be a close approximation to reality and is of great convenience in perceiving the configuration and the patterns in its variability. The choice of four is only sporadic and it can be one, two or any number n].

Fig. 1 with a particular configuration of four elements is considered as bench mark, a given standard which, when compared with the other figures tells about the variability. If the Fig. 1 has moved to figure 2, keeping the configuration of its

constituent elements untouched, the variability between the two figures is in terms of the space it occupies. Fig. 1 has changed in space and occupied Fig. 2. Similarly, if Fig.l changes, to either Fig. 3 or 4 or 5, the configuration of Fig.l has rotated though 180°, 90 and 360° correspondingly, but keeping the configuration of four constituent elements same as that of Fig.l. The variability of the configuration as a consequence of change of position (Linear/radial), can be visualised in the domain of Physical Space.

Suppose the Fig. 1, while changing to Fig. 6 alters the inter elemental distances by contracting the distances, the variability is seen in terms of changing internal configuration in its social space. Fig. 1 can change to Fig. 7, where two of the four elements changed their position, or to Fig. 8 where the elements occupied a different, internal space, or to Fig. 9 where only one element kept its position while the three others changed their positions. In this set of figures, the variability in the configuration as a consequence of change of inter elemental distances can be visualised in the domain of the Social Space.

Alternatively, Fig. 1 can change its position to Fig. 10 where a new element gets added to the configuration or Fig. 1 can change to Fig. 11 where on elements gets removed, altering the configuration, in the process. Hence variability in these cases is a consequence of changes in the constituent elements and can be visualised in the domain of Internal Space.

Variability is thus visualised in terms of changes in the configuration while the Fig. 1 changes to any other figure, there exists *an* inherent time lapse or time lag, it can be a split. second or million years between the two positions, which makes it necessary to introduce a time component also to the configuration; and the changes over a period of time can be defined as `Motion' of the configuration. Each motion can be described by its laws of motion. Since changes can be either in physical space,or Social space or internal space, motion also has to be described in these three domains.

Suppose the phenomenon exists in two configuration A and B over two successive time periods with a time lag `t', what are the inferences one can make about the existence of phenomenon in two configurations ? There exists number of alternate possibilities and the choice of a particular possibility has its own implications. Following are some of the possibilities and their implications (Fig.3.3).

One possibility is the assumption/hypothesis that these two configurations of the phenomenon are unrelated to each other, implying that B is independent of A and not a consequence of A. They are not related to each other, but there exists some similarities as well as differences between A & B and one develops interest/ curiosity to identify the differences, i.e. in their variability . A.K.Sen emphasise this intellectual curiosity concern which plays a dominant role in human beings understanding of reality. In such a possibility where curiosity plays a dominant

role in understanding the phenomenon, the whole exercise gets concentrated on the variability of the phenomenon in terms of identifying their differences a la the exercise of 'picking the odd man out from a given *set;* and the role of time becomes redundant.[5] In this situation where A & B are assumed to be different & unrelated A & B are visualised as two alternative configurations of the same phenomenon and the variability in the two configurations gets the attention.

The second possibility is to conceptualise that these two configurations are related, and A has changed to B. The probability for A to change to either B or C are not ruled out but A has changed to B, but not to C or D. One set of questions can be like, why A has changed only to B but not to C or D, but more pertinent questions arise in relation to changes between the configurations A and B, i.e. what aspects of A has changed to B and what are the changes in quantitative as well as qualitative terms ? In such a situation, the changes that have occurred between the two configurations get the attention, and one tries to observe the aspects in B and compare with those of A, i.e. like capturing changes before and after a particular event. Hence changes in B as compound to A gets the primary. B is not visualised as a configuration that got generated from A.

[5]There may be another angle to this possibility where A & B are assumed to be different, where the variability is located only in the perception of the configurations but not in the reality of configurations which may lead to an inference that A & B are in fact not different and whatever differences one observes is only perceptual differences of the observer and hence subjective perceptions and cause for their differences get the primary.

The third possibility is to visualise that these two configurations; are related, A not only changed to B, but has moved from A to B over a period of time, i.e.configurations B gets-generated from configuration A over a period of time, and time plays a dominant role in this movement of A to B. In this conceptualisation one agrees that A has moved to B in a period of time t, but is silent about the future movement of B, it refuses to predict what will happen next, such as will it come to rest and will not move at all, or will it further move to another configuration C ? It will neither agree nor deny the consequent movement of B to another configuration. What is in agreement here is that the configuration A has moved to configuration B in a time t,nothing more or nothing less, and limits itself to this specific motion of A to B in a time t. In such a content, questions such as what made it more ? Occupies the centrestage, since nothing can be predicted about the movement after time t, the reasons for this specific movement gets identified either to an external force acting on A which moved it to B, or configuration B has an added attraction in itself by possessing better desirable characters by which A gets attracted and hence A moved to B with the help of external force. In both cases, the importance is given to the external force acting on the configuration A, and the focus will on the character of external force which has to be applied on A to move it to B; this identities the cause in the external force and its effect in terms of movement of A to B. A is similar to a billiard ball which can be made to more in a particular direction applying a suitable force and the cause of the motion is attributed to the disequilibrium condition of the internal forces

in the configuration A. Another interesting fact here is since A generated B, some other configuration $A_t$must have generated A, which in turn gets generated by A, and so on, a recurrent series gets generated and the phenomenon is visualised as a sequential motion of the configurations, attributing motion of history to the phenomenon. In such a conceptualisation of motion of the phenomenon, the focus is directed to identify the disequilibrium in the configuration A, and also to identify the historical phase in which phenomenon get developed. Hence not only the configuration A gets the primacy, the history of the phenomenon also gets the attention.

Summary:

The source for the existence multiple descriptions is rooted in intersubjective variability in the language of the subject as well as the level of cognition and variability in the object itself (Fig.3.4). It was found that "mother" a relation between a female of a species and its progeny, attains different meanings in the different contexts, contexts hare are identified with intersubjective differences in the language in terms of linguistic, social as well as natural sciences. Dimensions in an object is broadly located in the objects relation with nature, society or the images it carries from the past. This intersubjective variability in the language generates multiple descriptions to an object similarly, the dam in concrete such as Hirakud dam also generated multiple descriptions dependency on the context in which the subject locates the dam.

Cognition of *a* porton is visualised in two steps, perception and rationalisation, and the notion of perception was initially explained with the help of tabula rasa theory and through Christopher Gefwart's formulation. He opined that the description from either the subjects's side (Idealist view) and that from the object's side (Materialist view) will not alter the description of the object substantially. To solve the problem of subject - object separation, he introduced the concept of 'intersubjective uniformity' so that the differences, if any, among the various subjects about the object can be emended. Here, the problems of inter subjective variability are seen as problems of interpretation and found a solution in the well dictionary. He neither permitted intersubjective variability among the subjects nor even the variability in the object. However, he was stuck with the problem of incorporating the subject to became a participator. Multiple descriptions of a Hirakud dam, with the above logic, can be attributed to the individual subjects' differing research or socio-political interests. In addition, variability in rational levels of a subjects was explained,at an abstract level, with the help of Uspenskis conceptualisation of rationalisation which mentally constructs a model of the object; and a conformity between model and the observations in reality shows the existence of a situation of harmony between objective laws of motion generated by theory and the individual subjective experiences. There can exist non conformity also which creates problems for a researcher. it was suggested here that positivists' verification criteria, poppers' falsification or Kuhn's paradigm changes are attempts to solve this problem of non

conformity. It was proposed here that increased levels of abstraction of the subject may lead to a better and different-picture of the object. Which differs from subject to subject. Hence intersubjective differences in the levels of abstraction may lead to multiple descriptions. In case of dam, the description offered by a voluntary organisation, which was located in the immediate neighbourhood of dam,differs with other descriptions.

It is an accepted fact that nature around is continuously undergoing changes and this change in the nature was illustrated by common examples such as a Mango tree and an earthquake, which form one dimension namely productive force P. In another dimension of property relations, the notions of property and family was used to describe the changes. Further, carter's model was examined where a the object 'worker' got differentiated through their differential cognitive abilities by which the worker became 'idiosyncratic' making the worker heterogeneous. Again this notion of variability in the object was rooted back into dams and found that chronological sequencing of description shows that the object in fact is changing. At this stage, a theoretical exercise was conducted just to generate a theory to conceptualize motion and its relation to variability.

In this attempt to observe the relation between variability and motion, it was observed that there is a need for the existence of a medium/space through which an object moves and they are differentiated as a physical, social and mental space. Further with the help of two configurations A & B, various alternatives

are proposed where A & B are unrelated, they are related but a different they are related and A moved only to B in a time do due to the action of an external force, and finally they are not only related, A moved to B in a time t, and also will move to c., and the cause of such motion is located internal to the object which makes the context as well as history of the object important.

This generates questions such as can we apply the theoretical formulation of the relation between variability, change and motion to methodological entities such as subject as well as object ? If so, how to model a subject and capture the concept 'subject in motion through this theoretical formulation ? Further, what is its relation to intersubjective variations in capturing the object? These questions would be taken up in the subsequent analysis.

CHAPTER - IV

SUBJECT IN MOTION

Introduction:

It is to be accepted that the subject it in constant motion and unless this dimension is adequately analaysed, the problematic of methodology cannot be solved. The central question relates to what causes motion in the subject ? The subject, as a researcher, can be modeled as a configuration consisting of two mutually dependent sets namely perception set and variability set. In such a case, the intersubjective variability in there sets and their relation to each other has to be examined. However, the subject who is studying the dam may constantly change its perceptions towards the object, emenating both from the subject itself or from the object. With the help of these two sets, an attempt is made to define the concept `subject in motion' and also tried to understand some of the theories of knowledge in this perspective. Finally, the inference one can draw from the various alternatives, in the above formulation, are discussed which have a significant practical implications. The notion `subject in motion' is illustrated through examples from various fields such as economics, political economy, semiology and political science.

On perception and rational sets:

Suppose one locates a researcher subject in the notion of phenomenon described above, then it is possible to conceptualise the subject as consisting of two sets of elements - perception set and rational abstract set which are interrelated. A subject receives the signals from the object with the help of physical sense organs and they are conveyed to the brain (Whether the object sends the signals or the subject is in search of the

that jasmine flower has a pleasant smell 'and a rotten egg has a bad smell. Ear has a capacity to 'Hear' the sounds produced by the objects such as ringing of the bell, and moment of a car or thunder from clouds. Tongue can 'taste' the objects like, sugar which is sweet or chillies which is hot. Skin can 'Feel' the object and can differentiate the cold objects such as ice from hot water and estimate the body fever. Some times the subject receives multiple signals from the object; and the object is identified by the combined effort such as subject captures the object jasmine flower as white in colour to see, pleasant to smell , has soft petals to touch. A subject, identifies a moving car by seeing the car moving, and hearing the sound of movement. In subject perception set, data obtained on the various aspects of the object is only qualitative in nature. The common salt is an interesting example which gets the attraction of senses. Salt is seen as white solid, touched as crystalline substance, sour to taste, soluble in water, it sputters (makes noises) when heated, and releases pungent yellowish vapor. A subject tries to transform this qualitative data, with the help of rational knowledge, into quantitative information.

RATIONAL SET : The subject observes variety of objects in nature, collates them, locates the variability in them, classifies into various groups by identifying the similarities and then constructs mentally abstract notions of the objects in reality. For example, subject observes some objects in nature are flying and some others are walking on earth, observed a similarity in flying objects that they have only two legs but, possess wings whereas the objects who

walk on earth has no wings but possess four legs, the subject abstracted these observations into birds and animals with specific characteristics, and defines birds as those objects in nature which can fly in air and has two legs, and animals are those objects in nature which walk on four legs, with the help of these definitions, any object can be classified. In this framework, human being, in its initial phase, is an animal, transformed into two legged species but not into a bird because it cannot fly. In the same way, nature got classified into living and non-living or solids, liquids and gases with specific characteristics, Other examples of common sense can be *Been* where the objects which are sweet to taste is identified with sugar, chlorine gas produced in the lab is identified with the odour of a rotten egg. Rational set formation can be seen as a process where data received from the objects in nature are codified and an abstract model of the object gets constructed with the help of the functioning of the brain. This unique function of the human brain which can abstract and construct a model of the object and even change the model in case of necessity is the most important criteria by which a human being can be distinguished from animals who has brains but cannot abstract; even if they abstract, it is only a model based on conditional reflexes. In the present formulation of subject with perception and rational sets, the process of understanding of human can be represented as a motion P-R-P where P is perceptions at higher level, animal can be represented as P-R-P, which means it receives the same sense experiences and produces the same abstraction, at low level.

Uspenski [1991](about whom it was referred earlier) elaborated the significance of perception based of the rational set when he asserted that the abstract definition of a sphere as "sphere is the locus of points in space having a fixed distance from a given point called center" does not make any sense to the students unless they have access to perceptive set in reality such as a ball, globe, a ball bearing or a billiard ball. It is impossible for a subject to comprehend a sphere from the abstract definition without a perceptive experience. One can understand this mutual dependence of the two levels, if one examines the story about a school inspector where the D.E.O asked the student, 'What is the shape of earth ?' The student saw the snuff box in the teachers hand and replied, 'the shape of earth is the shape of the snuff box in the hands of the teacher.[1]

Varability in the perception Set / Levels of **the Subjecty**

Different levels in the perception of the subject can be attributed to differential access of the subject to the resources of the knowledge. The subject has a low level of perception set if it is denied the access to available resources and in case of availability of such an access to the subject, it increases the perception level of the subject. This denial to the subject can be in the domain of:

1. Denial to the existing rational knowledge.
2. Denial of the resources such as land, water or money and instruments.
3. Denial due to the cultural restrictions imposed on **the** subject of the resources restricts the **perception level of**

the subject by the society.

Such a denial to the subject which can be increased to a higher level provided the restrictions at various levels are removed and the access is made available to the subject.

Suppose the researcher's object is America, Himalayas, or ocean, one resource can be the books in libraries, newspapers or television, the access to these resources in the form of books is denied, the subject is ignorant of how America locks, how big is Himalaya or how an ocean looks. But the same subject, if given the access to books and libraries, can have a better perception of them. Alternatively, the subject can directly go to America, Himalayas or the Ocean to perceive the object directly; this option gets conditioned by the finances required for such a process. A subject also is conditioned by the ideology, as happened in olden days when crossing the seven seas was prohibited. The denial at these various levels, restricts the perception level of the subject which can be increased provided the restrictions are removed.

A subject perceives moon as an inferior God, who is in the grip of *Rahu* and *Ketu,* if it is denied the access to rational knowledge, it is a satellite moving round the earth in case subject is provided the access. Added to this, if instruments like telescope are given, subject can perceive moon differently. Instruments such as telescope, microscope etc increase **the** perception level of the subject. A scientist can see **the cell** structure of a leaf, or virus through the microscope where as **the**

same scientist without them cannot perceive them.

Women are denied the right to property such as land or house, they are prohibited to cultivate. Due to such a ideological restrictions, the whole knowledge as production process becomes unknown to her. An agricultural labourer is given access to work i.e. to cultivate but not the access to decision making, by which she/he looses the power to innovate. A brahmin should not touch the plough, he has access only to religious scriptures, where as a dalit is prohibited to know the religious scriptures and his duty is to work on fields. Women are denied to recite vedas and Sanskrit slokas as was publicly announced by Sankarcharya, they are restricted to four walls of the house by Justice R.N.Mishra, Guruvayur temple entry is prohibited to them, dalits are denied entry into temples and, entry to clean drinking water. Brahmins are denied eating meat and non vegetarian food. The removal of such prohibition and providing access will result in an increase in perceptive knowledge of the subject.

Variability **In** The **Rational Levels Of The Subject**

Rational level of the subject is its mental capacity to abstract and express the qualitative differences of the object in quantitative variables which can be tested and verified experimentally. The above transformation is made possible by mentally constructing a model, or a mathematical formula or a theory or even a law. Thus, rational level is the expression of the capacity of the brain. For example, F=Ma is a mathematical formula which express a relation between an external force

applied, mass of the body and its motion. A subject's rational level depends on

1. The access a subject has to the existing higher level of rational knowledge, available in libraries and computers.
2. An increase in perception level of the subject results in an increased rational level

An illiterate subject, when exposed to the literacy campaign in which attempts are made to transmit the rational knowledge by providing them literacy primers, songs and stories, will increase the rational level of the subject. It is also assumed that in case a subject is taught health, hygiene and the causes for diseases and methods of eradication, the subject's rational level increases; and the subject approaches a doctor in case of necessity instead of going to a 'guni' with this notion only, topics such as National integration and communal harmony, stories of freedom fighter were introduced in the school textbooks so that students can develop patriotic consciousness. With this same approach only, the values such as 'Vote is the constitutional right', 'Democracy is a cherished goal' or 'Panchayati Raj is your Raj',"Railways are your property' are propagated to increase the rational level of the subject. It was an accepted opinion that education plays a dominant role in the above process. A student in a village school, when exposed to a cosmopolitan school where new courses at a higher rational level were taught, its Rational level can be increased. With such *an* idea, teachers were advised to Participate in summer schools and refresher courses, research papers published in foreign journals were highly valued than

papers in national journals,.

Another way to increase the rational level is through increase in perception level of the subject. For example a subject performing a particular activity repeatedly, accumulates sense perceptions, a quantitative increase in this perceptions will naturally result in a higher level of rational knowledge. Alternatively, if the activity changes, this also results in different perceptions and hence different rational levels. The perceptions of a subject writing with a pen are totally different to perceptions of a subject working on a computer; and hence their rational levels also differ.

Relation between Increase in Perception Level and Increase in Rational level

From the above illustrations, one can infer that Rational level of the subject depends on the perception level of the subject and in turn effects the perception level also, that is, an increase in perception will lead to an increase in rational level, which again will influence the perception level of the subject. Suppose, the subject is given the access **which is** denied **until** now, it can perceive the object/reality and also rationalize the knowledge. A dalit can interpret the religious texts and rationalize the notion of religion, A women, if liberated from **the** private sphere and given access to higher education, **this results** in an increase of rational level. A Brahmin can **cultivate, dalit** can be highly educated.

Similarity, if a subject it provided with instruments such as telescope and microscope, subjects perception of the object changes, i.e. subject's perception level is increased. A subject can capture the cell structure in an ordinary level or an atomic structure in an atom. An ordinary common salt which was seen as white crystalline substance which is soluble in water, is perceived as a molecule of configuration Na*Cl where one atom of sodium with 11 electrons combines with chlorine with 35 electrons, and the solubility is explained in terms of ion concentration* Ordinary water is seen as H_2O, or two atoms of hydrogen combining with one atom of oxygen to form water, which can be prepared in the laboratory.

To summarise, suppose the phenomenon under consideration is the subject/researcher attempting to acquire knowledge about art object/reality, it can be described as a bipolar configuration, the poles being perception set (p) and the rational set (p) , these two performing two quantitatively different functions at two different planes. Perception set. consists of knowledge acquired by the subject about the object with the help of sense organs in the form of concrete observations which are communicated to the brain and acts like an input in the brain. The brain collates, systematises, creates new axioms, constructs and abstracts/theories/models the object by a process of mixing, not yet know^{T}n, which emerges as the output of the brain. Thus, the brain acts like a black box at present level of knowledge where concrete observations from the object are transformed into abstract and rational theories and from which specific inferences

or predictions can be deduced which the subject can test in practice.

Further, it was shown that perception level of subject can be varied provided:

1. The subject is permitted access to the natural resources, which were denied earlier.
2. The subject is permitted access to the already existing higher level of rational knowledge, which in turn depends on the perceptions of the subject.

In such a formulation, represented by Fig.4.1, where perception levels of the subject determine the rational level, which in turn gets determined by it, which means that any increase in p level results in an increase in p level and this again increases the p level in practice, and this process occurs, not instantaneously, but over a period of time. This chain reaction can be imaged where a subject can be modeled as an evolutionary matrix of two interdependent sets. In the above figure, p can be seen as an entry point to the subject (for acquiring sense impressions from the object), PR is the arm symbolising the transmission of *sense* impulses to the brain space, R is the brain space where mind collates and classifies the subjective sense impressions and transforms the particular and concrete subjective observations into general and abstract models, the process is called induction in mathematical logic. This means that subjective sensuous experiences at p, through induction, are transformed into rational knowledge and is available at .R. This knowledge gets socially accepted and becomes objective knowledge, devoid of

subjective biases, and *it* available to all in the form of theories from which prediction can be made about the object and can be tested in practice. 'PR' arm symbolises this practice and experimentation; which provides opportunities for the subject, to receive new sense perceptions from the object which is different that p and hence named 'p'. Subject, with the help of these theories, indulges in activity of number of predictions to travel from General and abstract theories to particular and concrete observation and this process of movement is called 'deduction' in mathematical logic. One should keep in mind that, p level resides in a concrete plan where subject receives the sense impressions and p level is a plane of theories and concepts in brain space where model of a reality/object is constructed.

Now, if one visualises the motion P-R-P', i.e. subject receives sense perceptions from the object, theories and construct a model, predictions about object are made and subject, by experimenting, will acquire more perceptive knowledge about the object, which means that the subject has evolved/developed or in another way the subject is in motion, can be represented by P-R-P in Fig. 4.2. This is possible on the condition that there is an increase in rational capacities of the brain.

Interpretations of various Theories in P R P perspective:

The reasons for existence of number *of* theories of knowledge can possibly be located at this perception level where each theory has its own way of conceptualising the process in which the subject receives the signals from the object. Tabula Rasa theory.

otherwise also called bucket theory of mind, which assumes the mind of the subject is like an empty bucket at birth into which the sense organs pour the knowledge about the object. This means, sense experiences are the only source of knowledge. This also mean that the subject's mind turns only a receiver where sense experiences can be deposited, as though mind is a bank, with mind playing no significant role, and the process becomes only one way traffic. Karl popper is in disagreement with this conditioned reflexes which means that senses provide data and mind receives,making the subject passive and inactive. He proposes the notion of 'theory impregnated senses' [Popper 1983, P.72], in which the innate structure of the sense organ is such that it guides the senses to differentiate between relevant and irrelevant inputs, and this makes the subject an active subject. Now, the sources of knowledge will be not only senses but also intuition. Philosophers, who believe in the above theory of knowledge where a subject plays a dominant role, can be categorised as idealist philosophers. Materialist philosophers differ in such a formulation and propose an alternate theory which gives primacy to the object and propose that it is the object, by its motion, sends signals which the subject receives by senses. The source of Knowledge is located in the object in its motion.

Regarding the second component of the subject, i.e. the rational set, one set of philosophers give primacy to the PR arm, i.e. the knowledge acquisition through subjective sense experiences, and they are named empiricist philosophers and they believe that empirical verification as the scientific method where

empirical ooservations are generalised into empirical laws. Positivist, otherwise known as Vienna circle, belong to this category. Positivist scientist Rurtolf Carnap elaborated the concept of empiricism as , Science begins with direct observation of single facts, nothing else is observable, certainly a regularity is not directly observably. It is only many observations are compared with one another that regularities are observed [Carnap 1982]. They also believe that this progressive expansion of empirical generalisations, and inductive conclusions turn out to be the main instrument of such development [Carnap 1982]. Here, the movement of the subject is from sense perceptions to generalisations, this also can be viewed as movement from 'Known to unknown' or 'particular to general' or 'observation to theory[1], which in mathematical logic is called induction. This group of philosophers believe that. gradual accumulation of perceptive knowledge leads to rational knowledge and the truth about the object is finally known. The movement 'observation to theory' is only through verification which means a scientific statement (or a theory) can be tested by verification in practice. Positivists give primacy to movement of 'particular to general which is otherwise giving importance to induction. Contrastingly. in Poppers formulation, PR arm and the path 'particular to general' remained in the back stage, and RP' arm that is the movement of 'general to particular' got the primacy and hence the entry point to the subject shifted now to R, that is the rational theoretical level. He proposed the path "conjectures, falsification, new conjectures" [Popper. 1971] to reach the object and this can be seen as movement from one rational level to higher

rational level through falsification, the path a subject takes is R to R' through P'. Further , he proposed falsification, instead of verification, as a criteria for scientific method, and by falsification or even a single evidence that is contrary to the judgement of theory, makes the conjecture (guess) redundant and a new conjecture takes place of the old. Since R operates not only in abstract, mental space of the subject, the theory has to obtain social acceptance, for this purpose, he proposes intersubjective testability as the criteria for the objectivity of scientific statement. Probably one can locate Kuhn also in this p level, where he operates with paradigms. Kuhn categorizes normal science period as a period of unidirectional research based on a given paradigm which provides a rigid framework for the subject and quantitative additions of knowledge takes place in this period, and anomalies if any, are brushed aside . The second period, is the period of confusion, disagreement and crisis, caused by the repeated occurrence of anomalies generating debates. From this confusion, a new paradigm emerges which alters the subject's perception totally, this shift of perceptions is visulized as gestlalt switch Kuhn expressed some sort of concluding remarks in his postscript about the nature of scientific progress as, "The bock portrays scientific development as succession of tradition bound periods punctuated by non cumulative breaks, its theses are undoubtedly of wide applicability" [Kuhn(1962); P-208] .

One can also mention here about Carl Hempel who observed that verifiability of positivist means testability and this testability criteria is quite strict and hence proposed that a

statement can be considered scientific it it is capable at least in principle, of complete verification by observational evidence. Ayer A.J. formulated his own more liberal verifiability criteria known as 'weak verifiability'; in such circumstances, both the verification and falsification principles were rejected as criteria of cognitive significance because they are too strict. In Rudolf Carnap's approach, the criteria of cognitive significance of a scientific statement is located in the translatability into empiricist language. As per his notion, instead of verification a series of testing experiments should be formulated which reduces negative instances but increases the number of positive instances. Then, instead of strong verification, the criteria can be weak verifiability which gradually increases the confirmation of the law. To some extent, Popper also expressed a similar view when he proposes the concept of verisimijitude or Kuhn in his falsification cum verification criteria.

However, the question - how subjective sense experiences in a concrete plane are transformed into rational structures in abstract plane ? where a qualitative leap takes place, is still a puzzle. May be one can locate Freud here when he visualises motion in thought is through drives- unconscious to subconscious to conscious. Another approach of locking at it. is that the mind scans the external space and identifies similarities in the internal objects and thus obtains a leap, a La Wright brothers saw a bird fly which resulted in construction of an aeroplane. Present creation of robots which attempts to imitate physical as well as mental movements and their co-ordination of human beings is one

such example.

Alternative possibilities and inference:

This particular motion of the subject P-R-P', though locks very simple, it is in fact a very complex and complicated process which offers fascinating inferences at each of the points. The following are some of the alternate possibilities.

1. The subject is not allowed/permitted, either socially or naturally, an entry point at the initial point p itself.
2. The subject is not permitted entry through p, but permitted an entry through p.
3. The subject is permitted an entry through p, also allowed the arm PR and rationalise, but the 2nd arm RP' of practicing the knowledge acquired, is prohibited.
4. The subject is permitted all steps.

One can examine the inferences of such alternate permits. Suppose the subject is not allowed socially to perceptions of reality- as an illustration, women are not allowed to plough, recite vedas and restricts employment outside, men are not allowed to cook, Dalits are not allowed to enter temples. In fact, the whole caste system of hierarchy can be visualised as a close system where each caste is assigned a particular division of labour in the society which confirm an exclusive rights over a particular work, which in a way results in a denial of the access to the rest of the works which excludes the subject to know about the other works. In such cases, the source of knowledge is itself cut off from the subject, and hence the subject turns ignorant regarding that particular knowledge. Nature sometimes denies the

access by making a humam handicapped such as a blind cannot see and deaf cannot hear. In such a case, the remaining sense organs become more active to compensate such specific losses in the perception. Here, the entry permit is used in the sense of a direct access to the sources of knowledge. It is not that all five senses will be prohibited, some times a direct, access to see *is* permitted but other sense activities are restricted and the subject can now be only mute witness to all the happenings around. For example, a women can 'see' about agricultural activities and a dalit can 'hear' about pure water. In these circumstances, when direct access to the source of knowledge is prohibited, whatever knowledge the subject acquires becomes an indirect knowledge and to some extent it becomes knowledge by hear say.

Suppose the object is allowed entry at a higher level of rational knowledge at R, i.e. by exposing the subject to 'advanced' knowledge, the knowledge acquired in such a case- since it is not related to the subject's direct perceptions- becomes parroted knowledge, rote becomes a process of acquiring knowledge in which memory plays a dominant role. This learning by rote is recognised as the main problem in our education. Various examination reforms , such as semester system and continuous evaluation, are introduced to tackle this problem. The problems of Adult literacy campaign also can be located here. Thus, the subject, when permitted entry through R, though accumulates higher rational knowledge it gets alienated from the local environment to which its own perceptions are rooted; it also results in suppression of the subject's local sense perceptions. This results

in an increase of memory power but reduces the analytical power of the subject .

Suppose, the subject is permitted entry through p, it generates subject specific numerous descriptions of the object. Perceptions of the subject get controlled by the specificity of the subject posited at p. A subject, with specificities such as gender, caste, class, ethnicity etc. If the subject is gender specific such as women, an Ideology (Patriarchy) controlled female perceptions differs to those of women who oppose patriarchy. Perceptions differ not only between male and female, but also those of females who are ideologically controlled and those who oppose. Similar are the differences in perceptions between Dalit and non dalit and also differences in ethnicity. For example literature typified as Dalit literature, women literature can be seen in this perspective, where an alternative approach to the existing ideologically controlled perspective is put forward forcibly, which makes such a literature totally different to the existing literature in Vogue, in fact, Tony Marison got a Noble prize for her 'black' literature where she posited a female black subject against a white male patriarchal subject at the point p or perception.

Suppose the subject is permitted the 1st arm, that is, the step leading from perceptions to rationalisation, but not the second arm, that is, to practice, is not permitted. In such a case, the subject gets frustrated and also feels alienated from the knowledge as well as the particular society which may lead to

psychic problems and the subject may commit suicide in case of severe alienation. The other alternative possible *is* to get associated with similar subjects and get socially organised. The emergence of social movements can be understood in this way where the subject is denied the practice of knowledge it had accumulated.

Lastly, suppose the subject is permitted the first step of perception, rationalisation as well as second step of practice, in such a case the subject operates in a Fetished world controlled by rational knowledge of abstract theories. They act like rigid structures which will not permit any other independent step by the subject. The subject is restricted to search such observations which confirm the theory. Subject has to set aside any anomaly or discrepancy that results in practice. Subject is corrected and even coerced to fall in line with theory. Such a coercion creates problems in case the object is also another human being with a thinking capacity, as happens in Social Science research. In such a case, the object needs the collective protection but at the same time aspires independence from the collective. This can be visualised as the major contradiction variously described as contradiction between collective and the individual, macro and micro, model and reality, prescriptive and descriptive or what it should be and what it is. This contradiction, at a philosophical level, occurs at repeated intervals.

Illustrations:

Mao-tse-tung :On Practice:

Mao-Tse-Tung, the revolutionary leader of China, proposes a

similar concept, perception and rational levels in the cognition while proposing the theory of knowledge . He started his lessons to his cadre 'On Practice', the outstanding characteristics of Marxist philosophy which emphasises that theory is based on practice and in turn serves practice. In his opinion, 'The truth of any knowledge or theory is determined not by subjective feelings, but by objective results in practice.'[1977, p-297] He raised the question 'How does human knowledge arise from practice and in turn serve practice ? To answer this question, he tried to look at the process of development of knowledge as a two step process where cognition results in two stages.

The first stage is called the perception stage of cognition where the separate aspects of the phenomenon act on sense organs of the subject and evoke sense perceptions which give rise in their brains to many impressions together with a rough sketch of the external relations among these impressions. In this stage, subject cannot yet form concepts which are deeper, or can draw logical conclusions. The second stage of cognition is called conceptual stage. In this stage , the subject, during the process of repeatedly deceiving sense perceptions and forming impressions, a sudden leap or change takes place in the brain and concepts are formed. Concepts are now no longer separate aspects of the phenomenon dealing with external relations, they can now grasp the essence, the totality and the internal relations of things. Concepts and sense perceptions differ qualitatively as well as quantitatively. Subject proceeds further, by means of judgment and inference, and subject is able to draw logical conclusions- This

phase of ' let me think over' refers to subject's, use of concepts in the brain to form judgments and inferences. This stage of cognition where concepts, judgment and inferences are formed , is the most important stage in the entire process of knowing a thing and is the stage of rational knowledge Mao explained "the real task of knowing is through perception, to arrive at thought, to arrive step by step at the comprehension of the internal contradictions of objective things, of their laws and of the internal relations between one process and another, that is, to arrive at logical knowledge" [Mao(1977):P-298] . He repeated this in a different way when he says that perceptual knowledge and logical knowledge differs vastly where the later takes big strides to reach the totality and hence is Capable of grasping the development of the surrounding world in its totality.

Further he says that these two stages has its own characteristics. In the first stage, knowledge is at a lower level and manifests as perceptual subjective experiences whereas the 2nd stage is at a higher stage of rational knowledge, but both are stages in an integrated process of cognition and are unified in practice. He puts forward the cycle that perception level of 1st stage generates the 2nd level of rational knowledge, which in practice adds to the knowledge at perception level. He finds the limitations of this chain is snapped in between,

1. If one accepts that, rational knowledge depends on perceptual knowledge, in such a case an idealist who believes in subjective experiences gets generated.
2. If one accepts that rational knowledge generates perceptual

knowledge then a rationalist, who admit reality only *of* reason not experience, comes into existence.

He is also critical of empiricists since they believe that knowledge stops at 1st stage and also perceptual knowledge is alone believable while rational knowledge is not. He describes the process of change from lower level of perception to higher level of rational knowledge as a leap in mind, as "Exercise of thought to reconstruct the rich data of sense perceptions discarding the dross and selecting the essential, eliminating the false and retaining the truth, proceeding from the one to other and from outside to inside in order to form a system of concepts and theories."[Mac(1977):P-303] . In a nut shell, his theory of knowledge is "Knowledge begins with practice, and the theoretical knowledge is acquired through practice and must then return to practice"[Mao(1977):P-304] . and the practice must be such that it changes the reality. Varavara Rao [1983] attempted a pictorial representation of Mao's concept of the above theory of knowledge under the title, "From where do correct ideas comes from" in which time component is not taken into account and hence the picture is reduced to illustrating only partially Mac's concept, but could not capture the subject in motion' which is possible in practice and this influences again the perception level of the subject Thus there is a possibility of one landing in support of empiricism.

Theories of language :

The theories of language, otherwise known as semiology, is a branch of linguistics where various attempts are made at present

to endogenous the development of language, during which process the concept 'subject in motion' is utilised to a large extent. Their formulation is as follows.

The object of study sends the signal and the subject receives the signals, conceptualises and expresses through a visual sign, it can be a linguistic term or a photograph, for communication purposes. The visual sign contains a 'signifier', i.e. the sound image of the object and a 'signified the concept of the object. The theories of language deals with the process of signification of the visual sign, or in other words deals with the methods of interpretation by which a meaning can be attributed to the visual sign, and this meaning performs the act of describing the object. The existence of different signification processes generating different streams in semiology, can be attributed to the various assumptions regarding the object as well as subject. Broadly, they can be grouped into two categories, one stream characteristic the visual sign as 'polysemic' in nature making the object also polysemic, and the second stream characteristic the subject as 'accentual' and hence leading to a number of descriptions regarding the object. The center of cultural studies, a post graduate research centre at Birmingham University created 'language and Ideology' cell in 1975 mainly for establishing the theoretical importance of language and clarify different traditions of linguistic theory and Research.

More about the first stream. To analyse the different cultural forms and their relation to social change, the canters

research actively through in the earl[illegible] the works of Raymond Williams in which culture was defined as a whole way of life, turned critical in the later period, due to the reasons that such a definition of culture turns out to be only descriptive in nature which cannot be a much help in developing theories of language and the signifying practices. Alternatively the center proposed that culture is inherently meaningful and meanings are rooted in practical social experience and such a way of defining culture can generate an "...expressive theory of language in which, while linguistic meanings can be referred to the reality they 'describe', they remain rooted in essentially subjective acts of perception and creativity ." [Weedon, Tolson, Mort(1992)P-178] In such an expressive theory of language, a linguistic sign, or a sentence can be interpreted depending on the reality in which it is based. Such an interpretation can be done only by act of 'seeing through the statements to what the statements really mean. Hence, in this stream of analysis, the visual sign- a photo or a linguistic term- is categorised as 'polysemic in nature, which means that the visual sign is open to variety or readings, from which one can draws an inference that a single and unique meaning to the visual sign is impossible to pin 'down. Such a polysemic nature of the visual sign generates different interpretations to the visual sign, making the object in reality polysemic, that in no unique interpretation of the object as well. In order to pin down to a single interpretation, a concept called 'linguistic anchorage' was introduced which serves two purposes, that it indicates what in the visual sign one is supposed to see, and it defines the ideological field in which the interpretation has to

be made, in such a case the interpretation of the visual sign ideologically gets closed, resulting in a unique interpretation of the visual sign and hence a unique description of the object in reality.

The second stream of semiology proposes another perspective for the signification process. This group, mainly feminists asserted that the above closure is incomplete unless one introduces a speaking subject in the phenomenon. Only the positioning of a speaking subject within the phenomenal framework which can result in the closure of linguistic anchorage is complete. They visualised the speaking subject as "intentional consciousness, the source of speech acts which are negotiated, in terms of meaning through social interaction with the other intentional conscious subjects" [Weeden et al(1992): P-183] . Thus the feminists worked on the problem of language and politics of subjectivity and the role of a speaking subject in fixing a meaning to the visual sign in the language. In this stream, two distinctly different theoretical tendencies which are in mutual opposition to each other. *One* stream belonging to Marxist Tradition where a subject is visualised as a 'trager' or bearer of social relations and Ideology. The other , nailed 'Tel Quel' group, named as Maoist feminists opposed this concept of subject as a trager. They utilised the works of Freud and Lacan's pschyche analytic theory of knowledge who insist on the importance of unconscious as well as conscious meaning to knowledge. With this the feminist theories brought the concept of speaking subject on the theoretical as well as political agenda. Volosinov of Soviet

Union, belonging to Marxist tradition conceived the visual sign as 'multi accentuated' (derived from 1. the term accent which implies making a prominent emphasis), that it *it* open to different meanings/emphasis when seen from different, class based subjective positions. For volosnov,, "....linguistic meaning is negotiated through class based social interaction and it reflects and refracts an underlying material reality: Socio economic-relations." [Weeden et al(1992); P-183]. The other group, i.e. Maoist feminists such as Julia Kristeva, reject the concept of subjectivity as rational consciousness, since this relies on an apriori fixing of meaning within the language system. They theories, "...language as unconscious chain of signifiers, in which ideological effect of meaning is achieved retrospectively through closing the chain of signifiers by means of positioning the subject within the language" [Weeden et al{1992): P-184].i.e. they introduced gendered subjectivity in the language, where the subject has either internalised the patriarchal ideology or the subject resists such an ideological oppression. Kristava starts with Mao's emphasis on practice that 'practice is personal and concerned with direct experiences, and in this light, she examines the process of generation of new-ideas, what according to Mao is 'sudden leap takes place in the brain in the process of cognition.' Kristava took help of Freudian notion of human subject in terms of drives/ instinct and social constraints to explain. To her, when the subject is faced with a social contradiction, that of super structure and relations of production, the subject gets disorganised and disoriented, and *the* subject is thrown into a process of questioning and crisis, that state of the subject she

calls 'subject in process', this state of subject continues until she is able to think unitied with help of natural drive (Instinct, rejection sets in. This rejection brings about confrontation of the subject with the social relations and structures of the natural social world. Subject runs up against them, repulses them and in the process get re-organised. This moment of rejection is a period of annihilation when old structures are displaced, and a new culture sets in. This can be summarised as "...social contradictions articulate themselves within the composition of the person by an investment of drives; and these drives are themselves formed by both social and personal history and this investment throughs into flux the composition of the conscious and unconscious."[Ellis (1992):P -191] Thus Kristeva introduces' a speaking subject, which is constantly in process.

Kate Carter on Modeling a Worker:

In Economics also, the concept 'Subject in motion' finds an application in which presently attempts are made to endogenise technology so that development of technology can be located internally. For this purpose, attempts are made to model a 'worker' in which process one can observe two streams of modeling a worker. One stream models the workers as an 'object' to be modeled and attributes such characters to the worker that he is lazy and avoids work unless monitored and supervised strictly; which results in an increase in transaction costs to *an* employee who utilises the services of the worker; or he is seen as buying the 'labour' of the worker for a particular time. Of late. the second stream got generated which models the worker as 'subject'

who has abilities to exercise discretion in interpreting the work and Subject has an object in Work. The problem that got identified in this stream is - How the subject (worker) attains such cognitive abilities ? In such a formulation, the employer buys, not the labour, but the labour power of the worker. Kate Carter [1994] (referred earlier also) belongs to "the second stream of modeling the worker as a subject, and found a solution in the concept 'learning by doing' which was proposed by Slow. Carter, though accepts this concept of learning by doing, but locates a lacunas in such a formulation that it "...neglected the nature of the process and the cognitive abilities thus acquired" [Carter(1994); p-187]. From the empirical evidences from various countries, she elaborated the various characteristics of 'learning by doing' as "....cognitive abilities acquired by a worker varied according to the range and levels of ability of a worker and the components of the job'. . . Cognitive abilities develop more extensively when unfamiliar production problems created a marked incongruity between them and prior understanding "[Carter(1994) ; p-188] and came to the conclusion that learning and work are inseparable and proposes "Learning proceeds by an alteration between the observation of experience and its interpretation in the mind, work can be defined as the use of this knowledge to alter the human environment."[Carter(19945 ; p-189].Thus work changes the human environment marginally and which in term changes the worker's experience also marginally; worker again interprets such changes mentally, which makes the cycle of learning continuous? and learning becomes a continuous joint product of work. Thus, to Carter, the cognitive ability naturally depends on

the quality as well as quantity of interesting inference of this is that 'labour is not a source of error to he avoided on corrected by supervision' but a source of learning if they are corrected.

Thus the subject *in* motion can be visualised as increased set of cognitive abilities, which are not limited to the technical knowledge of the worker which cannot be observed by a supervisor directly but whole set of abilities, such as the 'ability to discriminate in the use of knowledge for purposive action, ability to solve the problems in work and lastly the confidence to some others .

Paul Roemer ties to distinguish between human capital, ideas produced by human capital and ideas that produce human capital. The concept "human capital' similar to Carter's cognitive abilities of the worker, produces different ideas, which ideas are non rival in nature, thereby meaning that they are restricted to subjective use only. When this ideas are put on paper, it provides access to other subjects, produces human capital in the process, and acquire a rival character. Thus in this process, the human capital produces ideas which in turn produce human capital providing an opportunity for subject in motion. Roemer, feels that human capital and ideas are conceptually different goods and hence strategies of Economic development also gets differentiated into development by using ideas.

Peter Medawar on Scientific enquiry:

Peter Medawar, an ardent follower of Karl Popper, attempted to propose a sound methodology, not on the basis of inductive method, but on the basis of hypothetical deductive method, which may provide scope for individual imagination and creativity, thus initiating the process of 'subject in motion'. His criticism of scientific inquiry based on inductive method- proposed by Francis Bacon and John Stuart Mill- is as follows.

Induction as a scheme of scientific inquiry, empowers human beings to pass from statements expressing particular and individual facts to general statements, Laws, theories, with the help of which one can comprehend them. They merely summaries the information contained in a singular statements. Instead of just summarising, Medawar opines that they should say something more that which has already been said. He was critical of method of induction since, "inductive reasoning is ampliation in nature, It expands our knowledge, or at all events cur pretensions knowledge. [Medawar (1984): P - 86] In that sense, this cannot be a logical rigorous process. He rejected the scientific inquiry by inductive method since, "No process of reasoning what so ever can , with logical certainty, enlarge the empirical context of the statements out of which it issues" [Medawar (1984): P -86] In an attempt to propose a sound methodology, he identified some characteristic feature/ requirements which it has to satisfy such as- it must provide an adequate theory of incentives and also of origin of prevalence of errors and it must also make room for luck. He was of the opinion that Hypothetical deductive method (known as H-D

method) advocated by Popper satisfies the requirements. According to Medawar, forward motion in science cannot be logically propelled if observation is the generative act. Instead, if hypothesis is the generative act such a forward Propulsion is possible. In a way of elaborating this, he identifies two episodes-imaginative and critical-which alternate and interact. There exist a rapid reciprocation between this imaginative conjectures and critical evolution, by which forward motion in science is possible.

During the first episode, one forms an opinion, make a guess or a conjecture which might explain the phenomenon under investigation. Thus, the generative act is formulation of a hypothesis, the process by which this hypothesis gets formed is not illogical but it is non-logical, that is, outside logic. Once the hypothesis is formed, one can expose this hypothesis to criticism, usually done by experimentation. The second episode-critical evaluation- is purely logical which relies an empirical testing of logical consequences of the hypothesis/ guess/ belief. If the logical prediction of the hypothesis get verified empirically, then one can have confidence on the hypothesis, if not, it gets modified/abandoned. In such a case, "Scientific reasoning, in William Whewell's view is a constant interplay or interaction between hypothesis and the logical expectations they give rise to : there is a restless to and fro motion of thought, the formulation and rectification of hypothesis, until we arrive at a hypothesis which, to the best of our prevailing knowledge, will satisfactorily meet the case."

[Medawar (1981) *p*-103]

This transformation of scientific reasoning to a dialogue between the possible and the actual; or between what might be and what it it in fact; or between predictive and descriptive, the efforts of a scientist are now directed to bridge the gap between prescription and description about the phenomenon. This is the area where positivist turned to verification criteria and Popper proposed falsification as the criteria of testing a hypothesis; and fallibility (liable to error or commit mistakes) becomes an internal process of scientific inquiry like the saying "you learn by doing mistakes".

Thus, this H.D. method which emerged in the writings of Carvap and Hempel inherited by Popper and endorsed by Peter Madavar provides inspiration/ incentives/ initiatives for scientists to indulge in imaginative pre-conception/ guess of a hypothesis; it allows a continual rectification of hypothesis by a process of negative feedback; errors committed by scientist can be simply explained as an ordinary part of human fallibility; lucky accidents fulfill their prior expectations. This gives scope for scientist to indulge in creativity and intuition/ imagination. However, this analysis of the source of creativity the fundamental question in philosophy that where do new idea come from *?-*was* left to consortium of talents. However. Medavar advises that "creativity is beyond analysis, is a romantic illusion we must now outgrow. It cannot be learned perhaps, but it can be encouraged and embedded, "[Medawar (1984): p-109] To Medawar, the idea that

drugs may help in creativity [illegible] formulating a hypothesis, is not offensive provided it enhances the critical faculty in proportion to the enhanced creativity.

With this H.D. method of scientific inquiry Medavar as well as Popper propelled the logical motion of Science by proposing creative conjectures which, when refuted, gives rise to new conjectures-in fact focused on the path by which the subject/scientist acquires knowledge about phenomenon starting from theories/ rational knowledge, which indicates that there is a change in the subject or there is a motion in the subject, but no motion of the subject.

In a nut shell if one visualises the 'subject' as a phenomenon one can conceptualise the 'subject in motion' subject is an evolving matrix of di-elemental evolving matrix where the two elements, perception and rational, are not as a discrete set of elements, but an integrated set, each determining the other, creating two dimensional flux, evolving nature of the subject manifests itself as 'subject in motion' and the Cycle completes only in practice.

Summary:

A subject can be modeled as a bipolar evolving matrix containing two elements in two different dimensions, namely perception set at a concrete level, which, gets transformed into rational set at an abstract plane with the functioning of the brain. Thus, the subjective sense perceptions get transformed

into national theories which facilitate better perceptions to the subject. Different perception levels of the subjects are rooted in the denial to the subject the existing rational knowledge, the access to resources such as land, water, money and instruments and finally due to the prevailing cultural restrictions which are imposed on the subject. Rational levels of the subject depend on the access a subject lias to the already existing higher level of rational knowledge. One should also remember that increase in perception level results in an increase in rational level. This means that this perception set P. and rational set R, though remain at two different levels, they are interacting in the sense that an increase in the level of P.will result in an increase in the level of R which in turn result In an increase in P set, and the subject can now be modeled as PRP' i.e. the subject receives sense perceptions, theorises them at R and in practice increases the perceptions. However, the subject also has an interest of his own, this interest is not constant but variable. So the variability arises from the interests which is in motion. The changing interests has also propensity to propel the individual into a struggle which may in turn result in his entry into the objective reality and to that extent influences the motion in the object. This movement of the subject through F to R and back to higher P' can be defined in terms of the 'subject in motion'. PR arm signifies the movement of particular to general (inductiion) where positivists can be located and they state verification to be the criteria for a statement to be scientific and the process is through repeated observations. RP' is the arm symbolising the movement from general to a particular (deduction) or in other

words from objective laws of motion to the subjective experience. Poppers' conjectures and falsification or Kuhn's paradigm changes through falsification cum verification can be located here. But the question remains- what is the process in the brain by which perceptions get transformed into rational theories ? It is still a puzzle. Detailing all the possibilities, interesting inferences are made such as, the denial an entry to the subject at P results in a situation where knowledge acquisition becomes a hearsay and even rumors acquire top priority, positing a speaking subject at P generates alternate descriptions and finally, if all the steps are permitted, the subject gets trapped in the structures/theories and operates in a fetished world of theories. This leads to the problem variously described as the contradictions between collective and the individual or objective laws and the subjective experiences or even prescriptive and descriptive.

This raises questions such as follows. If one agrees that the subject is in motion, then what is the cause of such motion ? Does the subject possess an inherent capacity to change? or is it directed by the changes in the object ? Then,can we model the object also in a similar way as that of the subject? Can we relate the variability in the object to its motion here also? and the enquiry into these questions are attempted in the next chapter.

CHAPTER-V

OBJECT IN MOTION

Introduction:

The notion 'object in motion' primarily a Marxian concept, was traced back to Lenin who Introduced a diamentionality to his object 'Marxism'. This transformation in this dimensionality was examined with the help of R S Rao's work who transformed this diamentionality onto the objective reality and finally an attempt is made in this thesis to examine whether one can transform this diamentionality to the human being in particular. In this exercise the individual named hi is also modelled as a three dimensional phenomena, which has intellectual, economic, social and political identity. The relation between the subjective experience and the objective knowledge, long term objective laws of notion in the reality are explored. Further, the concepts such as dialectics and motion and the generation of various branches of knowledge are examined. In addition, an individual human being is posited in the objective reality of the collective. The objective reality in modelled in a state of three dimensional fluid flux, generative in itself into which a space time specific hi, which is also modelled as a three dimensional evolving matrix. The relation between this collective and individual is examined under different characterizations of hi and its implications to the public policy interventions are explored. Here also, the problem encountered by various researchers at an abstract level is to bring forward the fact that modelling another human being, a prime task in any social science research, is not a simple procedure but in practice becomes a complex exercise. An attempt is made to develop methods by which one can model the human being.

The last aspect of this research exercise is to examine the object in motion. This is one aspect which unlike the earlier dimensions, had received greater attention of the marxian scholars and practitioners. However, there are several issues which need probing for greater clarity. The present chapter proposes to examine various questions associated with the object in motion which continue to remain problematic to the marxian methodological construct.

The notion `**object** in **motion**' primarily a Marxian concept, was traced back to Lenin who introduced a **diamentionality** to his object `**Marxism**'. The transformations in this **diamentionality** was examined with the help of E.S.Rao's works who transformed this diamentionality on to the objective reality and finally an attempt is made in this thesis to examine whether one can transform this diamentionality to the human being in particular. In this exercise, the individual named hi is also modelled as three **dimensional** phenomenon, which has **intellectual,** economic social and political identity as well. The relation between the subjective experiences and the objective **knowledge,** long term **motion** objective laws of motion in the reality are explored. Further, the concepts such as dialectics and **motion** and the generation of various branches of knowledge was examined. In i an individual human being is posited in the objective reality of the collective the objective reality is modelled in a state of three dimensional fluid flux, generative in itself into which a space time specific hi which is also modelled as a three dimensional

evolving matrix, got posited. The relation between this collective and the individual 1B examined under different characterization of hi and its implications to the public policy interventions was explored. Here also, the problem encountered by various researchers at an abstract level is to bring forward the fact that modelling, another human being, a prime task in any social science research, is not a simple procedure but in practice, becomes a complex exercise. An attempt is made to develop methods by which one can model the human being.

Object in Motion: A Marxian Concept

There exists, in the field of methodology, another stream of researchers who consciously introduce the assumption that the object under investigation is continuously changing as an inevitable consequence of internal disequilibrium, i.e. the object under study is in motion as a result of motion inside the object. The researchers belonging to this stream introduce the concept 'object in motion' as analytical category in the methodological formulation itself. These researchers draw their inspiration and even to some extent owe their allegiance to the writings of Marx and Engels. There can be a number of ways in which a changing object can be modelled . The present thesis follows the Marxian

In Myrdal's formulation, [1969] people have two concepts about reality beliefs, which are consequences of cognitive exercise of people about how reality actually was, which many times gets distorted; and valuations, the emotional and volitive exercise about how the reality ought to be. He proposes that if the distorted beliefs are corrected, then it can exert pressure on people to change their valuations and alter their perceptions of reality, and the responsibility of this correction, he gives to state which *is* the collective of individuals. State acts like an external force which can

concept of motion where not only the object in motion concept is introduced, but also a diamentionality to the object as well is introduced as another important analytical category. Accordingly developed a methodology which helps the subject in understanding the object. This diamentionality aspect was first highlighted by Lenin as three sources/ Components to Marxism; this diamentionality was transformed to the object by R.S.Rao.

Lenin, as a subject, observed the doctrine of Marxism, his object, as, "His doctrine emerged as the direct and immediate continuation of the teachings of the greatest representatives of philosophy, political economy and socialism"[Lenin(1963): P-23]. Lenin even opined that Marxist doctrine is the legitimate successor to all these three great teachings- German Philosophy, English Political Economy and French Socialism- as the three sources which are also the component parts of Marxism. Lenin in the role of a subject, observed Marxist doctrine as an object under investigation and hence Lenin's entry point to inquiry is not through the perceptive observations of the objective reality, but through the rational knowledge which Marx synthesized from his perceptive knowledge which affixes the nature of Ideology, i.e. the discourse controlled by ideas, to Lenin's teachings. But Marx. in his role as a subject observed the object/reality at a perception level which he rationalised into a theory and returned back to reality through practice with solutions to the problems of reality. This makes his theory to be seen as Methodology or a path of analysis. Marx stresses the importance of perception in lake the object move & hence notion is due to external source.

analysis when he says, 'The reader, who on the whole desires to follow me must be resolved to ascend from the particular to the general" [Marx (1968): P-180]. He gave only a few indications concerning the course of his political economy studies. In fact, to be more precise, the problems in reality such as theft of wood and parceling of landed property triggered Marx's intellectual, which resulted in his investigation of the legal relations and located its roots in the material conditions, which according to Marx , 'The general result at which I arrived and which, once won, served as a guiding thread for my studies"[Marx{1968): P-181]. Frederick Engels through his study of conditions of working class in England, also arrived at the same conclusions, which created strong bond between Engels and Marx. This shows that for both of them, the entry point to inquiry is the perceptive level. They attempted the first transformation when they transformed their perceptive knowledge from the three sources in the reality to rational knowledge which the latter period was referred to as Marxist doctrine or simply Marxism. Lenin's entry point is at this rational level and he attempted the second transformation where Marxism obtained three dimensions or components.

A third transformation was attempted by R.S. Rao where the three dimensions of Marxism are transformed in to three dimensions of the object. The underlying assumption for the validity of such transformation may be Marxism, a rational knowledge about reality can possess three dimensions/components, if and only, if the reality itself has these three dimensions. He put forward the proposition that the object in reality has three dimensions and

captures these three dimensions of the object as three different levels of abstraction, which are based on specific spatial temporal characters about the object [Rao(1981)]. Thus, the philosophy, Political Economy and Socialism (Struggles for socialism) are transformed as Productive Force, property relations and superstructure (from now on, these will be referred to as (P, R and S respectively). In his simplistic model, the first level of abstraction, which stays in the realm of philosophy, is neither space specific nor time specific but only time dependent. It deals with the long term movements from one mode to another as a natural law, which indicates that philosophy, which is a component of Lenin's conception of Marxism, was transformed on to the object as Productive Force (p); and the motive force for change is located in the "....dialectical unity of productive force with property relations, with property relations enjoying the local autonomy.[Rao(1981): p-7]. The second level of abstraction is the political economy dimensions which is time dependent, space specific but not time specific, is transformed on to the object as property relations (R) where the motive force for change is located in "dialectical unity of base and superstructure, with superstructure enjoying the local autonomy". [Rao(1981): p-7). Finally, the socialism or rather the class struggles for socialism which is both space specific and time specific, is transformed as superstructure (S) and the "dialectical unity between ideas and their materialisation (action) remained the motive force for change" [Rao(1981): p-7]. Thus Rao. has transformed the diamentionality in Marxism on to the object as three abstractions

namely P,R end S. These three Abstractions are such that, they undergo changes in their own levels, which can be called intra level changes i.e. the changes in itself which indicates that the three levels are self evolutionary. As the title "Simplistic model of Social relations," itself indicates, to R.S.Rao, the objective reality exists in three subsets of social relations which are self evolutionary;

Objective Reality and Human Being

The objective/reality is not an isolated homogeneous single element but in fact it is the collection of infinite elements ; or in other words, the world can be visualised as a collective of human beings. Hence, in the present thesis, an attempt is made to transform the three dimensions of the objective reality, i.e. the collective, on to the human being, in particular. The basic underlying assumption is that a collective can have diamentionality only on the precondition that individual elements must possess the diamentionality and hence it becomes necessary for human being also to possess the diamentionality.

Human being, through subjective experiences at perception level, rationalises the knowledge in a different plane of abstraction. This rational knowledge, in the form of theories and laws, gets accepted socially and attains the status of unbiased and impersonal objective knowledge which can be verified, if necessary. This exists in libraries and text books and is available to those subjects interested in pursuing further. In this process, it develops autonomy from the subject and gives an

impression that objective knowledge already exists in the world and can be obtained on demand. This means it creates a world of theoretical fetish through which other subjects can operate. In the whole exercise, the main actor, the subject, whose interaction with the objective reality generated knowledge, was swept away to the back stage, and the knowledge it generated gets autonomy from the subject. In this fetsihised world, written text or putting black and white, becomes more authentic. It also gives authority/Power to the collective society which enforces social norms/morals to be followed by the individual. It gives an impression that the individual subjective experiences are never given due importance by the collective. This fetished world becomes all powerful and in the process the subject goes into oblivion. In order to bring back the subject to the centre stage, it becomes necessary to see through the fetish and re-discover the human being as a phenomenon which also possesses these three dimensions.

A similar formulation of three dimensional objective reality is attempted by Vijay, in proposing a political economy model in which, identification of an economic system is done through the same concepts P,R and S. Rao also analysed the phenomenon of development [Rao. 1990a] as well as History [Rao. 1990b] with the same concepts. Further, both of then, analyse the diamentionality of objective reality as a consequence of human being's interaction in three different domains. This interaction of human being in three different planes gives rise to intellectual, economic. political as well as social life processes in general and a human

being can be modelled as source/producer as well as consumer of knowledge. This differential activity of human offers an identity in this three planes.

Human Beings As A Three Dimentional Phenomenon

Suppose the object under investigation, a human being, is considered as a phenomenon which can be described as consisting of three elements P,R and S. Human in its activity with nature acquires an Intellectual identity this can be called productive force of the human being. The knowledge thus acquired by the human being is utilised in the productive process and hence the term productive force. Access to natural resources is one major factor which helps the human in developing productive force. Human being's knowledge, as one of the inputs in the production entitles it to a share in the surplus produced and also gives it an Economic identity. The proportion of surplus the human being is entitled can be *seen* as property relations, where property is modelled as a source of surplus. This share of the human in surplus is guided by the images, the collective has about the relative importance of inputs. The social images that binds the individual can be seen as superstructure which gives the human its social identity; human beings bargaining for greater share, gives it political identity.

Human being, from now on, is referred to as 'it instead of he or she to stream it gender neutrality.

Productive Force of Human Being

Human being, as a part of nature, interacts with nature, observes it and tries to understand and comprehend nature. In the initial stages, i.e. when it is ignorant of forces of nature such as rain, fire, wind, earthquakes, cyclones, etc, it worshiped them as allpowerful almighty Gods. Gradually, it could capture the regularities in nature and formulated the laws of nature and also took control of the natural forces and utilised them for the benefit of its fellow being. Nature, with all the hidden secrets of natural forces posed the greatest challenge to the human being. At times, it was in unity with nature, subordinating itself to the powerful nature, and at other times, it differentiated itself from nature and its laws. It is this struggle period during which the subject generates knowledge about nature; and in unity, human being utilises this in practice to change the nature, in the process, changes itself. Thus, the human being, in its dynamic relation of unity and struggle with nature, generates a fund of knowledge. The human being thus acquires the fund of knowledge, a greater capacity to interact with nature again. This human capacity can be defined as Productive Force of the Human being, which manifests itself as greater skills which enables it to handle higher technology. A human being working on power looms in textile mill is supposed to have a higher productive force when compared to a human working on hand looms. Similarly, a peasant labouring under rain fed cultivation is supposed to have lover productive force when compared to a cultivator labouring with canal irrigation from big dams. In the same way. a post graduate

degree holder's productive force is higher than that of a tenth class student. Productive force of a society can be gauged by the level of technology and productive force of a human being can be gauged by its capacity to handle and also improve this technology.

Property Relations of Human Being

Human being utilises the knowledge acquired in the production process and in that process generates surplus. For such generation of surplus, human being joins hands with another human being who owns/controls the natural resources such as land and water, or other requirements such as the raw materials and the capital money. The share in the surplus a human being becomes eligible depends on the valuation/ordering of this particular input as compared with other inputs by the collective at large i.e. on the social ordering of various inputs, such as capital, raw materials, natural resources such as land and water and finally labour. Labour, among the various inputs gets low ordering since labour, like energy cannot be stored in any bank in order to facilitate its utility at a later period. Hence it is in general, labour of all the resources that gets a raw deal with a minimum bargaining power. If the human being is the owner of one of the inputs, such as the land owner owns the land and a capitalist owns the capital; and since this inputs are socially valued highly, this makes the human being eligible for higher share of surplus. It acquires not only the decision Making power regarding the variety of commodities to be produced and the process in which they are produced, i.e. the content and *form* of production. This

higher ordering and hence higher share in surplus not only bestows decision making power to its owner,but also the owner imbibes incentives for innovations in production so that its share can be further increased. Property relations are the relation between the agents in the process of generation of surplus. (Vijay, 1992) This particular relation of the human, which determines its share of surplus, is the property relations of the human. This eligibility to a share in the surplus gives the human an economic identity. This share of surplus gets determined on economic as well as extra economic criteria (Rao. 1983). Human being, at times, is in unity with the other agents and production takes place under the relations of sharing the surplus or under the same property relations. At other times, she/he struggles with other agents and questions the particular ordering of surplus and production gets halted, which may result in change of relative ranking of inputs and consequently share in the production changes and production resumes.

If the human being is a bonded labour i.e. labour is its only input in production which has a lower ordering socially, not only its share is low, human neither possess decision making power nor incentives for innovation. If human being is a cultivator whose inputs include land and money which are socially valued highly, s/he is eligible for higher share which forces him/her to innovate new processes. The same reason can be attributed to low status accorded to woman whose activity is restricted to un-organised sections such as *beedi* making without any alternate 'suitable' employment, she is forced to do this work for a

pittance without any bargaining power. In case, human being is an industrial worker in an organised,she/he gets better wages since its ranking is high. The share of surplus a human being is eligible, which is socially ordered, can be altered over time by the struggles of human beings.

Superstructure of Human Being

Human being is conditioned by social customs and culture. In its activity in the above two dimensions (P & R) A human being imbibes these social customs and culture which are passed on from one generation to another. These imbibed values which impose restrictions on a human being can be refered as the Super Structure. `Super Structure'could be defined as the relation between human beings and the images that human beings have about themselves (Vijay. 1990, P.76). These images, when they attain the social sanction, take the form of an institution, define the overall general rules and regulations, a human as a member of that institution has to obey. These rules act like guidelines for the human being to pursue its activity in the other two dimensions. In this dimension also, the human some times is in unity with this social images, she/he accepts the rules imposed by the collective/society so that it could continue the activities in the other two domains. At other times, struggles with these images and in this process, its activity in the other domain get halted. In this struggle, she/he changes the images so that new rules and new social customs get generated and its activity can be resumed. The social image of a human being, which influences and guides its activity in the other two donains, can be called as a super

structure dimension of the human being. This dimension determines the Socially and Politically identity of the human being. Superstructure consists of images of a number of institutions and is the combination of politics, social and institutional culture, literature, art, language, state, ethics etc. They also keep on changing [Vijay, 1992]. Law also can be included here. Thus, a human being in its interaction with nature, obtains its intellectual identity i.e, P component; she/he, for its maintenance and food participates in production and this employment gives it an economic identity R Component; Human being, interacts with family and society, guided by the social images which determines its P & R components, gets political cum social identity i.e, S component. One can observe another interesting aspect here that its P component determines the R component and these two are bound by the S component. In such a formulation, human can be modelled as three dimensional open Matrix, of interrelated components, endowed with a potential to change, and can be modeled as h [p,r,s] where p,r, and s are the constituent elements.

Various Models On Human Being

Here, one aspect should be made very clear. it is not that nobody modelled the human being earlier. In fact, Marx modelled it as "Individuals have always preceded from themselves but of course from themselves with their given historical conditions and relations, not from the "Pure" individual in the sense of the Ideologists but in the course of development and precisely through

the fact that within the division of **labour** social **relations** inevitably take on an independent existence. " [Marx 1964. P. 87] Althusser visualised the human as'trager' or bearer of social relations, similarity can be seen here as the human can **be** identified with relay race runner, Althusser's human being is trapped in the rigid structures with no inventive for independent action. Althusser, human was trapped in **S**, which is constructed by its base. So Thompson proposes a model for human where **"Human** nature is neither originally evil nor originally good; it is in **origin, potential" [Thompson(1978): P-29].** Thus to Thompson, human being is potentially a revolutionary and becomes an active agent for a change in the society. He further visualises human, not as an independent individual which is in relation with society, i.e. in ensemble of social in society, but as a social individual who exists only as an ensemble of social relations. Thompson though followed the same (Base-Super Structure) model of Marxism but gave a revolutionary nature to human and in this the **uni-directional** (Base-Super Structure) relations become dialectical in the sense that S also can determine base. Human, in two dimensional matrix got an initiative for revolutionary action.

In the present thesis. Thompson's model of two **dimensional** human being is extended as three dimensional Matrix **with base** cleaving into P **&** R. **In** this **formulation,** the object **can be seen** as a generative matrix with three dimensions **which are mutually** dependent. In this the **Human being** exists **not independently in** relation with **society,** but exists as **a social individual in** relation with society.

In retrospect, what one can comprehend is that a phenomenon, let it be a totality of individual elements, or be it an individual human being, can be modelled as three dimensional generative (recursive) matrix. It also gives an impression that it is a simple task which requires a mental exercise of working dynamics in this formulation. But in practice, it turns out to be a complex exercise of comprehending an object that is moving. In case, one accepts the notion that the object is in motion, it means that the object at a point of time, is there as well as not there with reference to a specific space. Further, once the object gets modelled and the model is made explicit, according to E.P Thompson [1978], it gets petrified into axiom and the subject is left with the option of selection from only much evidences which are in conformity with the axioms and hence motion gets compressed and the object appears to be at rest. Some times, the problem obtains even a philosophical attire and objective reality itself appears a myth. This indicates that capturing an object in motion becomes not a simple exercise, but a complex process where the model has to always approximate the reality.

Human Being And Concept of Motion

Human being tried in its own way to solve the problems of motion. In one perspective, motion is captured naively as a change of place of the object in time. This is the simplest form of notion where an object physically moved from one place to another- in time and is called mechanical notion. That is, the object as at

configuration moved to another place in the space. Human being could slowly identify other forms of motion where the configuration of the object has not moved in space, but there is an internal rearrangement of the configuration in its social space, which can be called as motion in social space. Human being could imagine another kind of motion which is motion in mental/ brain space. In such a case, the physical space and the social space is not disturbed but changes occur in thought process. This motion in human thought, which occurs in mental space is the most complex of all motions, which still remained an enigma, an unsolved puzzle to the human being.

Mechanical motion or motion in physical space was first modeled by Newton in the form of the famous third Newton's laws of motion. In his formulation, object exists in some space, which can be identified by three mutually perpendicular axes x,y,z. He also assumed mass, length of the object, and time as absolute quantities invariant *in* time and described the motion of the object in its relation to the external force acting on the object. Motion to Newton, is observable, quantifiable and also predictable and hence repeatable, hence his laws were thought to be deterministic in nature. Kepler also contributed in proposing laws of planetary motion. But the question- what happens to the object in between the initial and final points ? Posed a problem. To capture the motion in between, he introduced infinitesimal changes in distance and time (Δx, Δt) and tried to model the motion by studying the behaviour of Δx/Δt when Δt is approaching zero, which gave rise to 'calculus'- a special branch in Mathematics. Later,

Einstein intervened and attributed motion to the reference frame itself, negated the invariant nature of the absolute quantities as well as deterministic nature in the model regarding motion. He expanded the three co-ordinate reference frame work & included time and made a four co-ordinate reference frame. He also proposed that Absolute determination of motion is not possible, only relative motion and that too only in its probability, can be predicted in an interval which gave rise to theories of Probabilities in Mathematics. Heisenberg even proposed that measuring instruments especially in the world of ultra small, cannot measure the particle motion very accurately and asserted that one can measure the position of a particle very accurately only at the expense of accuracy in its velocity measurement. However, in general, in this notion of mechanical motion which is gradual overpowering of space,the cause of motion is located in an external force/source, the knowledge makes is possible to predict the motion accurately. The probable inferences one can get in this is that the motion is unidirectional and dependent on external force and motion can be predicted accurately once the external force acting on the object and mass of it are known. These laws act as guidelines and their predictable results act like a goal an object is supposed to reach under the stipulating conditions, and the object's performance is assessed in terms of how near is the object to the goal; the failure to reach the goal is attributed to the object as its failure to perform. This also means that non existence of force results in non notion situation. *Some* subjects locate this external force in Super Natural being and *some* others

in superior natural beings. This particular motion, an application of external force, directed towards a goal, can be defined as goal centric motion or directed motion.

A public policy, a la Newton's law of motion, provides guidelines in advance so that the application of policy in the society fructifies in the form of predictable benefits, where problems of non fructification are located as problems in the object. A dam,an intervention in nature by the state, acts like an external force, acting on the society, and predictive estimates of the benefits which can accrue as a consequence of expected power generation as well as increased irrigation potential are prepared very accurately. One can locate the evaluation studies of Sovani and Rath [1960] where a similar concept of Dam as a source of multiple benefits is accepted and they laboriously estimated the various benefits that will accrue from the Hirakud Dam. In general, evaluation studies indulge in an exercise where reality is juxtaposed on predicted reality, to find how near is the reality to its predicted reality; or what percentage of people could get the benefits. Similarly if one considers the present policy slogan of `Educating a female is educating the whole family', here the role of external force is given to education of the female, which was assigned the task which results in educating all the members of the family. Some way the solution to poverty is sought in educating the poor. Here education is the external force which has to result in eradication of poverty. Another example is- if equal opportunities irrespective of caste,creed,sex are provided in constitution, it is expected to reduce the

discrimination existing in the society. In all the above examples, the motion is charcterised as unidirectional goal centric motion, caused by an external force putting it differently, if suitable external force is applied, it automatically yields the motion, a la Manna from heaven.

Human Being And Concept of Dialectics

Human being invented another tool, namely dialectics, to understand motion. Unlike the earlier linear motion which is continuous, unbroken series of gradations, without any conflict or break , Dialectical Motion is such that continuous changes are interrupted by sudden and abrupt changes; with discreteness associated with it, similar to a hopping of Kangaroo. In Dialectics the object is visualised as a resultant of two unequal forces; in interaction. When they are at unity or in harmony/equilibrium, there will be no change; and when they both are in struggle/disharmony, object undergoes change. These changes in the object alternate between unity-struggle-higher unity is conceptualised as dialectical motion, this process of development is called dialectics. As Cornforth puts it "The key to understanding development in nature and society and the leaps and breaks in continuity which characterise in real development-lies in recognition of the inner contradictions and opposite conflicting tendencies which are in operation in all process" [Cornforht(1979): P-12]. This is also called the life force. For example, blood is pumped by the heart by the process of contractions and expansions of heart muscles creating a flow of blood in veins which is not continuous but is a discrete motion.

Sunlight consists of discrete quanta of energy Packets-photons in motion.

Human being is in the know of dialectics *as* early as 5th century B.C. Heraclitus (535-175 BC), a Greek philosopher, was supposed to be one of the founders of dialectics, he considered fire as the material source of every thing, i.e. fire, when condensed produces all things and when rarefied, these things turn into fire. Heraclitus held that everything was in a state of constant change and development. He surmised about the contradictory character about development- that the struggle of opposites and also the passage of one opposite to another. His concept of nature is that it is dynamic, developing and living.

Hegel, German idealist philosopher (1770-1831) developed the ideas of Greek philosophers and proposed dialectics as method of understanding reality. According to Hegel, the whole process in the material world, in space and time, is nothing but realisation of the `Absolute Idea', one side space and time. The idea develops through a series of contradictions, and it is this ideal development which manifests itself in the material process. It is this 'Absolute idea, which is universal that creates everything. and as it develops, achieves self knowledge, Hegel formulated the most fundamental laws- the three laws of dialectics, which are as powerful as the three laws of motion proposed by Newton. Thus, Hegel, in a way proposed the dialectics of Bind where reality reflect the mind. After Hegel, it was Engels and Marx who advanced the dialectics further. They both transported the dialectics on to

the objective reality be it nature or Society. With a basic premise that a human mind can be dialectical only on the condition that the objective reality should itself be dialectical this reality is reflected in mind. Engels contradicted Hegel when he opines "In reality, it is reverse : the dialectics of mind is only the reflection of the form of motion of the real world, both of Nature and History" [Engels(1954): P-42] Marx also expressed a similar opinion when he says, "The ideal is nothing else that the material world reflected by human mind, translated into forms of thought" [Marx(1965): P-19] . The same idea is expressed by Maurice Cornforth when he becomes critical of Hegel and said, "Instead of concepts of things being regarded as a reflection of those things in our minds, the things were themselves regarded as nothing but the realisation of their concepts"[Cornforth(1954): p-47]. Later, Mao applied this tool of dialectics in practice very effectively and his 'On Practice' and 'On Contradictions' are a testimony to the fact that the notion 'Contradictions' became very popular. Rao located the fundamental cause of development of thing is not external but only internal. It lies in the contradiction within the thing as per Mao'sdialectics, in the proper sense is the study of contradiction in the very essence of the object and "contradictoriness within a thing is fundamental cause of its development, while its interrelations and interactions with other things are secondary causes" [Mao(1977): P-313].

In a nut shell, a phenomenon is visualised, not as a homogeneous whole, but as constituting two unequal, contradictory, mutually exclusive opposite sides, which act like two opposing

forces; the co-existence of such opposites is termed as contradiction. They both are at times in unity and some times they struggle. Unity, a period of status quo, where the specific relations between the two are maintained, can be seen as harmony or equilibrium phase. In struggle, the relations get strained and the phenomenon sends indications of unrest and disequilibrium and these indications are termed as signals, they express the struggle in the phenomenon, and it is attempting to undergo changes. If **the** struggle succeeds, it means higher unity between the two opposing forces is achieved, and a new set of relationship gets formed- If the struggle is unsuccessful, same relations continue. Dialectics, is the science of motion, in space as well as time. This tool permits both unity as well *as* struggle of opposites and hence dialectics means unity-struggle-higher unity or **equilibrium** -disequilibrium- higher- equilibrium. Dialect's acts like a gestalt switch or a quantum jump and has discreteness associated with it.

Objective Reality And Positing Of The Individual Human

As defined earlier, human being as a subject, a space-tine specific individual `hi' differentiates itself from the reality. locates itself externally and in its struggle in the various components acquire knowledge about reality, then in its unity with reality gets integrated into the reality and becomes a part of the changes produced in the role of an object. Due to this dual role of `hi', as a subject who produces and hence becomes **the** cause of **change** and as an object experiences the effects of the **change. In this**

process, motion of the reality not only gets internalised, but also acquires an autonomous character. In addition, the subject `hi'- a space-time specific human individual gets transformed into `H_9', a general human independent of space-time frame, but the object `h.' retains the space-time specificity. The metaphorical representation of the above scenario can be as follows. Reality, with its external *cum* internal motion, is a fluid flux of three sets of relations, natural as well as social which mutually react with each other and this mutual reaction results in motion. Into such a reality, human individual enters into the flow, not on its own intentions, but in a process of evolution, then indulges in various activities in the above three levels and bring in changes, if possible. In course of time, the activity in the three dimensions because of natural causes such as death of the individual or due to social causes such as various new restrictions imposed by the society, it means that human individual no longer belongs to the flow of reality, emerges out of it, and acquires a status of H_9. In this type of modelling, these three dimensions P. R and S become the tools of analysis which can be used effectively for understanding any phenomenon, move specifically,human as a subject as well as an object. For example, the reality specific to social sciences research, which consists of number of individuals, then the reality can be represented as

$$Q_{P,R,S} = \sum_{P}\sum_{R}\sum_{S} h_i (P, R, S) \qquad i = 1 \ldots\ldots n$$

Where Q is the generative Matrix of the objective reality with three constituent components P, R and S, `h • is the evolving

matrix of the individual with three constituent components p, r and s; N is the number of individuals in the society; which was pictorically presented in fig 5.1

Objective Reality And Motion

Since the objective reality is modelled as a generative Matrix Q, which has internal motion then the motion of Q can be represented as

$$[\ Q.Q\ ] = \begin{bmatrix} P.P \\ R.R \\ S.S \end{bmatrix}$$

where mathematical dot product (. . .),used in the above matrix, indicates the internal motion of Q due to intra level contradictions, or in other words, the contradiction space is located within itself. The other mathematical notion - cross product (. x .) is used to indicate inter level contradiction where contradiction across two levels and hence the space not within the two levels, but external to them. Since Q is the three dimensional object, the totality of motion, can be captured as **a** result of a number of partial motions which are a consequence of various contradictions in the three levels. Another important fact to be remembered here is that various combinations of partial motions can produce the same totality such as the various combinations - 0+2, 1+1, 2+0 - all produce the sane totality 2, Hence, one can imagine the existence of various **alternate possible** sequencing of partial motions can also produce **the *same* totality** in motion of the objective reality. Each sequence where **number of** partial motions are serially arranged gives rise to **a specific**

possibility obtaining a totality of motion of Q. The various partial motions can be illustrated as follows.

The partial motions can be due to the intra level contradictions such as

(P . P); (R . R); (S . S).

Partial motions due to inter level contradictions such as

(P x R); (P x S); (R x S) (S x P).

The various sequences in which these partial motion can be serialised to produce the same effect in the totality of motion in the object, and each sequence gives rise to specific path of notion of the object. The various alternatives can be illustrated as follows. Here only broad distinct sequencing is taken into account, and existence of other possibilities are not ruled out.

1. Suppose, P component, among the three assumes the lead role, in the sense that it has its own autonomous motion and this notion initiates motion in other levels also. In means that the contradiction P . P takes the lead role, the resolution of this intra level contradiction creates a contradiction in another level which in turn creates a further contradiction resulting in notion. This particular sequencing in which P . P takes the lead followed by other can be seen as classical model of notion or in popular parlance classical model of development. One should also remember here that a totality of notion in the objective reality is the result of series of partial notions in the three levels, or shortly, object is in notion due to the notion in the object or in

other words, motion in the object leads to motion of the object. An example of this sequencing in common experience is that education is considered as a panacea for all problems and hence providing education to all people automatically solves all the other problems in society. Academically, Development of capitalism in Britain can be seen in this sequence where P had a lead role.

2. Due to unavoidable reasons, at a particular space-time frame, the motion in P is obstructed by the contradiction in R, hence in that specific conditions R accepts the lead role and R . R tops the sequence which is followed by others. Providing employment to the people, *in* the common experience, is accepted as a panacea for all other problems and in case assured employment is provided to all people, other problems get resolved automatically. Japan's development can be located here where the changes in the existing property relations resulted in the development of Japan, i.e., R . R accepted a lead role.

3. In the third alternative, both the partial motions in P as well as R get stuck by the existing institutions in the super structure at a particular space-time frame. In such a situation, S has to take the lead role and the resolution of the contradiction S . S facilitates the release of P and R and the notion resumes, in this type of sequencing s . S heads the sequence. Teaching values such as national integration, moral behaviour, etc will solve all the ills of the society is an example of this case. May be, one can locate the Chinese Cultural revolution in this particular sequencing.

These three alternative possibilities are captured by Rao[1981] as a historical necessary in the evolution of capitalism which can be understood as three phases of capitalism, and hence capitalism get periodised during which the character of capital undergoes radical changes. In such a case, the alternative described above, in fact, becomes the third phase of capitalism where imperialism has to take the help of the feudalism in the host country which results in various kinds of inversions, i.e., results which are converse to those expected from the classical model. This peculiar behavior of imperialism towards feudalism is captured by Vijay[1992] in an "Alliance model" where two contradictory sub-societies co-exist, without one transforming into another, but in such an alliance both parties get interlocked and the motion get stuck creating an impasse. The over all changes of employment in the world can be seen in this framework of periodised capital and in the third phase, women's role as mother got glorified and they were drawn inside the house, thus reducing the employment of women in the public sphere.

In such a framework, since motion of the objective reality at a specific space-time is the consequence of partial motions in its three components, the long term motion of Q can be seen through the long term motion in the three constituent components, which was presented in fig 5.2.

Objective Laws Of Motion In Relation To Human Being

Human being observed and understood different kinds of

motion in nature over a long period in a series of steps in which understanding of simplest form of motions lead to problems in a higher form of motion and the knowledge generated in each step was codified as a particular branch of science. It all started with simplest form of mechanical motion, i.e. motion in the physical space, such as, movement of Sun, Moon and stars and the knowledge is codified as Astronomy, which lead to questions in the motion of terrestrial bodies such as falling bodies and rolling stones and the knowledge was codified as mechanics. This, in turn, lead to the motion in molecules and atoms and knowledge, thus acquired created the branches of chemistry and physics. The knowledge about motion in live processes and their life cycles resulted in biology and the quest for understanding complex motion continues. Long term motion in the productive force component of objective reality can be imagined as a motion from paleolithic, neolithic ages to Iron, Bronze and finally to Nuclear age. This also means that the human being who depended on the stones available in nature for killing the animals popularly christened as 'uncivilised early man' (Adi Manav) is now in a position not only to release the energy trapped in the nucleus of the atom but also in a position to control it. Early man , who was taking shelter on tree tops to protect itself from nature's fury is now in a position to construct pre-fabricated houses which can be assembled at any place in a short span of time. Regards clothing, she/he who was using leaves and bark of trees to cover the body, can now produce synthetic fibre in the laboratory. Human being who produced fire by friction between two stones now has the capacity to produce gas

and electric stoves on which she/he has control. Human being transformed itself from fruit gathering stage to a stage where cooked and canned food is produced and made readily available. All these changes can be seen as a result of long term motion in the productive force component of the reality. A number of scientists tried to formulate methods by which a subject can acquire knowledge about nature. For example, Engels started with a basic assumption that nature is internally changing and he detailed the process in which human proceeds from the simplest form of motion to reach the complex form of motion; in the process generated various sciences. While explaining the hierarchy in motion and its relation to the space in which motion results, Engels says, "All notion is bound up with some change of place, whether it be change of place of heavenly bodies, terrestrial masses, molecules, atoms or either particles. The higher the form of motion, the smaller this change of place" [Engels(1954); p-70].Kuhn is another scientist who gave primacy, not to the motion of the object, but to the human process in which a subject can understand the nature with the help of paradigm changes, which was detailed earlier.

Human being, over a long period of time, has moved from one set of property relations to another set, out of necessity. These relations remain in two domains in general, one *in* production sphere and the other in reproduction sphere. She/he, in the early stages, survived by the act of gathering fruits available in nature and gradually developed into such a stage in which natural resources such as land, water and forests "belong" to a community and the individual obtains a right to use a particular natural

resource. The social sanction of this 'right' to use a particular natural resource to a particular individual gets articulated thorough *'Jani ',* their priest cum head man of the community. In this stage, property gets expressed through only the "right to use" a particular natural resource. This form of property since it was prevalent in tribal societies, was called tribal property where surplus gets distributed among the individual and the community. In such societies, a female with her various activities, both inside (private) as well as outside (public) the house, occupies the centre stage in the economy. It is not that patriarchy is not effective here, but it is very weak, and operates through the community and the related traditions, customs and norms, which provide space for various activities of the women.

In the next phase, human being visualised property only in terms of ownership of a particular natural resource, for example, owning a piece of land, and if this is highly valued socially, then society gets differentiated as owners - who now own land, called landlords and non-owners who does not own any land. The labourer, though owns labour power, this is not recognised as a property since socially it has a low priority as an input in production. In the reproduction sphere, since it is generally the male who obtains the ownership of natural resources due to a particular division of labour, patriarchy gets strengthened and female gets restricted to the family with practically insignificant role in production sphere- In such circumstances, family gets glorified as a coherent unit of harmony with

differential labour among its members.

This phase gets transformed into another where ownership of not only natural resources but that of instruments of production also takes place? and the owners now socially obtain a name 'Capitalist', and the above inputs are its capital. Now society gets differentiated into owners and non-owners of capital or in other words, a capitalist and a worker, with again the input - labour power getting low priority in society. The relations in the family also get adjusted according to the dictates of the changes in capitalism, which are described earlier as three periods in capitalism. The last phase of capitalism is such that patriarchy becomes a visibly oppressive force with violent consequences such as bride burning to which the female, individually and also collectively, is also reacting violently.

Thus the long term movements in property relations can be seen as a motion from a tribal society in which property is seen only in terms of its use by an individual, to a traditional society where property is visualised in terms of ownership of natural resources and further to a modern society where ownership of other resources such as capital and even owning shares is accepted as property. Reproduction relations in the family also undergo changes accordingly resulting in changes in the fora of the family.

May be, one can locate economics as a science where these changes in production sphere are studied, where production.

distribution, saving and investment get determined in such a way that growth in the society is possible.

An alternate but similar form of change in the form of property is proposed by Marx and Engels[1976], in which property is differentiated as tribal, ancient and feudal. In their conception, each division of labour gave rise to a particular form of property. The first form of property is identified as tribal property, which corresponds to a stage of production where people lived by hunting and fishing and the division of labour is elementary. The second form is identified as Ancient, communal and state property, in which, immovable communal private property of the active citizens got created with developed division of labour. Feudal or estate property is another in which hierarchical structures of land ownership got developed.

Human being created various institutions in which rules, regulations and even restrictions on the activity of the individuals so that particular relations in the rest of the two domains continue unhindered. Another set of institutions also developed to aid the resolution of any conflicts that get generated in the production relations. For example, courts and law have a role in this process. These institutions, i.e., the rules and regulations, are handed to individuals as traditions and values and form images in the human being. When they come in contradiction with the human activity, they become hurdles and no longer serve the purpose for which they were created, thus they undergo changes. Human being, accepts the form in which it exists.

but changes the content in the institutions. Following are some of the long term changes in the institutions a human being brought over a period of time.

In the institution of court & law, in the initial phase, human being created community courts, where collective participation of not only the conflicting parties but also the rest of the community was envisaged, in the process of resolution of the conflict and providing instant justice then and there itself, which the conflicting parties had to abide by. In this situation, the acts of rules-formation, judgment and also execution are all rolled into one. In the present day, all these functions got separated into parliament, judiciary and executive, both the concerned parties have to approach the courts as separate individuals and the conflict takes long years of time for resolution. This delay in getting justice is presently giving rise to some sort of a new institution - out of court settlements become beneficial to both the individuals involved in the conflict. Mercenary or Supari killing can be seen as a result of delay in justice. This even gave rise to a strong belief that conflict resolution, if left to the individuals themselves, without the intervention of a third party, can take place so as to be beneficial to both the parties.

Long term motion a human brought in the field of literature can be seen in its movement, in the form as well as content, from bulky novels in which complex motion of society in its totality is attempted, to single column stories/poems in which a simple

concept gets the focus. The language changed from Sanskrit- supposed to be a language of Gods to region-specific language of the common people. Mode of communication changed from oral to written to coded language in the computer. The institution of family has undergone changes from matriarchal, female-centered family, to a patriarchal, male-centric family and presently human being is attempting many new changes such as single member family, and even (female-female | family. Institutions for entertainment changed from night long 'pala' which facilitated community viewing to serials and cinema on television which facilitates close door viewing by an individual.

May be one can identify the domain of New Institutional Economics in this dimension, which captures the process by which a human being changes the institutions. For a given set of property relations, the knowledge of human being about the best form of governance and the struggles that human being undertook to reach this, may be the subject matter of Political Science.

Objective Reality And Characterisation Of Hunan Being

Homogeneous Human Being As A collective

The objective reality Q, is modelled in a state of fluid flux, that is, generative in itself, of three independent but mutually interacting subsets of social relations and the patterns generated by the objective reality are called the objective laws of reality. It can be, at any particular point of time 't*. identified by the three constituent elements P, R and 8 which provide a general content C_G of the reality. Into this reality.

'h_i' the human individuals enters at a particular point of time. Suppose the objective reality such as a society consists of n number of individuals, then the relation between the collective (objective reality) and the individual can be represented as

$$Q = \sum_{\substack{n \\ n=(1,..n)}} h_i \qquad \text{and also } h_i = \frac{Q}{n}$$

The above relations hold good only on the condition that all the n individuals are homogeneous individuals which also means that the individuals h_i, are free individuals in the sense that they have free access to all sorts of resources - natural resources such as land and water, other resources such as already existing knowledge, without any restrictions based on gender, class, caste, ideology etc. In such a case, the objective laws of the collective become the sequence for motion also for the subjective individual; the sequence put forward by the collective also becomes the sequence of motion also for the subjective individual; 'h_i', The individual in such a situation is similar to a compartment attached to a train; the motion of the train and the motion of the compartment become identical; and h_i. becomes a passive receptor of the objective laws of motion of the collective and h_i. resides without any contradiction in the collective Collective dictates and the individual follows, which Beans people 'h_i' struggling against collective *Q* is only Metaphorical. Since the restrictions are imposed socially, 'h_i' struggles against another individual who is in unity with the collective decisions.

wake history as desired by the collective. The meaning of such a harmony, in philosophical terms, described in various ways is that there is no contradiction between the 'prescriptive' of the collective and the 'descriptive' of the individual, social norms and the subjective experiences, Macro and Micro, or Model and Reality. Myrdal's formulation of motion of society through beliefs and valuations may be located here. This type of modeling has the following inferences for research methodology.

1. Any policy intervention attempted at the Q level to bring in changes in the objective laws is expected to bring in effects which are equally distributed over all 'h_i' without any differentiation. The state policy of 'Big dams usher in overall development' is an example of this where collective occupies the centre stage. Any ill effects in the expected results are taken as a necessary consequential side effects can only be minimised but cannot be removed.

2. Understanding the individual 'h_i' becomes a simple act once the collective effect is known.

3. Since there cannot be any differentiation among the subjects, there is a possibility that the description of the object by the various subjects is not only unbiased, but also unique at a particular time.

Heterogeneous Human Being As A collective

Suppose the 'h_i' is heterogeneous, that is the objective

reality is an ensemble of n heterogeneous human individuals, heterogeneity expressed through differential access to various resources which in turn imposes restrictions for the human activity in its three dimensions. Such a restricted individual is, like an insect, trapped in a social cocoon which wraps around $'h_i'$ **' various layers of restrictions. This provide particular context c for the individual, and the restrictions are the potential barriers which** $'h_i'$ **tries to cross with its activity in the three dimensions. For example, if** $'h_i'$ **is a dalit women in a backward society working as an agricultural labourer, she faces the highest potential barrier in the form of gender, caste, class etc, which the collective imposes on the individual. The natural instinct of** $'h_i'$ **makes it struggle against the various socially imposed restrictions by which it acquires its own agency. Hence, one can locate the basic human right in its right to struggle. Neera Chandoke [1994} describes such a human being as creative human and says, " The refusal to grant individuals agency is refusal to grant them person hood." She also opines that with the help these struggles in various spheres a person achieves dignity and self respect, self articulation and self realisation. Thompson describes the human being as basically revolutionary. A creative human being assumes a dual role both as a subject as well as an object. Human being, as a subject, located in a specific context** C_s**, is in unity with the reality and tries to assess the strength of its own against the strength of reality. It is this period of unity which gives an impression that human being is trapped in a social cocoon and the history is made not as a human wishes to do.**

but according to the dictates of the collective. Human being in its struggle attempts to change the reality around and in the process becomes an object of change. Thus human in its struggle acquires its own agency. This dual role of 'h ' creates problems in research methodology.

1. In case of heterogeneous individuals, the ordinary summation

$Q = \sum_{n} h$ does not hold good. Hence any policy intervention at Q which is introduced to bring in changes in the objective laws, need not necessarily bring in same results to all 'h.' , as expected. This results in the problem of differences between the prescriptive and descriptive aspects. To bring in desirable changes in 'h ', the knowledge of C the particular context in which the individual is located becomes essential. The same idea was expressed by Richard Higgot[1983] in terms of "Methodological insensitivity of much of the third world policy literature, to date, concerning the transference of western/industrialised forms of analysis to the non-industrial context and he advised that any policy differences and policy making in the third world have to be examined in the context of their dependence *on* exogenous factors. The policy-infrastructure development is the prime requisite for a backward region to develop- is an example. In practice, the benefits due to infrastructure go to the power centres of the region and not to the backward people.

2. Heterogeneity in 'h ' introduces complications in understanding h.. The heterogeneity may lead to heterogeneity

between the subject and object, and also among the different subjects and this results in a number of alternate descriptions for the object.

Olga [1993] posed the problem of research very clearly in her novel 'Gulabilu', in which a group of investigators from a university undertook a survey to assess the nutrition levels of people in a village. These researchers, with their academic interest approached the villagers with a questionnaire, the villagers imagined the team variously as election agents who came for election campaigning, agents of court who came to serve the final judgment regarding their long pending land problems, government agents who came to enquire about the adult literacy programme. When they came to know that they are only a survey team, they are reluctant to answer, since the team can neither provide food nor medicine. Goode and Hatt [1952] categorised the various difficulties in understanding a human individual as follows.

1. Human behaviour changes too much from one period to next to permit scientific, exact predictions.

2. Human behaviour is too elusive, subtle and complex to yield to the rigid catagorization and artificial instruments of Science.

3. Human behaviour can be studied only by other human observers, and these always detest fundamentally the facts being observed, so that these can be no objective procedures for

achieving the truth.

4. Human beings are the subject of such predictions and have the ability deliberately to upset any predictions he make.

Leela Gulati [1994] feels that a researcher has to understand their world and identify with their problems. She says, "Unless one learns to think and feel like the people one is studying, one cannot gain understanding and insight into their lives" [Gulati(1994): p-5]. She proposes case studies as one method through which one can ascertain truth and also a long period of observation and intense pre-occupation' with their lives. Dasgupta [1989], while attempting to understand the character of human action, proposes concepts such as intentional matrix, meaning the agents conception of values and his means that might be adopted; Rule matrix which explains the relation between rule following and making the behavior of the agent intelligible. He proposes that understanding of intentional matrix as primary requirement of understanding human action which he describes as empathetic or projective account of understanding human action. There are other group of researchers such as Kate Carter as well as researcher of semiology also tried to model human in its dual role both as a subject as well as object as described in the chapter-subject in motion.

Heterogeneous As Well As Dimensional Human Being In Collective

Suppose 'h_i' is heterogeneous as well as dimensional, that is, the objective reality is modeled as a fluid flux of

interacting social relations into which 'h_i' characterised as heterogeneous with respect to differential access which can be identified as C and dimensional with respect to its interaction with reality which can be identified by c , enters at a particular point of time t. Such a heterogeneous dimensional 'h_i' faces number of contradictions and in its interactions with the social relations solves the contradictions. Since the three dimensions of social reality are interrelated, the resolution of one contradiction at one level leads to contradictions at other levels, similar to a chain reaction. 'h_i', in its relation with family and society, is controlled by images it acquires from the collective which are generated over a long period and this interaction offers the S component to 'h_i'. Its activities, for survival and food, in the production sphere offers S component, its activities in the natural processes offer the P component. This interacting 'h_i' now gets identified,not by C_g, but by C , the specific context of the individual. In this interaction, 'h_i' attempts to change the social relations in the objective reality, which make the domain in which it interacts important. In this formulation 'h_i' at a particular point of time faces a series of contradictions in the three different domains, which are socially created contradictions and 'h_i' chooses one contradiction at a time for resolution .

The individual 'h_i', in the role of a subject, observes. understand and assess the reality in two steps perception and abstraction (as elaborated in the chapter-subject in Motion) models the reality and chooses such a contradiction it feels a

great necessity. It struggles against the social relations and in case it succeeds, the social relations get changed and in case of failure, the same relation may even get strengthened. The individual 'h_i' experiences this changes in the role of *an* object. Another interesting aspect of dimensionally of the individual's struggle is as follows. Since activity of 'h_i'is three dimensional, the path of its development is not linear but a three pronged path with such a speciality that if opens struggles in one path and become active agent, the remaining two paths close down, meaning that when 'h_i' is struggling in one dimensions, it is at unity in the other two, making 'h_i' a passive agent accepting the status quo *in* the set of social relations. Since the natural character attributed to 'h_i' is struggle, it can never be a passive agent accepting the status que of social relations, but becomes active at least in one dimension. There may be an exception to this and 'h_i' becomes active in all three dimensions during the periods of crisis and revolution, as presented in fig 5.3. The individual can solve some contradictions by itself, and some other contradictions only in a collective, by joining with the rest of individuals who faces the similar contradictions and some times this collective acts like a pressure group which demands a particular contradiction to be resolved in a particular way. This means that the individual, by proposing a new sequence of motion has rejected the sequence put forward by the collective. The individual may look into the past for the already existing solutions, if any, or search for an alternative solution in the society and in nature.

Each individual, in its activity, is related to another individual, and the resultant of their struggles generate history, Engels visualised this as, "History is made in such a way that the final result always arises from conflicts between many individual wills, of which each in turn has been made what it is by a host of particular conditions in life. Thus there are innumerable intersecting forces, and infinite series of parallelograms of forces which give rise to one resultant the historical event." which was represented in fig 5.4

This means, though it is individuals who make history, they do not make it under the circumstances they choose, but under the circumstances which are given and transmitted it from the past.

1. The policies, instead of attempting policy changes from the general context, if formulated with reference to the specific context C_s, will become beneficial and have a higher probability for success. If the changes proposed by the policy and the needs of the specific context are in consonance with each other, the policy may succeed [See Chapter 7 Illustration II].

2. Since character of the human nature is always struggle, in one or other dimension, the researchers entry point for any survey, if it is to be through this struggles one can get reliable data, Rao says, "Struggle generate new data and re-evaluate old data. This is because struggle presents an opposition aspect of the contradictions present in the society. While contradictions

are present in all societies, it is only at the point of struggles the opposite aspect of the contradiction comes to the fore and subsumes the unity aspect and the struggle points towards resolving the contradictions by the oppressed side's world view that generates new data and new evaluation of the existing data" [Rao(1988); P-XVI].

3. The researchers' conception of 'h_i' should not be limited to that of an object under study, but it should be conceptualised also as a subject, who in fact models the objective reality around it, to choose the contradiction for struggle and in the process the researcher, who becomes a part of reality for 'h_i', also gets modelled. This means that the researcher should view h_i not as a passive object under study , but as active subject, in motion; in an objective reality which is itself in motion.

Summary

It was observed that the object is in motion because of the internal disequilibrium by which motion gets endoginised, the credit goes to Marxian methodology which recognised this aspect. It was traced back to Lenin who introduced dimensionally and he attempted that transformation where the dimensionality existing in the social reality was attributed to Marxism and proposed three sources to Marxism which formed the three components or the three sources of the object. The next transformation can be observed in R.S.Rao where the three dimensions of Marxism was transported back to reality and in this case, the objective reality can be visualised as three dimensions which are classified as productive

force (P) , property relations (R) and the super structure (S) and there components are in dialectical relation within itself as well as between themselves, which makes is possible to model the objective reality (P a? a three dimensional fluid flux, generative in itself. The object in the realm of social sciences, becomes the society in which the objective is a collective of individual human beings. it was proposed that human being hi also can be modelled with the help of three components, namely, intellect, economic and social activities, which again are in dialectical interaction with each other, each defining the other and in turn gets determined by the activity in the other dimension. It is this interaction of the human being in the three dimensions that produce the knowledge, but the subject to was forced to the backstage in the process where the subjective knowledge gets social sanction and attains the character of objective knowledge which relates an impression or rather creates a Fetish that knowledge exists independently and can be obtained when desired, hence, it becomes essential to see through the fetish to rediscover the human being as a phenomenon endorsed with creativity of its own. Later, the concept 'motion' was examined and it was shown that human being's understanding of various motions in the Nature as well as society gave raise to various branches of science. Human being developed another tool named dialectics which deals with the science of motion. Here, the object is imagined as consisting of two unequal contradictory forces which are mutually exclusive but they co-exist, and the unity between them leads to no motion situation and the struggle

between them results in motion in the object. Further, the objective reality which is a collective in to which an individual gets posited at a specific space time context, there is a dialectical relation between the collective and the individual and their struggle period gets characterised as a contradiction between objective laws of motion and the subjective experience. Three alternate possibilities of the motion of the collective, or the objective laws, are explained where any of one of the three components can take the lead. One the relation between the collective is established, this relations was studied under different characteristation of the human being. First, it was proposed that a collective consists of homogeneous individuals without any contradiction between the prescriptive and descriptive aspects and the inference which can be drawn with this assumption to public policy is that a policy intervention brings in effects which are equally distributed over all human beings and it is possible to have a unique and unbiased description of the object concerned. The other alternatives can be the reality is a collective of heterogeneous passive human beings or heterogeneous active human beings, in which case policy interventions at the collective level produces differential effects. The latter case, which considers a heterogeneous active human being, brings to the forefront some fascinating observations. In this alternative. interestingly the human being acquires a dual role, as a subject it differentiates itself from the collective and evaluate the collective in two steps namely perceptions and. abstractions as detailed in 'subject in motion (Chapter 4). Hunan being Models

the collective and chooses the field of its activity and in this struggle,it evaluates the reality. Then it merges with the collective, that is, it is in unity with the collective and undergoes changes and thus acquire the role of an object. In a way, the human being has a dual role, namely an active subject as well as a passive object. this dual character creates the major problem, especially in social science research, where a researcher tries to model another human being as a passive object during the survey but in the process the researcher gets modelled by the human being in its role as an active subject.

In this context, where one can capture the subject as well as object in a dynamic model which assumes that both possess motion due to its inherent character, which means that the motion gets endogenous in the model itself. Them questions such as can be categorise methodologies based on this concept of motion ? What are the implications of this endogenous motion - either of the subject or of the object - in various methodologies become important.

CHAPTER VI

EPILOGUE

Summing up:

The thesis started with an introduction raising some problems a researcher faces in the methodology. The problems *are* related to the choice of the object; the problems associated with the subject and subjectivity and finally the problems relating to the object and objectivity. In the process of elaborating on the problem and conceptualising on the methodologies, one can suggest that the major source of difficulties come when both the subject and the object are in motion.

In fact, as a meta-theoretic approach, methodology can be defined as the relation between the subject and the object; with specific relations giving rise to specific methodologies. In practice, one can divide methodologies broadly as a goal centric methodology in which either only a subject is in motion, with a given object; or the object is in motion with a given subject; and a motion centric methodology in which both the subject as well as object are in motion, as illustratedd by the figure 6.1.. Methodologies of Popper and Medavar can be an illustration where the subject is in motion, but the object is removed from the framework of analysis. Popper proposes the study of subject in motion through conjectures and refutation, Medavar proposes imaginative conjectures and critical evaluation as two episodes and their rapid reciprocation by which forward action in science is possible. This methodology gives raise to a method named falsification for purposes of advancement of science, or in other words helps the subject in motion. Kuhn and Myrdal belong to

another category who believe that the object is in motion where the subject 1B given. Kuhn proposes scientific revolutions through Paradigm changes interspersed normal science period, which generates falsification cum verification as the method whereas Myrdal working in the domain of society, proposed changes in beliefs and valuations as the base for change and gives a major role for informal organisations, specially the STATE, for correcting the false beliefs. This goal centric methodology develops much tools of analysis that are tailored for study of a stationary object; and in case the object is in motion, they do not match with each other. Even if they match, they match in a localised situation for a short period of time and this demands a paradigm shift, a popular Kuhnian concept. In this circumstances, a researcher, using this methodology, can capture a snap-shot picture of the object at two points of time and has to take recourse to comparative statistical methods to compare and assess the changes in the object. In addition, the motion of the object is visualised as such that it requires an external force, either a superior human being an elite/genius who has a greater capacity to initiate motion, or a super natural being, like God, to direct the motion towards a pre-determined goal. Theory belongs to this category and the popular mythological story 'Gajendra Moksham', where a mighty elephant surrenders to the almighty Vishnu to release it from the clutches of a mere Crocodile, is symbolic of such a methodology. In this system, equilibrium notion plays a dominant role for the researcher- Any deviant to the expected motion is not only discouraged, it is even mopped aside, and the

focus of such a methodology will be on how far or near it the object to the goal; and a pre-determined goal gets the primacy. These limitations demanded a search for a new methodology which can equip itself with such tools that can handle successfully the study of a dynamic society.

The need for such a methodology was first felt by E.P.Thompson and he tried to put forward in clear terms a methodology which can make motion an integral part of the formulation itself. In the process, of such a formulation, he considers the concept of class, not as a physical entity, but as a result of a historical process of evolution, and in the sense, it is a fluid process in which it becomes its own agency, being responsible for its creation as well as its evolution. In his formulation, "working class did not rise like the Sun at an appointed time..... It was present at its own making[1]*. He felt the need to systematise the marxian concepts which incorporate motion of the object in its formulation into a well defined methodology, though this is a contradiction in terms, this becomes inevitable for the sake of understanding the object in motion, at least to the first approximation. Another social scientist R.S.Rao also attempted to understand the concept 'object in motion', not as a methodological exercise, but as a a part of an inquiry examine various aspects of reality from the subjective perceptions and in the process, introduced dimensionality to the objective reality. This subject-object relation is such that the motion in the object initiates motion in the subject, resulting in

both the subject as well AS object to be in motion 1B christened as motion centric methodology, by R.S.Rao. In this methodology, since motion is endogenised, to duly deviants to the expected predictions, they being the signals of change, becomes important. That is, the primacy is given to 'what is becoming' instead of 'what it is'. The source for the subject to be in motion can be located in the expanding brain, expanding in the sense that it acquires capacity to resolve higher and more complex problems, and hence the motion in the subject becomes a natural character of the subject. Each subject, since its perceptions are in variance with the perceptions of other subjects, becomes unique, leading to the inter-subjective variability in describing the object, resulting in multiple descriptions of the object; making inter-subjective variability as the source for multiple descriptions. Coming to the other component of methodology, that is, the object, this object is also in motion due to the internal disequilibrium between opposing forces which is also a natural inherent character of the object. Whether the subject wants it or not, the object is in motion and the laws of motion of the object are independent of the capturing capacity of this subject. Here, the subject has a role either to accelerate or decelerate the motion of the object. Imbalances or disequilibrium notion becomes a useful tool here and the process of identifying the forces of equilibrium leads to the context of the object. Hence the knowledge of the context coupled with the history of the context becomes a prime requisite for a researcher. This subject-object relation; in the perception of the subject, gives rise in this subject a world view about the

object which can be broadly seen as philosophy. With all these variations, the sources for multiple descriptions can be located in :

1. Both the subject as well as object are in motion.
2. Only the subject is in motion; or the object is in motion.
3. Subject do not realise that the object is in motion.
1. Subject faces difficulties, or rather badly equipped to capture the object in its totality.

Implications of the above notion of the motion can be as follows. If the subject remains in motion while the object is static or given, the tools of research evolve over integrating or summing over different subjects and obtaining the best average, a elephant and the five blind men. Each individual description of the object includes an error due to its motion and the research methodology has to develop the tools to successively minimise the error. it is like measuring the weight of the body or length or the condition of the displaced persons, displaced due to the construction of dams. assuming that the body weight is a given constant, one proceeds with a simple balance, on to a chemical balance to a micro balance and even to an 'Atomic balance'. Similarly, length is measured in terms of light year, metrescale, vernier calipers, screw gauze and finally in terms of atomic distances. All the time, approximately coining closer to the 'true' weight or 'true' length of the body. Measuring instruments gain more and more precision and the subject is inproving its

Knowledge and *can* be said to be in motion. Meanwhile, each instrument given a description and the weight is taken as a true given constant. If one takes the case of a dam and its effects on the people, an object one assumes to be a constant, the subject goes on increasing the sample size, the way of selection of a sample and improving methods of inference. It also can mean widening the definition of costs and benefits and also includes the contextual references. As was presented in the chapter 'on description', the same Hirakud dam comes under different descriptions. All the while, each description assumes that the dam and the relation with the people is knowable and a given entry, only to be studied and restudied until one gets a true relation. Any deviation or a falsification to the expected results demands the theory (conjecture) to be rejected.

On the other hand, the problematic before research methodology can be that the subject is given while the object is in motion. In other words, the motion of the object does not generate a motion in the subject. This looks an absurd proposition, if the subject happens to be a human being with a capacity to think and has a brain which can construct the images of the object and verify the correctness or otherwise of the image. But this does create problems of method which normally one confronts when one goes with a theory about the object for verification. A falsification situation can mean either the tools of analysis for verification are not precise; or in other words, the observation can be wrong and needs to be changed, or the

theory may be correct for time space specification of the object and the object may be in motion. In methodology debates, Kuhn brings to focus this aspect when he discussed the paradigm changes and Myrdal brings in changes in valuations and beliefs to the theory of knowledge.

In either of these cases, the subject is in motion with a given object or the object is in motion with a given subject, the 'given' in the system is to be interpreted as the phenomenon is in a stationary state of rest, similar to an electron motion in a stationary orbit in Bohr's model of the atom. In a more popular terminology, the phenomenon is at equilibrium between the opposing forces within itself. Equilibrium, as a notion in a methodology has a central place and some times the stability of equilibrium also play a central place. Methodologies, which take equilibrium and stability as central, will have difficulty in explaining the 'motion' of the phenomenon unless some external force, like Newton, in considered exogeneous to the system. Endogenising the motion, means that the methodology should provide for inclusion of conditions within the equilibrium which will disturb the equilibrium. Rao, commenting on the notion of equilibrium, says, "Nature is not a given constant entity due to its internal dialectics. Even without the interference of man, nature changes and was/is never at a state of rest, nor, in a state of equilibrium. It is in a state of motion". [Rao (1991 a): p-1]

Equilibrium method becomes a difficult method to capture the

motion centric methodology which keeps motion as the centre of its methodology, motion of the subject as well as the object. In an admirable attempt to get at the micro foundations of Marxian analysis, Roemer faces this difficulty and acknowledges the unsurmountability of equilibrium method. Roemer says, "What is disturbing about the equilibrium method is that it pictures the typical position of the system as a position the system rarely or never enjoys". [Roemer,(1981)p.10] Thus, the first problem a researcher has to face squarely while studying object is the concept of equilibrium which can become a constraint in the enquiry.

Following closely as a part of the 'equilibrium' constraint, is the attended problem of the relation between the knowledge of the object and the object itself, or in other words, the 'model' one has of the reality and the reality. There will always be a tendency for the researcher to confuse the model, a thought construct - an abstraction - as the concrete reality. Any information that the reality throws up which does not fit into the model, the researcher is likely to give up as an observation, as an exception or a deviant, which means that the object does not possess any autonomy outside the model. This is crucial for the growth of knowledge and the greater understanding of the reality. Axiomatically, if one permits subject in motion and keeping relative autonomy to the object, then these models/images can only be close approximations to reality. According to Rao, "In any human system, the images are always much smaller quantitatively

than **the** real systems, and the growth of knowledge takes place by successive approximations to the reality. In all such circumstances, the model is some sort of a mirror reflection"' [Rao (1991 b); p.l]

If the object is given autonomy, i.e., it becomes its own agent endogenising the motion, the object struggles against the uncomfortable equilibrium situation and this struggle throws up symptoms of change, which a subject captures as signals. In this struggle of the object for change, a new data and new social relations, which are dormant until now, comes to open. This data is a new data that got generated which is absent earlier, but the data is new in the sense that the subject perceives the reality in a different perspective. As per Rao, "Struggle generates new data and re-evaluate old data". This notion of struggle, in a research methodology opens a new entry point for the subject through which it can enter the object for enquiry and capture the object not in its equilibrium situation where all the internal forces are stable and equal providing a description as it is, but in its disequilibrium situation in which the struggle becomes a pointer to change which provides a description about the object in terms of what it is becoming.

In a nut shell, the thesis started with the fact that an object like a dam, or a phenomenon like development or a human being is being described in a number of ways. An attempt is made to locate the source for the existence of such multiple

descriptions, instead of an unique description, in the subject which is in motion or an object which is in motion or both can be in motion. Those methodologies which assume that either the subject is in motion while the object is given, or the object is in motion while the subject is given are classified as goal centric methodologies. 'Given' is used in the sense that the phenomenon under consideration is in a stationary state or state of rest in which the motion repeats itself with a regularity like an electron in the Bohr's atomic model. In this goal centric methodology, the cause of motion is located in an external force like Newton and the phenomenon which is in motion can be variously imagined as a car racing towards a goal or a billiard ball directed towards the hole or a bullet fired from a gun, the source of motion is located external to the system. Alternatively those methodologies which assume that both subject as well as object are in motion because of their innate, natural character are classified as motion centric methodologies. Both are dynamic in the sense that they possess a natural chartered to change externally as well as internally. In this sense, the source of motion is located internal to the system and the motion gets endogenised and they become their own agents. Here, the subject is modelled as bipolar evolving matrix of two interacting elements namely perception set and rational set. The object is modeled as three dimensional generative matrix of three interacting, mutually dependent elements namely productive force, property relations and super-structure. In such a methodology, the necessary tools a researcher should acquire can be categorised as follows.

1. The concept of disequilibrium.

A researcher, instead of utilising equilibrium models which **examined the** object as through it is at rest and all conditions imposed in the model are simultaneously fulfilled, must locate in this equilibrium model itself the probable disequilibrium conditions through which changes in the object are possible.

2. The concept that model is smaller than reality.

A researcher should realise that a model is only an approximation to reality which makes reality much bigger than the model. In such a circumstances, any deviants or exceptions become pointers from where changes in the object may be possible. Researcher has to take into consideration any such deviants.

3. The concept of 'Entry through struggle'.

A researcher instead of entering the object at a situation when it is seemingly at rest/equilibrium, should keep the entry point of enquiry as struggle.

4. The concept that object contains dimensionality.

The researcher should not visualise the object as a homogeneous unitary entity, but as a three dimensional interacting fluid flux. In such a case, the object may struggle in *one* dimension but can be in unity in the other two dimensions. An entry through struggle in any one dimension also facilitates the enquiry in the other two.

5. The concept that object has a dual role.

A researcher, specially in case the object is another human being, should not model the object as a passive object placed on an operation table in a researcher laboratory, but as an active *object* which acquires all the characters of a subject due to which the researcher itself gets modeled by the object.

ILLUSTRATIONS

Introduction.

In the previous section, motion centric methodology was proposed and the necessary tools that may help a researcher also were elaborated. In the present section, the applicability of this methodology as a framework of analysis was illustrates with three different examples, The first illustration is to understand Gunnar Myrdal's methodology, which offers a greater role to STATE for inducing changes in the reality, with the help of motion centric methhodology. The second illustration is to understand the importance of a context in a policy analysis and also develop a method by which a policy, an intervention by STATE into the reality to bring in changes in it, can be evaluated. Lastly, motion centric methodology was used as a tool for literary criticism where a story, supposed to be areflection of society, and the cretiveness in the story and its relation with the motion of the society can be analysed through this methodology.

In motion centric methodology, the primary concepts developed in this thesis are `subject in motion' and `object in motion'. A subject of a researcher in mottion can be anaylsed through P - R -P', which means that the subjectivist perceptions P GET transformed into rational theories R in the first arm and these rational theories, on practics, gives rise to new perception P' in the second arm. This RP', the arm of practice, is such that the denial of practice will result in alienation of the subject from the knowledge as well as from the society. `Object in motion is a concept of reality or a model of reality which is a

collective of individual human beings. In social Sciences, unlike natural sciences, character of the individuals in the collective also play a dominant role. Further, methodology introduces dimensionality to the object and the object in motion which is autonomous in nature, is captured thorugh the interplay of these dimensions, giving rise to the objective laws of motion. Other important concepts introduced in the methodology are the disequiblibrium motion in an equilibrium condition, endogenous motion resulting in a reality bigger than the model and lastly the entry point to the subject is through struggle in the object. with the help of these concepts three illustrations are considered here to illustrate the method of application of this methodology for analysis.

These illustration are an integral part of the process of working the present thesis in consolidating the concepts at different time period. They are reexamined in the final stage to see the validity of the methodology which got generated in the process.

Methodology of Gunnar Myrdal:

Methodology, in relation to 3ocial Sciences, is the method by which **a** social scientist can study the society around him, the choice of the methodology is conditioned by the Philosophy he utilises. Philosophy offers the axiomatic understanding of the evolution of the society, the axioms beeing valid for all time and space, while methodology provides the basic framework to understand the evolutionary process of society, the calculus of evolution, and the method gives the tools of analysis. The choice of methodology dictates the concepts, definitions, and finally the problem and hence the solution also MOKSHA through KARMA is dictated by HINDU philosophy and DILECTICAL MATERIALISM is dictated by Marxian philosophy.

Though the fundamental assumption for all methodologies is that `the society is in motion', they differ basically in the causative process of the motion. One attributres the cause to the external stimuli while the other attributes the cause to internal stimuli, thus providing us with a dividing line for distinguishing between methodologies. The former can be termed as non-motion centric, indicating the non stimuli condition leading to non motion, while the latter can be termed as motion centric, indicating the inevitability of motion. Hindu philosophy can be grouped in the earlier category while Marxian philosophy belongs to the latter. With this background, an attempt is Bade to understand Gunnar Myrdal's methodology. Gunnar Myrdal. popular Swedish economist of 20th century says he differed with the

earlier generation of economists of Sweden and rejected their 'LAISSEZFAIRE' variety of non intervention. He says they are having spiritual roots in the late Victorian era, they come to conclusions without specific and explicit value-premises. In such a situation, he criticises the earlier methodologies in Social-Sciences for the most part, meta-physical and psuedo objective. "He in fact differed with them in what constitutes an "objective truth". He along with the economists of his generation were interventionist in mind and hence proposed, "to plan public action in order to mitigate the wide-spread unemployment during the depression after the end of the first world war." In the process, he unfolds a methodological difference by which a Social Scientist can obtain "objectivity". This was captured in his booK "objectivity in Social researcch" which is an expanded verson of the Wimmer lecture, delivered at St. Vincent College, Latrobe, Pennasylvania in 196? and first published in 1970 in London.

Gunnar Myrdal introduces the problem he wanted to tackle, namely the concept of "objectivity" in social sciences and proposes to trace heuristically the path he travelled and arrived at this particular methodology in the first two chapters. In the next 13 chapters, which forms the major part of the book, he introduces the necessary concepts and definitions such as BELIEFS and VALUATIONS and their inter relations. Here he rejects the traditional sense of the term objectivity in studying reality as an unbiased estimate, and defines objectivity in terms of explicit and open value premises. The last 8 chapters, he deals with

valuations at the highest level which are true for all epochs and all civilisations, thus landing himself at the philosophical level.

He accepts "objectivity" as the ethos of Social Sciences and the problem he poses is as follows :

1. How a student can obtain objectivity in trying to find out the facts and causal relationship between facts ? i.e., how a student can liberate himself from the influences of tradition, environment, and own personality . in assessing the reality. He visualises the reality as consisting of problems, which are as a rule, complex. As an interventionist, the role he assigns to a Social Scientist is to find a solution to this complex problems in reality. He opined that, one has to master the complex problems that exist in reality by developing the skills to the highest possible degree in order to solve the scientific problems.

He attempts to provide solutions for these problems in the next part by defining concepts like beliefs and valuations. He introduced the term "REALITY" in the beginning itself without defining what it means, Is it facts and causal relationship between facts ? He uses the term as though there is an accepted meaning for that term. In the next part, he starts his theorisation with an axiom, that people in general do want to be rational and have reasons for the ways in which they conceive of and react to the reality around them, and proceeds further by

introducing two concepts namely, beliefs and valuations, which are the two types of concepts held by people about the reality.

BELIEFS AND VALUATIONS :

Beliefs relate to intellectual and cognitive exercise of the people and they express ideas about how reality actually is or was, on the other hand, valuations are emotional and volitive and express how ideas how the reality ought to be or ought to have been. Since beliefs are associated with knowledge, it is always possible to judge the correctness of beliefs-whether true or false, if false, the extent and direction which it deviates from truth. Valuations held by individuals are not homogeneous set of valuations but are shifting and contradictory. Some are held consciously and others suppressed for long intervals and all of them work out to determine the individual behaviour. They are termed as morals at lower level of valuations. More general valuations are valid in relation to whole nation or even to all human beeings, are morally higher than those relating to particular individuals. Lower level valuations are predominant at day to day experiences, selfish, reflect valuations at a particular setting and particular time, less universally benevolent and human. At a local setting, higher valuations will be over-shadowed by valuations at lower level. The lower level valuations are called prejudices, when viewed from higher level and express themselves are discriminatory practices.

Later, he extends the exercise further and says that the

people are interested in hiding (concealing) their valuations on lower level. And, beliefs are distorted in order to rationalise their valuations at lower level. As an example, he cites the racial discrimination in America and how American people concealed their opinion about the discrimination. This psychological need for rationalisation of values operating at lower level gives rise to "stereotypes" or "popular theories". This means that people's beliefs are dependent on their need to conceal their conflicting valuations. They masquerade their valuations as beliefs, which then become distorted. But beliefs, particularly changes in beliefs, also influence valuations. If the distorted beliefs are corrected, this exerts pressure on people to change their valuations to such a degree that they can be presented as consistent opinions to others. So any major alteration in the perception of reality leads to moral catharisis regarding both beliefs and valuations. This correction of derogatory popular beliefs should gradually change prejudiced opinions regarding valuations at the lower level and their conflicts.

Since the earlier false beliefs, distorted or otherwise, served the purpose, their correction meets resistance. People refuse to accept correction or they readjust their stereotypes or popular theories in order to rationalise their valuations. Myrdal gives a major role for informal organisations and formal organisations, specially the STATE, for correcting the false beliefs. In this context, he says, "Some of them operate to educate the people by trying to get them accept more correct

beliefs and to draw the consequences by scalling down their prejudices.

Thus, he finds the answer in the STATE. An individual who is heavily prejudiced and acts at lower level valuations, but the same individual, when in collective, readily accepts the higher level valuations Myrdal takes for granted that the people are people and there is no differenciation between them. If people are homogeneous as he assumes, then there need not be any contradiction between lower and higher level valuations. He never traces the source of these valuations, either higher or lower, or the prejudices but accepts that people have two conceptions about reality namely beliefs and valuations. Why there exists such prejudices ? Is it natural, in the sense that nature differentiates ? and hence the source is Nature itself. or Is it Because of differential access to natural resources and employment ? Is it because of Lack of exposure to wider society ? Is it because of prevailing ideology ? Myrdal never focusses his attention on the source of these valuations. If one takes into account the various reasons generating different valuations, people look to be heterogenous. Since they are heterogenous, in the sense various prejudices exist, and collective organisation such as a state becomes essential which not only supports the change but also enforces the so called correct beliefs. Since Myrdal pooled all the people together, he could not explain convincingly the behaviour of the American state regarding Vietnam war and racial riots at home and commented, "The STATE has in

these cases been instrumental not in raising moral standards but, instead in lowering them."

Moreover, if the people are homogeneous, there is no need for the state to be coercive. The heterogeneity and their conflicting valuations, some times at higher level valuations also, makes it necessary for the state to use force and become coercive in order the higher valuations of the collective are accepted by all. After dealing with beliefs and valuations, he returns back to the question of objectivity and the biases, and suggests a wayout for avoiding them, namely, keeping to higher valuations and assigning prime importance to observed facts. This, he opines, determines the choice of approaches (meaning concepts, models and theories). Further, he suggests various methods to help a Social Scientist to avoid these biases. Another condition he adds here is, *in* addition to keeping to higher valuations, this value premise, whose choice satisfies the requirement of reality, should be made explicit.

In his formulation, it is not necessary to take the conflicts, if any, between valuations in any level or in between the higher and lower levels. According to him, selection of the value premises properly will help in purging the biases. This may be true in case people are homogeneous in character, and hence similar in their valuations. But *in* reality, people are heterogeneous, and conflicts in fact play a prime role in reducing the prejudices in society. He expects that a properly selected

valuation*,[11] to a large extent, dissolve the valuation conflicts by pushing aside the valuation on the lower level that regularly conflict with those on the higher level. "The important question here is who selects the valuations which can be termed as higher level valuations ?

If people are not homogeneous, it is possible to have an accepted set of morals on higher level. Conflicts and their resolution has to become a part of the model, but not pushing aside the conflicting valuations and neglecting them. Pushing aside the conflicting valuations results in the appearance again and again of the same prejudices demanding resolution. Since he did not take into account the heterogenity in people, according to his model, people should be educated properly so that their distorted beliefs are corrected. In practice, it is impossible to achieve this. If any body feels that through education, prejudices and discriminatory practices can be corrected, it certainly is an Utopian idea. In practice, discriminatory practices come to a correction only through conflict. Examples around the world are many. Various movements be it women's not by preaching higher values but through conflicting valuations only. Since Myrdal could not satisfactorily incorporate conflicts, he has to take shelter in philosophy and the associated lofty ideals of respect for human life etc.

In the last part, he introduces moral principles on the highest level, and they are supreme value premises common for all

different historical epochs and even for different civilisations. They are "Respect for human life" and "Equality of all human beings". Here, he expresses a doubt as to why and how this shining vision of the dignity of the human being and his basic right to equal opportunity, originated so early and so generally in different civilisations, and how it maintained itself on the level of a supreme ideal through untold centuries of blatant inequality and oppression. The very fact that these valuations are universal, speaks that they have neither an origin nor an end and they continue as Utopian ideas.

Myrdal's methodology can be summarised as follows :His philosophy about the motion of the society is through ADJUSTMENTS to reach higher and highest level of valuations. An individual, when in collective, organises himself towards achieving already fixed ideal of how the society around him ought to be at a higher level, and hence can be termed idealist philosophy.

In his methodology, the stimulii to an individual is provided externally by a set of pre-determined values at higher level, readjustment to a new and higher level by people, happening through inter-play of beliefs and valuations, helps the motion of the society. So his methodology can be termed as an Idealist, subjective and non-motion centric.

Myrdal visualised the reality as consiting of problems. which are as a rule complex. Mydral, as an interventionist, the

role he assigned to a social Scientists is to find a solution to this problmes of reality; and the researcher has to develop skills to a highest possible degree so that the complex problems of the reality can be solved. Further, he visualised the **mottion** of the reality in **terms** of solving the complex problem of reality. For this, he introduces two concepts namely beliefs and valuations, conceptualises motion through adjustments from lower to higher valuation by correcting the disorted beliefs; which can be made possible through `**STATE**' intervention. This means that the model of the object is not of harmony and equilibrium, but that which is **trasforming** because of the external force in the form of `**STATE**' intervention. In this objecttive reality of the collective, an individual is one such that this individual in a collective organises itself towards achieving the already **pre-determined** goals of higher valuation set by the collective. In a motion centric methodology, this motion towards a higher valuation can be seen as **motion** inside the object, but not motion of the object where the higher valuations themselves change depending on the needs of the collective, colectictive has thus set higher valuation which it imposes on the individuals without differentiating the individuals in a collective, which in fact leads to conflicting situtations. He recongises the fact that the object has to change, but he is not clear about the objective laws of **motion**, and hence given the reality a **subjectivist motion.** and fixed a goal to the object, but is not sure about the ways in which one cam make this motion a reality and the responsibility of implementation, thus was given to the STATE. In his vision, this

pre determined goal or the model of reality becomes bigger than the reality and the reality has to approach the model. Another important implication of such a model of reality is the motion which is exogenously determined by the collective, of which individuals should be made to follow by the STATE.

This problems or conflicts of the reality can be seen as signals the object is transmitting which the subject receives for purposes of analysis. Now, examining the subject in motion, perceptions to the subject come from the complex problems/conflicts of reality. Subject receives this perceptions, transforms them into rational knowledge with the help of universal theories and constructs the model of reality, which is bigger than reality. The question arises regarding the second arm of practice by which higher level perceptions to the subject are made possible. Since the subject, a Social Scientist, cannot implement them, the second arm is not permitted and P' gets stuck. So Myrdal required an agent who can implement the plan of acttion and hence proposes a soft STATE in the second arm which is exogeneous as well to be coercive, and the STATE has to correct the false beliefs or prejudices in the society. Sometimes, the society refuses to respond to the interventions by the STATE and this refusal gives rise to deviations to the predictions inthe model itself and it infact happened in America during the Vietnam war and racial riots at home. For this, he has *no* answer except to wonder how a STATE became instrumental not in raising moral standards but in lowering them instead.

Ounnar Myrdal's methodology, analysed through motion centric methodology, can be summarised as follows:

1. He accepted the fact that reality cannot be described by an equilibrium model and he tried to locate the disequilibrium conditions through the problems of reality and a reality has to be modelled interms of resolution of this problems,

2. This problems can be seen as signals sent by the object which a subject receives.

3. His model of reality is much bigger than the reality which does not give autonomy to the object.

4. He could capture only motion inside the object but not motion of the object.

5. Subject could complete the second step of practice and implementation only with the help of soft STATE. If such a STATE, is absent, the consequences can be disastrous, in the sense the subject can get alienated from the society or from the theories it generated or the theories get alienated from reality.

Myrdals methodology, with the above analysis can be termed as a goal centric methodology

Understanding Public Policy:

In the following notes an attempt is made to present the importance of Context in studying Public Policy. Section one deals with a case study on Education. Section two deals with some of the existing studies which highlight the importance of Context in studying Public Policy. In section three we present a tentative model of context.

Section One

Education, in addition to being the agent for transmitting the knowledge accumulated regarding Nature and its applicability in the process of production, thus is also an instrument for making changes in the process of production, thus treting the human being as a productive force. Simiarly, in social process education has a similar objective of passing on the knowledge about the society and help in the process of change in the society. In the context of a general Feudal order where there are no formal institutions of education,the former is the knowledge about the production process *is* transmitted from parents to children and the latterie about social process, sometimes gets associated with the Church. Temple and other State Institutions. But, with the rise of Capitalism formal institutions such as a schools - a necessity for the new method of production and the consequent Ideological changes - were developed on a large scale. Thus, Education, not only trains the humanas a productive force, but acts as an important instrument to produce change in the society. The Indian experience in the last century and the expert

opinion as expressed in the reports of various commissions on education also started with a similar **premise for education with an expectation the** education reduces the inequalities **in** the society. For example, the report of the Indian Education commissioner reports 'one of the expectations from this directed use of education is that it will bring about the reduction in inequalities on society on the assumption that education leads to equalisation of status between individuals coining from hitherto unequal social economic strata of society.

As a measure of reducing inequalities based on Sex, variety of policies were introduced to encourage girls to get educated. Free education upto graduate level, providing text books and uniforms, compulsory education upto primary level are only some of the policies formulated for encouraging girls education. After a lot of debate on the type of education to be imparted to girls National Committee on womens Education (1959) recommended a common curricula for boys and girls, with no differentiation on the basis of sex. Following this, the committee on the differentiation of curricula for boy and girls (1964) 'rejected the traditional view that mere biological differences of sex created different physical, intellectual and psychological characteristics between men and women, which necessitated the provision of differential curricula for them*.

But there is a popular perception in **the** society **that girls** are inferior in intelligence to the boys **and lighter subjects such**

as languages are best suited to girls and difficult subjects such as mathematics and science are for boys. To the popular perception came the aid of psuedoscience with concepts like linear mind and static mind. Girls are supposed to havea linear mind static mind which is capable of learning languages. Boys mind is supposed tobe a linear mind capable of solving the difficult problems and as such capable of learning mathematics and natural sciences.

To verify whether these are popular perceptions of Popular prejudices we tried to process the data available with us. These data were collected from three different schools in three different contexts. The three schools situated at Delhi, Visakhapatnam, Sambalpur, follow the same syllabus and the students appear the same examination at the tenth class. As such they are comparable. However an important difference between schools has to be noted. The Delhi and Sambalpur schools cater to the employees of educational institutions mostly. In case of Visakhapatnam the school is situated in the campus of the Navy establishment, and caters tothe Navy establishment. The average marks obtained in eachsubject for boys and girls separately is given in tabletwo for all the students table three given the average for the three schools separately. The following observations are in order.

1. If we take all the schools together we notice that girls register higher marks in english, hindi. Boys perform better in mathematics and social studies. This seem to confirm to the

popular perceptions.

2. If we take the schools separately we notice the school at Visakhapatnam is different. In this school the popular perception get further reinforced, with the boys doing extremely well in sciences and mathematics, However, the girls seems to be holding their fort for of languages particularly Hindi. If one looks at the other schools the position is almost different. In Delhi for example the girls perform better in all subjects except in mathematics. Here the difference is marginal. Visakhapatnam school is exceptionally close to the popular perceptions. This was corraborated not only at the level of averages but also in terms of distribution. Tests for association also gave similar results. As one can notice from table 1 the infrastructure variables also do not explain the significant of Visakhapatnam result. There seem to be one critical factor that operates at the Visakhapatnam school. The critical factor that operates at which influences the student both inside the family and in the schools also. Hierarchy also exists in Delhi school, but possibly with a difference. In Delhi and in Sambalpur the school caters to the educationals institutions where the hierarchy operates vith and through a `material base'. Here generally the hierarchy reflects the educational qualifications achievements and the income differences are commensurate with the achievements and qualifications. Contrary to this the hierarchy is based on the hierarchical system itself as the establishment called Navy is not connected with an material base such a situation the heirarchy has to necessarily take help of the prevailing ideology, where women

has on inferior status. Such a context naturally will not encourage the girls to fight back the prejudices. Rather they adjust themselves for an interior status.

Though Educational Policy is aimed at reducing inequality between sexes, in practice it gets negated depending upon the context of its implementation. The Visakhapatnam School is not short of funds not short of buildings not short of library nor of laboratory facilities, not short of teaching staff not short of any infrastructure, but yet defeats the aim of the policy.

Section 2

In the policy Research studies a major controversy developed in America regarding the applicability of the rational choice theories in policy analysis as the policies failed to solve the problems such as racial integration and poverty. The main proposition put forward by the critics is that the problems in the society are conflictual in natureand hence rational choice theories failed to solve the disputes. Critics assign a role for analysist not that of independence but that of advocasy. T.C. Schelling of America R.S. Ganapathy and S. Guhan of India are known for their critic of such mainstream positivist approach. which utilises emperical methods for data collection and analysis. Of the above three researches Ganapathy put forward the importance of context, while proposing a critical alternative perspective for public policy research. He says *the law£ that describe relationships among variables are universal, preferably

quantitative and independent of context. In such emperical methods society is considered as an aggregate of atomised individuals and its holistic nature is ignored. That can explain only the surface phenomenon, that is appearance and the essence was ignored. He asserts that the underlying structures and processes that give rise to phenomenon tend to be ignored and only environmental stimuli and behavioural responses are considered meaningful. Such a method of analysis ignores the process of change and supports the status quo, which constructs a picture of, an abstract world, a world stripped of social relations, social conflicts, social power and social inequality. Ganapathy further suggests an approach within a paradigm of conflict rather than rational choice. He examines the growth of Public policy schols in America in the context of social protests such as civil rights and womens moment other branches of knowledge, reflects the historical and material reality in a society and will seek to justify the existing order stratification and class structure in a society. This indicates that policy analysists must necessarily know the context in which it is formulated. In this background he suggests an uncritical transfer of policy analysis practices across context can often prove to be unproductive and harmful. Ganapathy however does not define the context except suggesting that the context is historically and materially determined. Shelling too emphasises the importance of conflict within the society. He examining the role of policy analysis in the most important problem in America namely the racial integration and comes to the conclusion that such a policy analysis leading to

efficient policy choice failed miserably. One of the important reasons given for such a failure is the existence of contradictory values in the society which are conflictual in nature and analysis can not resolve them. Shelling suggests the existence of contradictory value systems in a particular system leading to conflicts. However Schelling does not throw any light on the value systems and more so on the presence of a contradictory value systems in a society. Further he does not specify whether the goal of the society and hence that of a public policy is to homogenise the value system? This is important as one common feature of capitalist society is the process of homogenisation. And the homogenisation is on the basis of capitalist value system. Guhan too emphasises the role of conflicts but does not throw much light on the sources of conflict. Though his sleeping dogs, barking dogs and tranquilised dogs framework is entertaining his suggestion that the examination of state policy, include not only what is said but not done but also a) what is done but not said b) what is said and unsaid at that same time, c) things that are neither said nor done. The surface of policy has to be pierced to lay bare the underlying structure of conflict and to evaluate to what extent policies are a facade is only critical without it being a criticism with a framework of analysis.

Section 3

Human society is always in motion and any moving object creates methodological problems in capturing with motion and

correct Content ran be studied in two different methodologies, a motion centric method and a nonmotion centric method. In a motion centric methodology the context can be located within the motion of the society which has a space time specificity. Such a methodology locates the context in a dynamic backdrop and gives the dynamic picture of the context. In the second methodology., context gives a static picture of the context, which has a space specificity. In the first method the motion is associated with internal forces and the stress is given to the processes by which change takes place. In the second method external forces cause the motion and here the results get more importance.

The above two methods widely differ in their ideology and their perception of motive force for change, their instruments of change and their methods of removing the obstruction also differ. A few examples are useful to explain the point. Let us look at a family. The ordinary perceptions about the family can be as follows : a) The relations between wife and husband are cordial without any conflict. b) There are conflicts but theconflicts are only appearant but not real. c) the conflicts are realbut are taken as an exception d) the conflicts are real and need to be taken into account. All these perceptions have a common methodological underinning namely the family is a given concept. The units within the family adjust to the concept. This is basically the non motion centric concept, in our terminology. This is because here the concept of family determines the relations inside, be they harmonious orconflictual. On the other

hand if on looks at the family as a resultant of therelations, **the** conflicts and their resolutions redefine the family at **a** different level. In this sense the frame of reference is changing and is a moving frame. This we call the motion centric method. Here the conflicts are not only necessary but form part of the motion.

Marx was one of the pioneers in introducing the motion centric methodology and formulated a set of laws of motion describing the human society. He proposed that the changes in a society can be observed in three different but interconnected levels. These levels are the productive forces (PF), the property relations (PR) and superstructure (S3). He attributed the motion to the contradiction between the two levels PF&PR and a resolution in the contradiction produces changes in the society. A change produced in the PF level makes the PPR level out of step generating the contradiction, which resolution results in a change in the PR level. If a change in the PF level is such that it generates a contradiction which can not be resolved and a change in the PR level. If a change in the PF level is not possible then the organisation of the society undergoes a radical change which makes it possible for a change to be possible at the PR level. A particular set of PF&PR will develop an ideology and culture at the SS level suitable to that combination.

Within that framework Marx analysed the motion of human society through a Capitalist mode of production. The Modern society the modern state and its intervensions are all **a**

contribution of capitalist form ofsocial organisation. In a sense most of the countrys of the world have adopted to this form of social organisation, indicating a similarity in the context. It is such a similarity that prompted for example Prakash Sarangi, to , take countrys like America England Germany along with countrys like India, Srilanka etc. to test his hypothesis, using them on a similar plane or context. While nobody can deny the commonality in theforms of government, the contexts of eachof these countrys are different, if one takes the period of adopting the capitalist forms oforganisation. Further, if one takes countrys like India the capitalist form is not anendogenous form but is exogenous, unlike that of a British society for excample, where the motion of the society, through the PF& PR contradiction, produced the capitalist form of organisation. In case like India it came throughan importation of capital from imperialist country. This is possibly what is being highlighted by Richard A Higgort. One can understand his position in terms of methodological insensitivity of much of the third world policy literature, to date concerning the transferanse of western/industrialised forms of analysis to the non-industrial context. Particularly the limited utility of incremental decision making, and the tendency of policy approaches to play down the role of structural dependence in the international environment as a primary factor in the political economy of the new states and suggested that, the policy differences and policy making in thethird world have to be examined in the context of their dependence on exogenous factors.

Even though Britian and India look to possesses similar context when we look at the forms of governance there is a vital difference in the context. Roughly speaking the endogenity of the capital presumes the elimination of previous forms of organisation. The motion of these societies depends on the further development of productive forces and that defines the context of these societies. On the other hand in countries where the capitalist form is exogenous like in India the very exogenity *indicates* that the previous property relations possibly were not eleminated. To that extent even the superstructure of the previous forms may also continue *to* exist. So these societies present a different context a context of changing the property relations and superstructure.

Simplistically speaking, policies are used as instruments to produce change. Policies either accilarate the motion of society or blocks the motion of the society in particular track, depending on the *consonence* or otherwise of the induced change by the policy and the needs of the society as defined by the context. In other Words if the context suggests changes in the property relations and the policy is directed towards productive forces there is no consonence and does not accelerate the motion, and in certain cases it may block the motion also. It is here one may need a classification of the policies. As motion is definedusing the three levels of relations Namely PF, PR. SS. We may classify policies also in a similar fashion. Any policy attempts to produce changes in all the three levels of social relations, but a policy

will have a major thrust or emphasis to produce change in *one* level. So a policy depending on the emphasis can be categorised. While it produces a major change in one level there will *be* induced changes in other levels also. For example if we take Educational policy the major emphasis will be in the PF level. But this will succed if the knowledge is useful in the society if the person gets employed. That means a change at the PR level. Similarly poverty eradication programmes attempt changes at the social relations of production i.e. at the PR level. But the change introduced at this level is realiable if corresponding changes at the PF level by increasing the persons knowledge of the production process within a changed cultural framework, is forthcoming. As the major thrust is the production the policy has an emphasis at the PR level. A prohibition policy is basically an intervention at the SS level. But its operation effects the relations at PR level, and correspondingly at PF level. Thus each policy operate at all the three levels but its operation has an emphasis directly at one level, which inturn induces changes at the other levels also.

Ram Reddy and Haragopal also make a similar observation. 'The State, througha number of public policies, seeks to positively intervene in the developmental process by stimulating production and ensuring distributive justice which are at the level of productive forces and property relations. The entire thrust appears *to he on* improving the quality of life of all citizens, which is at the level of superstructure.

To summarise on context and policy, we may say that there is a need for consonance between the two for the policy to succeed. We have noted that a context indicates the dimensions of its motion. For example in the endogenous capitalist systems like Britain the dimension of motion isat the Productive Force level, and hence the policies with a major emphasis on Productive Force level are likely to succeed. In contrasting exogenous capitalist systems like ours the context indicates changes *in* PR& SG levels. Hence, policies with major thrust in Property Relations & Super Structure levels have a greater chance to succeed.

The second illustration deals with the public policy and the importance of the context in formulating as well as evaluating a policy. In this, the subject is the researcher attempting to evaluate a public policy and the object is the relation between the social reality and the STATE intervention in the form of a public policy which can either accelerate or decelerate the motion of the social reality.

In this, the objective reality is modelled as having its own motion, made possible by the internal dynamics of the society in the three dimensions namely productive force, property relations and superstructure. The objective laws of motion of the society at a particulat point of time gvies rise to a specific sequence of the above three elements of reality and this specific sequence of reality at a particular point of time is called the context in which policy intervention, which has its own sequence, is

attempted by the STATE. It proposes that **a** policy **may** accelerate the motion of the society by adopting the same sequence. A policy can also stop the motion by changing the sequence or even redirect the motion, all of which explain the object **which** is in motion.

The object sends signals through the changes in the three elements of social reality and the subject has to uderstand these sequence of changes or the context in which a particular policy has to be slated. The sequence of changes in reality will also offer a scope to identify the lead force or motive force for change *in* the society, the knowledge of this context is primary for the subject *so* that a policy to be evaluated can be located in the context or in other words Policy can be contextualised.

The subject percieves the problems of reality at P, and with the knowledge of the sequence in reality theorises the context of reality that is at R, so that a suitable policy could be selected and implemented in practice. (PR arm)which *can* accelerate this motion at P'. The proposals put forward are that a mismatch between the sequence of society and sequence proposed by the policy decelerates the motion and a consonence between both **the** sequences accelerates the motion, which means a public policy is successful if it can accelerate the motion of the society. Sometimes, changing the direction of motion of the society **aay** be seen as sucess to STATE. The **implementation** of **the above** formulation makes the context and its sequence very **important** for a researcher to formulate a suitable policy. **A major critque got**

developed in this regard about the methodological infiensitivity of **third** world policy literature in which policy gets transfered from one context to another context.

In view of the above, the objective of the STATE policy in education was analysed with the field from three schools in three different contextual setting. The major objective of the education policy is to reduce the inequalities based on sex and variety of education policies are formulated to encourage girls education. However, the importance of reverting the objective is palpably clear in military/feudal dominted Visakha school which results in widening the differences in performance between boys and girls.

Methodology as a tool **of Literary Criticism:**

Rama **Rao's** short story, 'Sankalpam', a review

The story 'Sankalpam' fascinates the reader and it gives an impression that the author is giving an expression, in the form of a story, to the incidents that commonly occur in every family. It also makes the reader realise that the story of every typical brahmin family in a rural set-up entwined in the old traditional brahminical values will be similar. It also deals with the conflicting relations between the family members, that is between Father and Son or Mother-in-law and Daughter-in-law. As it is common in the contemporary scenario in Andhra Pradesh, the propertied families lost their property in the process of providing good education to their sons and marrying their daughters into rich families, which became a source of conflict between the family members. KaRa, the author, tried to tackle this contradictions values in this story. The curtain raises in the story with the death of Ramabhadraih, the patriarch of the family. The story anchors in the present scenarion of Ramabhadraih's death, and unfolds with Subhadramma as centre. Through her turbulent thoughts, the story peeps into the incidents of the past, assesses the present situation and hops into the uncertainities of future that are in store for her. Thus, the story anchors in the present and oscillates between the pleasantaries of the past and the uncertainties of the future, in between zeroing on to the present. Finally, the story ends *it* a content where Subhadramma, who went to Kasi to complete **the** last rituals of immersing mortal remains of her husband in Ganga

was troubled with the thoughts of her husband and tries to get drowned but was saved in time.

The main focus of the story is 'Subhadramma's present tragedy, her husband's death, and her sorrow, her thoughts, for assessment of the past and apprehensions about the futurehappenings. The story also deals with the problems that crop-up due to the generation gap, that is, between grown up children and their ageing parents and the consequent mental agony of the parents. Author, in a sort of giving legitimacy to such inter-generational conflicts, opines that the generation gap and the conflicts always exist and even traces them as far back to the times when life originated on Earth. He locates the base of these conflicts in the competition of struggle for power and authority between them where the emerging young generation competes for leadership and power, it challenges the older generation. The author attributes a universal character to the struggle by which the inter-generational conflicts and the associated violence become an accepted phenomenon. He offers a theoretical justification by saying that they are universal, even inevitable as well as necessary for progress.

This story of the author, as compared to his other stories, has a fundamental difference, Maybe, the focus of the story is a brahmin family, or the focus is a brahmin widow, or the technique of story telling, in which the story anchors in the present and oscillates between the past and future, or the unfolding of

the story is through a monologue, a thought process of **the** central characters. Alternatively, one can identify a major fundamental and even methodological difference between this and his other stories. In the rest of the stories, he selects a contradiction in the contemporary society as the subject of the story and introduces the contradiction in its 'form' at the beginning, then searches the cause of this contradiction in the base by which the essence (the relations which gave raise to it) of the contradiction is revealed. With this understanding, the author offers a solution to the contradiction, again in its form. But in this story, he selected the contradiction, namely, inter-generational conflicts, presents the problem *in* its 'form' as differences between one generation and next generation, universalises the problem as eternal and even necessary for progress. This has serious complications as far as solution is concerned and even gives an impression that death is the only solution for the problem. The unfolding of the story through this path - "form, essence, form' has to be analysed in more detail.

Society, rather social relations to be more precise, can be imagined as an ensemble of different Kinds of contradictions in different domains, such as gender based contradictions between male and female, property based contradictions between rich and poor, landlord and landless. capitalist and worker, feudal lord and serf; culture based contradictions between Hindu and Muslin, brahmin and harijan.

tribal and non-tribal. Society, according to its needs as well as its capacity, selects some of the contradictions and resolves them which determine the direction of progress in the society. A story writer, influenced by the form of contradiction, accepts this as the topic of the story, enquires for probable causes in its essence and offers a solution to this problem in the story; again in its form. This sequential motion of the contradiction in the story provides a totality to the problem and raises the cultural level of the reader.

Alternatively, some other contradictions find an expression in the form and remains in the form only. This means that they are not immediate reflections of the contradictions existing in the essence and hence the resolution of such contradictions does not directly relate to the motion of the society.

Since society experiences context specific contradictions which differ according to the space-time differences, each generation experiences different contradictions, each generation selects some of the many contradictions depending on their priorities and search for a suitable solution and later select methods of solving the contradictions. There is no unique solution for a contradiction. In fact, there exists two contradictory solutions for a problem in the society, one which supports a change in the already existing social relations, and the other which opposes any such change. This gets reflected as struggle between generations where one generation opposes the

changes and the other supporting the changes. The intensity of struggle depends on the intensity and importance this contradiction has in the society. In case it is the primary contradiction in the society, meaning the resolution of this contradiction facilitates the resolution of remaining contradictions in the society, the struggle not only becomes severe but even leads to violence.

The nature of contradictions that come to the forefront for resolution in a particular context depends on the progress of the society in that context, and the level of progress can be understood and even measured keeping the level of technology as an indicator. In some societies, for example the pre-capitalist societies where the level of technology is very low, the nature of changes are such that they give an impression of stability without any apparent changes. In such societies, contradictions are limited in number. Contrastingly, in a capitalist society, the level of technology is not only high the changes have a faster pace. This fast changing technology includes changes in the social relations also at a similar pace which results in change in the value system of the society. In such a situation, the contradictions, then solutions and their methods of solving also undergoes changes. For example, society at present is undergoing transformation and it *is* experiencing changes from mechanical age to electronical age, computers are introduced every where for all sorts of work. In this transitional society, it becomes essential to destroy the

which modern values suitable to the new technology can be established In the society. For this to happen, struggle becomes inevitable until the new values locates its roots and gets established in the society. The above illustrated changes are a consequence of changes in the productive force of the society which gets expressed as struggle between generations.

A change in the property relations in the society also generate struggle in the society. The present social movements where woman is struggling to get equal property rights or mandal commission recommendations which proposes a higher share of employment for other backward castes are examples of struggle in this domain. This means that. changes both in productive forces and property relations in the society will bring forth new contradictions for immediate resolution. In a society, which can be visualised as consisting of number of groups such as male and female; rich and poor, lord and servant, the contradictions as well as their resolutions need not effect all the groups similarly and equally. At the same time, all contradictions belonging to all groups will not be brought to the forefront at the same time, except during the periods of resolutions in which contradictions in the society demand a resolution. One group may recognise the importance of a contradiction. This group, if it acquires the character of a class, it may offer particular solution to a particular problem and the other group may offer a totally contradictory.

solution to the same problem. In the context where the class struggle is not severe, the different groups bring different contradictions of the society to the forefront for resolution through various social movements. In Andhra Pradesh, the contemporary powerful social movements such as Anti-liquor movement, Women's movements, Civil liberties movements, Naxalite movement select specific contradictions in the society and attempt to identify the methods of established in the process. In a society, if productive forces and property relations are undergoing changes and the social movements are powerful, the struggle between different classes reflect as a struggle between generations and even give rise to violence in the society. This implies that the generation differences are identified, not necessarily with the help of differences in age, but as a difference in the mode of thinking or as perceptual differences *an6* the consequent differences in the value system. In such a conceptualisation, the struggle between generations should be associated with conflicts between contradictory mode of thinking. Further, even in same generation, which is characterised by the same mode of thinking, the differences in the methods of resolution also may lead to struggle and even result in violence.

KaRa, *as* detailed above, visualised the inevitability of struggle between generations for progress in which the new-generation challenges the old generation in their attempts to capture the leadership and power. Instead, if one tries to analyse questions such as - what are the contradictions that are

arising in a specific context, of the society? Is there any difference in the methods of solving the contradiction between the two generations? - the challenge acquires a new meaning. Then, one can examine the process as well as causes which give rise to struggle between a father and a son, or among close friends which may even lead to struggle associated with violence. Firstly, the old generation imagines that the new generation will also experience the same contradictions as they experienced in the past. They also believe the same old solutions are valid even today and hence impose and even force their methods of resolution on the new generation. This is a situation where the old generation is unable to comprehend that the society is undergoing changes and hence contradictions as well as methods of resolution also has to change. This basically incorporates a perspective in which knowledge is always available with the old generation and the new generation has to learn from the old. But each generation feels that they themselves are responsible for the problems they face and the refusal by the old to offer the leadership and power to the new generation will result in a struggle between both the generations. The second reason may be the new generation feels that they have all the knowledge and does not give due importance to the experience of the old, leading to the struggle between them. However, the major trouble with KaRa's formulation lies in the fact that struggle between close friends, close in the sense of working for the same goals and ideals, transforming itself into struggle associated with violence. If this is true, it can be variously explained by

proposing that the ideal of one friend might have undergone a change, or a particular problem is seen as a contradiction that reveals a resolution by one friend where as the other friend did not percieve as a problem that needs solution, or both the friends accept that the problem requires solution but their methods of resolution might have changed. Among all the alternatives proposed, the real cause depends on the changing situation of the society.

When such a large number of problems exist in society, the author of a story can select any one in the problem and project in its form in the story of search for solutions and a story gets crystallised in the process. The various methods of resolution can be shown as a result of struggle between generations. The story `Sankalpam', instead of truncating the story at the form in which inter-generational conflicts exist, if it locates the contradiction in its essence in the changed social relations, then this form of presentation facilitates the reader to capture the motion of the society through the medium of a story; a story becomes an important tool for understanding the motion of the society. So Literature acquires a status of one of the powerful tools of social enquiry in the hands of a social scientist. KaRa's stories have the captivating power and the strength because of this technique of unfolding the story through `form-essence-form'. But in the story `Sankalpam', somehow KaRa did not complete the sequence but remained in the first step of *form* itself.

KaRa's two stories namely 'Yagnam' and 'Sankalpam', there is a fundamental difference. In general KaRa selects a problem of importance in the contemporary society and associates them with the people who experience the problem and gives an expression to it which can be called the form of the problem which now got personified. Then, in his search for solutions, he travels back into the past and as a flash back and then roots them in the social relations to identify the causes that generated this problem. Then he proposes a solution through the actions of the people associated with the contradiction, and brings back the story to the present. The search into the past for solutions will result in locating the contradictions in the history of the society.

Alternatively, there is another method by which a story can be told in a flash back. After giving an expression to the problem or locating the problem in its form, the story takes the reader into the past and relates to the people who experienced the same problem. In doing so, the author removes the space-time specific limitations and later the same solutions were brought forward to the present and give a new form to the problem, but the problem remains.

The first method of constructing the story through form-essence-form' has a historicity, the problem has a history and has its own contextual limitations. In addition, the reader gets the knowledge that the problem is not eternal, which Beans that it is not a never resolving contradiction, but it can be

solved. With this knowledge, the reader acquires a scientific approach to the problem. In the second method of constructing the story through form only, neither the method has historicity nor the problem has history. Further the reader forms an opinion that the problem is everlasting, thus the reader acquires an unscientific approach to the problem. The reader also feels that human being is incapable of resolving the problem and hence the help of an invisible force becomes essential. There is a probability that the reader develops an unscientific perspective not only of the problem but of the society also. In this circumstances, the contradiction transforms itself as the problem of the individual and the solution depends on the properties of the individual such as good and bad and the solution is also individualised. In the first method, the cause for the problem of the individual is located in the society and the system. With this, the human being acquires the knowledge regarding the inevitability of changes and also recognise that the efforts of the human being is a necessary component for social change, human acquires consiousness about the changes in the society. In the second method, the cause of the problem is located in the nature of the human and hence the reader becomes ignorant about the changes in the society. Not only this, the reader feels terrified about any change. With this framework. an attempt is made to examine two popular stories of KaRa namely 'Yagnam' and 'Sankalpam', which follow two different paths of story writing.

'Yagnam' Story

In this story, Appal Ramudu, a harijan cultivator, borrows money from a poor money lender named Gopanna in order to cultivate crops such as groundnut. The whole family worked very hard but when he exchanged the crop in the market, he faces severe losses due to which he could not repay the money he has borrowed. He agrees that he has borrowed money but wants to know the meaning of a loan, so he puts forward to the collective questions such as - Is it a loan or not? What mistakes had he committed to suffer such losses ?. He wants Sree Ramulu Naidu, head of the gram panchayat to decide. The form of the contradiction in the story the non payment of the money he has taken and the meaning of the loan in general.

In the process of development of the village through modernisation, people instead of cultivating the crops according to their needs and have a use value, started cultivating crops which they had a demand in the market so that they can exchange and *make* a profit. The small farmers who own half an acre or one acre, came under the influence of the market fetish, they lost their lands and turned into bonded labourers. Not only this, inspite of all developmental projects such as construction of a school by donating their labour, their children are not in a position to study in that school, they donated their labour for constructing a bridge and they could not get any benefit out of it and buses were introduced and the demand for their carts was reduced and they lost as a

consequence. The story describes the process in which they have undergone losses with this illustrations, the author critisisen the developmental projects and has shown that the fundamental cause for Appal Ramudu's problem does not lie in the fact whether Appal Ramudu has worked hard or not but located in the developmental path that was planned for the village, thus shifted the focus of the story towards the essence of the contradiction.

Appal Ramudu demanded Sri Ramulu Naidu to decide whether the money he has borowed can be categorised as a loan or not. In case Sri Rainulu Naidu decides that it is a loan, Appal Ramudu is ready to sell all his lands and repay the money and abide by the decision of the collective as is the tradition of the village. He is willing to make himself along with his sons to become bonded labourers in the village. In this perspective, he is ready to sell all his lands to repay even at the expense of the welfare of his family members. He came to the conclusion that it is the best solution. Contrastingly, the perspective of Sita Ramudu, Appal Ramudu's son, is totally different. Sita Ramudu disagrees with the fathers proposal of making his sons life long bonded labourers and he is ready to kill his son to save his son from becoming a bonded labourer. He is totally opposed to the proposal of selling the lands to repay the loans. Unfortunately, since socio cultutal restrictions, and limitations of the society never gave scope for any other option and this lack of options forced him to kill his own child. Thus the author

offerred a gory solution to the problem at the level of form.

This shows that KaRa has selected a path - 'form, essence, form' - through which the story progresses and even illustrated the fact that two people, father and son, offered different solutions for the same problem and this gives an impression to the reader that the story tackles the problem of inter-generational differences, If one visualises the story in this way, Appal Ramudu, portrayed as a good citizen who obeys the rules of the village collective and is ready to fall in line with the village traditions and repay the money by selling his lands, where as his son is portrayed as an anti-social citizen who opposes the collective and is not willing to sell their lands for repaying the loans. This means that the father is portrayed as law abiding good citizen and the son is shown as bad citizen. In addition, the problem is imagined as a struggle between good and bad and the story even gives an impression that bad has an upper hand and hence the solution also depends on the nature or the person involved. In that situation, the story need not be a critique of the developmental projects in the village. The contradiction in the story is thus portrayed in the second method in which problem is posed in its form only.

Alternatively, KaRa has written the story in the first method and hence the story instead of portraying the struggle

between generations, it focussed on the developmental path of the village which created a condition in which he can not repay. In the story, it was shown that the solution is related with the land problem and hence it becomes a class contradiction in essence. Since there no strong social movements dealing with this land problem, in that society, they could not find a place in the story. Since there is no concrete solution to the problem in that society, there is no other solution that could emerge in the story except killing his son.

'Sankalpam' Story

The problem in this story can also be visualised as inter-generational conflicts and the struggle the human has to undergo especially in the institution family. As per the author, such struggles are always there between father and son or between mother-in-law and daughter-in-law and through such struggles only progress takes place.

The story starts with the death of Ramabhadraih, the patriarch of the family. He was a propertied man possessing a few-acres of land and also a tiled house. He has four sons and three daughters. The third son stayed back in the village to look after the parents and manage the affairs of the family and land. Ramabhadraih had to pawn his lands and sometimes even sell the lands as well as gold and silver in order to educate his sons and get his daughters married into good families. After his death, when the last rights were almost complete, the place

of immersion, Godavari or Ganga, came for discussion. Subhadramma recaptures the incidents on the past when she and her husband planned 'Kasi Yatra' three times and all the three times it could not materialise due to some hurdles. All the family members become sentimental since he died without fulfilling his desire of visiting Kasi. So they all requested her and even forced her to accompany them to Kasi. The circumstances in which she is going to Kasi depresses her much and her thoughts were fully occupied with her life with her husband in the past.

Subhadramma got married at the age of *five.* She and her mother-in-law belong to the traditional families in a village, they have a rural background. In this first generation pair, mother-in-law has much affection for daughter-in-law and in turn, daughter-in-law never took advantage of this but remained in her limits. Daughter-in-law managed the house hold affairs under the guidance of mother-in-law. Daughter-in-law believed in serving the mother-in-law and the husband. They never had any differences, their's is a happy family without any misunderstandings. Subhadramma has four daughters-in-law and they form the second generation pair. She felt that no daughter-in-law respected her in the same way as she respected her mother-in-law. She was worried that her daughters-in-law do not have neither fear or respect towards her. nor they shared their thoughts with her, which makes her worried about the lack of happiness *in* the family. In the third generation pair, her daughter-in-law became a mother-in-law. This third generation

daughter-in-law had an urban background and she differed totally with her mother-in-law. This daughter-in-law feels that prestige, status, furniture, decorative art collections, and good sarees are the essential ingredients of a family. Since her mother-in-law is totally against this concept of consumerism and feels that money should not be wasted but should be deposited in a bank or it should be spent on jewellery but not on consumer items. So in Subhadramma's opinion, only the first generation relations between the pair are harmonious and in the third generation relations, the behaviour of the daughter-in-law is not good.

When Ramabhadriah broke his hip bone and became bedridden, his status in the house has undergone a change. Since the third son is in charge of affairs dealing with agriculture, the power as well *as* leadership got transferred into his hands. Gradually, son stopped consulting the father regarding any decisions to be made, by which the father felt hurt and stopped discussing the affairs even when the son asked him. Subhadramma got the impression that all the sons spend money on their father but they lack love and affection to their father.

Thus, Subhadramma was troubled with the incidents of the past and came under the grip of an illusion which made her see her husband every where. Unable to tolerate the influence of this illusion, she tried to drown herself in Ganga but was saved in time by the people around. She becomes disenchanted and

maintains silence to her son's questions. The story ends.

To illustrate the inevitability of inter-generational conflicts and consequent struggles, KaRa has take the examples of three pairs of mothers-in-law and daughters-in-law from three generations and analysed their relations depending on the characters of individual human beings. Similarly, he selected the struggle between the father and son and gave a theoretical justification that such struggles are present from the time living being has taken birth on earth. He eve supported these struggles saying that they are essential for progress. In the story, Subhadramma criticised the lack of values such as giving respect to the elders and obeying them became non existent. She, under this mental agony, came to the conclusion that death is the only solution for a widow. She refuses even to entertain the idea in her mind a situation where her daughter-in-law can have a different opinion, different from her husband. She dislikes the situation where the son takes the reigns of leadership when the father is still alive and this idea itself is beyond her comprehension. This indicates that she never approves any changes in the value system in a family. But she realised that values are undergoing changes and she could not comprehend the reason for such changes and hence came to the conclusion that death is her own possible solution.

Instead, if KaRa has written the story in the first method, he would have made Subhadramma realise that values in

the family will be undergoing changes and also will make her search social relations in the society and their content for the cause of changes which will make her realise the necessity of changes in the values. Subhadramma was born and brought UP in a village in a rural setting and was married to Ramabhadriah whose occupation was agriculture and hence she had to remain in the village itself. She belongs to a family which depends on agriculture for their livelihood. Due to this notion of immovable property such as land and house, she lead a contented life, she was happy with whatever she had, without any great ambitions. She was busy throughout her life with either the household word or worshipping God and following religious rituals. It was customary, in this system, that authority and leadership passes automatically from father to son only after the death of his father, and from mother-in-law to daughter-in-law only with the death of the mother-in-law. In contrast to it, the daughter-in-law of the third generation was born and brought up in a cosmopolitan city and also settled in the city after the marriage where the scope for properties such as land are limited. Since they depend on one's own employment, dependency on movable property becomes common. In addition, in such a property system, the education of females is also gaining importance which resulted in the increase in employment oppurtunities for women. Commercialisation in the society resulted in *an* increase in consumerism. Advertising through media like television offered the information about many new products such as scooters. washing machines, soaps, shaapoos etc. was made

available to the viewer. As a consequence, instead of being content with whatever they have, the desire to possess many more new items has increased. To fulfil the increased desires, new ways of additional extra incomes were discovered. Loans were made available in easy instalments for scooters, cars, refrigerators, house etc. by the office management. With this, instead of saving for tomorrow's needs, the desire to experience the luxuries today itself gained momentum.

On the other side, the search for solutions to a variety of problems gave raise to a number of social movements. Most importantly, in the contemporary scene in Andhra, social movements organised by women, who question the values in the family, took the form of power and liquor movements is taking roots strongly in the society. There are women, in this movements, who believed that a husband, who destroyed the family with his drinking habit, better die than live. There are many women who participated actively in many other movements demanding a change in the values regarding women in the society as well as the family. There are women in the present society who stay away from the family as demanded by the employment outside. With this, women changed the form of the institution family and are forcing new values in the family. All these changes indicate that society is undergoing changes.

If the story is written in the first method

Subhadramma should have realised that values of the family in the society are undergoing changes and could have escaped the mental agony. Not only this, she should have realised that the changes are rooted in the society itself and she might have adjusted her behaviour and understanding accordingly or she might have accepted those changes. Since she is experiencing these changes in her old age, she might have remained a spectator observing the changes and realised their inevitability and avioded the mental agony. With this realisation, death will not look like a solution to the problem. In contrast, the story followed the second path, Subhadramma went to kasi for completing the last rights, became a victim of mental agony and was lost in her husband's thoughts which made her psychic and unstable. Every person on the river banks looked as Ramabhadriah to her and she even imagines that a form like Ramabhadraih is standing in Ganga waters and observing her, her attempts drown herself, all these indicate that her mind was not stable and she became psychic in her thoughts. In case, if the story incorporated, directly or indirectly, an actor in the story who was active in social movements, then with the help of this role, there is possibility that she should have acquired a new perspective to look at the society and her role gets strengthened. She might not have got the idea that she does not have a life of her own after her husband's death. Probably, she might have understood the changes coming in the family. But the story remained in its form only, the social movements did not find a space in the story and the reader could not advance

culturally.

KaRa's Subhadramma at the end of the twentieth century infact took four steps backwards than Gurajada's Venkamma at the beginning of the twentieth century. In the present context of society where increase of modernisation on one side, removal of subsidies as dictated by International. Monetary Fund, strengthening of market economy, exports and share markets becoming popular, on the other side, large number of social movements are taking roots in the society. In such a situation, many questions arise regarding the future of KaRa's characters. What happened to Appal Ramudu's sons? Did they go to Vizag and became rickshaw pullers ? Unable to tolerate the hunger, did they leave the village and reached Vizag to become rickshaw pullers ? Are they waiting anxiously with a lingering hope that they may get employment in *one* of the many factories that are under construction ? or Alternatively, they are raising their voice to rebel and get ready to fight the society which, destroyed their lives? In another story of KaRa titled 'Arti' who were sandwitched in the quarrels between mother and mother-in-law, did they realise that the source of the quarrel is the exchange value of their labour an distance from both of them ? In that distancing, whether they could exchange their labour and could acquire a respectable status in the society ? or realising that their labour does not have any relevance to the present society and get depressed ? Alternately, did they join with other women who are facing the similar problems and

generated a social movement ? whether they became active in the anti liquor movements to re-orient then drunken husbands ?

Let us hope that KaRa's stories in the future will provide answers to many such questions.

This illustration is a method of literary criticism, commenting on the technique of story writting with the help of two stroies, written by the same author KaRa. Instead of commenting on the author, the article concentrated on the changing in the techniques of story writting in the story `Sankalpam' compared to the techniques in another story `Yagnam'.

The subject in the story `Sankalpam' is the protogonist Subhadramma and is the object is the impact of evolving society *on* the relations inside the family and the consequent intra generationsl conflicts. In the story `Yagnam'. The subject is the protogonist Appal Ramudu and the object is the evoloving social relations and the impact of development in a village.

The object in motion `Yagnam' is captured through various developmental projects launched in the village which changed the existing social relations in the village. Appal Ramudu, the subject is continuously in motion understanding the effects or changes in the social relations in the village and then reacted accordingly, which means that the subject moves from P to R to P' and the subject becomes a part of motion in the village. In `Sankalpam', Subhadramma could visualise the changes in social

relations in two systems namely variable and fixed forms of property relations which means that she could move from P to R but could not understand the base of reasons for such changes and hence could not come to P' , instead she remained at P clinging onto the old values existing in the fixed form of property feeling that they are the good values. Thus, Sibhadramma could not change herself into new values with the existing new social relations and hence her motion is restricted while the object is trasforming from fixed land based property relations to variable money based relations and the consequent changes in the family, she could not imbibe the new values and transform herself completing the process P R P' .

In the story `Sankalpam', the subject is not in motion while the object is in motion, due to which the subject became psychic and got alienated from the society and the author almost forced her to commit suicide. Contrastingly, the subject Appal Ramudu in the story `Yagnam', is in motion, entered into contradiction with the object in motion and in the process lost heavily, tranforming himself and his family members from cultivators to agricultural labourer to a bonded labourer.

Both the stories propose the object to be in motion, which also proposes the objective reality not in equilbibrium model but that in which the reality is changing, which makes the reality bigger than the model and the model has to develop to reach the reality. In this, the object is in motion. The storied differ in

their conception of the subject. In 'Sankalpam' story, the object *is* permitted to be in motion but the motion of the subject is restricted by the author which created conditions in which the subject attempted suicide whereas in the second story the subject is allowed to be in motion in accordance with the motion of the object.

PICTORIAL REPRESENTATION

OF THE THESIS

Chapter III

Pig 3.1 Model of Subject's Perception

According to Christoffer Gefwert, world consists of many objects fig.(l). Subject recieves sense impressions from the object in reality and mentally construct a model of reality. If emphasis is on the right side of the figure, it produces Materialist description of the object and emphasis on the left side produces Idealist description of the object. In this, subject has only an observer status which leads to the problems of inter subjectivity fig(2). He introduces language as an instrument to achieve intersubjective uniformity which results in the problem of interpretation (3).

However, he could not incorporate the subject into the world of reality as a paritcipator. He acknowledged the gravity of the problem and also agrees that the knowledge of Nature becomes imperfect unless this problem is solved and the subject acquires a participatory status.

Fig 3.1 Motion , Variability and Description

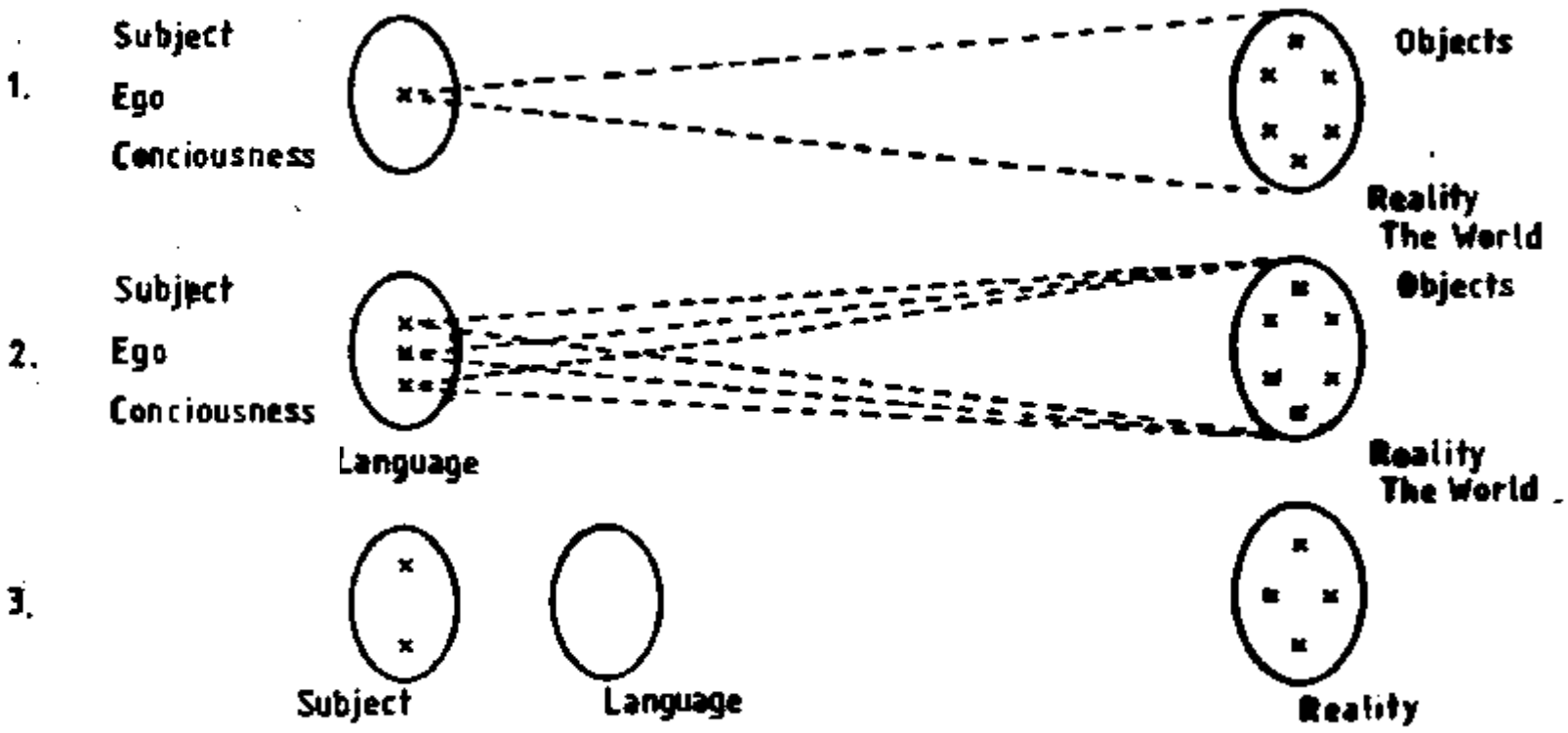


Fig. 3.2 Concept of Motion

A phenomenon consists of number of elements (1). If the phenomenon changes as a whole entity from one position to another position over time without any change in the positions of the constituent elements, it can be called **motion** in the physical space **(a,b,c,d).** If the **phenomenon,** over time, changes the internal arrangement of the constituent elements, it can be called motion in the social space. If the phenomenon, over **time,** undergoes changes either by **introducing** or removing some **elements,** it can be called motion **in** the **internal** space.

Fig. 3.2

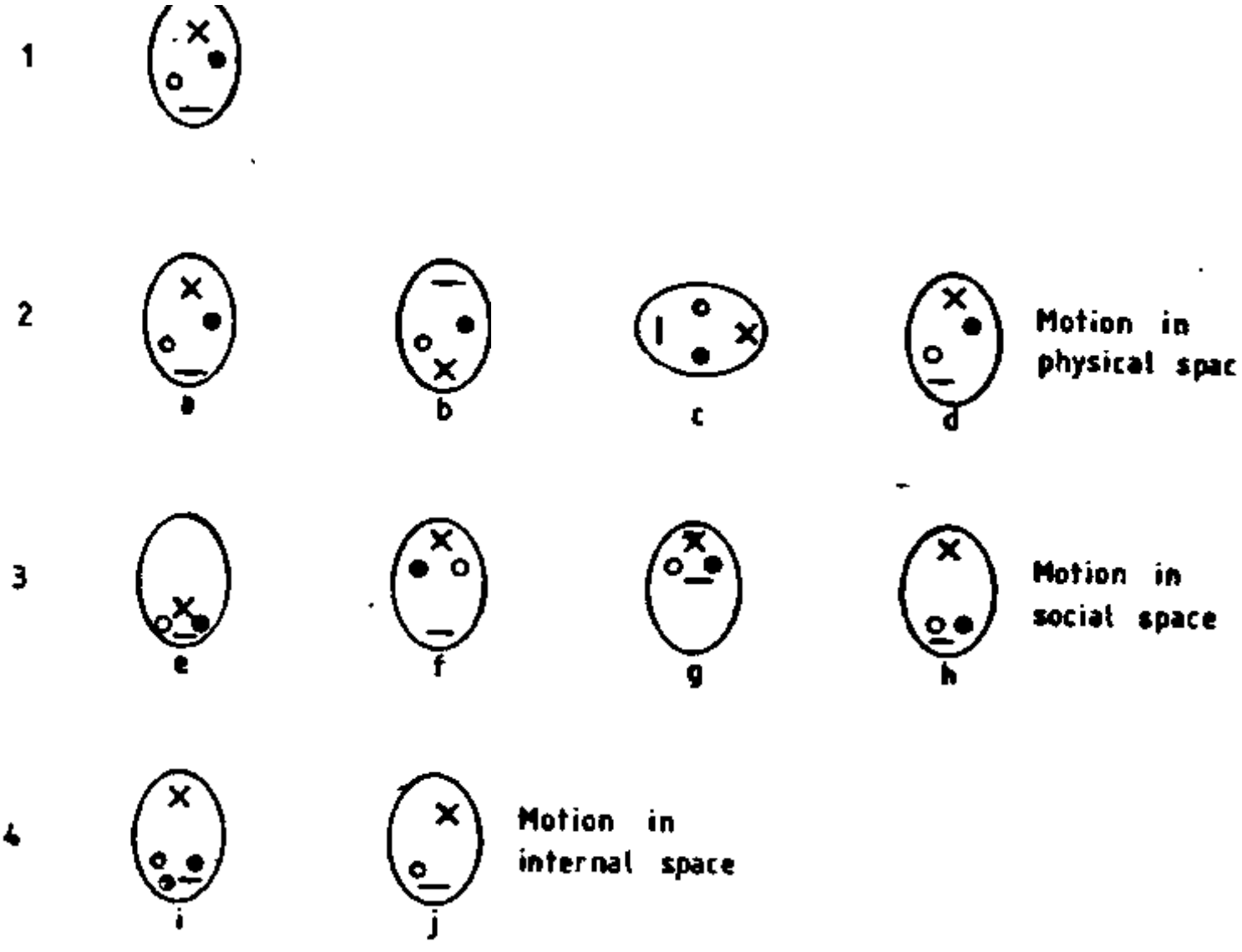

1
2
a
b
c
d
Motion in physical spac
3
e
f
g
h
Motion in social space
4
i
j
Motion in internal space

Fig 3.3 Motion, Variability and Description:

Two configurations A, B are considered and the various possible relations that can exist between them can be visualised as follows:

1. B is independent of A and not a consequence of A. There are some similarities as well as differences. Researcher develops a intellectual curiosity in this variability, a la the exercise picking the odd man out

2. A and B are related, A changed to B. Among the various possibilities, A changed only to B. Researcher's interest will on those aspects of A which has undergone changes and compare B with A; like any evaluation studies.Causal forces for the change get underplayed.

3. A has changed and moved to B, but the future course of movement of B cannot be predicted. Researcher limits itself tc movement of A to B. Causal forces get the attention which gets identified with an external force. A is like a billiard ba which can be made to move by the application of a suitable external force, which is similar to a Newtonian concept of motion where B gets the primacy.

1. A moved to B and will move to C, and motion is attributed to the initial disequilibrium conditions of the phenomenon. The historical process in which A got generated becomes important and A gets the primacy.

Fig 3.3 Motion, Variability and Description:

Two configurations A, B are considered and the various possible relations that can exist between them can be visualised as follows:

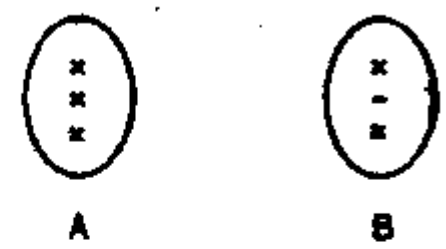
1. B is independent of A and not a consequence of A. There are some similarities as well as differences. Researcher develops an intellectual curiosity in this variability, a la the exercise of picking the odd man out

2. A and B are related, A changed to B. Among the various possibilities, *A* changed only to B. Researcher's interest will be on those aspects of A which has undergone changes and compare B with A; like any evaluation studies. Causal forces for the changes get underplayed,

3. A has changed and moved to B, but the future course of movement of B cannot be predicted. Researcher limits itself *to* movement of A to B. Causal forces get the attention which gets identified with an external force. A is like a billiard ball which can be made to move by the application of a suitable external force, which is similar to a Newtonian concept of motion where B gets the primacy.

4. A moved to B and will move to C, and motion is attributed to the initial disequilibrium conditions of the phenomenon. The historical process in which A got generated becomes important and A gets the primacy.

Fig. 3.3



1. Unrelated , A, B are in variance

2. related - changed A → B A moved only to B
   C
   D

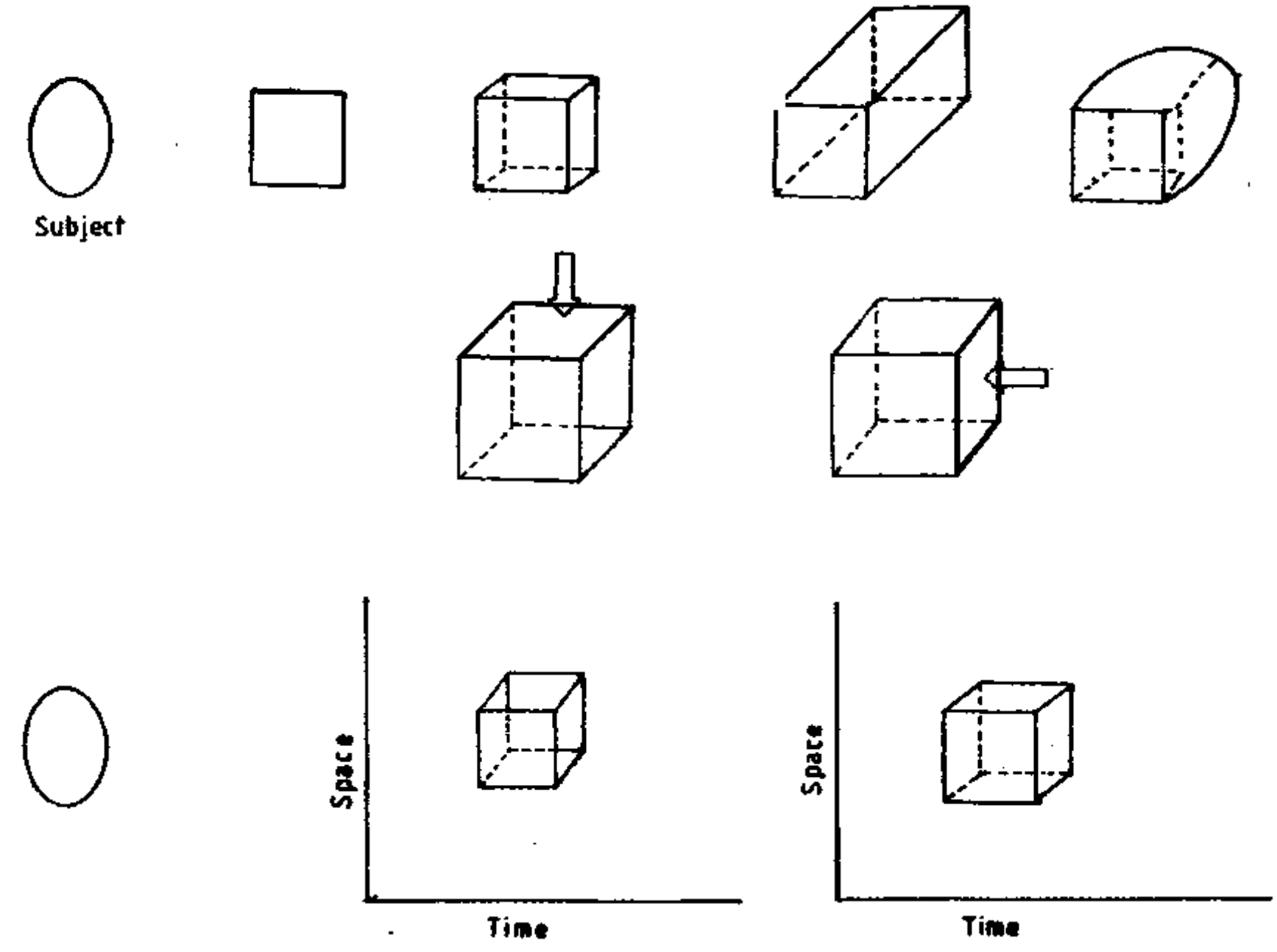
3. changed - moved A → B --- ?

4. moved - motion A → B → C

Fig 3.4 Multiplicity of descriptions:

Subject observes the object from P side and will believe that whatever is observable is the reality and the subject refuses to recognise the fact that object has other facets also. Its concern is only that dimension which it can observe and rationalise. They are, in the philosophical discourse, named Solipsists. Subject, after rationalising the sense perceptions in P dimension, extrapolates the rest of the object. For solipsists, no other dimension exists, for others it can be a square; a rectangle or even a circle. Similarly, a subject can view the object from either E or S side. This variability in the subject produces multiple descriptions of the object (Fig. 1). Similarly, the object when located in different space-time context generates different descriptions. This variability in the object generates multiple descriptions (Fig. 2). Alternatively, the subject over a period acquires skills and can observe the object better. For example, the use of a microscope or a telescope makes it possible for the subject to perceive the object with more details. This is similar to a *subject in* motion.

Fig. 3.6



Chapter IV

Fig 4.1 Modeling of subject:

A subject can be modeled as an evolving two dimensional matrix consisting of two interacting sets namely perception set P and rational set R (fig. a). It is not that these two sets have an equal area in the configuration. During the evolution of the human mind, in the initial stages, perception set occupies a larger space as compared to the rational set, which means knowledge generation mainly depends on the process of induction, that is, observations form the basis of knowledge by which theory gets generated and the source of knowledge can be located in the sense perceptions, increase in the quantum of sense perceptions lead to qualitatively different rational set. This is represented by RP'arm in a linear presentation, Positivist philosophers *can* be located here. During the course of time, rational set occupies a larger area compared to perception set (fig. b) . In this, the knowledge generation mainly depends *on* the Hypothetico-deductive process and the deduction, RP'arm, plays a dominant role. Creative capacity and intuition, in addition to sense perceptions, become the source of knowledge. Popper and Medavar can be located **here.**

Theoritical abstractions form the base which predict observations. In another picturisation (fig. 3) both P & fc occupy positions of importance in which case it is neither induction like the first category nor the deduction as *in* the second category play a dominant role but each determines the other; that is, quantitative *increase* in P gives rise to rational theories which in turn gives rise to qualitatively different perceptions to the subject about the object. This

movement of observation to theory and theory generating new observations can be defined as subject in motion.

Fig. 4.1 Subect in Motion

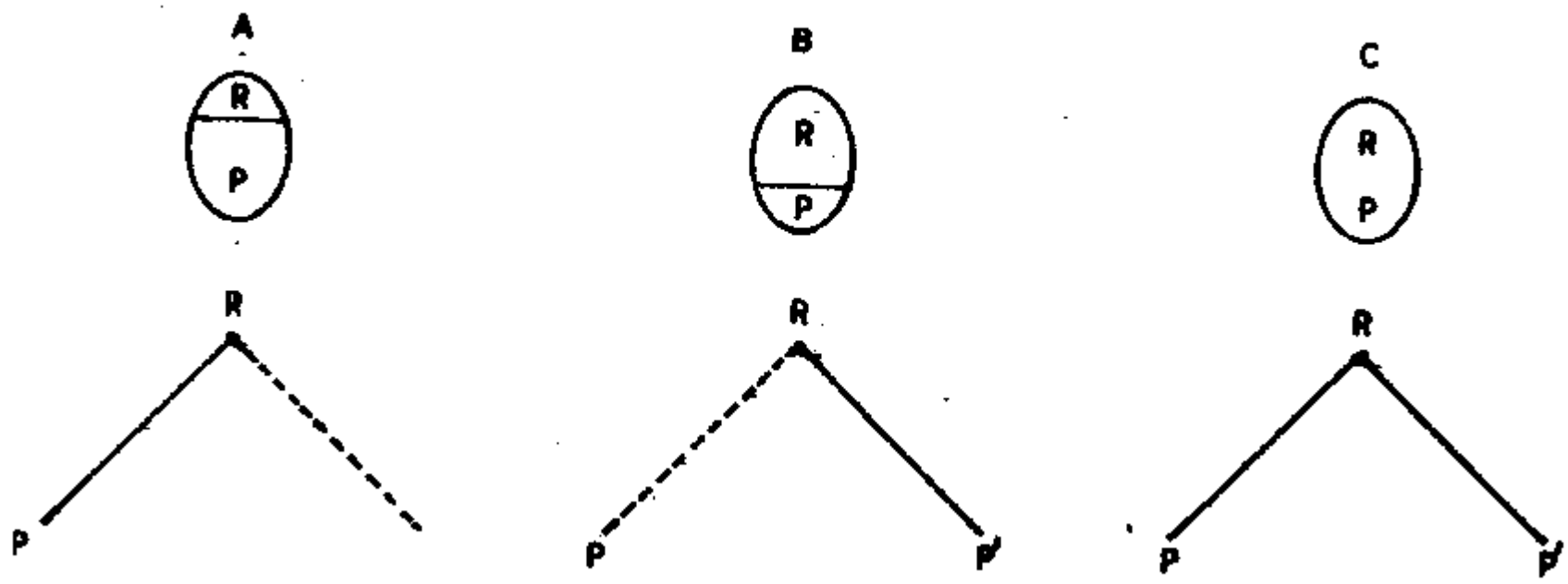
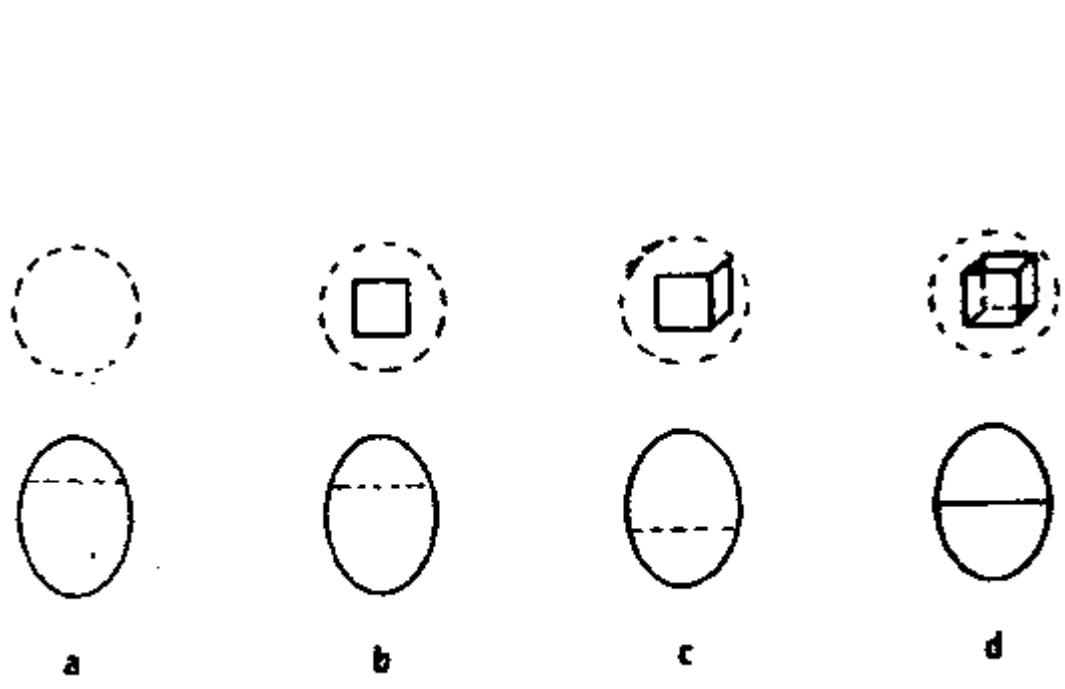
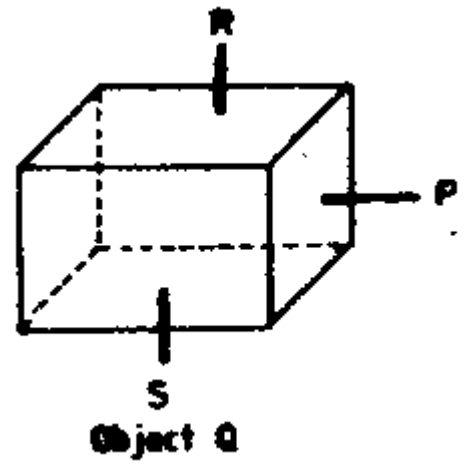


Fig 4.2 Subject in Motion:

Subject, initially, is ignorant of the object and will not receive sense impressions of the object. No mental construct of the object is formed by the subject (a), Gradually, for various reasons such as subject has increased its capacities and is capable now to perceive the object or the changes in the object attracts the attention of the subject, it receives sense impressions from the object and by abstracting mentally constructs a model of the object. In a process of gradual accumulation, the subject completes all the dimensions to have a picture of totality of the object (b,c,d) . It is similar to the story of five blind men and the elephant. The process of completion of the model is through repeated observations as suggested by positivists, conjecture and falsification as suggested by Popper or Paradigm changes as suggested by Kuhn. The subject, with the help of changes in the perception and rational sets completes the picture of the object and in this process, the subject is gradually acquiring the knowledge of the object and is said to be in motion. Subject in such a formulation *is* similar to a car racing towards the goal.

Fig . 4.2





Chapter V

Fig 5.1 Modeling of an Object:

The object Q can be visualised as three dimensional fluid flux, and it can be modelled as three dimensional generative matrix and the three components P, R and S are mutually dependent on each other. Each dimension can be seen as an elastic spring which incorporates a condition of self expansion. Each layer is related to the other through an elastic spring. Their mutual interaction is such that each layer undergoes changes while anchoring in the other which is conditioned by the other dimensions. In case of necessity, these layers re-adjust and change in such a way so as to allow changes in the initial layer. This makes it necessary to classify changes as intraleve! changes due to contradictions within itself and interlevel changes due to contradiction between any two layers.

For convenience of easy understanding, another pictorial representation is considered. The above picture of three dimensions can be alternatively imagined as a cube of three dimensions, containing not rigid walls but only elastic walls which undergoes changes *in* time.

Fig. 5.1 Object in Motion

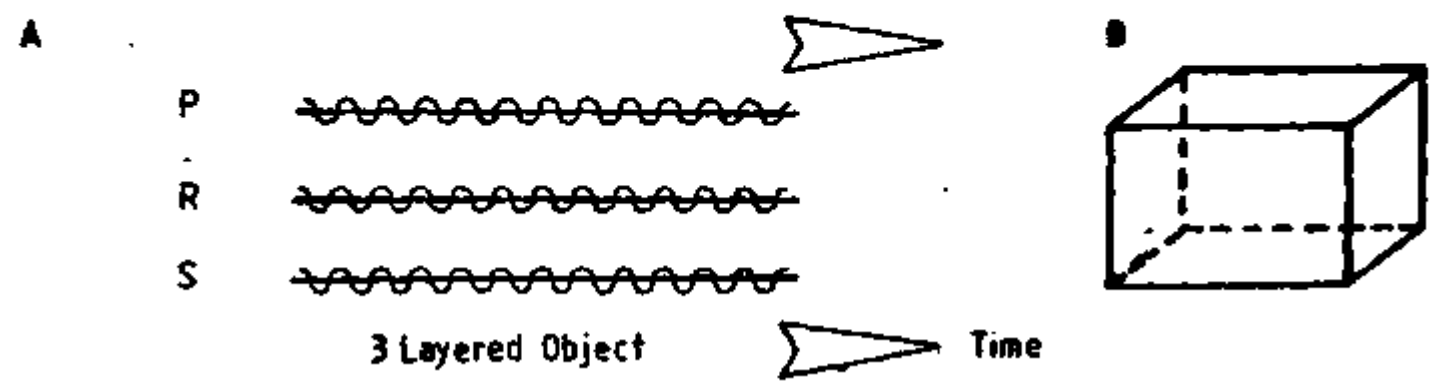
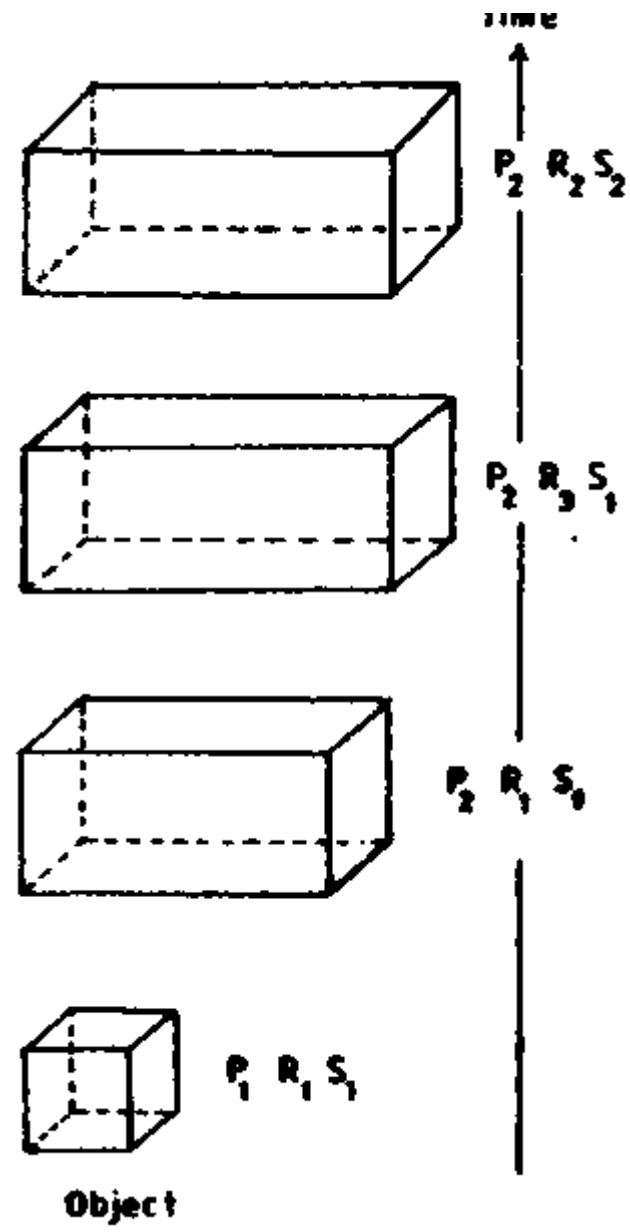


Fig 5.2 Object in Motion:

Subject can model the object in a number of ways such as stationary object or a changing object. In the latter case, object can be modeled as a fluid flux by which motion gets internalised. In this, the object is visualised as three dimensional matrix with three interdependent elements P, R and S. In the initial position the matrix P1R1S1 represents the object. Due to the internal dis-equilibrium, P1 changes to P2 and this change effects the other levels and they also change and finally the matrix becomes P2R2S2, which means P is the driving force. This model of changing object can be called classical/traditional model. Other alternate situations can also be imagined where R and even S can also be the driving force. These two alternatives in fact form the three phases of development which can be seen as sequential in **Nature.**

Fig . 5.2

Subject



Object

Fig 5.3 Modeling a human individual:

The human individual hi in the collective with a matrix [P R S] dimensional in activity, the path of development can be visualised, not as linear, but a three pronged Gestalt ( ). The specialty here is if hi struggles in one direction, it is in unity with the other two dimensions, except in the periods of revolution *in* which hi becomes active in all dimensions. Another point to remember here is since the natural character of hi is struggle, it can never be a passive agent accepting the relations of statusquo, but becomes active at least in one dimension, which makes the path of development a three pronged gestalt.

Fig 5.1

Each individual, in its activity, comes into struggle with another individual. The resultant of struggles of all the human beings generate history. In the figure, hi has straggle in three dimensions, h2 is struggling in P and S only where as h3 is in unity with p while struggling in P. & S. These intersecting forces give rise to infinite number of parallelograms of forces and the resultant gives rise to a historical event.

Fig. 5.3 Modeling a Human Individual

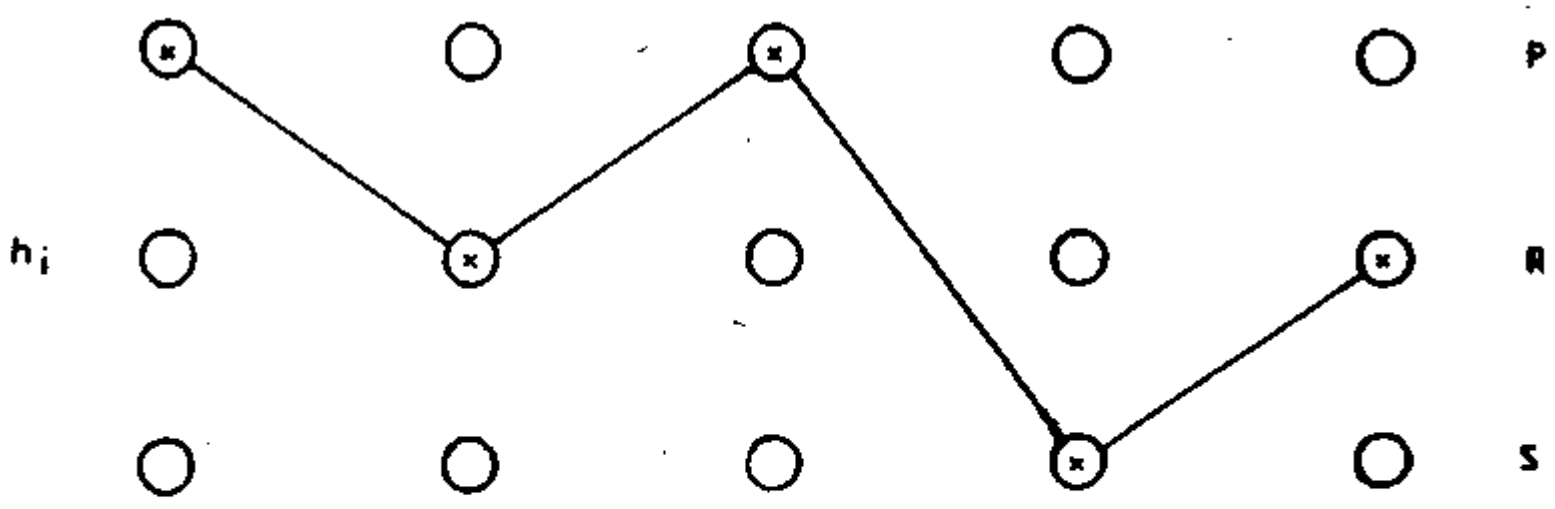


Fig. 5.4

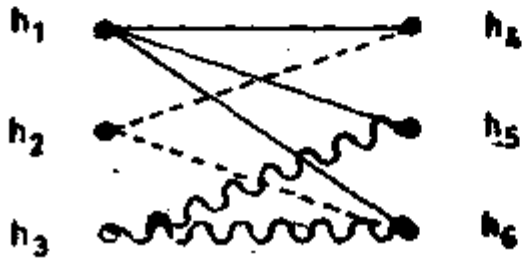
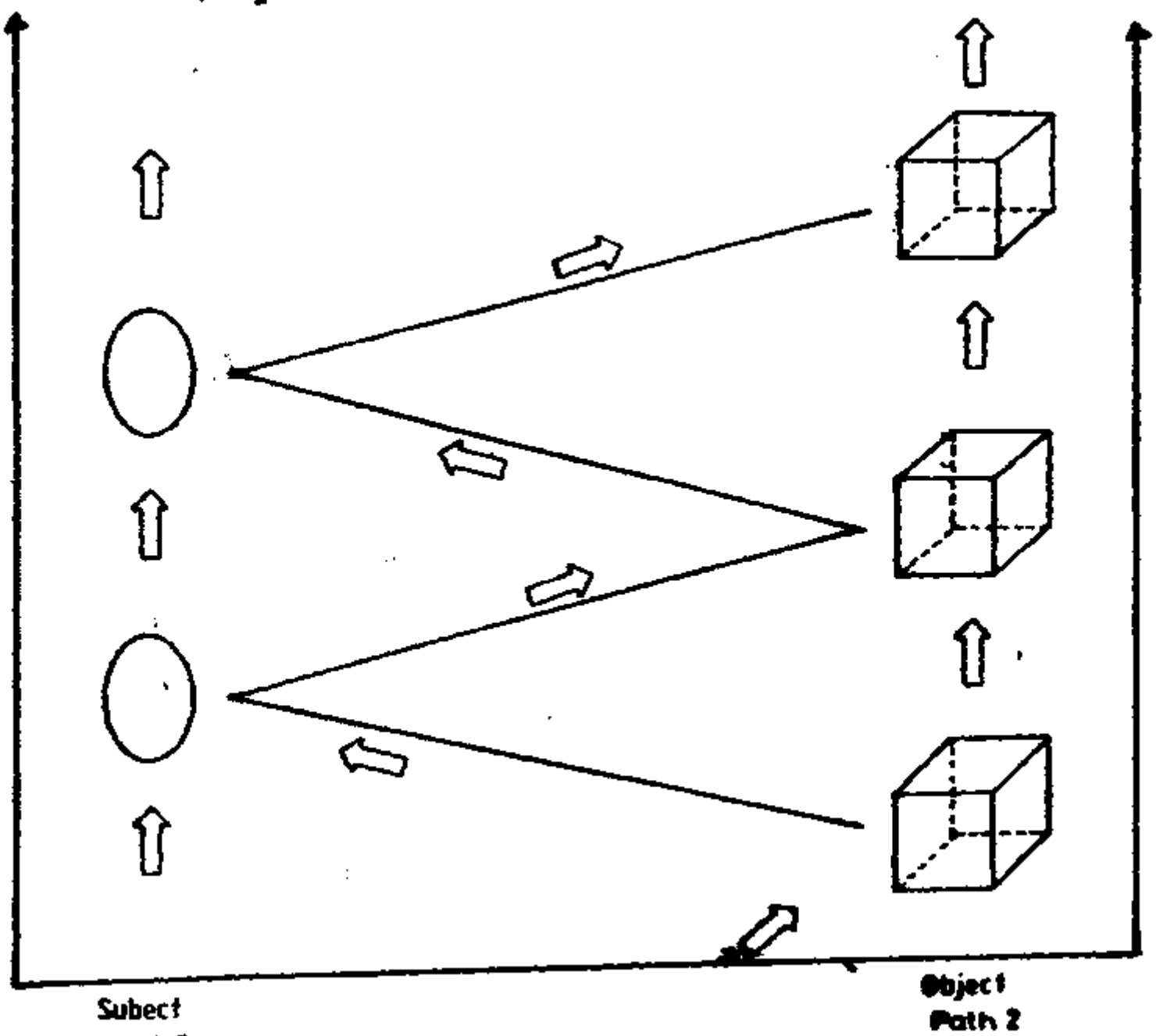


Fig 6.1 Subject as **well** as Object **are** in **motion:**

The dimensions of subject and object are compressed into a single plane to facilitate easy presentation and understanding. In the above figure, neither the origin nor the end acquires any importance. One can start enquiry at any time, from any place either from the side of the object or from the side of the subject.Idealists start with the side of the subject and Materialists start from the side of the object. The stability or equilibrium situation in the object becomes a desirable criteria for goal centric methodology and the subject restricts itself to discussing the condition of equilibrium of the object, and any deviation that results in practice are mopped aside. In such a case, knowledge generation is restricted to path 1 where subject is *in* motion for a given object or path 2 where the object is in motion for a given subject. Both the paths represent goal centric methodology. Alternatively, where knowledge generation is through path 3, or through motion centric methodology, a spiral development oscillating between the object and the subject is visualised. In this, subject's attention is focused on the changes in the equilibrium condition of the object and hence subject concentrates on the struggles in the object, which are pointers to change. To this subject, the entry point of enquiry into the object can be **the** struggle dimension of the object.

Epilogue



BIBLIOGRAPHY

Abbasi, S.A. (1991) : *Environment Impact of Water Resourses Project,* Discovery publishing house, New Delhi..

Agragamee (1991) : *Base Line Socio-Economic Study and Preparation of Action Plan of Rehabilitation and Resettlement for Upper Indravati Project,* Koraput.

Baboo, Balgovind (1992) : *Technology and Social Transformation,* Concept publishing Company, New Delhi.

Bharadwaj, K. (1980) : *On Some Issues of Method in the Analysis of Social Change,* Mysore University press, Mysore.

Bharathi, M. (1981) : "Saahitya Samaajam lo streelu lera", Unpublished.

Bharathi, M. (1993,8): "Submerged Women" Unpublished working of Institute For Study of Society And Culture, Jyoti Vihar.

Bharathi, M. (1993,b) ; "Karuvu Manava Sambanadaluo" Unpublished

Bharathi, M. (1993,c) :" Ka Raa kadha, Sankalpam", A*runa Tara,* Aug-1993.

Bharathi, M. (1993d) : "Character of the state and women Question" Published in *Womens Participation in Politics,* Edited by Susheela Kaushik, Vikas Publishing House Pvt. Ltd.

Banerjee Nirmala (1985) :"Modernisation and Marginalisation", *Social Scientist.Vol-13,* No-10 & 11, PP 18-71.

Bereau of Statistics and Economics, (1968) : *Report of Benefit of Hirakud Dam Irrigation, A Socio-Economic Surve,* Government of Orissa.

Bocock, R. (1986) : *Hegemony.* Ellis Horwood Limited, Chichester.

Burke, T.E (1983) : *The philosophy of Popper,* Manchestor University Press.

Burton, John (1990a) : *Conflict Resolution and Prevention.* The Millan Press Ltd., Hound Mills, Basingstoke, London.

Burton, John (1990b) : *Conflict ; Human Needs Phenomenon.* Edited. The Millan Press Ltd., Hound Mills, Basingstoke. London.

Caldwell, J.B (1982) : *Beyond Positivism ,* George Allen and Unwing publisher London.

Carter, Kate (1994) :"The transaction cost and benefits of the incomplete contract of employment". *Cambridge Journal on Economics,* Vol 18, No *2,* PP. 181-196.

Chandhoke, N. (1994,a) : "Marxian Political Economy as method : How political is political Economy" *Economic and Political Weekly Jan* 29, PE 15-21.

Chandhoke, N. (199-l,b) :" Why people should have rights"*, Economic and political Weekly, Oc*t-8, PP- 2697-2700.

Dale, R. (1989) : *The state and Education Policy,* open University Press, Philadelphia.

Das Gupta, A. (1989) :"Change, Development and a theory of Social Science", *Economic and political Weekly,* Jan-28, PP. 35-44.

Das Gupta, A. (1993) :"Unity in Marx : Towards a Methodological Reconstruction", *Economic and political Weekly,* Jan-30, PE 17-55.

Davin, Delia (1976) : *Women-Work : Women and the party in Revolutionary China*, Clarendon press, Oxford.

Dye, T.R. (1978) : *Understanding Public Policy,* Prentice-Hall, Englewood Cliffs.

Easton, David. (1971) : *Political Systems :An Inquiry Into The State of Political Science,* 2nd edition, Scientific Book Agency, Calcutta.

Engels, F. (1951) : *Dialectics of Nature,* Progress Publishers, Moscow.

Fernandas, W and Raj, S. Anthony. (1992) : *Development, Displacement and Rehabilitation in the tribal areas of Orissa,* Published by Indian Social Institude, NEW-DELHI .

Gefoert, C. (1983) : "A participator, The metaphysical subject". Academy of Finland, Unpublished.

Goods, William, J and Hart and K. Paul (1952) : *Methods in social Research,* McGraw Hill Kogakusha Ltd.

Gorky, M. (1985) : *Mother,* Raduga Publishers, Moscow.

Gulati. L (1991) : *Qualitative Research methods : the how and why of case studies,* Qualitative Research methods, teaching monograph-1, Centre for Development Studies, Trivandrum.

Hall, S and D.Hobson, (1992) : *Cultures, Media languages* collection of working papers in cultural studies, Cambridge University Press.

Haragopal G and Yanamala,G (1981) :"Objectivity in Social Science Research", Published in *Research Methodology in Social Science,* Edited by Sharma Prasad and Satyanarayana, Sterling publishers Pvt. Ltd. NEW-DELHI.

Hayami- Y (1981) : *Understanding village communities and the direction of Agraian change in Asia,* Hindustan Publishing Corporation. New Delhi.

Higgott, R.A. (1983) : *Political Development Theory ; the contemporary Debate,* Croom Helm, London.

Hiralal, Moha Thrabi. (1985) : "Environments costs of forests, need for scientific criteria", Paper presented in regional workshop on people and Dam by society for participatory reserach in Asia, Delhi.

Ilyenkov, E.V. (1982) : *The Dialetics of the Abstract and the Concrete, in marx's capital,* Progress Publisher, Moscow,

Kalpagam. U. (1995) : "Industrial Reserve Army", *Social Scientist.* Vol 13, No 10-11, PP 95-115.

Katyayini, V. (1993) : Karuvu, Kalahasti Mahatyam, *Praja Sahiti,* August.

Kuhn, S.T. (1962 : *The Structure of Scientific Revolution,* University of Chicago Press.

Luttbeg, N.R. (1968) : *Public Opinion and Public Policy, Models of political linkages,* The Dorsey press.

Mao-Tse-Tung (1977) : *Selected work of Mae-Tse-Tung,* Foreign language press Peking.

Marx, K, (1951) : *Capital,* Vol. I, Progress Publisher Moscow.

Marx, K. and F.Engels (1968) : "Preface to the Critique of Political Economy", *Selected Works in One Volume,* Progress Publisher Moscow.

Marx, K. and F.Engels (1976) ; *The German Ideology* Progress Publisher, Moscow.

Medavor, Peter. (1984) :" Introduction and Intuition in Scientific thought", *Plato's Republic,* Oxford University Press.

Mishra, R.P. (1989) : *Research Methodology, a Handbook Concept* publisher company, New Delhi.

Morgan, Elizabeth, D. Power, Grant and Van, E. Wieigel (1993) ; "Thinking Strategically about Development, A Typology of Action Programme for Global Change", *World development,* vol 21, No 12 PP. 1913-1930.

Myrdal. G. (1969) : *Objectivity in social research,* Thomas Nelsons printers Ltd. London.

Nalatov, Igor (1984) : *Alternative to positivision,* Progress Publisher Moscow.

Nath, G.B.and K. Agrawal (1987) :" Politics of agitation against Rengali Dam project, A case study ",paper presented in the seminar, "Development and Displacement" Organized by Institute for study of Society and culture, Jyothi Vihar, Orissa.

Olga. (1993) "Gulabilu", Telugu novel *Chatura,* November, 1993.

popper, Karl (1915) : *The open society and its enemy .Vol.11,* Rautledge and Kegar Paul, London.

Popper, Karl (1957) : *The poverty of historicism,* ARK, Paperbacks, London.

popper, Karl (1959) : *The logic of scientific discovery.* Press, LONDON.

Popper, Karl (1971,a) *An evolutionary approach,* Clarendon Press, Oxford.

Popper, Karl (1971, b) : *Objective knowledge, An evolutionary* approach,Clarendon Press, Oxford.

popper, Karl (1983) : *Realism and the aim of science*, Press London.

Rao, R.S (1981) : "Notes on a Simplistic Model of Social Relations" Paper presented at the policy workshop on research and action on the Trade Union and Lobouring Poor in the Third world with special reference to India, March 29th to April 25th,1981, New Delhi, unpublished

Rao, R. S. (1985) : "In Search of theory of Agrarian Relations" Published in Andhra Pradesh Economic Association Annual conference papers -1985, Warangal.

Rao,R.S. (1988) : "On the Methodology of Studying Society" Forward to K.Balagopal : *Probing in the Political Economy of Agrarian Classes and Conflict,* edited by G.Haragopal, Perspectives, Hyderabad.

Rao,R.S. {1990a) : *Abhivrudhi Velugu Needalu,* in Telugu, Perspectives, Hyderabad.

Rao, R.S.,(1990b): "Towards Writing History of Ahistorical People", in *On People's History,* Published by Institute for Study of Society and Culture, Jyothi Vihar.

Rao, R.S.,(1990c) : "Problems in Education, Economy and Society". Keynote Address delivered to Andhra Pradesh Teacher's Federation. Ongole.

Rao, R.S.,(1991a)*: Paryavaranam - Charcha* {Telugu). Unpublished mineo.

Rao, R.S.,(1994) : *Towards Understanding Semi-feudal Semi-Colonial Society,* Edited By D.Narsimha Reddy, Perspective, Hyderabad.

Reddy, G.R. and G. Hargopal (1983) :" The impact of small farmers development. Agency on the rural poor in Andhra Pradesh", report submitted to CESS, Hyderbad.

Roemer, J.E. (1981) : *Analytical foundations of Marxian Economics theory,* Cambridge University press, CAMBRIDGE.

Romer, M.P. (1992) :"Two stratagies of Economic development using ideas and producing ideas", Proceedings of the world Bank Annual conference on Development Economics.

Rao, Vara, Vara (1983) : *Telengana Vimochanodyam, Telega Navala,* Vidya Printers, Vijayawada.

Ruben, David-Hillel (1979) : *Marxism and Meterialism a Study in Marxist Theory of Knowledge,* The Harvester Press, Sussex.

Ruzavin, G.I. (1994) : *Methodological Problems, Published in Karl Marx, mathematical manuscripts* together *with Special Suppement,* Vishwakosh Parishad,Calcutta.

Rydnik, V. (1965) : *ABC's of Quantum Machanics,* MIR publishers, Moscow.

Sen, A.K. (1982) : *Choise, Welfare and Measurement,* Basil Blackwell, Oxford.

Sovan, N.V and Nilakanth Rath (1960) : *Economic of Multi-Purpose River Dam,* Asia publishing house, Bombay, Calcutta, New-Delhi, Madras.

Sugathan, R. (1990) : *The development of Dialectics from Kaut to Hegal: A critical examination,.* Submitted to JNU for award of Doctor of philosophy, Unpublished.

Tata Institude of Social Science (1993) "Rehabilitation and Resettlement process in Maharastra submerged villages due to Sardar-Soravar", *Economic and Political Weekly, Aug* 2.

Thompson, E.P. (1963) : *Making of the English working class,* Penguin.

Thompson, E.P (1979) : *The Poverty of Theory and other Essay,* Mealin Press, London.

Tripathi, P.K. and S.D. Nanda, (1987) :"The Hirakud Rehabilitation and the Displaced people ", Paper presented in the seminar, "Development and Displacement" Organized by Institude of the study of society and culture, Jyoti Vihar.Orissa.

UspensKiw, V.A. (1991) : "Reflection on seven themes of philosophy of Mathematics" *Publisher in Karl. Marx, mathematics; Manuscripts together with Special Supplement, Yishwakosh Parishad.*

Vijay, R. (1992) : "Two models on Agrarian Relations and the Need for Land Reforms", M.phil Thesis submitted to University of Hyderabad. Unpublished.

Vohra, B.B (1985) : "Towards a National Water Policy", Paper presented in regional workshop on people and Dams, by Society for participation research in Asia, Delhi.

Vohra, B.B (1987) : "Managing Indias Water Resources", keynote address delevired at the National seminar of National association of water development agencies at Hyderabad-

Weedon, c. Andrew Tolson, Frank Mort (1992) : Introduction to languaqe studies at the centre, in Hall et al, *Culture, Media language,* Cambridge University Press.

Wilkinson, T.S. and Bhandarkar, P.T. (1979) : *Methods and Techniques of Social Research,* Himalaya Publishing House, Delhi.

Wingo, G.M. (1974) : *Philosophies of Education : An introduction* Sterling Publisher Pvt. Ltd. New Delhi.

Young, V.P. and Schmid, F.Calvin (1979) : *Scientific social survey and Research,* Prentice-Hall of India Pvt. Ltd. New-Delhi.