
UNIT 5 DEFINING THE RESEARCH PROBLEM (REVIEW OF LITERATURE)

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5.1 INTRODUCTION

How does one select one's topic of research? While this question is central to any Social Science research and precedes all others, it is ironic that there is no golden rule to be followed in this regard. Selection of a research topic depends on a whole host of factors ranging from one's exceptionally personal experience, interests and predilections to a common social problem that one feels committed to address and resolve. Social Scientists have debated on this question particularly since the days of European Enlightenment.

Research Methodology however focuses not so much on how one initially feels interested in a research problem that one subsequently chooses to pursue, but on how one assesses and determines the research potential of the topic thus chosen and how a research topic is translated into a research problem. Viewed in this way, Research Methodology deals only with the second-order problems. The literature that has developed in the relevant field serves as the repository of knowledge and a pointer to the trend and direction of already existing research. But the objective of research is not merely to rehash what one already knows but what 'value add' one can potentially make to the existing stock of knowledge. Yet one has to understand that novelty is no necessary virtue of Social Science research. It is important that one pursues an idea which appears as novel in the first instance - only by way of observing the Social Science rules and protocols. Review of literature implies first of all an assessment of the existing stock of knowledge so that one gets to know what 'value add' one can make and also an understanding of the existing rules and protocols of research. In simple terms, the imperative of 'value add' impels the researcher not only to find out the gaps in the existing stock but also to suggest ways of overcoming them keeping within the rules and protocols of Social Science research. Both are central to the exercise of reviewing the literature and are equally important in Social Science research.

Aims and Objectives

This Unit would enable you to understand

- The method of selecting a research topic;

- Turning the topic into a research problem and
- The subjects and the time frame of the research.

5.2 SELECTING A RESEARCH TOPIC

As we have already pointed out, there is no golden rule to be followed while selecting a research topic. The question of selection is usually tackled at two levels: At one level, Social psychologists have been mostly concerned with how selection is actually made and how social and personal factors play their role in this regard. At another level, the question of ‘how one selects one’s research topic’ is reframed into ‘how one *ought* to select a research topic’. In fact the debate concerning how one ought to select a research topic still continues to haunt us. On the one hand, sociologists like Robert Lynd would argue that social research is called upon to address only problems that a society faces and therefore are considered as socially relevant by those who live in that society. Thus to cite an instance, social research in a society marked by high incidence of insurgency and violence should direct itself to this problem rather than anything else. That this does not always happen in real life situations is an altogether different story. In a long essay entitled ‘Knowledge for What?’ subsequently published as a book after the devastating World War II, he urged on the social researchers to carefully study the problems of reconstructing the post-War societies of Europe and America with the objective of finding out solutions and therefore in a way that helps produce policy-relevant knowledge. Personal interest or for that matter anything other than this social objective, according to this line of argument, should hardly play any role in the selection of a research topic.

While fully appreciating Lynd’s powerful advocacy for policy-relevant knowledge, C. Wright Mills on the other hand pleads for a social research project that will be ‘sociologically imaginative’. That is to say, one has to be able to draw on one’s personal resources to relate issues in society to one’s own experience. One’s personal experience plays a great role in shaping one’s research agenda. While Mills recognises the importance of the experiential, he does not thereby mean that the research topic will have to be so personal as to remain exclusive to her. In other words, he invests the researcher with the responsibility of personally experiencing the social problem in a way that the social also becomes personal and of working on it.

Researches in a country like India continue to be an affair of either one single individual or only a small team of individuals barring the large and institutionally funded projects. Individual interests do play a significant part in shaping up the research agenda – unless the Government or a public body commissions otherwise and funds it. But a funding agency of this sort also looks for individuals who are interested in working on topics that it identifies as socially relevant or relevant to the agency and hence need to be addressed. There has to be certain convergence between the research priorities listed out by the funding agencies and the individual interest. When C. Wright Mills was emphasising the importance of sociological imagination, he was simply making the point that unless one is able to relate oneself to a problem that may otherwise be extremely socially relevant, one will not feel adequately inspired to conduct research on it. Finally it is the individual interest - of course with some minor exceptions - that acts as a stimulus and propels one to research on any particular topic.

How does one feel interested in working on a particular research topic? While a researcher becomes interested in a particular topic, her interest per se is no measure of

the topic's research potential. Research Methodology makes this important distinction between one's research interest in a research topic and the research potential of that research topic. Social research starts from an understanding of the broad topic that subsequently has to be translated into a workable research theme. The understanding presupposes first of all an interest on the part of the researcher in working on the topic defined in broadest possible terms and of course some knowledge of the topic developed through either some primary reading of the already existing literature or an exposure to it by way of attending seminars, workshops, talk shows, symposiums and so on and so forth or any combination of them. There is no decisive way to explain how a researcher develops her interest in the topic she in fact feels interested in. It has as much to do with her autobiography as with the social milieu of which she is a part. It can range from such mundane and accidental factors as the indelible impression that the oratorical skill of her teachers has left on her young mind and the piece of advice that she receives in course of one of her most casual conversations from persons whom she trusts to an apparently durable problem that she actually suffers from in her personal life albeit with great pain and agony. Thus to cite an instance, one's personal suffering in the family of in-laws due to the inability of one's parents to pay up dowry may be reason enough for one to undertake a research on the connection between a patriarchal family structure and dowry in a caste society. Accordingly, one can prepare dense ethnography of, let us say, 100 families in order to shed light on the connection.

Whatever be the factors prompting her to select any particular research topic, a topic becomes a research topic only when it is posed in such way that it is clearly grounded in the general social field relevant to it. Thus to revert back to the instance cited above, the connection between patriarchal family structure and dowry will be extremely relevant for us to understand the broad field of Sociology of Family and Sociology of Development and Modernisation.

While personal interest plays a part, social research topics need not derive solely from our own experiences and interests as C. Wright Mills would have us believe; they can on the other hand come from our less personal and more academic exposure to some potential sources for ideas. These potential sources are threefold: (a) already published materials, (b) other people, and (c) research projects which are in progress at the same time.

In one sense, already published materials might serve as a roadblock. One might feel discouraged as one browses through tons of pages written on the topic that one plans to work on. The sheer volume of work so far completed by other scholars may be considered by her as so huge and exhaustive that it leaves nothing for further research – let alone breaking new ground. But at the same time, already published materials in book form or in the form of research papers actually help in inspiring many smaller research projects. Gandhi's works, for instance, clearly lay down the moral principles that should guide any exercise in conflict resolution. As we know, Gandhi was not merely interested in solving problems that afflict the society in any and every way – he was interested in solving problems by way of observing certain norms and moral principles that he would consider as inviolable. He would rather continue to suffer the problems the solution of which needs violations of these norms and moral principles. Does this mean that Gandhian norms and principles being rigid in this sense are not malleable at all – given that malleability is a prerequisite for conflict resolution in contemporary societies? Else how does one seek to resolve the problems rigidly sticking to one's values and

without allowing others to respect theirs? One can in fact conduct research on this – not just by way of confining oneself to what Gandhi has written although there is much scope for research in this direction too – but by way of preparing a profile of Gandhian peace interventions by his followers and disciples in diverse conflict situations all over the world and viewing them as processes that also contributed in no small measure to the advancement of his theory of peace and conflict resolution. Gandhian Theory and Philosophy do not stand still, but is ever dynamic. In other words, one takes into account the already published materials of Gandhi; but instead of confining oneself to these only and making a rehash of them, one may pick up from his writings certain ideas and concepts that have been sought to be put into practice by the activists, followers and disciples and examine their impact on the society. His Theory and Philosophy must be understood in that dynamic sense only. Thus, Gandhi's idea of putting up a solitary fight in the face of severest odds may sound ineffective particularly on occasions when the society refuses to take notice of and learn from it. When personal moralism and individual examples fail to create a stir in the society, how does one devise forms of social mobilisation and most importantly in a Gandhian way? In simple terms, Gandhism does not begin and end with Gandhi – but has the immense potential of developing itself in keeping with the changing circumstances.

Once a topic is selected, one may get familiar with the projects of similar nature that are currently under way. The best way is to talk to people who are involved in the ongoing projects and try to develop an idea of what is being done in the field. One gets to know about ongoing research projects from one's teacher and/or by attending conferences, seminars or workshops. Seminars, conferences and workshops are sites where new ideas and concepts are coined, tossed around and experimented with before these are put into fine print.

Alternatively one might look for the already collected data which one can use for one's purpose. Let us cite an example. Till the second quarter of the last century, 'Organizational Theory' used to be considered as too technical a subject and public organisations continued to be treated as mere instruments, which could be used to achieve any given objective on earth – provided these are appropriately designed and crafted. An organisation, viewed in this sense, is only a means to an end that it seeks to achieve. The degree of an organisation's success is exactly proportional to the degree of accuracy and appropriateness one attains in designing and crafting it. If it fails in achieving its given objective for which it was meant, the fault lies in our inability to appropriately design and craft it. Organizational Theory in the pre-World War II era was built on the assumption that it is possible to use it in any way one wishes much in the same way as one commands a machine. Subsequently, it has been established that those who run or are supposed to run the organisation are concrete human beings having their minds and more often than not work in the workshops and shop floors in ways that do not necessarily comply with the organisational requirements. They develop essentially human relationships that not only cut across the organisational codes and norms but adversely affect organisational effectiveness, that is to say, its capability of achieving the pre-given objective. While this otherwise small bit of empirical research known as 'Hawthorne Experiment' thoroughly recast the profile of Organizational Theory, it also sparked off a series of researches particularly in the Western countries and seems to have redefined the disciplinary field of Public Administration.

Ironical yet true, a topic for social research project may stem from an already available dataset. That a book has already been published does not necessarily mean that the data

contained in it have been analysed to the full. It invariably leaves scope for further leads and analysis. Thus to illustrate, many empirical studies have, of late, been conducted on the support base of the United Liberation Front of Assam (ULFA) – an insurgent organisation operative in Assam and a few other states of the Northeastern region since its establishment in 1979. A recent study for instance comes up with the interesting finding that the ULFA cadres who at one point of time used to be regarded, according to some reports, as ‘our boys’ by the majority in the society are increasingly being looked upon as ‘terrorists’ by the beginning of the new millennium and the support base that it used to enjoy by all accounts particularly during the late-1980s has been steadily eroded. Over 90 percent people, according to this study, are not in agreement with its demand particularly of Assam’s “sovereignty”. While the abovementioned study leaves its finding at that, it is possible to elaborate on it further and raise the question of whether its eroding support base automatically adds to the support for the Government. Although the study never delves into the question, it actually opens up another line of inquiry. If the switchover from one to the other cannot be conclusively proven, then how does one account for the dilemma that seems to characterise the popular psyche? How does this dilemma play a part – if at all - in the ongoing peace negotiations between ULFA and the Government of India since the beginning of 2011? These examples of - how one empirical research opens up another or sometimes many others - are by no means rare.

5.3 INTENSIFYING KNOWLEDGE

Once we select the topic, we need to acquire as much information as possible about it. There are many ways of doing it: First one has to use the library and archive very skillfully. One cannot afford to look at anything and everything that has been written on the topic. One has continuously to make choices about what to look up, what to scan, and what to read in detail, for, one seldom has unlimited time at one’s disposal. Present-day research calls for very stringent time budgeting. This makes it imperative on our part to narrow down the focus of our study. In Research Methodology, this is known as ‘funnel effect’. As one goes on to work on an area, it is expected that one has read all the publications and archives relating to that. Since research is a time-bound programme, one cannot just make a wild goose chase and read anything and everything at one’s leisure. Although themes of Social Science are interrelated and often overlapping, it is sometimes difficult to strictly remain confined to an area without the risk of stumbling into another. In many cases, such trespassing may help in providing for cross-fertilisation of ideas.

Secondly, if the literature looks vast and unmanageable, integrative research reviews – survey of research works, review and historiographical essays, exploratory surveys etc. may prove to be very useful. For, these provide the researcher with some idea of what the field is about and what remains to be done. The Indian Council of Social Science Research (ICSSR) – the highest statutory body of Social Science Research in India – for example has been taking the initiative of preparing and compiling research surveys and updating them at regular intervals. The latest series of surveys conducted in 2010-2011 is of thematic nature. That is to say, certain broad themes relating to the respective disciplines (like Political Science, Sociology, Social Geography, Social Psychology, Economics etc) in which surveys are made are identified in the first place and then researches hitherto conducted on them are listed and taken into account. The latest series of survey in Political Science also introduced the new component of ‘exploration’ in addition to the hitherto established trend of conducting ‘surveys’. Exploration is not merely

survey – it is survey that is geared to the threefold objective of (i) finding out the actual direction and trend of research and (ii) wherever necessary redirecting it in a desirable manner and (iii) accordingly set forth a fresh research agenda. More often than not, explorations are meant for identifying the gaps in the already conducted researches. These integrative analyses may simply compare and collate findings of research, or they may assess the theoretical contributions of comparable studies.

Thirdly, one can investigate many topics by examining the records or documents prepared by an organisation for its own purposes. Social research in this connection makes it imperative on the part of the researcher to reuse these materials for her purpose. One has constantly to be able to reuse them. But it is absolutely important that one gets access to these materials in the first place. The access will depend on whether the documents are in the public domain or are guarded in private. Many organisations may not be willing to share their details with the researcher while there may be some that will be too willing to share them as a means of acquiring publicity. Many of the insurgent organisations slapped with a ban may have to operate clandestinely, but do not mind being widely reported in the press and media. As Margaret Thatcher – the former Prime Minister of Great Britain pointed out ‘publicity is the oxygen of insurgents’. Now in the age of internet, many of the organisational data are posted on the web and are preserved in digitised archives. This has surely reduced the legwork required in earlier days for doing social research.

For purposes of convenience, we designate these as organisational data. These data can be of both governmental and non-governmental types. The Census data or the consecutive rounds of National Sample Survey serve as examples of governmental type. Besides, there are many sources of data produced for various social research projects which are now available to the public. The study on displacement in select Indian States of eastern and northeastern India conducted by the Centre for Social Research meticulously compiled the data on forced migration over nearly a hundred-year period starting from 1900. The documentation now available in the public domain may be used for further research. Similarly, the Institute for Conflict Management maintains the South Asia Terrorism Portal (SATP) providing and updating data on terrorist incidents, the extent of loss of individual lives and both private and public property etc. All this is made available in the public domain. Similarly, organisations like the Association for the Protection of Democratic Rights or National Human Rights Commission chronicle the incidents of violation of human rights in West Bengal and India respectively. One can reuse these data in order to comment on the state of democracy in India or for that matter in any other country – assuming that the enjoyment of rights is central to the vitality of any democracy.

Fourthly, one best way to intensify one’s knowledge about a topic is to talk to “people in the know”. But these people can further be classified into three categories: relevant researchers, insiders participating in the field and intellectual fellow beings. Many researchers work on areas that their supervisors and professors work on as much as the supervisors and the professors encourage their students to work on the areas they feel comfortable with. In India, this is known as *guru-shishya parampara* or the disciples carrying the legacy of their masters. Schools of knowledge particularly in Indian Philosophy and *gharanas* or traditions in Indian classical music developed on the basis of this continuity between the masters and their students of course with commendable variations and improvisations. It is also important that one has a certain degree of rapport with the insiders so much so that they oblige her with ‘inside scoop’. Again, intellectual fellow

beings are those who are creative and whose judgment the researcher respects and who is trustworthy in the sense that she can interact and communicate with them. Social Science, in the modern sense of the term, has developed by way of revolving on certain professional associations. Indian Social Science Congress, Indian Economic Association, Indian Political Science Association, Indian Sociological Association are only some examples of these professional bodies. These bodies promote and foster a feeling of community amongst its members and facilitate exchanges and transactions amongst them. Besides, each such association has its own vocabulary that only its members understand and others do not. Thus to cite an example, it will be very difficult for a political scientist under all normal circumstances to be part of an association that only specialises in higher Mathematics. The language of Mathematics is so esoteric that only few political scientists will understand.

5.4 TURNING A TOPIC INTO A RESEARCH PROBLEM

Since there is no golden rule for selecting a topic and funneling it into a clearly formulated research problem, the researcher has constantly to experiment till she is finally able to do it. An otherwise broad idea contained in the topic must be narrowed down to a researchable question or a set of researchable questions. The process of turning ideas into research questions, and finding answers until one is able to frame a research problem, involves a lot of trial and error. However, certain steps in this act of funneling may be mentioned in this connection:

First, one has to make a distinction between the problems or roadblocks that one faces while doing research and a researchable problem. The two are in a sense interrelated. One's understanding of the research problem is enhanced to the extent that roadblocks are cleared or overcome. Thus to cite an instance, insofar as one seeks to work on an interethnic conflict between X and Y and let us assume that the researcher belongs to either of them, it will be difficult – if not impossible – for her to interview the members of another community. In a situation where the conflict is still alive, they are unlikely to oblige her with an interview. While this itself might serve as a testimony to the kind of enmity that exists between these two communities and emerges as a very good research finding, this per se will be considered as a roadblock and hardly any breakthrough can be made in this regard. Until and unless the researcher is able to conduct her research with the members of another community, the findings are going to be one-sided and partial. But it is important that all the problems associated with the research work get focused into one central problem that underlies the whole issue. By a 'research problem' we refer to one the resolution of which requires the ingenuous application and observance of the rules and protocols of social science research. It is like solving the puzzle of a rubic cube that makes it mandatory for one to observe the rule of rotating the cubes in a given number of directions. One cannot take out the cube at one's will and fix it.

Secondly, Social Science researches are usually classified into three types: exploratory, descriptive and explanatory. The example of the recent ICSSR survey of research in various branches of Social Sciences mentioned earlier comes to our mind. It is over and above an exploratory exercise intent on breaking new grounds of research for others to take and pursue. Exploratory research charts out a hitherto uncharted area. A good exploration of a topic may provide us with a wealth of material for others to think about.

When a project seeks to carefully detail evidence so that a clearer picture can be seen and therefore a firmer understanding of its topic can be gained, its aim is to describe. Descriptions are by no means an easy task. Paul Brass's work on communal riots in India focuses on the so-called 'first incident' that sparks off riots in otherwise highly surcharged communal situations. His argument and that of many others is that it is always shrouded in mystery and conflicting communities have conflicting interpretations of what sparks off the communal violence. When a project sets out to test some specific idea – to see under what conditions a phenomenon will increase or decrease, whether it will matter more or less – its aim is to explain. Explanations are required to be both necessary and sufficient. Thus, to say that high incidence of unemployment and crime – both coexist – is not the same as saying that one causes the other. It may be that the rate of employment amongst the criminals is very high compared to the non-criminals and the reverse is also true.

Thirdly, a researcher has to translate the research problem into a set of possible questions that the problem poses. To continue with the same problem mentioned above, the central question could be reformulated thus: 'Are there any pre-given structures of thinking that make the conflicting communities interpret the 'first incident' in the ways it does? As a corollary to it, one can still ask the question of everyone within the community is guided by the same? How are the exceptions screened out? Now she has to look at different questions and find out which of the questions one's study will be best able to address. Are there other questions that can be organised hierarchically in terms of their importance? Are these questions collapsible into the central one?

Fourthly, if the aim of the study is explanation, a research question can usually be the basis for establishing a number of hypotheses. The hypothesis sets up a prediction to be tested which is logically derived from the research question. If we are to explain how pre-given structures of thought come into being and shape our actions, we need to frame appropriate hypotheses to test and answer them. Thus we may suggest as a hypothesis that pre-given structures are articulated through education and socialisation or are circulated through the making of stereotypes.

5.5 THE SUBJECTS AND THE TIME FRAME

One has also to identify the subjects of study. The relevant question in this context will be whether one studies the individual or the groups like castes, ethnicities, nationalities, etc. If individual is regarded as the unit of analysis, one has to determine whether she remains a disembodied individual – one who is not embodied in any of the social bodies mentioned above. This is better known as Weber's doctrine of 'methodological individualism'. In case of groups these social entities with their collective traits or features will be the unit of analysis.

The individual subjects are here understood as objects of study without any agency. Dumont, while describing the caste society in India, points out: "An individual is what one is by virtue of being a member of a particular caste". Often there is a tendency to move from one unit to another. When evidence from a group level of analysis is used to reach conclusions about individuals we commit what is called ecological fallacy. To cite an instance, there is the commonplace argument that insurgents hail from poorer regions of India as much as insurgency remains restricted to the poorer regions. But it is perfectly possible for the insurgents to come from relatively richer families of the poorer regions. Reductionism (the tendency to reduce complex social phenomena to a single cause) is in some cases the reverse of ecological fallacy, since it may involve drawing conclusions

about the behaviour of groups on the basis of evidence regarding individuals. A common example of reductionism is to use individual personality measures to explain the behaviour of groups. While we know that not all members within a group feel equally hostile towards the members of another group even in a heavily surcharged communal situation, many of the researches on communal violence in India easily project communities as mutually hostile individuals. It is important to note whether the indifferent or the fence-sitters or the non-partisans within the community have any influence on the majority of their fellow-members or in a surcharged situation they are simply rendered inconsequential by their community. It is highly unlikely that communities act as single individuals.

Research also implies the determination of the time frame that must be kept in mind. The first set of questions to be considered is: what period of time does the study addresses? Does it have to do with the past as well? All social researches are historical in some sense or the other. Or does it make predictions for the future?

The second set of questions concerns the time period over which one proposes to do one's study. It can be of two types: cross-sectional and longitudinal. In a cross-sectional study, whatever is being studied is being observed at a single point of time, as if a section of time were being cut out for our observation. Thus to draw an instance from Medical Sciences, an x-ray or a biopsy is conducted on a patient's body at a determinate point of time to find out the state of the body at that moment (from which it is possible to infer what has happened to the body previously to bring it to its current state). It is of course possible to predict from the report what may happen in the future. Selecting a research topic also calls for framing it within a time scale.

5.6 SUMMARY

Research Methodology focuses not so much on how one initially feels interested in a research problem that one subsequently chooses to pursue, but on how one assesses and determines the research potential of the topic thus chosen and how a research topic is translated into a research problem. It deals only with the second-order problems. The literature that has developed in the relevant field serves as the repository of knowledge and a pointer to the trend and direction of already existing research. But the objective of research is not merely to rehash what one already knows but what 'value add' one can potentially make to the existing stock of knowledge. One has to understand that novelty is no necessary virtue of Social Science research. It is important that one pursues an idea which appears as novel in the first instance - only by way of observing the Social Science rules and protocols. Review of literature implies first of all an assessment of the existing stock of knowledge so that one gets to know what 'value add' one can make and also an understanding of the existing rules and protocols of research. In simple terms, the imperative of 'value add' impels the researcher not only to find out the gaps in the existing stock but also to suggest ways of overcoming them keeping within the rules and protocols of Social Science research. Both are central to the exercise of reviewing the literature and are equally important in Social Science research.

5.7 TERMINAL QUESTIONS

1. Discuss the main features of literature review and show how literature review enables one to define the research problem.

2. How is a research topic formulated into a research problem?
3. Do you propose to make any distinction between 'problem of research' and 'research problem'? Give reasons for your answer.
4. Write short notes on the following:
 - a. C. Wright Mills' 'Sociological Imagination'
 - b. Weber's 'Methodological Individualism'
 - c. Hypotheses Framing.

SUGGESTED READINGS

Therese L. Baker., *Doing Social Research*, McGraw-Hill, New York, 1994.

Brian Keith Axel., *Historical Anthropology and its Futures*, Duke University Press, Durham, 2002.

William J Goode, and Paul K. Hatt., *Methods on Social Research*, McGraw Hill, London, 1981.

Max Weber., *The Methodology of the Social Sciences*, trans. Edward A Shils and Henry A. Finch, Glencoe: Free Press.

UNIT 6 RESEARCH FRAMEWORK: CONCEPTS AND THEORY

Structure

- 6.1 Introduction
 - Aims and Objectives
- 6.2 Meaning of Concepts
- 6.3 The Concept of Abstraction
- 6.4 Concepts and Communication
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- 6.7 Theories
 - 6.7.1 Definition of Theory
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- 6.8 Deduction and Induction
- 6.9 Difficulties of Theory Testing
- 6.10 Summary
- 6.11 Terminal Questions
 - Suggested Readings

6.1 INTRODUCTION

Since science attempts to investigate particular sections or aspects of reality, with an abstract system of thought to interpret those segments, it should not be surprising that each science develops its own terms or concepts for communicating its findings. So much is this the case that we may refer to the theoretical system of the science as a conceptual system. Now, we use these terms to stand for the phenomena, or aspects of phenomena, which we are investigating. Consequently, when we formulate a proposition, we use concepts as symbols of the phenomena we are studying, and it is really these underlying phenomena which we are relating to one another. Since we deal directly with only the concepts, however, it is obvious that we may at times confuse the concept with the phenomena it is supposed to symbolise.

The first and to many the most important part of research framework is the development of concepts. While we talk about facts apart from theories, facts are constructed from concepts, which are the building blocks of theory. The concept and the fact are, however, clearly different. Brodbeck says that a concept is a “term referring to a descriptive

property or relation, (while) to state a fact . . . is to state that a concept has an instance or number of instances.” Reality is like a seamless web; activity does not come neatly broken down into categories, which must be constructed. Although theories must be based on adequately developed concepts, concepts are not developed or defined once and for all, although continuity is provided by prior work in a given field. A prime difficulty in theory-formation can be concepts accepted as fixed which do not properly encompass phenomena the observer is trying to describe or analyse. However, concepts and definitions must be fixed in the sense that they remain constant throughout a theory.

Aims and Objectives

After studying this Unit, you should be able to understand

- The meaning of concepts and their importance in social research;
- Theory and its role in research framework.

6.2 MEANING OF CONCEPTS

F.N. Kerlinger defines a concept as “a word that expresses an abstraction formed by generalization from particulars,” thus indicating that not only is reality structured by concepts, but also reality affects the scientist’s concepts. He adds that “a construct is a concept with, the additional meaning of having been created or appropriated for special scientific purposes. A particular type of concept which combines the features of arbitrariness and relatedness to the real world is the ‘ideal type’ a logical construct the purpose of which is to identify clearly, by simplifying, significant aspects of an event or institution. The ideal type, although “never found in reality, being ideal precisely in the sense that it is an abstraction, accentuation, and extension of relations found in social life,” provides us with a useful baseline against which to judge and explain phenomena. Sometimes the ideal type is referred to as an ‘extreme’ or ‘polar’ type, particularly when used in pairs as opposites.

The process of organising the data and drawing generalisations from them go hand in hand with concept formulation. As the researcher perceives relationships between his data, or is able to isolate a definite set of occurrences or behaviour patterns and describe their characteristics, he begins to abstract from them a certain significance which is representative of a whole class of events, or patterns, or traits. According to Pauline Young, “Each new class of data, isolated from the other classes on the basis of definite characteristics, is a given, a name, a label-in short-a concept. A concept is in reality a definition in short hand of a class or group of facts. “Truancy,” “aggression,” “frustration,” “attitude,” “person,” “anxiety” are illustrations of concepts into which are condensed a number of events or phenomena under one general heading. In the words of Goode and Hatt, “A concept like a fact, is an abstraction, not a phenomena. It takes its meaning from the thought framework within which it is placed.”

A further point must be made. Since all these concepts are abstractions and represent only certain aspects of reality, it becomes important to know how to develop them. This is called the process of conceptualisation. Goode and Hatt have discussed this process in two subheads: the concept as abstraction and concept and communication.

6.3 THE CONCEPT OF ABSTRACTION

It is sometimes forgotten that concepts are logical constructs created from sense impressions, percept, or even fairly complex experiences. The tendency to assume that

concepts actually exist as phenomena leads to many errors. The concept is not the phenomena itself; that is, such logical constructs do not exist outside the stated frame of reference. The failure to recognise this is termed the fallacy of reification that is, treating abstractions as if they were actual phenomena. This is such a common error that most of us are occasionally guilty of it.

Since both facts and concepts are abstractions, they have meaning only within some frame of reference, some theoretical system. The distinction between the fact and concept is that concepts symbolise the empirical relationships and phenomena which are stated by the fact. Thus, a fact is stated as a relationship between concepts, for each term stands for the phenomena described by the fact. In this sense, then, a fact is “a logical construct of concepts.” A concept, in turn, is abstracted from many sense impressions, or percepts. The process of conceptualisation is one of abstracting and generalising sense impressions. In this way, it is possible to manipulate study, organise, and isolate the properties of objects. It is only by thought that such properties can be isolated and thinking can proceed only by giving names to such properties. Thus, conceptualisation is essential to thought.

6.4 CONCEPTS AND COMMUNICATION

Concepts, however, are obviously not basic to scientific method alone: they are the formation of all human communication and thought. Since, however, science requires a greater precision in communication, the process of conceptualisation must be much more consciously a part of science than is the case for most common-sense and contexts. So long as the scientist is aware of these relationships and of the abstract character of conceptualisation, he can avoid the error of reification.

Concepts in science must be communicable in a very special sense. They must not merely arouse a vague “feeling” but must be constructed that all their components are known. Deriving and clarifying the elements of such a construct are the major processes of definition, basic to the general problem of conceptualisation. The differences between the common-sense framework and the scientific way of looking at the world, careful definition has a paradoxical quality. It facilitates communication within the sciences, but it also raises barriers to the lay understanding of scientific concepts. This is voiced in the common complaint that science uses “big words.” Some critics are even cynical enough to suggest that science is a way of stating clichés in such polysyllabic words that no one else can understand what is said. This same complaint is often registered by scientists against each other. Several sciences develop specialities which depend upon facts so abstract and complicated that no one scientist can know them all. Since each speciality deals with different phenomena, a variety of scientific vocabularies has been developed to communicate these special facts. The gap between these several sciences varies, depending upon the closeness of relationship between the frames of references.

6.5 FEATURES OF GOOD CONCEPTS

Concepts are used in scientific research with purpose and each concept carries certain meanings. Concepts are vocabulary of the subject. Important features of good concept are:

- The concept should be clear and definite i.e. a good concept must be precise.

- It should be comprehensive and clear in formulation and understanding.
- It should avoid multiple meanings and as far as possible a concept should convey exactly what was intended when the concept was coined.

6.6 RECONCEPTUALISATION

The meaning of concepts may change. Every science sees its terms continuously being modified as its knowledge accumulates. The more is known about the referent of a concept, the more specifically that concept can be defined. However, a somewhat different definition results, and the consequent shifts in meaning may confuse the student.

Another source of such changes in meaning is the changing focus of a science as it grows. Attention may be centered upon different aspects of the same concept in such a way as to change its meaning, although the same term is kept. Thus, a concept grows with the increasing experience of scientists with the phenomena to which it refers. As these experiences multiply, it is seen that the original concept covers too much, and several concepts are used to refer to the different kinds of experience discovered by research. Thus, instead of “status” alone, we may come to use “status,” “rank,” “role,” “position,” and so on.

The situation, then, is not one of chaos. All these problems do arise, but as the science develops we see one conceptual difficulty after another disappear. Others, of course, take their place, but that is characteristic of communication when the things talked about are changing. These types of confusion are faced by the community of scientists in a given field and are gradually solved by joint research and discussion. Furthermore, these added considerations should be kept in mind:

1. Preliminary statement of the project should be prepared.
2. List of all major concepts in the statement should be selected from the statement.
3. An analysis of the apparent meaning and elements of the concepts should be made. This will help in finding out how actually concepts are being used and how many of these are actually acceptable. There can be contradictions in the elements which will have to be located and specified.
4. Published literature in which these concepts have been used may then be studied in order to discover the various usages of the terms. If the concept has not been properly defined, the literature will help in finding out how it was applied in any study. In a few cases, it is first possible that we might find specific aids to clear thinking and there might also come a change in our approach to the problem.
5. Thereafter next step should be that of relating a phenomena to similar other phenomena which have been described by other terms and often in other fields. It will then be found that the concepts which appear simple and innocent in the beginning were not really so when put in actual operation. At the same time there should be no hurry in regard to this step. The usefulness of this operation is based in part upon the fact that it integrates various theoretical ideas which were the product of isolated studies. In the words of Goode and Hatt, “Now it must be kept in mind that the purpose of this operation is not to exhibit one’s cleverness in conceptual manipulation or even one’s learning, the purpose is to isolate and recombine those elements which will be most fruitful in research.”

6. A final operation that can be mentioned of particular use for the theoretical fruitfulness of the concept, ascertaining the next higher or lower level of generalisation of the concept.

6.7 THEORIES

Whether or not theory formation is the most important and distinctive scientific activity, in one sense of the term theory or this activity might well be regarded as the most important and distinctive for human beings. In this sense, it stands for the symbolic dimension of experience, as opposed to the apprehension of brute fact. The content of our experience is not a succession of mere happenings, but a sequence of more or less meaningful events, meaningful both in themselves and in the patterns of their occurrence. They are consequential, that is- significant in their bearings on one another. With every action it is possible to associate a belief having the sense that the action taken will serve in that situation to fulfill the impulse which gave rise to the action, serve to satisfy the need or interest by which action was motivated. To be sure, the fact that a belief was in fact 'entertained by the actor may appear only in a retrospective analysis, or indeed not at all. It may be altogether a matter of an "as if", made no less fictional though no less useful- by the designation "implicit belief". In this sense a habit might be said to involve an implicit belief in a scientific law, or a succession to which we have been conditioned to respond as though it were necessary and universal.

The question of what constitutes a proper theory is a confusing matter so much so that there is a serious question about the theoretical status of much that social scientists claim to be theory. More to the point, there are those who argue that much of what passes for theory in the social sciences represents little more than elaborate classificatory schemes. In the Social Sciences literature, the issue is further confused by the proliferation of terms applied to the handling of data. We read about models, paradigms, taxonomies, typologies, and conceptual frameworks. Not infrequently writers will use these terms - nearly interchangeably, and sometimes they are used in the same context where theory is being discussed.

6.7.1 Definition of Theory

The methodology of theories and theory-formation is underdeveloped, relative to the methodology of hypotheses and hypothesis-formation. The move away from the level of very concrete empirical work, particularly with statistical tools, makes itself felt in a certain vagueness and a frequent recourse to formulas of the 'to test hypothesis is a kind of handicraft, to make a theory is to make a work of art' kind. Also, unfortunately, it seems that qualitatively different kinds of scientists and philosophers have been working at these two levels.

Johan Galtung has defined theory as a set of hypotheses structured by the relation of implication or deducibility, or more formally:

A theory, T , is a structure $(\underline{H}, I)$ where

$\underline{H}$ is a set of hypotheses and

I is a relation in $\underline{H}$ called 'implication' or 'deducibility',

So that H is weakly connected by, I .

In other words, ideally a theory would be made up solely of laws. In the social sciences, however, there are very few (if any) laws. The search to develop them is continuous, despite the conflict between our abilities to verify and to generalise. What we can verify is usually at a low level of generality, while statements of high orders of generality are not easily verified. A theory made up solely of laws would be relatively permanent; however, one made up even partly of other components such as propositions is always subject to alterations. Even if some laws existed, our work would hardly be finished, because with them we encounter several additional problems. True propositions may turn out to be uninteresting as soon as they are proved, because they are then closed issues. And, given our relative inability to generalise in the social sciences today, our more general relationships may seem trivial.

As a result of the lack of laws, social science theories include mostly propositions. In order to determine where we stand in the development of theory, it is often useful to collect inventories of propositions. Having the propositional inventory allows us to see which areas of a subject or theory need to be examined before theory-building can continue. Propositional inventories are not equivalent to theory, because the propositions are not fully related to each other. As long as one does not try to make theory out of the inventory, it can serve the function of presenting a picture of the development of a subject-matter area.

Theories also contain unanalysed parts, called presuppositions, temporarily accepted as valid, although one might want to treat them as neither true nor false. In any case, they should be explicit and unambiguous. Over time, there will be fewer and fewer presuppositions in a theory, although almost every theory rests on at least a limited number of them. Presuppositions are equivalent to the axioms of a mathematical proof. They are taken as given, not in the sense that their proof has been demonstrated so often that they are accepted automatically, but for the sake of building theory which will be judged by its results. May Brodbeck indicates that “the axioms are such only by virtue of their place in the theory. Neither ‘self-evident’ or otherwise privileged, they are empirical laws whose truth is, temporarily at least, taken for granted in order to see what other empirical assertions...must be true if they are.”

The acceptance of axiomatic presuppositions is disputed by some who argue that nothing can be accepted without an empirical basis; they would accept only presuppositions inductively established. Even if one accepts this argument initially, the problem of needing postulates prior to carrying out of inductive reasoning remains: some theory-formation occurs even prior to the collecting facts.

6.7.2 The Role of Theory: Theory as Orientation

A major function of a theoretical system is that, it narrows the range of facts to be studied. Any phenomenon or object may be studied in many different ways. A football, for example, can be investigated within an economic framework, as we ascertain the patterns of demand and supply relating to this play object. It may also be the object of chemical research, for it is made up of organic chemicals; it has mass and may be studied as a physical object undergoing different stresses and attaining certain velocities under various conditions. It may also be seen as the center of many sociologically interesting activities-play, communication, group organisation, etc.

Each science and each specialisation within a broader field abstracts from reality, keeping its attention upon a few aspects of given phenomena rather than upon all aspects. Only

thus can the work of science be reduced to manageability. The broad orientation of each field, then, focuses upon a limited range of things while ignoring or making assumptions about others.

6.7.3 Theory as Conceptualisation and Classification

Every science is also organised by a structure of concepts, which refer to the major processes and objects to be studied. It is the relationships between these concepts which are stated in “the facts of science.” Such terms make up the specialised vocabulary that the scientist uses. They change as the science develops, for different phenomena come to be of major importance. However, it is clear that if knowledge is to be organised, there must be some system imposed upon the facts which are observable. As a consequence, a major task in any science is the development of systems of classification, a structure of concepts, and an increasingly precise set of definitions for these terms.

6.7.4 Another task of theory: Summarising

A further task which theory performs is to summarise concisely what is already known about the object of study. These summaries may be divided into two simple categories:

(1) Empirical generalisations, and (2) Systems of relationships between propositions.

Although the scientist may think of his field as a complex structure of relationships, most of his daily work is concerned with a prior task: the simple addition of data, expressed in empirical generalisations. Entomologists may be studying the habits of social insects in order to summarise these observations in a set of descriptions. The sociologist or social psychologist may gather data on the differences in the child-rearing practices of various classes. The demographer may tabulate births and deaths during a given period in order to ascertain the crude rate of reproduction. These facts are useful and are summarised in simple or complex theoretical relationships.

Summarising at this level is often not even considered theory, and certainly it was going on long before there were scientists. Man’s continuing existence depends upon such empirical observations: “objects fall,” “wood floats,” “strangers are dangerous,” etc., are propositions of this kind, embodied in tribal wisdom.

It is clear, on the other hand, that such statements go beyond a single observation or a single group of observations. They may become very complex, and contain some expression of the conditions under which they are accurate. Furthermore, as a body of such summarising statements develops, it is possible to see relationships between the statements. Hazing of freshmen, ordination of a minister, ritual circumcision, graduation ceremonies, and baptism are phenomena about which a number of summarising propositions can be made, but they can also be seen as related to one another: ways by which a group gives a different status to individual, patterns of asserting group control, ceremonial expressions of group unity, etc.

Theorising on a still larger scale, some may attempt to integrate the major empirical generalisations of an era. From time to time in any science, there will be changes in this structure of relationships between propositions. Newton’s work was such an example, as was Einstein’s work on the special Theory of Relativity. Talcott Parsons has shown in his *Structure of Social Action* that major shifts of this kind may be traced in the work of Weber, Durkheim, and Pareto as each of them moved from older systems of theory toward a more acceptable system.

6.7.5 Theory Predicts Facts

If theory summarises facts and states a general uniformity beyond the immediate observations, it also becomes a prediction of facts. This prediction has several facets. The most obvious is the extrapolation from the known to the unknown. For example, we may observe that in every known case the introduction of Western technology has led to a sharp drop in the death rate and a relatively minor drop in the birth rate of a given nation, at least during the initial phases. Thus we predict that if Western technology is introduced into a native culture, we shall find this process again taking place. Correspondingly, we predict that in a region where Western technology has already been introduced, we shall find that this process has occurred.

6.7.6 Theory points to gaps in our Knowledge

Since theory summarises the known facts and predicts facts which have not yet been observed, it must also point to areas which have not yet been explored. As noted above, the simple fact of prediction suggests where to test our knowledge. If a theory states a general relationship, such as an inverse correlation between income and fertility, we can see immediately where further facts might be sought. We can break our income classes into smaller groups to see whether fertility might be higher (instead of lower) at the extreme upper income groups; we can ascertain whether this pattern is to be found in rural as in urban areas, or in other countries; or we can study the historical relationship between income and fertility.

6.8 DEDUCTION AND INDUCTION

Both deduction and induction play a role in theory building, as we move from theory to law to proposition to hypothesis to the testing of that hypothesis, we move from statements of a higher order to those of a lower order, an essentially deductive operation. This sort of deduction is to be distinguished from a prior deduction, in which we move from assumed relationships to selected facts to prove our case. Deduction, besides helping us move from theory to hypothesis-testing, also is involved in seeing whether the parts of a theory are properly related to each other internally. Theory verification involves both empirical tests of propositions and logical tests of the consistency of the propositions; the former is not sufficient. One difficulty with deduction is that the logic used in deduction may imply determinism, that is, we may take a deterministic view of the world from a deterministic mode of inference. But even if this is partially true, it is a difficulty common to any theory, because generalisations tend to follow the pattern of the theory, rather than being totally independent of it.

The feeling of generalisations based on hypothesis-testing up into a theory is part of the inductive side of theory building. If the hypothesis tested is not upset, one infers that the proposition which is its analog is all right, and that the laws of interaction embodied in the proposition are acceptable, and so on upward. Moreover, because any proposition leads to many hypotheses, confirming any single hypothesis does not by itself establish the proposition, but only lends support to it. The inductive and deductive parts of theory-building are closely related in, operations beginning with the theory formulation, continuing through theory testing and resulting in theory modification.

6.9 DIFFICULTIES OF THEORY TESTING

Theories are never proved. We simply provide evidence, through the testing of hypotheses

derived from the theory, that the theory is not incorrect. There is always the possibility that our collected data may continually support our hypotheses and that our theory may still be wrong. It may be that our stated hypotheses are supported by the data for reasons simply unknown to us in a larger sense still, it has been argued by some that social science theories are inherently un-provable since they can all be seen as resting ultimately on un-provable assumptions. Without unnecessary elaboration it is better to accept their assertion that social science theories have been constructed on quite diverse assumptions of the following sort: man is rational and self-serving, man is an approval-seeking animal, man is an aggressive animal, man is motivated by internalised values, or man is motivated by reward. To the extent that these assumptions do not easily submit themselves to empirical verification, one could call into question the whole edifice of theory construction, which has just such assumptions as its foundations.

There are other difficulties with social science theory also. The concepts frequently found in social science theory propositions and ultimately in the hypotheses tested to verify the theory itself do not have constant meanings. If we were, for example, to take a concept such as alienation, we would find that however we chose to measure this concept, some social scientists would disagree with our measurement technique. And perhaps we ought to expect that this would happen since it may be reasonably argued that the meaning of alienation will vary in a society from group to group, from person to person, and over time. We should realise at this point that strong deductive explanation depends on each variable, concept, or element in a theoretical argument having a stable, universal meaning. Since this condition does not obtain for most social science theories, we see yet another reason why the empirical verification of deductive social theories remains, at best, an arduous task. Indeed, critics often reject the conclusion of a study on the grounds that the concepts in the theory have been inappropriately measured.

We might add here that the problem we are raising about measurement is often the source of major ideological splits between researchers in the social sciences. There is a philosophical split in the social science between those who view the world as an objective entity and those who view the world in more subjective terms. Such a difference in orientation has considerable implications relative to the acceptance or rejection of measurement techniques in the field. Should a researcher conduct a study and measure variables through a given procedure such as survey research, the findings of the study are likely to be accepted by those who see this procedure as fitting into their philosophical conception of the world and rejected by those who hold a contrary view. This is perhaps one of the reasons that we see such a multiplicity of theories, even though the empirical events to be explained may be much the same.

6.10 SUMMARY

Cognizant of the difficulties of theory testing and dissatisfied with the products of both grand theory and theories used to explain a few “abstracted empirical” events, eminent sociologist Robert Merton has advocated that social scientists work to produce what he calls theories of the middle range. Theories of the middle range, as the label implies focus on such empirical phenomena as deviance, the operation of social groups, processes of social perception, and the like. The task is to circumscribe the phenomena for explanation in such a way that it becomes possible to form clear hypotheses and achieve reasonably wide agreement concerning the appropriate data for testing these hypotheses. Merton’s hope is that it will be possible ultimately to merge these discrete theories generated

around specific institutional features of the society and to produce some more general theory of society.

6.11 TERMINAL QUESTIONS

1. Define Concepts. Discuss their importance in Social Research.
2. Concepts are building blocks of theory. Discuss.
3. Define Theory. Discuss the role of theory in research framework.

SUGGESTED READINGS

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UNIT 7 TYPES OF RESEARCH DESIGN

Structure

7.1 Introduction

Aims and Objectives

7.2 Defining the Research Problem

7.3 Knowledge of the Rules

7.4 Clarification of Concepts

7.5 Methods of Data Collection, Operationalisation

7.6 Sampling the Subjects

7.7 Presentation of Findings

7.8 Summary

7.9 Terminal Questions

Suggested Readings

7.1 INTRODUCTION

It is only obvious that the research designs are bound to vary in terms of the kind of research that one proposes to undertake and carry out. In the conventional understanding of Research Methodology, the phrase 'research design' is taken to mean a design that is issued from the tradition of Empirical Theory. Research Design, viewed in this limited sense, refers to an empirical research design. But there is no reason why this should be so and one cannot prepare a research design outside the ambit of this dominant tradition. This calls for an appraisal of different *types* of social research and different ways of preparing their designs. While much of what we discuss in the following continues to be derived from the empirical tradition of doing social research by way of suggesting steps to be taken while preparing a research design, at each step we remind ourselves of the limits and sensitise ourselves to the alternative traditions.

Aims and Objectives

This Unit would enable you to understand

- The definition of research problem
- Clarification of concepts
- Methods of data collection and operationalisation and
- Presentation of findings.

7.2 DEFINING THE RESEARCH PROBLEM

Social research starts from an understanding of the broad topic that subsequently gets translated into a workable research theme. The understanding presupposes, first of all, an

interest on the part of the researcher in working on the topic defined in broadest possible terms and of course some knowledge of the topic developed through either some primary reading of the already existing literature or an exposure to it by way of attending seminars, workshops, talk shows, symposiums and so on and so forth or any combination of them. There is no decisive way to explain how a researcher develops her interest in the topic she in fact feels interested in. It has as much to do with her autobiography as with the social milieu she is part of. It can range from such mundane and accidental factors as the indelible impression that the oratorical skill of her teachers has left on her young mind and the piece of advice that she receives in course of one of her most casual conversations from persons whose advice she enormously counts on to an apparently durable problem that she actually suffers from and with great pain and agony. To repeat as in one of the previous Units, one's personal suffering in the family of in-laws due to the inability of one's parents to pay up dowry may be reason enough for one to undertake a research on the connection between a patriarchal family structure and dowry in a caste society. Accordingly one can prepare dense ethnography of, let us say, 100 families in order to shed light on the connection. Whatever be the factors prompting her to select any particular research topic, a topic becomes a research topic if it is posed in such way that it is clearly grounded in the general social field relevant to it. The connection between patriarchal family structure and dowry will be extremely relevant for us to understand the field of Sociology of Family. We will come back to the question of relevance below.

Once the broad topic is identified, the main challenge is to convert it into a research theme. For all practical purposes, the conversion requires narrowing down of the broad topic into an area with a focus - as clear as possible - and secondly an assessment of the workability of the topic. The narrower the focus is, the sharper it is and the more workable it becomes. Research on a broad topic is likely to spread itself thin with little prospect of novel and exciting findings. Thus to cite an example, insurgency in Asia will be too broad a topic to be worked on. It can be narrowed down to various research themes like the profiles of insurgent leaders, dynamics of insurgent organisations, insurgent ideology, military strategy, decision-making within the insurgent organisations, support base, peace negotiations, interstate nature of the operation of insurgent organisations, the network of various insurgent organisations, the role of civil society and human rights organisations vis-à-vis insurgency etc. One can concentrate on any one or a few of the interrelated themes. Doing research on all of them within a limited time period is next to impossible and might produce results that might not be novel and exciting.

The research theme is then formulated into a research problem. It is important that we make a distinction between let us say, a *social* problem and a *research* problem. Poverty may be one of the burning problems of a society; but this per se does not mean that students will feel sufficiently tempted to work on it, unless and until they are persuaded by the prospect that it is possible for them to articulate it into a research problem. A research problem is one the solution to which calls for the observance of the rules and protocols that govern the respective Social Science disciplines and the ingenious use of the knowledge already gathered in the discipline. That the society faces a problem that needs immediate solution does not necessarily prompt one to undertake a research on it. Thomas Kuhn argues that doing research resembles 'a puzzle-solving exercise'. Puzzle is not simply a problem – it is a problem that can be resolved only by way of observing a number of given rules and protocols. In that sense, fixing a rubic cube may be considered as a puzzle precisely because the whole business of fixing it requires that we

follow certain rules. For instance, we cannot take out and isolate the cubes from the instrument itself – we are allowed to rotate them in otherwise numerous yet only given number of directions. It would have been easier for us to fix the cubes had we had the opportunity of changing and altering the rules and rewriting them for our convenience.

Thus to cite an instance, a journalist writing on insurgency is free from the obligation of citing her source. She enjoys journalistic privilege. Thus she can scoop out interesting stories about insurgency without referring to her source. A successful journalist's job is to break news. By contrast, a social science researcher is under the abiding obligation to disclose her source at every instance. She may be privy to some very exciting information; but if she is unable to disclose the source, she will not be able to use it. The citations are considered to be essential so that somebody else might cross-check and use the same sources and produce the same results. The standing rules of disclosure and cross-checking eventually might make her findings drab and uninteresting, for she is forced to restrict herself to those information and data that she can quote and that are verifiable. Novelty of findings is not necessarily a virtue of Social Science research.

Transforming the topic primarily imagined in broadest possible terms into a research theme and then further into a research problem is known in Social Science as the *funnel effect*. The transformation does to research what exactly a funnel does while facilitating the pouring of fluids into a bottle with a narrow opening. A young researcher has the temptation of thinking big and defining her research problem on a broad canvass. It is better to control the temptation and be counter-intuitive in this regard.

7.3 KNOWLEDGE OF THE RULES

While any social research is expected to follow the rules and protocols developed in Social Science disciplines, it is of fundamental importance that the researcher familiarises herself with the rules. The task is by no means easy. The rules and protocols are never laid down in the same way as a country's Constitution does. The Constitution, wherever it exists in written form, is supposed to serve as the supreme law of the land that cannot be violated or set aside under all normal circumstances. In the case of Social Science research, the rules exist – not explicitly but only implicitly – in the already existing literature that has hitherto developed on the topic. Since these are implicit, one has to have the skill of deciphering them. Knowledge of rules does not mean that one simply knows the rules that are *out there* – but that one has to decipher and make sense of the rules from the existing literature. One has to find out what is already known about the topic and examine different types of materials, which have been put to use. Proficiency in rules does not necessarily ensure a good research. One who knows the rules of soccer may not be able to play the game with equal efficiency and success. Pierre Bourdieu argues that a good researcher is one who knows the rules but most importantly knows how to escape their 'theorization effect'.

Knowledge of rules requires not only comprehensive familiarity with the existing literature but also its closer review. Review is not summarisation or reproduction of the already acquired knowledge. It implies first of all that the researcher identifies the approaches underlying the literature. An approach is informed by an overriding concept that runs through the entire gamut of publications and writings that fall under it. Thus if one were to review the literature on studies on Indian Foreign Policy, one does well to list out the broad approaches defined by such overriding concepts as 'national interest', 'global and regional balance of power', 'neocolonialism' etc. The task again is not easy, for, the

approaches that seem to mark the literature are identifiable only albeit with a varying degree of clarity and precision. Given that Social Science is only an inexact Science approaches more often than not overlap into each other. But it is important that a researcher becomes capable of identifying the approaches on the basis of an overriding concept, notwithstanding these overlaps.

Secondly, the researcher has also to find out the gaps while reviewing the literature. The enterprise of finding out the gaps can be of two kinds: One, the approach may just not be adequate to take into account, cover, explain or predict certain kinds of empirical facts, which have already been observed. In other words, there are certain kinds of empirical facts, which are very much a part of the observed or observable reality that the approach actually fails in taking into account, explain or predict. We call them the *wicked* facts and the inadequacy at issue here may be described as empirical inadequacy. Merely underling these points of inadequacy does not necessarily lead to the instant rejection of the approach lock, stock and barrel - unless these facts and empirical realities through their serial accumulation bring into existence even in a rudimentary way a new approach. While these wicked facts have the potential of articulating a new approach, one or two such facts do not bring into existence a new approach. Besides, the new approach has the potential of replacing the old one, but in the history of Social Science, approaches are seldom replaced in any neat and precise way. The writings of Aristotle and Plato – notwithstanding their old age – do not lose their relevance now. Their writings figure prominently in contemporary debates particularly on Social Philosophy and Political Theory.

7.4 CLARIFICATION OF CONCEPTS

One is required to inventory the concepts that are likely to be used in any particular research work. Each concept acquires its meaning within a particular context. Taken out of the context, the concept loses its meaning or even acquires a meaning that might be irrelevant to the context of research. The concepts must therefore be defined in the precise way in which they are or are likely to be used. One has to clarify the precise meanings one attaches to these concepts at the very beginning of the research work. One does not use the concept of power in the same sense in which one makes such statements as ‘the USA has become the most *powerful* nation on earth’ and ‘the Chipko women firmly hugging the trees in the Kumaon hills and refusing to let the contractors’ men indiscriminately fell the trees for the preservation of forest and their own survival proved to be extremely *powerful*’. In the former, power is used in the material sense – military power, economic power, diplomatic power so on and so forth. But, in the second case, power essentially refers to moral power in the face of material power. The problem with Social Science research lies in the fact that here every concept carries multiple meanings and unless one specifies the meaning in which one prefers to use it at the very outset, there is the real danger that one might flip from one meaning to another and create confusion in the process.

Besides, it is imperative on the part of the researcher to establish the connections amongst the concepts that she deploys in her research work. Concepts do not exist in isolation and a research work is primarily an endeavour at establishing certain connections and linkages amongst the concepts or to reexamine the already established ones in the light of the newer facts that have been gathered. Each concept is therefore a part of an inventory that a researcher presses into service for her work. Thus, poverty, hunger and

starvation are so closely related concepts that more often these are used as synonyms and the finer distinctions that otherwise exist between them are conveniently forgotten.

Clarification of concepts in a large measure depends on our ability to render them measurable. In simple terms, an appropriate way to measure concepts must be found or devised. The general question of measurement should be discussed so that it is clear that the potential problems in measuring the concepts have been thoroughly thought out. In the words of Therese Baker: “[Measurements] include two critical issues: *validity*, that is, whether the measurement of a concept in fact produces a result that truly represents what the concept is supposed to mean; and *reliability*, that is, whether the measurement would lead to consistent enough outcomes, were it to be repeated, that one could have some confidence in the results.”

Social Science concepts are hardly measurable in the same sense, in which Physical Science are. Yet following Baker it is possible to identify two main criteria of measurement: validity and reliability. We may continue with the same instance for our convenience. Social Science in India became alive to the problem of poverty only in the late 1960s although all of us know that poverty has been an age-old problem. Initially poverty was sought to be understood in terms of low or no income. In other words, income was considered as the index of poverty. This creates a problem for us particularly when we seek to assess the extent of poverty against starvation and deaths caused by starvation. The rationale is that people with low or no income will have reduced or no purchasing power at all and will not be able to purchase foodstuff and cereals necessary to offset starvation. But the problem arises because in a country like India people having low or no income do not necessarily starve. The high figures of low income do not match with the *relatively* low figures of starvation and starvation deaths – assuming that all cases of starvation and starvation deaths are meticulously reported. One way to explain this apparent paradox is to understand that there are many societal factors that interfere with the presumably linear correlation between poverty and starvation. People with low or no income bank upon common property resources and somehow survive. The *adivasis* may have access to forests and forest resources. Besides, we can also make the assumption that people of low or no income survive by way of depending on other peoples’ charity. Then how is poverty to be understood and measured? Assuming that poverty has no necessary correlation to income, it is suggested that poverty has to do with a certain level of consumption of nutrition and calorie intake. Again, the consumption and intake level is bound to vary from one society to another. The calorie requirement will be more in cold areas than in warmer areas. But, it is possible to specify the variation levels in more or less precise terms.

The second criterion of measurement, as pointed out by Baker, is reliability. Let us take an example. The pace at which some States in the Indian Union were declaring their districts ‘fully literate’ one after another about a decade back was too rapid to be confident about. While the importance of the mission of full literacy can never be exaggerated, the pace of declaration, as subsequent researches bear out, was far more furious than the ground reality. It was found, for instance, that many people who were counted as literate in the full literacy campaign for the districts were barely able to sign their names without knowing the full set of alphabets. They were just taught to reproduce their signatures. Similarly it was felt that in the absence of any repeat literacy campaign, many of them managed to forget what they had learnt. In other words, the so-called full literacy is no guarantee for *sustainable* full literacy. In sum, the results of full literacy

campaign were too impressive to be believed and as the subsequent researches point out, could not prove to be sustainable.

7.5 METHODS OF DATA COLLECTION, OPERATIONALISATION, PROCESSING AND ANALYSIS

A number of studies have been conducted highlighting three primary methods of data collection in Social Sciences: survey method based on questionnaires or interviews, experiments in natural or laboratory settings and field methods using different types of observation techniques.

As we list out the methods in broad terms, we feel it expedient to sound at least two caveats before we begin to dwell on them. One, there is no a priori way to privilege one method over another. For, each of these has its relevance to the particular field that a researcher proposes to work on and the nature of study that she is interested in pursuing. It is important that the difficulty one faces while collecting the data does not become so insurmountable that it halts the process of data collection in the middle and disrupt the research. Sometimes the difficulties force the researcher to abandon her research in a huff. This is why pretesting is so valuable, because it helps us in finding and addressing potential problems before they enter our study and cause bigger problems in the future.

Two, the methods suggested above are not mutually exclusive so much so that one does not necessarily rule out the other. In fact, most of the methods are complementary and it is possible for us to simultaneously deploy them. The quality of research improves if data are collected following multiple methods.

Survey is the method of collecting data from relevant individuals and groups by way of interviewing them. There are various ways of interviewing them. Broadly, we make a distinction between *structured* and *unstructured* interviews. One can interview them on the basis of a written questionnaire. But interviews may be unstructured. Or as it happens in some cases, interviews are a combination of them. Although the interviewer carries a written questionnaire, she is free to change and improvise on it depending on the course and progress of the interview. Framing an interview schedule requires special skill and for all practical purposes implies tight-roping for the researcher. While she will have to have the eagle's eye on her research problem and organise the schedule accordingly, she will do well to keep the psyche of the interviewee in her mind. The interviewee too must be left with a sense of self-fulfillment at the end of the interview. She does not have much to gain from the interview unless she is able to discover something in it as interesting. As a result, things which she intends to narrate to the interviewer with absolute eagerness may be irrelevant to the research problem. But one has to listen to it patiently and introspect why things which she considers as relevant do not turn out to be relevant to the way research problem has been formulated. It might call for reformulating the research problem – even refocusing the research objectives. Self-introspection is the prerequisite of any form of social research.

The protocols of survey research are often wrongly assumed to be universal. Research Methodology as it has developed in the West emphasises the researcher's responsibility of running through the protocols with the interviewee before she actually begins it. In many of the Western Universities, there are functionaries specially appointed to monitor

whether transparency in the observance of these protocols was ensured. There are provisions of punitive measures if the protocols are not observed and transparency is not ensured. An interviewee, according to this line of argument, is not obliged to give the interview if she finds the protocols or any of them objectionable. If this is one end of the spectrum, at the other end, there are examples of dishonest researchers who take advantage of people's illiteracy and poverty and make false promises for eliciting information from them. In the Indian context, it is likely that the relationship between the interviewer and the interviewee does not begin and end with the interview – it implies more than that. There are many instances where the relationship is of more social nature and precedes and survives the conduct of the interview.

Experimental method resembles the way experiments are conducted within a laboratory. A laboratory provides one with the ideal conditions for controlling what is otherwise construed as 'given' and 'independent variable'. Viewed in this light, experimental method has very limited applicability to Social Science. For, human beings being irreducibly social are not amenable to laboratory conditions. The human society is far from being a laboratory where every variable can be controlled and subjected to desirable conditions. The innately social nature of human beings makes it difficult for us to try out the experimental method. Yet, in some fields of Social Science particularly in Psychology, experimental methods have made much headway. Let us cite an example. A man is isolated from his social surroundings and is kept confined to a closed, underground room without any exposure whatsoever to the outside world – excepting the food that is supplied to him for his wherewithal. As he spends days and months at a stretch inside this closed room without any exposure to the outside world and is unable to see sunlight, it is discovered that he loses, among other things, his sense of time. It is through the experimental method that one learns that this is one of the changes - that is done to a man who gets isolated from social surroundings. Such experiments are not rare in Psychology.

Field method presupposes visit to the field and depends on deep observation of it. Early anthropologists like Evans-Pritchard, Radcliffe Brown or Malinowski started the tradition of paying long visits to the aboriginal societies in Asia, Australia and Africa and gathering knowledge about them as extensively as possible. The tradition is followed even by present-day anthropologists. There are two rather mutually contradictory perspectives on field method. On the one hand, a section of Social Scientists makes a plea for observing these societies by way of participating in them. The method is widely known as 'participant observation'. It is built on the assumption that one cannot have access to the knowledge of how these societies function, their kinship structures, rituals and social relations etc unless one becomes part of them. On the other hand, scholars like Dumont and others believe that it is not always easy for an insider to chronicle the lived experience. One who is too close to the society that one proposes to work on cannot appreciate features that are unique to it and mark it off from others. Why do Western anthropologists visit such societies like that in India – Dumont asks - unless they are capable of discovering their distinctive features? The works of Dumont and his colleagues have successfully drawn our attention to the distinctive organising principles that lie at the root of Indian society. Dumont's view sparked off a raging debate in Indian Sociology. The debate widely known as 'the Inside/Outside Debate on Indian Sociology' continues till today and figures prominently in its pages since the journal entitled *Contributions to Indian Sociology* was founded by Louis Dumont in Paris in 1959.

Once the data are collected, they must be processed and put into a form which will enable them to be analysed. If they are quantifiable data as it is likely in cases of survey and experimental methods, we usually have to prepare them for feeding into the computer and obtain relevant results. If they are field notes, they must be organised, classified and categorised. Alongside processing, how we plan to analyse the data must be thought through carefully while the study is being designed. It is true that once the data are collected, there may be some changes in these plans. Nevertheless, it is better to have a strategy that can be adapted than to end up with piles of data for which we have no organised plan. There are numerous analytic tools (like bivariate and multivariate analysis, frequency distribution etc) for studying quantitative data. Recent developments in Research Methodology seek to focus more on what the survey data could not bring out – what the respondents did not or even refused to share with the researcher – their silences and refusals. Even silence is understood to have its meaning. Insofar as field data are concerned, there are innovative *strategies* for reading and making sense of them.

7.6 SAMPLING THE SUBJECTS

The data that one collects can be of two types: census and sampling. Like in censuses conducted by the Government, everyone comes under the scope of study and not a single individual is left out of it. Censuses in India conducted every ten years, for instance, theoretically cover one and all so much so that it becomes possible for us to say in precise terms the demographic composition, the age differential and the exact number of inter-state migrants etc. and many more that come under the census count. For an individual researcher, there is a limit to what she can take into account. One can conduct a study on 20 households or even 500 households – but cannot conduct a study that covers all the households of even a remoter district town of India. The researcher has to select in such a way that she can arrive at findings that will be accurate.

The selection process for deciding what or whom one will study rests on a large body of thought about the nature of sampling. Sample plans may be very complex or quite straightforward and one merely selects a sample of subjects who seem to fulfill the needs of one's study. We call it *non-probability* sample. One can, for instance, spend a whole day in a local police station and faithfully take down the cases that are reported on that single day. This is not a *probability* sample because it is possible that on that particular day all the cases reported were so unique that these did not bear any similarity with the crime record maintained by it. Obviously the findings from a unique day's record are bound to be different and will not offer any key to the understanding of the crime profile in the locality over which the station has its jurisdiction. For many studies, such a non-probability sample is sufficient; and for some it is the best that can be achieved. Whatever the design of one's sample, it needs to be explained in detail in one's proposal. It should be so precise that someone else could generate a similar sample by following one's procedures.

On the other hand, a probability sample is expected to reflect the relevant distributions that characterise the population group under study. An exit poll, for instance, will have no meaning if the sample over which the poll is conducted reflects, the age, gender or caste differential, the variations in terms of class, education and income so on and so forth. If a poll is conducted exclusively on the Hindus in a constituency dominated overwhelmingly by the minorities in India, it is likely to tell little - if at all – about minority electoral behaviour. The sample is expected to offer high probability findings provided it is compatible with the relative distribution of relevant factors.

7.7 PRESENTATION OF FINDINGS

Research is more than mere data collection. The data for an entire study may be collected. But the research is not complete unless the results of the study are written up. Most social research projects become the basis of articles, books, chapters in books, reports etc. A research must be designed in a way that it produces findings that are sought to be elicited through it and will have wider value for Social Science as a whole.

Accordingly, the contribution of a research work is to be understood with reference to its *purpose* and *value*. By showing that we have devised a plan of work that looks plausible and seems feasible, we reinforce the sense that the purpose will be achieved. But a social research may serve purposes other than what it fixes for itself at the outset and can bring interesting findings. A research on immigration from neighbouring countries may reveal how climate change and global warming result in the rise of sea level and subsidence of the landmass and loss of cultivability. All this in turn creates resource crisis which compel people to leave their countries. Although clearly the objective of research was to disentangle the crisis of immigration, it brought us face to face with another and more severe global crisis. Besides, the research is to be designed in a way in order to serve its purpose. The value of the project lies not only in what it alone produces, but also in how it may add to or challenges other research in the area.

7.8 SUMMARY

While a good research work is predicated on the preparation of a good research design, there is no golden rule to be followed for the preparation of a good research design. While most of our understanding of research design continues to be steeped in Empirical Theory tradition, the above discussion seeks to dispel that misconception. Thus at every instance, we have tried to find out how research can be conducted outside the given box of empirical tradition alongside that particular tradition. The choice, as we have pointed out, is not mutually exclusive.

7.9 TERMINAL QUESTIONS

1. Define research problem and discuss how literature review enables one to formulate the research problem.
2. Discuss the methods of data collection in Social Science research. Are these methods mutually exclusive? Give reasons for your answer.
3. Define Sample and find out its main points of distinction from Census.
4. Write short notes on the following:
 - a. Non-probability Sampling
 - b. Puzzle-Solving Exercise
 - c. Value of Social Research

SUGGESTED READINGS

1. Karl Popper., *Conjectures and Refutations: The Growth of Scientific Knowledge*, Routledge and Kegan Paul, London, 1963.

2. Thomas S. Kuhn., *The Structure of Scientific Revolutions*, University of Chicago Press, Chicago, 1962.
3. Therese L. Baker., *Doing Social Research*, McGraw-Hill, New York, 1994.
4. Pierre Bourdieu., *The Logic of Practice*, trans. by Richard Nice, Polity, Cambridge, 1997.

UNIT 8 DEFINING DATA (TYPES OF DATA)

Structure

8.1 Introduction

Aims and Objectives

8.2 Classification of Data

8.3 Documentary Data

8.4 Field Data

8.5 Summary

8.6 Terminal Questions

Suggested Readings

8.1 INTRODUCTION

The sources a student should tap vary with his interests and the type of his study. Generally sources are divided into documentary and field sources. The latter include living persons who have a fund of knowledge about, or have been in intimate contact with, social conditions and changes over a considerable period of time. These people are in a position to describe not only the existing state of affairs but also the observable trends and significant milestones in a social process. These persons are regarded as personal sources or direct sources. If discretion is used in their selection, various professional and business persons, old residents, and community leaders may be utilised as sources of information. Each person supplying information may often serve as a check on the other until the account is reliably reconstructed.

The documentary sources of information are those which are contained in the published and unpublished documents, reports, statistics, manuscripts, letters, diaries, and so on. These sources are generally divided into primary sources, which provide data gathered at first hand, the responsibility for their compilation and promulgation remaining under the same authority that originally gathered them; and secondary sources, which provide data that have been transcribed or compiled from original sources, and of which the promulgating authority is different from that which controlled the collection of the data at first hand. The census is generally cited as an illustration of the first type, whereas the statistics based on the general census are illustrations of the second type of data. Either type may be compiled by private or public authority.

Aims and Objectives

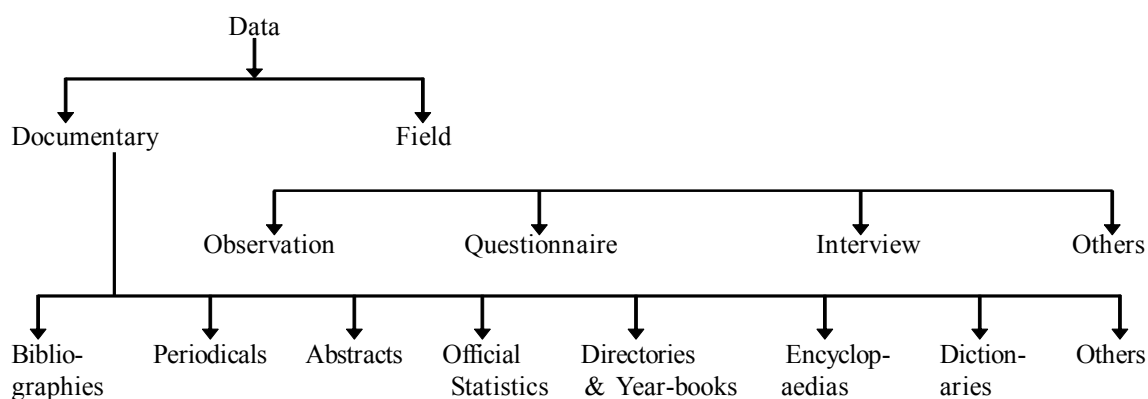
After studying this Unit, you should be able to understand

- The classification of Data;
- The meaning and types of Documentary Data; and
- Different types of Field Data.

8.2 CLASSIFICATION OF DATA

The classification of data, namely, primary and secondary, is essentially relative to the purpose of the research. Jawaharlal Nehru's Autobiography is primary source with reference to his own philosophy but secondary with regard to contemporary events in India. It also depends upon the authority compiling the data; for example, in an enquiry into joint stock banking in India, annual summaries and accounts by the Reserve Bank of India, though authentic and authoritative, are regarded as secondary data. Similarly, in respect of field data, in an enquiry into rural indebtedness, facts relating to each individual respondent as disclosed by him is primary data but individual respondent's observations on his neighbour's indebtedness is secondary data.

The data can be gathered from the sources classified as follows:-



8.3 DOCUMENTARY DATA

The researcher should not hurry up to field data without first consulting the necessary documentary sources, which include all that is recorded and available, printed or manuscript, official or non-official. These are available in libraries, offices, and archives and even with private individuals and involve no field work but only an effort to get at the records. For example, in an enquiry concerning with the leisure activities of a city's population we may usefully begin with getting statistical data about the use made of local libraries, attendance at cinemas and matches, membership of clubs and societies and so forth. The documentary data may supplement the information about individual units of enquiry provided the researcher has access to it. Personal documents such as diaries, letters and autobiographies also provide detailed information and insight into characteristics, experiences and beliefs of individuals. There are various types of documentary sources and a researcher should make the maximum use of such sources before starting his research work.

Bibliographies

Bibliographies record 'everything that has been along the line in the past and contain informations about books, reports, articles and other sources relevant to the research project'. Bibliographies are of two kinds: working bibliographies and final bibliographies. The former is formed at the initial stage of the enquiry and even before the problem is selected. It helps the researcher to understand the problem, to formulate the hypothesis and to start the investigation. The final bibliography is prepared on the completion of the study. It helps the interested researcher to peruse the problem further and enables verification of facts and the statements in the reports. It also gives weight to the report

indicating the depth and extensiveness of the work done. For starting investigation the researcher needs working bibliography which is generally prepared by him from the footnotes of the books consulted and final bibliographies in other research works. A large number of international and national bibliographies are available to aid the preparation of working bibliography by the researcher. Some of them are as follows:

- International Bibliography of Social Sciences
- Asia Social Sciences Bibliography
- Documentation on Asia
- Indian National Bibliography
- Bibliography of Bibliographies on India

Periodical Indexes

Periodical articles on any specific subject can be located by consulting one or more of a group of publications known as periodical indexes which contain the documentation of periodical publications, particularly articles. Several indexes are available as follows:

- Social Sciences Citation Index
- Index to Scientific Reviews
- Social Sciences Index
- Index India
- Guide to Indian Periodical Literature

Abstracts

It provides a gist of contents of selected articles, books, dissertations, etc. Some of the prominent abstracts are:

- Social Sciences Abstracts
- World Agricultural Economics and Rural Sociology Abstracts
- International Dissertation Abstracts
- Indian Behavioural Science Abstracts
- Indian Dissertation Abstracts

Official Statistics

Researchers can obtain basic data from various statistical publications of national governments and or international agencies such as:

- United Nations Statistical Year Book
- Demographic Year Book
- Production Year Book

Similarly, most frequently consulted national publications of official statistics are as follows:

- Census Reports
- Statistical Abstract of India
- Indian Agriculture in Brief
- Statistical Outline of India
- Labour Statistics

Directories and Yearbooks

These contain the list of organisations arranged by their area of interest in alphabetical order and intend to provide recent possible informations and trends not available elsewhere. A few important directories and yearbooks are:

- Yearbook of International Organisations
- Manual of Government Publications
- Directory of Social Science Research Institutions in India
- Learned Societies and Institutions in India

Encyclopaedias

Encyclopaedia contains informational articles along with their bibliographies which become useful as guide to general sources of information on the subject. A few encyclopaedias of particular interest and value to the person working in social sciences are: 1. International Encyclopaedia of Social Sciences, which includes biographies of men whose works have been significant to social sciences and articles on all the important topics on capitalism, labour unions, democracy, coal industry, land tenure, law, league of nations, legislative assemblies, etc. (2) Encyclopaedia of Educational Research, (3) Encyclopaedia of Banking and Finance and (4) Encyclopaedia of the Social Sciences.

Dictionaries

Similarly, in addition to unabridged dictionaries of English language, there are several dictionaries of synonyms or terms and phrases in different fields of knowledge. There are a few dictionaries concerned with fields within social sciences: Dictionary of the Social Sciences; Dictionary of Sociology; Dictionary of Behavioural Sciences; Dictionary of Modern Economics; Dictionary of Education; Dictionary of Psychology. These dictionaries usually include information about events and names as well as the definitions of terms and phrases relevant to the field.

Other Sources

There are certain publications which provide sufficient informations for research in social sciences such as (i) Keesing's Contemporary Archives, which lists events of all countries separately along with summary of such events, their source and subject index; (ii) Asian Recorder, which lists events of all countries of Asia from newspapers, periodicals, radio, embassy of government departments; (iii) Indian Economic Diary, which presents accurate and authentic record of significant economic events in India drawn from 50 Indian newspapers and periodicals; and (iv) Data India, which provides data on all social and economic activities in India.

Similarly, some publications of state and local units of government contain useful reference and research materials. At the state level, legislative journals, statutes, state yearbooks and diaries, legislative manuals and publications of various state departments, are such publications. Local units of governments generally do not publish materials but keep them in records which can be obtained from different government offices. Agricultural informations such as cropping pattern, yield, land use, production programmes, soil classification, water requirement, etc., informations regarding industrial units in the district, particularly locational details, categories, investment, production, employment, power consumed, capacity of

production etc.; informations regarding health centres, health sub-centres, family planning centres, Ayurvedic, Homeopathic and Unani dispensaries, private doctors, government doctors, private nursing homes, X-ray clinics, pathological laboratories, number of beds, nurses, mid-wives, number of outdoor patients treated etc.; informations regarding schools and colleges, school going children with age and gender, teachers, etc.; informations regarding number and classification of co-operative societies; informations of post offices, public call offices, telegraph offices, telephone exchanges, etc.; manager of the lead bank possesses information of banking and other financial institutions. Thus, for researches at district level, the above can serve as a good source of secondary data.

It should not be inferred that documentary sources of information are always appropriate and reliable. They may contain errors as a result of the bias or incompetence of the compiler; therefore such data should be used primarily as guides to original sources. The documentary data to be used must be analysed within the limitations of the collection methods. This needs a critical attitude on the part of the researcher towards all published sources, so that he may analyse and evaluate carefully any source that is being consulted.

8.4 FIELD DATA

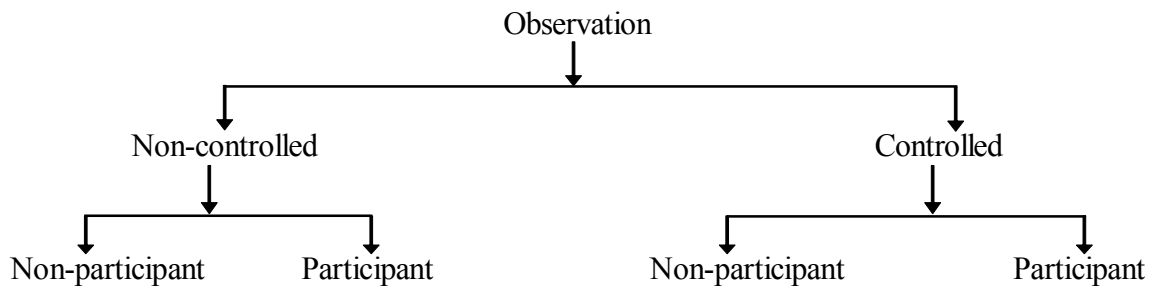
The field data relates to facts of problems which have not been adequately enquired into, but sometimes these are merely for the verification of known facts and conclusions. Such data can be obtained through observations, questionnaire and interviews.

8.4.1 Observation

Researcher is primarily a discoverer and his main source of information is his own experience derived from observation and experiments; both being facets of the same process, one being passive and the other active. Observation implies the use of close contacts on personal level to seek the desired informations. It can be defined as 'systematic viewing coupled with consideration of the seen phenomena'. It implies use of eyes rather than of ears and voice. It is, however, more than merely viewing things as it involves seeing closely and purposely at the situation as a whole. Thus, observation comprises the recording of data as they come to the investigator's notice when he plays largely a passive part.

It involves three distinguishable components: sensation, attention and perception. Sensation is gained through the sense organs which depend upon the physical alertness of the observer. Then comes attention or concentration which is largely a matter of will-power but adequate training and experience can make it almost a matter of habit. The third is perception which comprises the interpretation of sensory reports. Thus, sensation merely reports the facts as observed but perception enables the mind to recognise the facts. Through this process, observation serves the purpose of (i) studying collective behaviour and complex social situations; (ii) following up of individual units composing the situation; (iii) understanding the whole and the parts in their inter-relation; and (iv) getting out-of-the-way details of the situation.

Several types of field observation have been found useful for research in social sciences. These can be classified as follows:



Most of the knowledge people have about social relations has been derived from non-controlled observation, whether participant or non-participant. The control in case of observation refers to the standardisation of observational techniques in whose absence the observation is non-controlled.

8.4.1.1 Non-controlled Non-Participant Observation. It involves a study of social situation from outside without participating in the social life of the people being observed. In this case the observer observes ‘not only physical aspects of the community but also the social atmosphere, the symbiosis (living together) of the population and effects of such living in such a social world’. Such external and scattered observations like snapshots often suggest the inner life of people, their conflicts and social distances. Some researchers use passive participant observation over a long period of time within the same group of observers with the hope of obtaining more reliable data. Such observations are suitable for the study of certain factories, retail stores and banks; of the mass activities of a strike; of the meetings associated with the loss of income and unemployment; of ceremonies surrounding marriage, birth and death. It can also be applied for the study of working of offices of police, health, school and of relations of teachers and students and of their relation to the authorities of the educational institutions.

8.4.1.2 Non-controlled Participant Observation. The participant observer shares the life of the observed community. This sharing may be intermittent but active contact at close proximity affords intimate study of interpersonal relations and motivations of members of the society. The degree of participation depends largely on the nature of the study and the practical demands of the situation. In some cases the investigators have to identify themselves clearly with the group studied, while in other cases he may perceive it primarily in terms of his own previous life unless he deliberately takes another role to enable him to experience in himself the more subtle differences. The major aim of this type of observations is to get spontaneous and un-posed picture of life and persons. It has tendency to supply naturalness and completeness of behaviour and allows sufficient time to observe it. Since the period of participation may continue for months, the range of materials collected will be much wider and enables the investigator to record the context which gives meaning to expressions of opinion. He can also check the truth of statements made by members of the group.

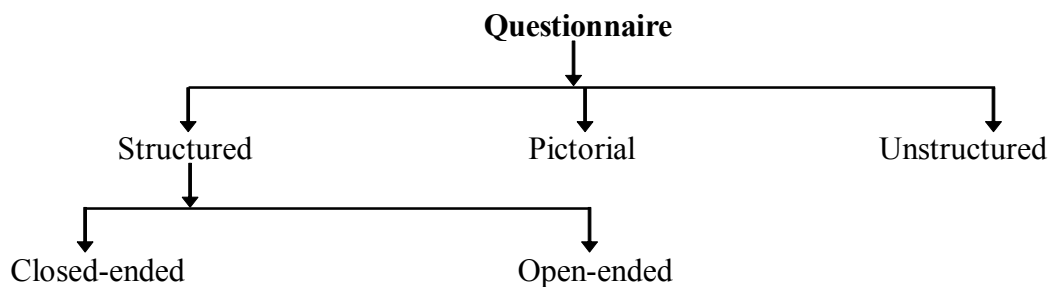
8.4.1.3 Controlled observation. In recent decades the emphasis has been laid on development of precise observation technique which would yield measurable data of social phenomena. Under controlled observation, the investigator replaces vague impressions of body built by anthropometrical measurements, guesses about distances by exact maps. Hunches about friendship patterns can be checked by definite counts, cross tabulations or socio-metric diagrams. In controlled observation, the formal interview, the inventory or schedule and maps, exercise control over the observer. In this case, the investigator tries to systematise the process of observation and may take the help of a large number of

instruments like one-way screens and mirrors, movement recorders, sound recorders, motion pictures, rating scales, observation schedules, etc.

8.4.2 Questionnaire

The observation is suitable where population for investigation is close and very small (i.e. a small tribal community or children of certain age groups in certain institutions) but the questionnaire is designed to collect data from large, diverse and widely scattered groups of people. The questionnaire is generally sent through the mail to informants to be answered as specified in a covering letter but otherwise without further assistance from the sender. In case the questionnaire is filled out by the research worker or the enumerator who can interpret the questions when necessary, it is called a schedule. There are a large variety of schedules such as observation schedule, document schedule, evaluation schedule, etc.

Questionnaire and schedules are supplementary device in evaluating personal behaviour and social institutions. They being standardising or objectifying observations and are useful for 'isolating one element at a time and thus intensifying observation of it'. There are a variety of questionnaires as follows:



Structured questionnaires pose definite, concrete and pre-ordained (i.e. prepared in advance) questions. Additional questions may be raised to clarify vague or inadequate replies by informants. In case the questionnaire contains questions along with a set of responses from which the informant is to choose, it is called closed-ended-structured questionnaire. On the other hand, in open-ended structured questionnaire there is no mention of set of responses and the informants are left free to make spontaneous expressions in replies to particular question posed to them. Such questionnaire is used for intensive studies of a limited number of cases or for preliminary exploration of new problems and situations. Here the respondent is asked to describe his relationships, attitudes, problems and give details of certain events freely, without any restriction. Such non-directed responses may pose some problem of classification and analysis, but as an exploratory tool, it is very important.

In some studies pictures have been used for eliciting responses because they promote interest in answering the questions. Pictorial questionnaires have been used extensively in studies of social attitudes and prejudices in children. Unstructured questionnaire, also known as interview guides, aim at precision and contain definite subject matter and areas to be covered during the interview. The interviewer is free within limits to arrange the form and timing of inquiries. It is designed to obtain view-points, opinions and attitudes which might escape notice under more mechanical types of interrogations. But there is danger of accumulation of non-additive and non-comparable data with this questionnaire.

The appropriateness of the questionnaire depends upon the requirements of the research problem with regard to (i) the type of information required; (ii) the type of respondent

reached; (iii) the accessibility of the respondent; and (iv) the precision of hypothesis. The questionnaire helps in collecting (information wise) narrow areas of data and not very extensive bodies of data. It is effective because the respondents are able to express their reactions clearly with greater openness as there is less fear when there is no immediate listener. Secondly, the questionnaire covers only those respondents who can read and write and, therefore, it cannot be used for a representative sample of the entire population. This will bias the sample in known direction but to an unknown degree. Thus, it is not an effective research tool for any but a highly select group of respondents. Thirdly, accepting this as given, questionnaire is a very effective tool of data collection from geographically widely dispersed respondents. Lastly, it is most useful when considerable exploratory work has narrowed the questions to be answered and has provided various responses for the respondents to choose from.

8.4.3 Interview

The interview method of collecting data involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses. This method can be used through personal interviews and, if possible, through telephone interviews.

8.4.3.1 Personal Interviews: Personal interview method requires a person known as the interviewer asking questions generally in a face-to-face contact to the other person or persons (At times the interviewee may also ask certain questions and the interviewer responds to these, but usually the interviewer initiates the interview and collects the information). This sort of interview may be in the form of direct personal investigation or it may be an indirect oral investigation. In the case of direct personal investigation the interviewer has to collect the information personally from the sources concerned. He has to be on the spot and has to meet people from whom data have to be collected. This method is particularly suitable for intensive investigations. But in certain cases it may not be possible or worthwhile to contact directly the persons concerned or on account of the extensive scope of enquiry, the direct personal investigation technique may not be used. In such cases an indirect oral examination can be conducted under which the interviewer has to cross-examine other persons who are supposed to have knowledge about the problem under investigation and the information, thus, obtained is recorded. Most of the commissions and committees appointed by government to carry on investigations make use of this method.

The method of collecting information through personal interviews is usually carried out in a structured way. As such we call the interviews as *structured interviews*. Such interviews involve the use of a set of predetermined questions and of highly standardised techniques of recording. Thus, the interviewer- in a structured interview- follows a rigid procedure laid down, asking questions in a form and order prescribed. As against it, the *unstructured interviews* are characterised by a flexibility of approach to questioning. Unstructured interviews do not follow a system of pre-determined questions and standardised techniques of recording information. In a non-structured interview, the interviewer is allowed much greater freedom to ask, in case of need, supplementary questions or at times he may omit certain questions if the situation so requires. He may even change the sequence of questions. He has relatively greater freedom while recording the response to include some aspects and exclude others. But this sort of flexibility results in lack of comparability of one interview with another and the analysis of unstructured responses becomes much more difficult and time-consuming than that of the structured responses obtained in case of structured interviews. Unstructured interviews also demand deep

knowledge and greater skill on the part of the interviewer. Unstructured interview, however, happens to be the central technique of collecting information on descriptive studies; we quite often use the technique of structured interview because of its being more economical providing a safe basis for generalisation and requiring relatively lesser skill on the part of the interviewer.

We may as well talk about focused interview, clinical interview and the non-directive interview. *Focused Interview* is meant to focus attention on the given experience of the respondent and its effects. Under it, the interviewer has the freedom to decide the manner and the sequence in which the questions would be asked and has also the freedom to explore reasons and motives. The main task of the interviewer in case of a focused interview is to confine the respondent to a discussion of issues with which he seeks conversance. Such interviews are used generally in the development of hypotheses and constitute a major type of unstructured interviews. The *Clinical Interview* is concerned with broad underlying feelings or motivations or with the course of individual's life experience. The method of eliciting information under it is generally left to the interviewer's discretion. In case of *non-directive interview*, the interviewer's functions are simply to encourage the respondent to talk about the given topic with a bare minimum of direct questioning. The interviewer often acts as a catalyst to a comprehensive expression of the respondents' feelings and beliefs and of the frame of reference within which such feelings and beliefs take on personal significance.

8.4.3.2 Telephone Interviews: This method of collecting information consists in contacting respondents on telephone itself. It is not a very widely used method, but plays important part in industrial surveys, particularly in developed regions.

8.4.4 Other Methods of Data Collection

Let us consider some other methods of data collection, particularly used by big business houses in modern times.

8.4.4.1. Warranty Cards: Warranty cards are usually postal size cards which are used by dealers of consumer durables to collect information regarding their products. The information sought is printed in the form of questions on the 'warranty cards' which is placed inside the package along with the product with a request to the consumer to fill in the card and post it back to the dealer.

8.4.4.2 Distributor or store audits: Distributor or store audits are performed by distributors as well as manufacturers through their salesmen at regular intervals. Distributors get the retail stores audited through salesmen and use such information to estimate market size, market share, seasonal purchasing pattern and so on. The data are obtained in such audits not by questioning but by observation. For instance, in case of a grocery store audit, a sample of stores is visited periodically and data are recorded on inventories on hand either by observation or copying from store records. Store audits are invariably panel operations, for the derivation of sales estimates and compilation of sales trends by stores are their principal 'raison d'être'. The principal advantage of this method is that it offers the most efficient way of evaluating the effect on sales of variations of different techniques of in-store promotion.

8.4.4.3 Pantry audits: Pantry audit technique is used to estimate consumption of the basket of goods at the consumer level. In this type of audit, the investigator collects an inventory of types, quantities and prices of commodities consumed. Thus in pantry audit

data are recorded from the examination of consumer's pantry. The usual objective in a pantry audit is to find out what types of consumers buy certain products and certain brands, the assumption being that the contents of the pantry accurately portray consumer's preferences. Quite often, pantry audits are supplemented by direct questioning relating to reasons and circumstances under which particular products were purchased in an attempt to relate these factors to purchasing habits. A pantry audit may or may not be set up as a panel operation, since a single visit is often considered sufficient to yield an accurate picture of consumers' preferences. An important limitation of pantry audit approach is that, at times, it may not be possible to identify consumer's preferences from the audit data alone, particularly when promotion devices produce a marked rise in sales.

8.4.4.4 Consumer panels: An extension of the pantry audit approach on a regular basis is known as 'consumer panel', where a set of consumers are arranged to come to an understanding to maintain detailed daily records of their consumption and the same is made available to investigator on demands. In other words, a consumer panel is essentially a sample of consumers who are interviewed repeatedly over a period of time. Mostly consumer panels are of two types viz., the transitory consumer panel and the continuing consumer panel. A transitory consumer panel is set up to measure the effect of a particular phenomenon. Usually such a panel is conducted on a before-and-after-basis. Initial interviews are conducted before the phenomenon takes place to record the attitude of the consumer. A second set of interviews is carried out after the phenomenon has taken place to find out the consequent changes that might have occurred in the consumer's attitude. It is a favourite tool of advertising and of social research. A continuing consumer panel is often set up for an indefinite period with a view to collect data on a particular aspect of consumer behaviour over time, generally at periodic intervals or may be meant to serve as a general purpose panel for researchers on a variety of subjects. Such panels have been used in the area of consumer expenditure, public opinion and radio and TV listenership among others. Most of these panels operate by mail. The representativeness of the panel relative to the population and the effect of panel membership on the information obtained are the two major problems associated with the use of this method of data collection.

8.4.4.5 Use of mechanical devices: The use of mechanical devices has been widely made to collect information by way of indirect means. Eye camera, Pupilometric camera, Psycho galvanometer, Motion picture camera and Audiometer are the principal devices so far developed and commonly used by modern big business houses, mostly in the developed world, for the purpose of collecting the required information.

Eye cameras are designed to record the focus of eyes of a respondent on a specific portion of a sketch or diagram or written material. Such information is useful in designing advertising material. Pupilometric cameras record dilation of the pupil as result of a visual stimulus. The extent of dilation shows the degree of interest aroused by the stimulus. Psycho galvanometer is used for measuring the extent of body excitement as a result of the visual stimulus. Motion picture cameras can be used to record movement of body of a buyer while deciding to buy a consumer good from a shop or big store. Influence of packaging or the information given on the label would stimulate a buyer to perform certain physical movements which can easily be recorded by a hidden motion picture camera in the shop's four walls. Audiometers are used by some TV concerns to find out the type of programmes as well as stations preferred by people. A device is fitted in the television instrument itself to record these changes. Such data may be used to find out the market share of competing television stations.

8.4.4.6 Projective Techniques : Projective techniques (or what are sometimes called as indirect interviewing techniques) for the collection of data have been developed by psychologists to use projections of respondents for inferring about underlying motives, urges, or intentions which are such that the respondent either resists to reveal them or is unable to figure out himself. In projective techniques the respondent in supplying information tends unconsciously to project his own attitudes or feelings on the subject under study. Projective techniques play an important role in motivational researches or in attitude surveys.

The use of these techniques requires intensive specialised training. In such techniques, the individual's responses to the stimulus-situation are not taken at their face value. The stimuli may arouse different kinds of reactions. The nature of the stimuli and the way in which they are presented under these techniques do not clearly indicate the way in which the response is to be interpreted. The stimulus may be a photograph, a picture, an inkblot and so on. Responses to these stimuli are interpreted as indicating the individual's own view, his personality structure, his needs, tensions, etc. in the context of some pre-established psychological conceptualisation of what the individual's responses to the stimulus mean.

8.5 SUMMARY

In this Unit, we have studied the methods of defining data. The sources vary with researcher's interests and the type of his study. These are divided into documentary and field sources. The latter include living persons who have a fund of knowledge about, or have been in intimate contact with, social conditions and changes over a considerable period of time. These people are in a position to describe not only the existing state of affairs but also the observable trends and significant milestones in a social process. These persons are regarded as personal sources or direct sources. Various professional and business persons, old residents, and community leaders may be utilised as sources of information. This information may often serve as a check on the other until the account is reliably reconstructed. The documentary sources of information are those which are contained in the published and unpublished documents, reports, statistics, manuscripts, letters, diaries, and so on. These include primary sources, which provide data gathered at first hand, and secondary sources, which provide data, that have been transcribed or compiled from original sources, and of which the promulgating authority is different from that which controlled the collection of the data at first hand. The Unit also extensively dealt with different types of data and their classification.

8.6 TERMINAL QUESTIONS

1. Discuss the various types of data.
2. What do you mean by Documentary data? Discuss the various sources of Documentary data.
3. What do you mean by Field data? How can a researcher get the field data? Discuss at length.

SUGGESTED READINGS

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