CHAPTER 3

HISTORY OF SOCIAL SCIENCE AND THE CONCEPT OF MAPPING: AN OVERVIEW

3.0 Introduction

The inquisitive nature of man has made it possible to explore the realities of the world around him. Man’s urge to find out the truth led him to understand the material world around him in a systematic and formulated way. Thus the natural sciences came into existences. Earlier the same man found it difficult to study, understand and gain knowledge of the society in which he lives than that of physical world around him. This was because of the fact that the scientific methods which were employed in the case of study of natural sciences could not be employed in the case of studies related to society and man.

Later on the social scientists made efforts to study the social science aspects in a scientific way. The social researcher dealt with the structures and processes of the social world which is dynamic in nature. As the researcher probed the social realities at a deeper level again it gave way for new perspectives. The study of these new perspectives again led to the formulation of “social theories”.

It is also the fact that there was an influence of religion and supernatural ideologies that governed the sociological thoughts. That is why Comte a social scientist was of the opinion that the social world needs to be developed in line with natural science. (Bernal, 1969) Mr. Francis Bacon (1561-1626), an English thinker gave birth to new research methodology in which the observation of human experience is the main operating tool in the discovery of knowledge. This was the main focus of research methodology and raised the social science to the status of natural sciences.
Therefore the social science cover the fields of academic disciplines which explore aspects of human society, deal with men in social context and also deal with cultural and mental activities of individuals in a group. It is a branch of knowledge in which all the subjects that are connected with human affairs. This is a systematic effort in order to understand the human relationship in organized community life. Though for the sake of study the classification is made on one principle the subjects which are covered under natural sciences and humanities overlap each other. This phenomenon is observed in the case of human development wherein we observe the interplay of biological and social processes.

3.1 Origin of Social Science

Ever since the civilization of man we observe the recording of the important events that took place. Probably it is the history that supposes to be the first of all the social science. This was later on followed by Political Science and Economics and then Geography, Anthropology and Sociology. The study of history even before the birth of Christ reveals that Herodotus wrote history on Persian wars in the fifth century BC only. Later on the Greek philosophers Plato and Aristotle wrote on the theories of Political Science. In the 16th century Machiavelli published the Prince (1513) and Jean Boden published De La Republique. The English philosophers Hobbes and Locke on priority wrote about the ‘state and its nature’. Later on in 1748 Montesquieu published De L Spirit des Louis in which he wrote about “eternal principles”.

The another discipline Economics must have begun with ‘MERCANTILISM’. (American Peoples Encopedia, 1863). It is a trade doctrine which grew itself from the middle of the fifteenth century until eighteenth century. It emphasized a balanced trade on the part of the state. It could encourage the building up of wealth in the form of precious metals. Later on this theory was challenged by physiocrats who were the pioneers of the doctrine of ‘Laissez faire’.
It appears that the study of physical geography is older than human geography, which deals with the interaction of man and environment. Though Montesquieu emphasized on the relation between man and environment the works of H.T. Buckle, Friedrich, Ratzel and Karl Ritter gave much impetus to human geography. Of late Paul Vidal de la, Blache and Jean Brunches, the French scientists have their own outstanding contribution to human geography.

The study of social anthropology begins with the cultural studies made by Adolph Bastien, and Friedrich Ratzel in the middle of the nineteenth century. Earlier to this Prichard published treaties on anthropology in 1800. All these works were influenced by the evolution theories proposed by Charles Darwin, Herbert Spenser, E.B. Taylor and Lewis H. Morgan. The Greek philosophers are the pioneers to study sociology. The term sociology was introduced by a social scientists called Auguste Comte in his work Course De Philosophie Positive during 1830-1842. He was the student of Saint Simon who was influenced by Montesquieu et.al. Later on Comte’s new branch of social science entitled sociology was made popular in England and America by Herbert Spenser. Lester F. Ward is the first great American sociologist and Europeans have their own contribution for the development of sociology particularly Max Weber, George Simmel and Emile Durkheim.

3.2 History of Social Science

3.2.1 The Social Science of Early Man-Ritual and Myth

The history of social science dates back to the very beginning of human society. When we go through the origin of man and society, it is evident that man had his own concept aroused from rituals and myths to secure food and other desired goods. The common rites which were practiced by this generation have been passed on to the next generation. They have been enshrined in the sacraments. They were the dramatic representation and fixing of the necessary relations of social life.
3.2.2 From Myth to Morality

The society evolved and became more complex. The different classes were formed. The belief in the myths reduced and they became inadequate. The society transformed itself from earlier magical and mythical nature to moral and rational nature. The formation of classes in the society corresponds with the transformation into primitive science of that part of rituals and myths which would deal with control of external material world. They found the necessity of religious myths to explain and defend an inequitable system. The moral laws were two faced. (Bernal, 1969) One for the poor and oppressed and the other for the rich and ruling. The class system in the society became more conflict ridden. The official morality tended to move on religion. The people developed faith in performing pooja to idols of god.

3.2.3 The Philosophy of Gentleman

During this period, there was a split between theoretical and practical aspects of social justice. The split appears between the philosophy and knowledge needed by the ruler on one hand, simpler knowledge and more prescribed practice of common people on the other hand. In India, China and Greece the attempts have been made to formulate a systematic body of knowledge of the society for the benefits of rulers. The Chinese classic called “Great learning” treated as good guide for ruling.

3.2.4 Mysticism and Rejection of Society

During this period the society underwent a transformation towards mysticism. The ascetics or yogis were knowledged persons. Their knowledge was thought to be philosophical and spiritual and not the social knowledge. Truely they were having the thorough knowledge of society. (Bernal, 1969) They had an idea to impress on people and rulers. They acted as spiritual lightening conductors, protecting an evil society from the wrath of God.
3.2.5 The Greek Analysis of Society

Greeks are the pioneers in presenting analytical and logical aspects of social science. The credit of nomenclature of subjects such as ethics, economics, politics and history should go to the Greek people. They are all Greek terms. The history reveals that the revolutions, wars and debates of the Greek city based on social questions in which the division of classes is most prominent.

In the view of Greeks, man was primarily a citizen and in the view of Aristotle man was a political animal. The city governance was problematic because of social problems. The responsibility of solving social problems led to the systematic study of social science by applying proper research methodologies such as collection and comparision of constitution of cities by Aristotle and his researchers (Bernal, 1961).

Aristotle found it difficult to find some system which would bring social harmony without abandoning class privileges. This was indeed the purpose of his doctrine of the “mean”. The Greeks traveled all over the world and could study the social conditions of different places. This knowledge of a socially different world gave objectivity to Greek thinkers while Indians and Chinese lacked it. The major contribution of Greeks to social science was their success in abstraction and precise words to express common elements.

The Greeks have made serious attempts to formulate a scientific study of social science on par with physical sciences. In the history of social science the major task has been to break the chains of conformist beliefs enshrined in the work of Plato and Aristotle, a task which has taken much longer in the social sciences than the natural sciences and which is not yet complete.
3.2.6 The Roman Analysis of Social Science

Romans were known for their practical knowledge in the field of social science. They could earn this knowledge by passing through several hardships such as resolving the class conflict between patricians and plebeians. They could conquer, exploit and administer the whole empire. The Roman law favored the domination of the society by the rich and powerholders. (Bernal, 1969) It did not represent an ordered setting of social relations. Hence Roman law did not survive longer.

3.2.7 Social Science in the 18th Century

This is the beginning period of the real evolution of the social science. Many of the disciplines of the social science took birth during this time. When we go through historical scientific endeavors up to 1760 we find lot of achievements in biological and physical sciences. Whereas some efforts have been made on the study of man and society. During this period Hobbe’s Leviathan, Locke’s Two treatises on Government; Vico’s New Science; and Montesquieu Sprit of Law were published. (Khanna and Others, 2000) In addition to this, much of literature on economics, political science, religion and topics related to human aspects were published. Though we observe the works of Vico and Roger Bacon it is Montesquieu whose works are remarkable as for the nature and purpose of human society in France concerned. This is treated as one of the sources of the new concern with social science. In the middle of the eighteenth century, the French people took the leadership and spread the movement to other countries and were successful in developing interest and new attitude towards social science.

As a result of this much of intellectual work has been done about social problems in Scotland, England and Germany. This led to a changed pattern of social fabric. At the same time, capitalism made its beginning and developed gradually and became a dominant socio-economic system in the western and
northern Europe. (Khanna and Others, 2000) During this period, the middle class found social life in France, Holland and Britain.

In the later part of the eighteenth century, as a result of urbanization and population growth, there appeared symptoms of disorganization—slums, alcoholism, brutal behavior etc developed. Further these were the targets of social reforms. The conditions such as gradual transfer of political power to a new class, increase in the wealth by investigating new plants and the rise of new industries, deal with overseas enterprises, concentration of labour power in the cities gave way for the analysis and scientific study. The tendency of studying social facts from the philosophical standpoint remained predominant. Rousseau who wrote written Social Contract (1762) was inspired by this fact and he stated “I seek right and reason and do not argue about the facts”. Further we observe the same thing in the writing of Montesquieu. By the end of the eighteenth, century we observed the multiplication of works with scientific character with less philosophical element.

August Comte (1798-1853) was the pioneer in coining the term sociology. It is he who defined the object of social science and was the first person to give systematic and complete analysis of principles of positive character of social science (Comte, 1858). He has shown how they are separate from morals and metaphysics. Further Montesquieu and Voltaire showed a new path for politics and history. Others developed the groundwork for the development of ethics, economics, and sociology. Scottish school developed the basic concepts of psychology.

3.2.8 Social Science in the 19th Century

In the early nineteenth century, social science was predominant in all the leading European countries. It had its own respectable position and entered in most of the universities. It is observed that much of the writing on social aspects though had a scientific core admitted philosophy literature and moral reflections. It is seen that interdisciplines such as political economy and history
were treated as prime fields of research. There needed to be a crystallization of the independent disciplines.

The main features of social science that we can observe in the 19th century are,

- Each discipline elaborated and more sharply defined in relation to one another.
- Social sciences were given independent status in academic institutions.
- The attempts were made to elaborate new research methodologies for the study of various social science.

Further attempts have been made to produce synthetic social science by various social scientists. Of them the contribution of Auguste Comte was accepted immediately. (Khanna and Others, 2000) Other sociologist Emile Durkheim was influenced by him. It is of the opinion that the contribution made by Karl Marx was the first complete system and the first general theory of social science.

3.2.9 Social Science in the 20th Century

By this time social science attained a higher status and each of the disciplines was studied independently though Auguste Comte and Marx asserted the unity of social science. They are based on interdependence of all the social phenomenon. No one could be validly analyzed in isolation. The complex nature of social facts and the diversity of the tool and techniques used for the study made specialization inevitable. Thus social science fragmented into a number of specialized disciplines called ethnography, social psychology, anthropology, economics, demography, ecology, sociology of law, political science etc. But the social science system as a whole cannot be studied without the general connection between parts (disciplines). The social scientists restricted their studies to a particular discipline and formulated theories within the framework of each discipline. Hence, we observe the absence of general theory of social science.
Further the university and other academic institutions established the department pertaining to each discipline of social science. Here people study the social sector for which he is best equipped intellectually and professionally. Though we observe the phenomenon of splitting of social science we observe a reaction against splitting up of social science. Long ago Auguste Comte recommended one method for the training of specialist in generalities. The second method is to construct the generally acceptable doctrine. The third method would be collaborative studies of specialists in each discipline on common researchers and periodical contacts in the forms of meetings, seminars, workshops, conferences. It is said that the barrier could be removed only when all the specialists change their attitude and see the special field of research in its context within the whole field of study of man and society.

When we go through the growth of different social science disciplines, we observe that they have undergone the pattern through which the natural sciences have passed. The social science disciplines have been institutionalized to a high degree whereas the initial period it may have been a preoccupation of group of semi-amateurs, philosophers, businessmen and government. Nowadays social sciences are the subjects of research. The period of growth of the formation of the each of the disciplines varies from discipline to discipline. In the case of economics, the formation of basic principles lasted from 1760 to1875 and preoccupation with method from 1860 to1925. While in Psychology, Anthropology and Sociology we observe different periods.

The historical patterns of development of all the social science disciplines are almost similar to that of other sciences. The social scientists became more specialized, since they were to study the changing patterns of the whole society and educational systems all over the world. (Khanna and Others, 2000) The theory of evolution served primarily as a starter, suggested lines of analysis which had earlier escaped the attention of social scientists. Further the progress in all the fields of social science lies in the hybridrazation of various
disciplines. The greater integration of social science was the dream of Auguste Comte.

When we go through the article “Social Science today” written by Lawrence, A. Kimpton we find that there is a confusion with regards to the limit and boundaries of social science. He is of the opinion that there is an overlapping of social science disciplines with the other natural science and humanities.

In the social science after the World War first 1917 we observe two functioning systems of society and two corresponding systems of thought, capitalist and socialist. In the case of capitalist world social science was struggling to adjust with the changing conditions of the society which suffered instability and violence. In case the of socialist world we observe struggling for existance and building a material base for the new kind of social life which lead a way for much more new problems to social science. The critical study of the position of social science in the capitalist world would show how progressively disintegrations have been the effect of the intellectual and the social atmosphere of capitalism. During this period, we see a great increase of interest in the social sciences and lot of money was spent on the studies of social science. As a result of this, hundreds of people engaged themselves in social research and contributed voluminous work and surveys.

3.2.10 The Applications of Social Science

The application of social science reveals that the theories of economics and political science have found their main use in the ideological defence of capitalism. The real growth of social science after the Second World War is due to the realization of cash value. The social scientists even before World War One were employed in economic services, in market research and in the promotion of harmonious industrial relations, planning (urban and rural) and education.
Further the study of social science took a new dimension and quantitative and statistical methods were employed instead of verbal definition and generalization. Such studies conducted by social scientists found themselves in a situation where they were called on to do something as a result of their investigations. They were given the means both to make the investigations and to have the conclusions put into practice. They were working on par with natural scientists.

The social scientists started a new approach and conducted research by different methodologies such as survey, opinion polls, social and industrial psychology, market and operational research. They all consist essentially of a more or less statistical analysis of data about thinking, working or living situations extracted by systematic inquiry.

3.2.11 Future of Social Science

The future of social science would be accompanied with the social background of the future civilization. It is necessary to avoid another world war. The people of the world should be able by their united action to prevent its outbreak. We may expect for many years the continued existance of two schools of thoughts of economics.

3.3 Characteristics of Social Science

It is said that man is a political animal. Later on this was broadened and said man is a social animal. Man is a unique living creature on the earth and his study can be made in two dimensions.

- Man as an individual
- Man as a social being

Man as an individual is studied in order to clarify the physical characteristics of the species and study of the man as a social creature in order to understand the nature of community life.
Thus the study of social science deals with the following aspects:

1. The study of human relationship over a period of time,
2. The human activities interaction with cultural, biological, physical elements,
3. The study of fundamentals social systems, institutions and processes,
4. The interaction between individuals and institutions, and among political, economic and social institutions,
5. The study of nature of society and interaction of people with each other and also their social and physical environment.

3.4 Mapping of Social Science Literature

3.4.1 Introduction

A map is a visual representation of an area— a symbolic depiction highlighting relationships between elements of that space such as objects, regions and themes. It is a graphical representation that helps to understand connections and corresponding relationships between things. In the case of literature, it is a study of correlation links between the past and present, research work using citation analysis. The information thus obtained is very vast in nature. Therefore, it requires a treatment through which it can be represented in a précised, focused formatted condition. This requirement can be fulfilled by a technique called “mapping”.

Mapping helps to create a knowledge base of a specific area. It provides an outline of the distribution of knowledge at different levels. The mapping is based on the subject that we select for e.g.: the papers published in the journals and the cross-citations of every such paper. In such maps the main themes are placed in relation to one another. The more closely related are put together and less related are put apart. The different aspects of bibliographics may be used to create a map and each aspect shows a structure which is specific and the relation with the structure of other aspects.
3.4.2 Concept of Mapping

Mapping is a process of reorganizing and rearranging the most important ideas and information identified by reading the literature and converting it into a diagram with symbols which helps us to understand and remember easily. When we adopt it to research field, mapping is done in order to understand the patterns of research in a particular area, to locate the hidden areas of research, to identify the gaps in the research field and to know the boundaries of the topics under investigation. It also facilitates the researcher to identify the potential original areas of study.

To begin with mapping of literature one has to go through the paper and analyze it by using critical techniques. The key concepts across the literature, which have got relevance to our piece of research, must be identified. Mapping is much simpler; it is done in two levels i.e. macro-level mapping and micro-level mapping. Macro-level aims to capture the overall feature of the disciplines, and the micro-level relates to analysis of individuals in the disciplines. The key elements of macro-level are component, distance, cluster, degree distribution and error. And the key elements of micro-levels are degree distribution, closeness centrality, and betweenness centrality.

As mapping is knowledge based for a given field it requires understanding of the process and its different forms. There should be a thorough understanding of the mapping methodology. It is necessary to identify the key concepts, ideas and methods and also should have knowledge about classification of the key concepts and forming relationships between them.

According to Machi and McEvoy we have two types of approaches for mapping, - one is mapping by ‘core ideas’ developed from keywords in research topic, and the other is by mapping the author which identifies key experts in the field. (docsto.com, 2010) Further these maps can be divided based on the category to which they belong. The categorization can be based
on theories, definitions or chronology. One more approach is to emphasize on positional aspect of mapping and mapper seeks to identify where the concept fits in the field.

3.4.3 Types of Mapping

There are different types of maps such as Feature Map, Subject Tree Map, Content Map, Taxonomical Map, and Concept Map. These maps are the methodological reasoning structures identified from the summary of records. They are integrated maps which show the development of topics into subtopics and so on up to any number of levels like a branched tree, and the sequential arrangement of content through hierarchical classification. These maps show the systematic classification of the concepts and the linkage of concepts and process. It also shows the relationship between theory and practice.

3.4.4 Mapping of Social Science in Different Classification Systems

The mapping of multidimensional aspects of universe of knowledge is a matter of challenge. Therefore it has to be reduced to single dimension or its equivalent. In this process of reduction or transformation there is possibility of losing some of the immediate neighborhood relationships. Mapping a space of number of dimensions on one of a smaller number can been done in several ways. What distinguishes one way from another is the property of the first space that is kept invariant in the second space. What should be chosen as invariant is again a matter of debate. Therefore, it is necessary to recede from phenomenal level to seminal level. With this we can merge number of phenomenal elements. And few fundamental categories can be formed, as a result of this the claimant for the status of invariants becomes less and their claims can be judged on the basis of equitable positive principles. (Ranganathan, 1990)
3.4.5 Position of Social Science in Dewey Decimal Classification

Melvil Dewey in 1876 (Scott, Mona, 1998) after repeated attempts to have a perfect classification, ultimately succeeded in designing a system based on hierarchical arrangement of disciplines. Here the disciplines are arranged from general to specific.

The universe of knowledge has been divided into 10 main classes and these classes have been divided into 10 divisions and the divisions into 10 sections. This is an open-ended system wherein there is a scope to accommodate the newly emerging subjects. The social science is one of the 10 main classes and is denoted by number ‘300’. This division is further divided into 300-Social Science, 310- General Statistics and Almanacs, 320- Political Science, 330- Economics, 340-Law, 350- Public Administration, 360-Social Services Associations, 370-Education, 380-Commerce, Communication and Transport, 390-Customs Etiquette and Folklore. (www.oclc.org/dewey, 2010) When we go through the positioning of different disciplines in this classification system it is observed that 330- Economics has been placed in between 320- Political Science and 340- Law and away from 380- Commerce, Communication and Transport. This fact is regretted and attempts to correct it are also found in vain. Secondly placing 350- Public Admin and Military Science in the same subdivision which is contrary to each other is also a matter of debate.

Further, another similar situation has been figured in the case of 360-Social Services Associations. The relations between penal institutions and insurance or social problems and clubs are not made clear. The 390- Customs, Etiquette and Folklore have been put together. Since customs is a part of culture it should have been placed in 306-Culture and Institutions. Costumes and Personal Appearance belongs to 640-Home economics and family living. The third part folklore is part of culture and comes under literature. Therefore it should have been placed in literature and not in social science. Lastly
Customs of War and Diplomacy have been placed in 170-Ethics. Whereas they should have been placed in 355- Customs of War and 327- Diplomacy Dewey Decimal Classification is very popular and a widely used system of classification. It is considered to be the tool for organizing the general knowledge of the world and is known for the implicit use of facets, the notations, the hierarchical arrangement, clear-cut categorization and highly appreciated network of relationships between topics that are universally accepted.
Figure-1 Map Showing the Position of Social Science in Dewey Decimal Classification
Mapping is done in order to begin with most specific discipline then by specific subject, then by area of specialization then by time of specialization, and if the schedule permits then by form of presentation. DDC has an editorial board wherein specialist work continuously for the improvement of classification. (See Figure-1) Figure-1 depicts the position of Social Science in Dewey Decimal Classification

3.4.6 The Position of Social Science in Colon Classification (Seventh Edition)

Dr. S. R. Ranganathan, the designer of colon classification describes the sixth edition as an almost ‘freely faceted scheme’, whereas he describes the seventh edition of colon classification as ‘fully freely faceted scheme’. In the sixth edition, the facets were regarded to be belonging to basic subject. Later on, in the 1960’s it was realized that the facet belongs to specific compound subject and the basic class itself is a facet. In the seventh edition, it is observed that ‘rigidity of fixed facets’ is relaxed.

A number of new things are noticed in the seventh edition. They are new classification of basic subject, clear concept about the matter, expansion of common isolates, new indicator digits for ACI, agglomeration functions, concept of speciators, general facet formula, and environment divisions.

The different modes of formation of subjects can be seen through the fission, fussion, agglomeration, clustering and distillation. In the case of agglomeration number of main subjects are treated integrally in one and the same. The main subjects are limited to the extent that have been enumerated. The process is described as partial comprehension. The natural science, humanities, and social science come under this category. The principle of increasing artificiality has been applied while arranging the subjects in a particular sequence.
In the CC-Seventh edition under the head traditional basic subjects and the category social science, the following subjects have been arranged and they are, T-Education, U-Geography, V-History, W-Political Science, X-Economics, Y-Sociology, and Z-Law.

The T-Education is a basic subject of social science that deals with students, teachers, administrators and parents. It also includes a variety of special features such as mental, physical, moral, economical and social abilities and handicaps. When compared to other social science subjects education is less artificial in nature. Therefore, it is kept in the beginning of social science series. In CC-7 it covers some basic adjunct subjects and they are: TUS-Educational Psychology, TUV-Educational Sociology, TYT-Educametry and TYV-Educational Cybernetics. (Satija, 2008).

The U-Geography deals with earth surfaces, form, physical features, natural and political divisions, climate, production, population etc. of various geographical areas. Earlier, geography was considered to be auxiliary to history. Only a few decades back it has attained the status of independent subject. It is predicted that if the same trend continues the attachment of geography with social science may be reduced and it may go all along with H-Geology. According to CC-7 the adjunct basic subject is UYT- is Statistical Geography.

The V-History is the primary basic subject and deals with record of events in human affairs. In history the descriptive account of the constitution and certain general constitutional principles are dealt with. The matters which are related to election methods and practices in a particular country are placed in primary basic subject history whereas if it is concerned with the theory of election and election method then it should be placed under primary basic subject W-Political Science. However it is very much necessary to understand the basic difference between history and political science. In CC-7 its
agglomerates are V*Z- History and Political Science and V*ZZ- History and Economics.

The W-Political Science is the descriptive study and analysis of political institutions. It also gives an account of analytical study of the state. The study includes nature, structure, origin and development of state and government. It deals with process and behavior of institutions of political system. The study of origin, functioning, process of state and its organs in the past, present and future, are dealt, whereas the study of records of past events as steps in the chronological order of human activities is studied under history. Hence the history which is distinct from political science is social history. WAY- International Politics, WYB- International Law, and WYT-Politimetrics have been included in political science.

The X-Economics broadly covers the following aspects such as economic growth, standard of living, distribution, artificial control, price, commerce, banking, investment, share, budget, social finance, insurance, and international banking. The study of X-Economics plays an important role in understanding the overall condition and development of economy of the society. It gives an idea of living standards of people, in different parts of world. The adjunct basic subjects are XYA-International Economics, XYT- Econometrics, and XYV-Economico-cybernetics.

The Y-Sociology is a systematic study of society and human actions. The subfields of sociology are confined to the study of different dimensions of society. The subfields are concerned with the different aspects of society. They are Demography, Social work, Sociometry, and Sociocybernetics. YUA- Cyberculture, YUG- Biosociology, YYT- Sociometry, and YYV- Sociocybernetics are adjunct subjects in CC-7.
The Z-Law is the study of legislature formulated for the betterment of mankind. According to Dr. S. R. Ranganathan the Law is the most artificial of social sciences. Hence, it is kept in the end. According to the seventh edition, the subfields of law are Jurisprudence, Socratic school, Stoic school, Public law, Private Law etc.

Colon Classification is said to be remarkable in providing number to all the subjects. It is an analytico synthetic scheme. Dr. S. R. Ranganathan followed a methodological procedure to map various subjects based on assumptions called postulates. (Gopinath, M .A, 1987. ) He formulated the fundamental categories denoted in brief P M E S T. He analyzed each subject and identified the isolate ideas associated with that. Though he noticed the diversity in ideas he could trace central idea in each subject. On the basis of this fact, he could map the basic subject. Further, Ranganathan followed the analysis of each basic subject, facetwise and could prepare a schedule for each subject. In the seventh edition it is observed that a new avenue has been created for accommodating new subjects formed as a result of modes of formation of subjects. The notation system appears to be complicated for the new user to follow.
Figure-2 Map Showing the Position of Social Science in Colon Classification
Though a continuous revision of classification is observed upto the seventh edition till the survival of Dr. S. R. Ranganathan, later on, it suffers because no particular machinery has been established to look after this. (See Figure-2) Figure-2 depicts the position of Social Science in Colon Classification-(7th Edition)

3.4.7 The Position of Social Science in Universal Decimal Classification

Paul Otlet and Hari La Fontaine after their exhaustive bibliographic study, found it necessary to have a system of classification in order to organize knowledge. These two personalities referred to DDC and found certain inadequacy to fit what they wanted. So they made some additions and amendments and designed the first edition of UDC.

As it is observed in DDC, UDC is a hierarchical arrangement of disciplines and the subjects are divided into 10 main classes next into 10 subdivisions and into 10 sections.

Out of the 10 main classes social science is one and is denoted by number ‘3’. This main class is further divided into: 30-Theories Methodology and Methods in Social Science, 31-Demography, Sociology and Stastics, 32- Politics, 33-Economics, Economic Science, 34 Law, Jurisprudence, 35- Public Admin, Govt, Military Affairs, 36- Safeguarding the Mental and Material necessities of life, 37-Education, 38-Vacant, 39- Ethnography, Custom manner, tradition, way of life, folklore. The analytical study reveals that the traditionally accepted academic disciplines such as 33-Economics, 32- Political Science, and 34- Law along with their applications in social welfare, administration and penology are reasonable in attractive way. It is observed that 38 is kept vacant for the accommodation of newly emerging subjects.
Figure 3: Map Showing the Position of Social Science in Universal Decimal Classification
Universal Decimal Classification is an improved version of DDC. It has been developed on the basic structure of DDC. It has its own principles and policies. It covers the entire field of knowledge.(www.udcc.org/2012) The facet analysis is more explicit. The mapping of subject has been done based on the principle that general aspect to specific aspects and this specialization has been continued till to the minute level. Because of this it is gained popularity. It is very much flexible in nature. The notation system appears to be too lengthy and clumsy. The scheme is kept open for the suggestion from users. Thereby it is under the continuous process of revision or improvement. It is widely used because of its publication in more than 23 languages of the world. (See Figure-3) Figure-3 depicts the position of social science in Universal Decimal Classification.

3.4.8 Position of Social Science in Web of Science

Eugene Garified the pioneer is the founder for Scientific Information in 1960. The ISI provides citation indexing and analysis. It maintains citations databases covering more than 1000 academic journals and print based indexing services such as: Science Citation Index, Social Science Citation Index, and Arts and Humanities Citation Index. These are available through ISI’s ‘Web of Knowledge’ database service. The organization for economic co-operation and development category corresponds to the revised field of science and technology classification. It is a hierarchical classification scheme in which science and social science are separated into six major subject categories. Within each subject categories there are several minor subject categories. According to description of each minor subject category in the field of social science, minor subject category consists of several fields similar to web of science categories. The arrangement of the description has no particular base, rather they are biased.
Figure-4 Map Showing the Position of Social Science in Web of Science
Under the major code Social Science is at number 5 and the following minor codes associated with Social Science are 5.01- Psychology, 5.02-Economics and Business, 5.03- Educational Science, 5.04-Sociology, 5.05-Law, 5.06-Political Science, 5.07-Social and Economic Geography, 5.08-Media and Communication, 5.09- Other Social Science. (ip-science.thomsonreuters.com/2012) (See Figure-4) Figure-4 depicts the position of social science in web of science classification.

After ascertaining the position of Social Science in various systems of classifications it is found that there is diversity in the principles of classification. Therefore, considering all the systems of classification and also Social Science Citation Index a list of 31 subjects has been shortlisted and grouped in five main categories of Social Science for the purpose of the study. (See Figure-5) Figure-5 depicts all the selected categories of subjects along with their subcategories in social science.
Figure-5 Map showing the selected five main subjects of social science in Web of Science
3.5 Conclusion

Mapping is a process by which the selected field of literature can be graphically or symbolically represented in a nutshell in order to understand the various aspects such as the relative positions, interrelationships, connections and corresponding relationships between things. It is observed that number of classificationist have contributed to organize the knowledge in a systematic way by adopting their own theories and principles of classification. An attempt has been made to map various disciplines and subjects that are positioned in DDC, CC, UDC, and Web of Science with respect to Social Science field.

The facet analysis has been followed by all the systems of classifications. Colon Classification is successful in giving exact class number to each subject though limited; the other two systems have scope to accommodate the new special subjects that emerge. However, UDC has gained much popularity because of the updateness and availability in different languages of the world.

The comparative study of all the three systems of classifications and the latest schedules published with regard to the position of social science subjects reveals the following facts:

1. The subjects Education, Economics, Political Science, Sociology and Law are found to be common subjects covered under Social Science in all the classification systems;
2. In DDC the division 310- covers General Statistics; In UDC the division 31- covers Demography, Sociology, and Statistics, whereas it is not covered in CC-7 under Social Science.
3. In DDC under division 300- Sociology and Anthropology are positioned together whereas in UDC and CC-7 only Sociology has been considered.
4. In UDC the division 36- Safeguarding the Mental and Material Necessities of Life has got an independent place which is not found either in DDC or CC-7.

5. In DDC division 380- Commerce, Communication, Transport has been treated as social science whereas they are not considered in UDC and CC-7.

6. In DDC division 390- Customs, Etiquette and Folklore is almost on par with division 39- Ethnography, Customs Manners Tradition Way of Life and Folklore, but in CC-7 these subjects have not been covered.

7. The introduction of Specials and System approach is in CC-7 and the formation of new subjects as a result of agglomeration fusion, fission. This is not found either in DDC or UDC.

8. In DDC 7 divisions, in UDC 25 divisions and 38th the entire division found to be kept open.
References