

T H E S I S

on

AN ANALYSIS OF METHODS EMPLOYED IN
RURAL COMMUNITY SURVEYS

Submitted to the

OREGON STATE AGRICULTURAL COLLEGE

In partial fulfillment of
the requirements for the
Degree of

MASTER OF SCIENCE

by

Charles Sumner Hoffman

September 11, 1931

27 Oct. 1932 1.52 b 17nd

APPROVED:

Redacted for Privacy

Professor of Sociology

In Charge of Major

Redacted for Privacy

Head of Department of Economics and Sociology

Redacted for Privacy

Chairman of Committee on Graduate Study

ACKNOWLEDGMENT

The writer wishes to express his gratitude to Professor E. H. Moore for his valuable criticisms and his help in making available certain sociological bulletins and texts from his personal library.

TABLE OF CONTENTS

	Page
Acknowledgment	1
Introduction	1
Part I--The Objective Viewpoint	
I--The tasks of objectivity	3
Part II--Methodology Contributive to Objectivity in Rural Community Surveys	
II--Hypothesis	8
III--Collection	10
A--Secondary sources of data	11
B--Primary sources of data	13
1--Intensive collection	15
2--Extensive collection	19
a--Sampling	23
IV--Classification	28
A--Terminology	28
B--Classes used in tables	30
C--Statistical units of classes in tables	32
1--Units of collection	33
2--Units of analysis	34
D--Scales for evaluating data	36
E--Scoring of activities	40
V--Interpretation	46
A--Description	46
B--Comparison	47
C--Synthesis	52
D--Analysis	52
VI--Presentation	55
Part III--Analysis of Twelve Rural Community Surveys	
VII--Explanation of the survey analysis	61
A--Surveys analyzed:	
1--Rural social organization of Clark county, Taylor and Yoder	64
2--A church and community survey of Pend Oreille county, E. deS Brunner	68
3--Ohio rural life survey, Wilson and Felton	71
4--Rural social survey of Hudson, Orange and Jesup, Von Tungeln and Eells	74

	Page
5--Social and economic survey of a Red River Valley community, Weld	77
6--Rural organization and organizational attitudes, Garnett	81
7--Survey of Bledsoe county, Duggan and others	86
8--Buncombe county survey, Moser and others	89
9--A comparative study of two communities, Whittaker	92
10--Sociology of a village and the surrounding territory, Melvin	95
11--Rural population study, N.Y., Melvin	100
12--Rural population groups, Morgan and Howells	103
Conclusion	107
Appendix	112
Authors' Index	119

INTRODUCTION

A rural community survey is a coordination of separate investigations of continuous formal and informal processes, attitudes and relationships existing in rural areas. The rural community survey also represents a method of penetrating the social heritage and the traditional bases of the individual and the group. The rural sociologists have been slow to adopt scientific methods. There has been a willingness on the part of many in the field to depend upon guesswork and pure theory. The measurement of any phenomena based upon human interaction will be a difficult and complex procedure. The methods here presented are not put forward as being the best or only means of measuring rural social conditions. It may be some time before results are entirely satisfactory and admitted as being valid. These methods are selected as being aids to more objective research.

The formal criteria of all rural community research is not set up in this study, only the outline of methods of procedure are suggested. Time, place, finance and purpose of investigation will dictate the full system to be used. Identical methods in their entirety are impossible for each study but the four steps of scientific

procedure are suggested as a basis for all studies but not limiting as to minor details.

This library analysis has been made as a help in making rural community investigations. This is followed by a review of the methods used in actual surveys compared to that analysis of methods. The attempt has been made to omit as far as possible questions of social philosophy and include only items pertaining to methodology.

Part IThe Objective ViewpointTHE TASKS OF OBJECTIVITY

Logic is no longer acceptable as an explanation of social problems. Instead, there is a demand for valid, objective research. The objective viewpoint is concerned with the cooperation and inter-relationships of men in their social environment. These associations are measured objectively in terms of their functioning. The social survey is interested first, in the investigation of men, and second, in their control. This control is established through the making of measurements of social phenomena, the analysis of adjustment relations, and the establishment of a terminology of accurate valuation.¹ The more that is known about the results of association, the better can the relationships be understood, anticipated, and controlled. This viewpoint is concerned with accurately determining how men live together most advantageously for the greatest number. It is the task of objectivity to adopt suitable measurements, analyses, and valuations to the solving of the problem. The second task is that of controlling societal relationships toward the fulfillment of the advantages as discovered from the first task.

1--L. L. Bernard, The Objective Viewpoint
American Journal of Sociology, Vol. 25, pp. 298-325.

Social control is the ultimate end of the community survey. This control is more than the solving of some concrete problem. It is the discovery of ideal principles or laws. Descriptive surveys therefore do not fill this second task.

The utility of the survey depends upon its objectivity and impersonality. All scientific technique and terminology aim at the elimination of personal or subjective elements in the collection and interpretation of data. Scientific truths cannot be individual. They must be universal. The objective viewpoint is a plea for the elimination of the personal equation and the acceptance of standardization in objectivity. Precision of mathematical formulae in interpretation and tedious graphical presentations are valueless when based upon invalid and unreliable raw data. Infinite care in these steps is wasted if the first collection and recording of data is inaccurate. Accurate and objective observation is the first step in the scientific method and the criteria upon which the value of subsequent analysis is tested.

The value of all surveys is increased because of comparability possible through this standardization. Not only can contemporary surveys be compared but facts in recent surveys can be compared with findings in earlier surveys. There is obtained that continuity which is the basis of scientific research. Datum is useless in itself.

Value is obtained by comparing and relating findings with past or other contemporary data.

Part IIMethodology Contributive to Objectivity in
Rural Community Surveys

Research is a systematic attempt to discover, develop and verify knowledge. Its basic concept is method. The objective manifestation of method is the orderly and telic employment of data which is known as procedure. As Karl Pearson declares, "No matter what the diversities in subject matter, the method remains the same"¹. This method may be applied to any of the six² types of investigation:

- 1--The historical
- 2--The experimental or laboratory
- 3--The survey or practical
- 4--The synthetical or philosophical

The actual test of the proper types of investigation to use will depend primarily on the problem. The problem should be delimited by accurate formulation and reformulation to obtain a definite statement of the object of the research. This study is limited to the survey type of investigation. The survey is divided into the following kinds according to scope:

- 1--K. Pearson, Grammar of Science, 2nd Edition, 1892, p. 6
- 2--R. Schulter, How to Do Research Work

- 1--Broadly defined general field
- 2--Defined area
- 3--Structural survey
(social units)
- 4--Special topic
- 5--Case method of restricted social area
(individuals or family)

The general rural community survey will be studied. This omits surveys of special topics and case method surveys of restricted social areas.

HYPOTHESIS

In this method human variances of the researchers must be excluded from the materials. The facts must be independent of the mind which examines them. Research demands complete neutrality between mind and data. It is a truism to state that the most objective procedure in research is that one most free of those qualitative elements. This procedure is called the scientific method. It is not infallible nor something concrete in itself. It is a process of experimentation and orientation seeking relationships to be measured on its scale in terms of arbitrary units.

Its approach is through hypothesis. This is a conjecture built up from random samples in the field. But as Faris warns, the hypothesis should not be suggested by analogy.¹ The researcher bases tentative conclusions on these random samples then seeks inductively or deductively to build more permanent conclusions from the whole or a special field of data. This is the starting point for investigation, experimentation, and classification of data. The true scientist then seeks not to prove his hypothesis, but to determine its validity. This first step of the scientific procedure has been the pitfall for many a pseudo-scientist. Park condemns their practice

1--E. Faris, American Journal of Sociology, Vol. 27, p.196.

in his statement that facts have not been collected to check these hypotheses. He contends, that social problems have been defined in terms of common sense, and facts have been collected, for the most part, to support this or that doctrine, not to test it. In very few instances have investigations been made, disinterestedly, to determine the validity of an hypothesis.¹

Especially in rural surveys should the hypothesis not be made until after the first samples are taken. This opening conjecture should then be the tone of those random samples and no other. The hypothesis selected will determine the data to be collected and its classification. It is a starting point to the opening up of sources of needed data.

1--R. E. Park, American Journal of Sociology
Vol. 27, p. 170.

COLLECTION

Although the hypothesis directs the collection of data, this collection can not be done without exploration of the field or unit for research. In reality, exploration operates all through research but it can be thought of as being a preliminary to the direct collection and recording of data. In every step it is necessary to explore. ¹ Borgardus emphasizes that "the principle of exploration is the alpha and omega of social work". The conclusion of each plan of research involves the gesture or hope of further exploration. It releases science of its finality and of a possible arbitrariness which would defeat its purpose. This exploration should be done without bias or prejudice. It may be in pursuit of facts or of processes and explores both the known and the unknown.

The collection, however made, must cover the community adequately in all its phases through origin, development and present status. A rigid adherence in collection of the principles outlined under units ² will aid later in using statistics scientifically.

The methods of the survey include any or all of the types of collection given in this study. According to

- 1--E. S. Borgardus, The New Social Research
J. R. Miller Press, L. A., 1926, p. 19.
2--Thesis.

¹
Lundberg , "Survey is merely a designation of a type of classification with reference to scope, and may utilize any or all methods of collecting data".

The sources of material for collection are broadly divided into primary and secondary groups. By a primary source is meant the direct or original gathering of data. By secondary source is meant the use of documents and other written materials or the opinion of experts derived from past experience in the field.

Secondary Sources of Data

The secondary sources are studied first as being a preliminary to the direct collection of material in the community. It would be advantageous in the light of the project to have covered all available material relating to the field and to the problem. This gives a valuable background for the investigation and may aid in the final interpretation. It will also prevent duplication of work. It might possibly give a precise understanding toward data which otherwise would be desultory and meaningless. The method of documentation is that of reconstructing the past to understand present problems and situations. It is a selection of facts from written records. Where the sources are just one step removed from Primary and are reliable this method is valuable. The investigator should

1--G. A. Lundberg, Social Research
Longmans Green & Co., 1929, p. 85.

keep a skeptical attitude toward the document, its form, author, background, and purpose for which it was written. An analysis of the conditions under which a document was written is valuable in understanding the viewpoint of the author. Written materials are usually merely the interpretation of the author in terms of his environment and experience. These sources may be checked by comparison of several documents. When they compare, there is a possibility of accuracy but even then not a certainty. Full reliance upon documents is never advisable because it precludes the possibilities of entering new data to the study. One more reason for covering the written field is the prevention of duplication in research. If one problem has been adequately covered up to date, another had best be accepted for research.

The second form of secondary sources for data is the interview of prominent men in the field. The consensus of opinion or the collective judgment of a number of specialists in a given field is taken. Of the secondary sources this type is the quickest source of information. The reliability of the data will be limited by the bounds of each experts special field. The fact that he is in a special field may prove his lack of familiarity with general conditions involved. Other men of the field who are not specialists then should be interviewed to support the opinions of the specialists. It will be necessary to

select men who have authority to divulge the information needed. This information will be secured through the interview method. There are some general principles concerning interviewing which will decrease the error in obtaining data. All interviews should be prearranged with attention to choosing the best time and place. The informant will then have little hesitancy in giving the information. His willingness may be facilitated by making the first contact through an amicable third person. It will also help to get the informant deeply interested in the project. This project should be outlined to him with reference to the points on which data is desired. After the interview is closed it is necessary to check the data for obvious mis-statements, exaggerations and mis-interpretations of questions asked. Unreasonable or ambiguous replies should be examined and altered. Interpretation to some extent can be done by referring to the other data of the interview for comparison. Inconsistencies can be found through a check of the data with itself.

Primary Sources of Data

The primary is the next source of data. The direct gathering of data has its advantages. It allows objective observation by a skilled observer. It is subject to checking by other observers. It also gives a first hand account of actual behavior in a genuine life situation.

This method includes the actual field work. Field work is the technique of studying social conditions by first hand or direct facts. When the personal equation is minimized or eliminated then objectivity is advanced. This is done through systematized instruments for obtaining and recording social statistics. There has long been the need to reduce observation of the field staff to a comparative basis. This is possible with the use of the standardized schedule. The data is secured by trained research workers aware of which data is wanted as being pertinent to the problem. This data is then selected in terms of objective units conforming to the standard schedule of each worker. In this manner more accurate and useful data is obtained. The needless gathering of all facts met is abolished. There will be some chance for error in the observation of the data by the workers. This can be decreased by selecting workers who can meet these requirements selected by Clarke as being essential to scientific observation.¹

- 1--Accurate perceptive ability
 - 2--Knowing the proper place for observation
 - 3--Mental maturity
 - 4--Mental normality
 - 5--Alertness to details
-

1--E. L. Clarke, The Art of Straight Thinking
D. Appleton & Co., 1930, Chapter V.

- 6--Reasonably accurate estimates of phenomena observed
- 7--Ability to make fine discriminations
- 8--Good general knowledge in field of inquiry
- 9--Knowledge of what is desired to be seen
- 10--Mental poise

Observation is thought of as being the scientific scrutiny of a phenomena. To observe, one must have accurate perception and apperception. Perception is the receiving of stimuli through the senses and apperception is the classification of those stimuli. These activities must be infallible or the schedule can not be filled in accurately even though the data is present and obtainable.

Intensive Collection

The schedule is used to receive this data. It is a mechanical device designed to objectify the recording of observation of complicated social phenomena and to standardize the returns made by different observers. It extends the observational powers of the senses. It is used effectively in case studies, where investigation is being made of either single individuals, families or groups. There is a distinct analogy between the schedules of social science and the instruments used for observation and measurement in the exact sciences. The schedule

is the instrument of social science. It reminds the observer of each item to be looked for and reported. This eliminates or lowers error from generalizing. It standardizes by singling out important and wanted facts. It specifies in advance the terminology and units in which the report is wanted. By its use the range as well as the detail observed is increased. The social observer attempting to read and retain complex social phenomena is enormously handicapped when not using his own instrument of observation. It would be impossible for the observer to inspect a slum district or a large rural area and retain all the necessary information and remember the details. The man who has to observe and inspect everything in a field of activity usually retains very little. The man who looks for details also usually acquires a better general picture of the occurrences present. In the schedule each detail is isolated as it is being observed. The observation of it is therefore intensified. The details are arranged in systematic fashion ready for tabulation and analysis. In this way the observation of social conditions is made more intensive and results are had that can be stated in language of some precision.¹ The schedule, if carefully constructed, avoids loose, ambiguous, qualifying words. Subjective terms undefined

1--F. S. Chapin, Field Work and Social Research
N. Y. Century Co., 1920.

are omitted. This makes comparison possible on a quantitative basis. Differences can then be measured in objective terms. The records of individual observers are standardized through the control of personal differences. These records then take on a tone of universality which characterizes all true science.¹ The choosing of questions to be included requires a great deal of tact and knowledge concerning the character of the persons to be investigated. In government census taking, answering the questions is required by law. The form of the question then can be easily drawn. Surveys many times have no legal authority and the answering of questions depends upon the convenience of the informants. The questions should be understandable, require definite answers, and be few in number, yet covering the point of information desired. Care must be taken not to arouse resentment or the informants may withhold information or willfully misrepresent facts.

After the schedules are filled they must be examined for errors. The replies are equally original so the only evidence competent to justify revision is the evidence presented in other replies on the same schedule.² The consistency must be checked to find if any replies conflict. Dates of birth should be checked with age, marital condition can be checked with age. Uniformity of answers

1--Ibid, Chapter V

2--W. B. Bailey and John Cumming, Statistics

A. C. McClung & Co., Chicago, 1917, Chapters 1, 2, 3.

in different schedules for the same question must be secured. People of different character or background may give different word answers to a question while their answer was intended to be identical. This uniformity can best be insured by explaining at the time the schedule is given out, the data desired and defining the possible answers in their desired meanings. The reasons for omissions must be made by all field workers. A blank space may be an accidental or a willful omission. A line drawn through a blank can mean "no", or "no reply", or "unknown", or "undecided". These variations must be eliminated by a short description of the desired terminology of answers. The data should also be checked for answers received under unusual or abnormal conditions. This is important especially when the data may vary distinctly from other data.

In case studies fundamental data must be collected in every case. The schedule is used to insure this. When schedules are more developed in terminology they will be used more fully in case work for the study of single individuals, families and groups. Case work may be thought of as being the only complete enumeration. Because of its intensity it can not be applied to every individual of a community. It can best be used in the first and last stages of scientific investigation. The case study consists of, (1) gathering data according to an hypothesis, (2) making informal classifications into categories found

useful by past experience, (3) empirical generalization on the basis of past experience and other cases. Their validity depends in part upon the subjective interpretation of the investigator. The narrative case and the generalizations from them are being superceded in some forms of collection by the more objective and quantitative procedure of formal statistical methods. The old methods used statistics but in an informal manner. It should be noted, however, that case studies may well be used in checking statistics of the whole community. Chapin declares that the case method is necessary in every community survey. He states ¹ that "it is the case method of intensive study and the accumulation of 'piled up actualities' that distinguishes the true survey from mere social prospecting". Conditions may be better understood and trends discovered through the study of appropriate individual cases.

Extensive Collection

It is possible to use the case method in an extensive enumeration by making an intensive study of a few individual cases representative of the entire field. Extensive enumeration applies to the investigation covering a complete area. The problem may be a study of racial prejudice in a southern rural area. It may be a study of

1--F. S. Chapin, Field Work and the Social Survey
N. Y. Century Co., 1920, p. 98.

racial characteristics of members in churches. It might be impossible to apply a complete case study to every individual member of a church to get the characteristics of the group. It is this difficulty which is a great shortcoming of community studies relying upon case studies alone. This difficulty can be overcome by the use of samples, whereby the entire group or area can be studied without the investigation of each individual. A random sample should be selected of the members and a case study made of each sample. This will give the research worker an intensive study of an extensive field. Case studies in the past usually became of significance only when classified or summarized in some way so that the uniformities in large numbers began to stand out. General patterns or types can then be observed. In covering a population study there would be an enormous waste of time and effort in obtaining studies which would be forgotten when the general pattern was found. By using the sampling process first, the general pattern is already outlined and an intensive study of that pattern can follow. Kirkpatrick made the following statement in an article on Personality and Maladjustment:¹

"In conclusion, it should be noted that the case method and the statistical method must be regarded not only as supplementary but as complementary. The case method aids in defining units

1--Stuart A. Rice, Statistics in Social Studies
U. of Penn., 1930, p. 216.

and in arranging paired comparisons; it provides raw material and gives clues to statistical investigations. The statistical method, on the other hand, checks hypotheses formulated from case material, aids informally in tracing behavior sequences in the case of an individual, traces causal relationships, expands the implications of case studies, and facilitates comparison and classification of personalities. To say that the statistical and the case methods are two aspects of the same process is to deviate but little from the truth."

Science is always concerned with uniformities in large numbers of phenomena. By the use of both case studies and sampling, the uniformity can be obtained and studied intensively.

The study of rural districts or communities is done by the extensive method. Large quantities of data are obtained over a great area. The purpose is of a general nature such as investigating the institutions of a community or the rating of towns for comparative purposes. In the investigation of some problems it is impossible to secure full information from the field work study. A house to house canvas for data would probably involve too great an expenditure of time and money. The most applicable method is the use of the Questionnaire. There are three types of questionnaires: (1) printed forms or data obtained to questions through correspondence, or (2) through blanks filled in by members of an assembly or large audience. Many of the requirements applying to the interview are applicable to questionnaire forms. They are handicapped, however, by having no personal representa-

tive so greater care must be taken in their form and content. The questionnaire is a valuable method of collection when handling large masses of data which must be classified into numerous groups and cross-classified for identification and comparison.¹ It is most valuable when preceded and followed up by special case studies. The collection may cover the entire field or may be directed from preceding elementary case studies examining the field. The questionnaire will follow and classify the data into distinct patterns. These can later be verified by intensive study of representative cases.

The questionnaire also has its disadvantages. A one hundred per cent return on large numbers of questionnaires sent out never realized. It must also be remembered that those forms which are filled and returned may be biased. Such an example is the straw vote conducted by magazines and newspapers on national problems such as prohibition. Those who answer in all probability are those against prohibition. Those voicing a protest are more likely to respond than those voicing approval. Doubtless many favorable to prohibition wait until the question comes to an actual vote.

Many ambiguous and indefinite answers are returned which must be checked for their real meaning and also

1--Note: Examples of Questionnaires and schedules for village or country use are given in the Appendix of Bulletin 2523, Cornell Univ. Agr. Exp. Station for May 1931.

and also checked against any inconsistencies in statements.

Sampling

The sampling process may be applied to the data obtained by the questionnaire. Science has always depended upon sampling. It would be handicapped without it as it is usually impossible to give an intensive investigation to the bulk of all data in a field. The characteristics of the field can probably and approximately be determined by an examination of fair samples of the whole. This saves time and effort.

Validity of a Sample

The validity of a sample depends upon two conditions, (1) the nature of data observed, (2) the method employed in selecting the sample. When the items are homogeneous, the selection of a very small sample will represent the field of data. Social data usually lacks this homogeneity. The samples must be selected with care to include all the differentiating characteristics in the data.

There are three general methods of collecting samples. The first is the random selection which is the careful allowing of all data an equal chance of being chosen. The term "random" is a misnomer. It does not mean a careless, haphazard gathering of bits of data but a careful choosing. The selection at regular intervals is the second method. The intervals may be every fifth, tenth, fifteenth and so

on until all the data is covered. This selection may be taken from a list or from a scale. In the latter instance those items will be included which fall on the quartiles or on smaller divisions in the scale. The third method is that of proportional selection.¹ The sample must always cover the range of data. This sample covers that range on the proportional basis. This is a very reliable type of sample. It is not the actual size of any sample which necessarily determines its representitiveness, but its size in relation to the rest of the data. Take for example a study of racial characteristics of the families in a community. The questionnaire covering the area may show the following family groups:

English--200	families
Irish --100	families
Italian--300	families
Jew --250	families
Chinese--150	families
Total -1000	families

The English families make up 20% of the total number of families. The Irish are 10% of the total. A sample including 100 families would then be made up of 20 English, 10 Irish, 30 Italian, 25 Jew, and 15 Chinese families.

Reliability of a Sample

The composition of any sample should include all the

1--Harry Jerome, Statistical Method
Harper & Bros., N. Y., 1924, p. 18.

essential elements of the material. These are the elements in the material which give it its distinctive characteristics. Reliable data of the field must therefore be available in sufficient quantity to permit the derivation of correct inferences and sound conclusions through the sampling process.

The size of the sample should be limited. The lower limit is the smallest number which includes all the essential elements. The upper limit is the largest number that can be handled effectively. The sample of large size does not necessarily establish its reliability, However, a sample of large size is more likely to include all the significant characteristics of the whole data. This is true providing the method of sampling in each case is the same.

The following procedure is used in selecting the smallest sample. Analyze the whole population into its essential elements. Select at random a sub-sample to represent each essential element. The size of each sub-sample should be directly proportional to the magnitude of this element as a part of the whole data. It should also be large enough to represent the character and range of variation among all items of this particular class. The complete sample will consist of all these sub-samples.

A sample of any size tends to differ in its composition from that of the whole group. This is effected by

the homogeneity of the data. The greater the heterogeneity of the data the greater the probability of error in the sample. The variation of the sample from the whole body of data can be measured mathematically.

Let N = the number of items in some group of data
 n = the number of items in a sample from that data
 p = the proportion of items in that group having some specified characteristic
 p' = the proportion in the sample having the given characteristic

Unless " p " is very small the chances are even that the actual proportion of data in the whole group will differ from " p " by an amount given by this formula:

$$\text{Probable Error of Sample} = \frac{2}{3} \sqrt{\frac{p'(1-p')}{n}}$$

If in a random sample of 100 families, 10% are found to be Irish, then the chances are even that the proportion (p) of families in the community (N) does not vary from 10% by more than the amount shown by the formula:

$$\begin{aligned} \text{P. E. of Sample} &= \frac{2}{3} \sqrt{\frac{1/4(1-\frac{1}{4})}{100}} = \frac{2}{3} \sqrt{\frac{4/16}{100}} \text{ or } \frac{1}{100} \\ &= \left(\frac{2}{3}\right) \frac{1}{20} = \frac{1}{30} \text{ or } 3 \frac{1}{3}\% \end{aligned}$$

n = 100 families in sample
 p' = proportion of families in the sample with a certain characteristic

The chances are even that the true proportion of Irish families in the whole group lies between 6.7% and 13.3%.

1--Ibid, p. 175.

the range being found by adding and subtracting the probable error of the sample with "p'". A small probable error indicates the adequacy of the sample to take care of chance variations. If closer investigation of the data shows that averages or other measures fall outside of four times the probable error, it is a warning that other accidental factors are causing the variation. The entire procedure of sampling should then be reviewed.¹

1--R. E. Chaddock, Principles and Methods of Statistics
Houghton Mifflin Co., N. Y., 1925, Chapter XI.

CLASSIFICATION

Terminology

The next step after the collection of data is its preparation for statistical interpretation. The first task in this classification is the drawing up of uniform definitions. Ambiguous terms that include everything are both worthless and harmful and must be avoided. Even when a scale is presented with which to measure the terms they do not always carry identical meanings to all men. Every science includes concepts or definitions or classifications of qualities leading to general principles. The following tests of a true scientific concept or term are suggested by E. E. Eubank:¹

- 1--Is the term reasonably precise, carrying an exact and clear cut meaning?
- 2--Does the term contain only one final idea?
- 3--Is the term perfectly general; that is, always employed in the same sense wherever used?
- 4--Is the idea fundamental to its particular field; that is, essential for its inclusive interpretation?

If the term does not conform to these criteria its use as a scientific concept must be questioned. Well chosen terms allow for convenience in work and lead to greater

1--E. E. Eubank, The Concepts of Sociology
Social Forces, March 1927, Vol.V, pp. 386-400.

precision in discrimination and refinement of meanings which is essential in the development of any science. There has been a notable lack in the acceptance of universal objective terms. Such men as Dr. L. F. Ward invented terms or concepts used in their writings until possibly no one but the author could interpret their exact meaning. The valuable data hidden in the many social surveys will be comparatively useless until they can be read and interpreted the same by all. As a means of comparing terms used by eight important sociological leaders in their books, Eubank has taken their most important books between the years 1896 to 1925. He found¹ that "only 52 out of 142 sociological terms are found in more than one list. Not a single term appears in all eight lists. Only one, "society", appears in as many as seven lists. One other, "group", appears in six lists. Six other, "association", "conflict", "control", "evolution", "forces", and "progress" appear in five lists. Eight other, "activity", "assimilation", "causation", "imitation", "individual", "organization", "process" and "socialization" appear in four lists. Twenty-two others appear in two lists."

This sample of words used, as shown in the books, will however be a biased sample. The authors are possibly stressing individual aspects of the fields which results in their omitting certain terms which they may have in

1--Ibid, p. 395.

common with other authors.

There seems to be a fundamental unity of thought but not of expression. The wide use of different words with the same meanings allows no reader to compare them except one who has investigated and weighed the vocabulary of each author. With the present amount of writing this is impossible. This is also undesirable in research where a different worker may complete the work of an unknown predecessor. Much research has been wasted because of changes in personnel resulting in absolute lack of understanding of the meaning of data obtained by an unknown researcher. The problem now is to discover that unity of thought present and disguised under unlike terminologies and to interpret it through a universal scale. The material could then be understood by even the casual reader. This uniformity can be obtained only through common agreement. It is the uniformity more than specific arbitrary meaning which is important. The same facts will then be all in the same form and subjectivity reduced, because this uniformity will not permit variable descriptive words.

Classes Used in Tables

When the concepts are accepted the separation of data into classes can be done. These classes are commonly distinguished as "real" or "artificial". The classifications

in the census reports of "male", "female", "foreign born", and "native born" are real. The classifications as to "miners", "lawyers", "farmers" are artificial.¹

The classification may also be either chronological, such as the growth of a population during a decade. It may be a geographical classification. The survey may use both. These classified groups of data may also be cross-classified into further sub-divisions such as "foreign born" being divided into English, German, Irish, or Indian.

A further division may be made into "classes" or "sections" on the basis of characteristics not expressible in figures. If it be by qualitative variations we have "classes"; when it is by quantitative variations, we have "groups". The number of classes will depend on the data. Good classification will not leave to the "miscellaneous" column a large proportion of the data. A detailed classification is more useful than a simple one because the elements may be combined then into any combinations desired. Clarke has outlined these four rules of a good scientific classification.²

1--The classification must be sensible.

2--There must be enough classes to cover all the data.

- 1--Harry Jerome, Statistical Methods
Harper & Bros, N. Y., 1924, Chapter 3.
2--E. L. Clarke, The Art of Straight Thinking
D. Appleton & Co., N. Y., 1930, p. 134.

3--There must be no overlapping of classes.

4--There must be only one basis of classification.

The last rule is a pitfall to many inexperienced and unskilled workers. They may unwittingly classify data under separate heads as part of the same total. This is called crows division. It is also used willfully by persons wishing to misrepresent conditions.

Statistical Units of Classes in Tables

The more important qualities as summarized by
¹
 Jerome are:

- 1--Appropriateness to the purpose of the study. If this is to find the birth rate of two communities, a population count will be inadequate.
- 2--Clarity. The terms must be so clearly defined that persons in contact with the enumeration and the informant will not mistake their meaning. They must be understood the same way by all people at all times.
- 3--Measurability. A unit must be chosen which is capable of definite determination which is ascertainable within a reasonably short expense of time and effort.
- 4--Comparability. Units should be so defined that the results will be comparable with those of similar investigations. There should be a continuity in time and place to facilitate comparisons. Lundberg² has further declared that "the symbols representing the units to be measured should in all significant respects describe the same objective realities. To the extent that the data falls short of the scientific requirements of well-defined units and objective, quantitative

1--Harry Jerome, Statistical Methods
 Harper & Bros., N. Y., 1930, p. 298.

2--Geo. A. Lundberg, Social Research
 Longmans, Green & Co., N. Y., 1929, p. 173.

terminology, they fail."

Statistics deal not with a homogeneous mass but with a complex of numerous units different from each other but composing the whole. These units express the quantity or characteristic of an element as shown on a graph.¹ The characteristics or attribute wanted must clearly be known before selecting the units. The first rule is to formulate the purposes for which the units are to be collected and used. The second is to rigidly and clearly define the units of measurement in which the aggregates are expressed and to adhere to them throughout.²

In choosing the units care must be taken in defining them so as to avoid all possibility of error or misuse. If the problem was to enumerate the number of interest groups in a community, the defining of the unit would include, (1) the meaning of "interest", (2) the meaning of "groups".

Units of Collection

This division pertains to units used in collection of data, either primary or secondary. They are the units of measurement or enumeration.³ They deal with data more as numerical facts. Two classes exist in this type--the simple

1--A. L. Bowley, Elements of Statistics

Chas. Scribner's Sons, N. Y., 1920, 4th Ed., p. 22.

2--Horace Secrist, An Introduction to Statistical Methods
Macmillan Co., 1919, Chapter 3.

3--Ibid, Chapter 3.

and the composite. The simple unit is used in a single condition which can be described by a definition. Such examples as "resident", or "institution", or "member" belong to this class. No limiting words are attached to them. When this is done, the result is a composite unit which is the second class. "Resident" may be converted into a composite unit by prefixing "white", "permanent", or "unsocial". Composite units are more difficult of definite distinction and may revert to a subjective opinion instead of being an objective unit. Comparisons of composite units are difficult and even more so when the units are overlapping. This frequently happens as in the above example. Some "white" residents will be both "permanent" and "unsocial".

Units of Analysis

This division of units is employed in the problems to be solved to data to be interpreted. They are used less as units of addition and more as units of process or method. Their use is functional. Comparisons and relations are always present. This is done by relating the numerical facts to the causal conditions. The units of analysis have two classes, (1) units of interpretation, and (2) units of presentation.

The units of interpretation are divided into three types--those of condition, time and place. Crude units

may be used but this is not advisable when it is possible to correct them. The correction consists essentially of a more accurate definition of units and application to conditions causing it. Comparisons are dangerous with crude units as they are with composite units.

An example of correction to condition is that of the problem of possible membership in a formal institution. The number of institutions is too broad a basis to form relationships between membership and population. The requirements as to membership must be found and compared to the possible number of the population qualified for membership.

Time will also influence the membership. The percentage of the population being members of an institution today will differ from that of fifty years ago due to growth of population and also material changes in the number of institutions.

Correction to place are especially important in surveys when comparing conditions of communities over the country. A study of the tenant problem in farming over the United States will present a far different aspect than the tenant problem in England. Comparison as to their money incomes and standard of living would be hazardous. Problems of interest groups among families near a metropolis will also differ from interest group problems in the open country.

With units of presentation the major consideration is that of relating the data to the condition producing them. Statistical units which are an end in themselves and not a means to an end defeat their purpose. These units of presentation are collected for their emphasis in presenting elements of condition, time and place. Their power is in aiding the statistics to portray the facts vividly in their relation to the problem.

Scales for Evaluating Data

Scales are used in evaluating data obtained relating to norms that are considered typical. Social institutions, organizations, and groups can be measured and compared by them. In the use of the scale the norm is compared for institutions of one kind and individual deviations from that norm are measured. A civic survey might wish to rate the community as to its relative advantages for a health resort, for industrial development, or for possible need for a better school system. The rating of each condition will be the general rating of its individual factors.

The first problem is the selection of factors. The relationship between institutions and social activity may be sought. An example is the study of the relation between juvenile delinquency and certain types of homes. An hypothesis concerning possible relationships is projected. The units are weighed in order of their value in showing a possible correlation between the institution and the

activity. The weights will not be mathematically accurate but a quantitative difference will result for each item. This method measures that data which in the past was thought to be impossible. It measures subjective data as a function of other and objective data.

There are several general requisites of a socio-metric scale.¹ It must be applicable to all cases in the class it is to measure. If the problem is to measure interest groups it must measure all types of interest groups. It must have in other words, general validity.

The scale must also allow for the establishment of reasonable norms with which the objects measured can be compared. The purpose of the norm is to establish a basis by which institutions and activities of the same nature may be compared. The deviation from this adopted norm is then found for all individual cases. The critics claim that the social sciences are not applicable to objectivity. The answer to that may be a question as to what objectivity is. Is it something that can be weighed and measured the same regardless of its position in relation to other conditions? Or is it a norm? Units in science are relative and can not be measured except in their relation to some other object. Thus, one object is taken as a standard and when we give the elements exact

1--Geo. A. Lundberg, Social Research
Longmans, Green & Co., N. Y., 1929, p. 248.

measures we are measuring merely an objective relationship between two objects. The standards of hardness of metals, the time in an hour, the distance composing a mile are all relative. Who can prove that a pound is this certain weight and could have been no other! Odum and Jochner¹ contend that "knowledge is never pure knowledge but always relative, constantly playing back and forth through error, experimentation, empiricism, pragmatism and skepticism". Since relativity seems to prevail it would be impossible to measure deviations in the data without a central case or norm.

The most exact way to locate the norm of a class of data is by taking the statistical norm of a representative sample. There are three such norms by which deviations may be measured.² When the variations are similar in direction and degree the norm is measured from the arithmetic mean. The method of determining the norm set by the opinion of a number of experts and general workers in the field is used quite often. The second method named may best be used to determine norms with reference to which institutions and activities of the same type may be compared for a given purpose. The norm determined from the arithmetical average would probably be more applicable

1--H. W. Odum & Katharine Jochner, *An Introduction to Social Research*, Henry Holt, N. Y., 1929, p. 180.

2--Harry Jerome, *Statistical Methods* Harper & Bros., N. Y., 1924, p. 264.

to the measure of the deviation of individual cases from the adopted norm. There is no set rule.

Another requisite of an objective scale is the necessity of having available the factors of which it is to be composed. The different communities to be measured and compared will vary in their characteristic traits. The scale must therefore include those traits based on permanent and stabilized institutions and social groups found in each community. The scale must also not be constructed to measure a utopian situation but rather the significant facts at hand that need investigation. This leads to the problem of determining which factors are most or the least significant. In the past these have been chosen by either logical deduction or empirical observation. It must always measure those factors for which quantitative evaluation can be secured. The factors must be ranked and weighed according to relative significance. It is a normal condition that some facts are more significant than others. The weighing of these allows the entrance of subjective error. This can be reduced when the weighing is done by skilled research workers. When these facts are weighed and ranked according to value, static comparison of different interest groups and institutions can be made in each community and between communities.

The following tests should be applied to check the validity of the scale. First, the scale should compare

with the empirical judgment of experts. Second, there should be a significant correlation existing between scores by scales of different authors applied to the same group or institution. Third, the scale should be applicable to a large variety of problems. Where at all possible the scale should be tested by actual trial in the field before it is given serious reliance.

Scoring of Institutional and Organizational Activity

Groups and institutions can be compared on a functional basis by means of scoring. The institutional and activity data can be scored according to three phases of community life.¹ Certain principles are in common to the three phases, therefore for comparability the units should be in terms of ratios, percentages, rates or standard index numbers.

The first phase is the community in general in its relation to the activity concerned. This will include an intimate study of the population and the concrete objective factors involved in their social lives. The percentage of people engaged in the various occupations and enjoying the benefits of institutions established for the purpose of furthering the member's welfare should be found. This includes a study of all special interest groups. The score would be the extent to which the com-

1--M. C. Elmer, Amer. J. of Sociology, "Evaluation and Scoring of Community Activities, Vol. 30, pp. 172-176.

munity reacts to the principles of each organization. The score will give the relative status of each institution or organization. The scoring must also be done in such a manner that comparisons within and without the community are possible.

The second phase to be scored is the specific activity with regard to its program, equipment, and participants. The important data is not so much the objective factors named but their relation to the activities involved. It would not matter what the purpose of the organization is so much as to how effectively it has been accepted. This changes the scoring from one of static description to one of dynamic functioning. For example, the seating capacity of a church is of little importance in telling of what percentage of the community either attend the church or are members. The number of participants is important only in the part they are of the whole population and what part they represent in the community.

Third, an analysis of the institution in terms of its functioning in the social group is to be scored. Functioning can be measured objectively in terms of what it accomplishes. The following measure of a farm bureau is given as an example of scoring all three phases and was taken from a study by Elmer.

It was found in Community A that 40% of the farmers

belong to the farm bureau (first phase), that a principle of the organization is rotation of crops and that 20% of the farmers participate in the meeting and discussing of this skill (second phase), and that only 2% of the population, including members, rotate crops according to the principles discussed.

Allow N points for the score of the institution; a maximum of X points for membership as under the first phase, Y points for program and participation under the second phase, and Z points for the third phase which is a measure of the extent to which the community is influenced by the principles of the organization. The valuation is arbitrary and therefore incorrect but the error is constant if the same valuations are used for all activities and organizations being compared.

Table I follows:

TABLE I
Community A

Total Possible Score for Economic Activity-The Farm Bureau

Phase 1

Objective Conditioning Factors in the Group
X points possible

$$\frac{40}{100} = \frac{2}{5} \text{ of } X = N^1 \text{ points}$$

Phase 2

Objective Conditioning Factors in the Specific Activity
Y points possible

$$\frac{20}{40} = \frac{1}{2} \text{ of } Y = N^2 \text{ points}$$

Phase 3

Functioning
Z points possible

$$\frac{2}{100} = \frac{1}{50} \text{ of } Z = N^3 \text{ points}$$

The score of Community A as regards its economic activity = $\frac{2}{5}$ of X $\frac{1}{2}$ of Y $\frac{1}{50}$ of Z = score of activity.

For means of comparison the example of a cooperative poultry dealers association will be given. It is found under phase 1 that 80% of the poultry farmers are members, and 2 that 70% of the poultry farmers, members or non-members, participate in discussions at meetings or read bulletins, and 3 that 85% of the farmers participate in the cooperate activities connected with the distribution of their poultry products, then the following table can be constructed.

TABLE IICommunity B

Phase 1

Objective Conditioning Factors in Group
X points possible

$$\frac{80}{100} = \frac{4}{5} \text{ of } X = N^1 \text{ points}$$

Phase 2

Objective Conditioning Factors in Specific Activity
Y points possible

$$\frac{70}{100} = \frac{7}{10} \text{ of } Y = N^2 \text{ points}$$

Phase 3

Functioning
Z points possible

$$\frac{85}{100} = \frac{17}{20} \text{ of } Z = N^3 \text{ points}$$

The score of Community B as regards its economic
activity = $\frac{4}{5}$ of X $\frac{7}{10}$ of Y $\frac{17}{20}$ of Z =
score of activity.

The comparative scores are:

Community A = $\frac{2}{5}$ of X $\frac{1}{2}$ of Y $\frac{1}{50}$ of Z

Community B = $\frac{4}{5}$ of X $\frac{7}{10}$ of Y $\frac{17}{20}$ of Z

The comparison is now on a functional basis and not completely upon a descriptive basis as many comparisons in the past were limited. This system of scoring can also be used for interest groups. The only change necessary

will be the possible points for X, Y, and Z.

INTERPRETATION

Social statistics are factual and require interpretation. This interpretation may be done through description, comparison, analysis or synthesis or any combination of these methods.¹ Interpretation may start with simple description but it should not be limited to it. These different methods of interpretation are somewhat alike. Back of each is a simple skeleton of procedure.² In all, the value of the scientific inferences found depend primarily upon the validity of the data collected.³

Description

Description is the giving of an account of the parts of a problem. It is fairly adequate in reporting on large masses of data. It explains the whole through a series of summary statements. These direct toward subsequent definite conclusions to be drawn. The reader of such a report is limited to those conclusions set forth in the report.⁴ L. L. Bernard has stated that "we must advance beyond that descriptive stage in the development of the science of sociology in which we are content with

-
- 1--Thomas O. Burgess, J. of Educ. Soc., The Techniques of Research in Educational Sociology, Jan. 1931, pp. 272-278.
 - 2--F. S. Chapin, Sci. Monthly, Progress in Methodology, Vol. 19, p.390.
 - 3--V. M. Palmer, Field Studies in Sociology, Univ. of Chicago Press, 1928, p. 167.
 - 4--H. W. Odum and Katharine Jochner, An Introduction to Social Research, Henry Holt, N. Y., 1929, p. 302.

merely statistical tabulations of discrete and loosely organized social phenomena or individual percepts and feelings, and proceed to the higher synthetic generalizations in the form of constructive norms". Floyd N. House¹ upholds the descriptive method in his contention that "the statistical method can never supercede the descriptive. Before quantitative determinations can be made, a great deal of descriptive work will have to be done. In order to arrive at quantitative analysis of human social events which will account for what actually takes place, it is necessary to study the events themselves for the purpose of formulating descriptions of the processes in and by which the events are determined."

Comparison

Comparison as a method of interpretation is somewhat related to description. This method is the examining of two or more points within a problem with reference to points of likeness and unlikeness. This is the most simple and probably most widely used method. It usually follows a statistical treatment of data.

Comparisons are valuable in drawing conclusions concerning a constant likeness or unlikeness in data. Mathematical correlation is used to measure any constant relationships in the data compared. A correlation is

1-- Ibid, p. 302

defined as being the typical amount of similarity, in direction and degree, of variation in corresponding pairs of two series of variables.¹ If two series tend to fluctuate in the same direction, one increasing when the other increases, and decreasing when the other decreases, a positive correlation exists. A negative correlation exists when one series decreases while the other increases. A positive correlation would be expected between unemployment and crime; between broken homes and juvenile delinquency; between prosperity and the marriage rate.

Through this method the prediction of probable future relationships is possible. Correlation finds the presence or absence of any differences in the activity of data from the norm. It is then the task of the researcher to interpret causes and effects of relationships uncovered by the correlations. The correlation itself proves nothing, but it can be used in constructing logical inferences.² It only shows that between two series or groups of data there exists some causal relation. That cause must be deducted.³

A simple correlation table can be easily arranged to test data for possible correlation. It is constructed with a horizontal and a vertical arrangement of groups.

- 1--Harry Jerome, Statistical Methods
Harper & Bros., N. Y., 1924, p. 264.
- 2--G. C. Whipple, Vital Statistics
John Wiley & Sons, N. Y., 1923, p. 462.
- 3--Ibid, p. 470.

A visual tabulation of the relationship is obtained. The following table is an example used in showing correlation between the ages of husband and wife.¹ The table was condensed by omitting 000's.

1--Ibid, p. 472.

TABLE

Ages of Husbands	Ages of Wives															Total	
	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
15	2	2															4
20	16	173	46	4	1												240
25	4	185	402	84	10	2	1										688
30	1	41	265	411	84	12	2	1									817
35		9	69	251	369	80	12	2	1								793
40		3	17	71	219	309	66	12	2	1							700
45		1	6	20	66	178	252	59	10	2	1						595
50			2	8	19	57	146	195	44	10	2						483
55				1	3	8	18	46	110	141	35	6	1				369
60					1	3	8	16	39	81	101	23	4	1			277
65						1	1	3	6	11	26	53	13	2	1	1	175
70						1	1	2	5	8	18	31	31	6	1		104
75							1	1	2	3	5	10	14	12	2		50
80								1	1	1	2		4	5	3	1	18
85													1	1	1	1	4
Total	23	414	808	854	781	669	550	437	317	226	134	68	27	8	1		5317

Explanation of Table

Of 669 wives in the age-group 40-44, 309 married men of the same age-group. A slight tendency can be seen toward the husband's being slightly older than the wife. A heavy increase in marriage at about the age of 25 for men and 20 for women can be seen, with a gradual tapering off in the marriage rates of the older age-groups.

These tables present a quick picture of any data with a high negative or positive correlation. It is useful in studies causal relations and emphatically presents characteristics of data that might have passed
1
unnoticed.

1--Note: If it is desired to find the various methods of measuring the exact correlations, any standard statistics book can be consulted. The presentation of the various methods of correlation would require too much time and space in their presentation and explanation.

Synthesis

Synthesis of data is a sort of classification or putting together of two or more elements into a new form. Analysis may be made in order to classify, but all classification is synthesis. Social phenomena do not admit of simple addition. Summation and integration must therefore be facilitated by further synthesis of old elements into new forms. It consists of reasoning from the whole to the part or from the general to the particular. The summary or findings are put into single sentence forms. The larger the mass of data to be examined, the greater the number of new forms possible of synthesis. It is easy to be misled in selecting the conclusion to their process. It is therefore more accurate when done by a trained research worker.

Analysis

Analysis is the separating of a problem into its parts according to their function. According to¹ Lundberg "the division of a mass of impressions into its constituent factors is the essence of all analysis, and only through such a preparation of factors can sequences be observed and behavior understood".

This technique is of value in each of the types of treatment of data. It is used also in the collection of

1--Geo. A. Lundberg, Social Research
Longmans, Green & Co., N. Y., 1929, p. 116.

data. Analysis is really not a separate step to be considered only in interpretation. It has proceeded in a scientific survey since the first collection of data from the tentative outline. The analysis here is the last step as a forerunner of clear, concise, logical and critical presentation.

An analysis must always be made of the problem before an attempt is made to understand it. It must be an objective and not a subjective analysis or it will be worthless as being personal opinion. It may result then in merely theorizing and not discovering.

Many published reports on research indicate that often no more than ten to twenty per cent of the inherent evidence in the data has been discovered. Much research work is wasted when the research worker does not know how to interpret it. Schluter has said¹ that "no degree² of mental accumen will serve infallibly to penetrate the abduracy of unsifted or unanalyzed data, whereas methodological analysis of the data will bring out suggestions of their meaning to serve as the basis of inferences and so of evidence".

Analysis of the data requires use of time, effort and imagination. The latter term includes such mechanisms known as day-dreaming, reverie, and reflective

1--W. C. Schluter, How to Do Research Work
Prentiss-Hall, N. Y., 1926, p. 104.

2--Ibid, p. 105.

thinking. Many original and useful ideas are uncovered in this way.

The merits or demerits of analysis is its success in allowing the research worker prediction or control of data. This is facilitated through the various kinds of presentation made possible by the analysis. The final step in analysis then is to isolate and so characterize the social units that they may be presented in definite graphic form.

PRESENTATION

The two major problems of presentation are first, what to present, and second, how to present it. The first is answered by the preceding section on interpretation.

All the data should be presented if the problem is of great importance and will be read by critical readers who desire to be fully informed. Also if the field covered is comparatively unknown the data should be presented in full. The employment of a novel or complex method or procedure in the survey may call for full presentation of all the data. Much of this data such as long lists of material can be left for the appendices. This will make the manuscript more readable. The author's conclusions can then be checked by reference to the data in the supporting appendix. When only a part of the data is to be presented, the several successive stages through which the data has developed should be reviewed to decide what data is necessary or desirable to present.

The second problem is determined by the type of readers for which the survey is intended. Today there is need for a more applicable and more reliable choice of presentations to meet the heterogeneity of readers. There are two methods. They are the textual and the graphic. These are combined in the survey. Data which

was obtained by fairly simple means and which required little complex treatment can be presented in the form developed by the final analysis.¹ This should be accompanied by such explanation as is necessary.

In the textual presentation, style and composition are important. A heavy ponderous style is not a necessary requisite of scientific writing. A literary style may well be used where it does not conflict with clarity. The facts are reported as interpreted. Their relationships and co-ordinated characteristics are to be emphatically presented. Scientific terms should be defined. Everything possible should be done to make the manuscript interesting and understandable. Adequate evidence should be presented to make manifest the inferences derived from the interpretation.²

Diagrammatic forms are not essential but are aids to the statistical data. They help as an aid to the eye and as a means of saving time in understanding the material.³ When large and complex masses of figures are dealt with it is difficult to readily obtain a clear picture of the data. This is so even when the figures are clearly tabulated. Any list of figures becomes less comprehensible as its length increases. The main use of a diagram is to present the large groups of figures so

1--W. C. Schluter, How to Do Research Work
Prentiss-Hall, N. Y., 1926, p. 113.

2--Ibid, p. 111.

3--W. C. Marshall, Graphical Methods
McGraw Hill, N. Y., 1921, pp. 36-50.

that they may be better read and understood. The criterion for all diagrams is that they should afford the best view of the series or group of figures that the eye can appreciate.¹ A graph represents pictorially series of values all drawn to scale.

Standardization in forms should be practiced so that the maker and reader of them will have complete familiarity and understanding of the various forms to be used. This will facilitate the comparison of data displayed in different diagrams. It will aid in developing simplicity of form which is a primary requisite of the graphical method. This lack of standardization makes difficult the comparison of survey investigations even in the same field.

The following suggestions are outlined for the construction of diagrams:²

1--General arrangement of a diagram should proceed from left to right and from bottom to top.

2--Numerals for the scale of a diagram should be placed at the left and at the bottom.

3--All numerals and lettering on a diagram should be placed so as to be easily read from the bottom or right hand edge of the diagram on the bottom.

1--A. L. Bowley, Elements of Statistics.

Chas. Scribner's Sons, N. Y., 1920, 4th Edition, Chap.5.

2--Note: This material was compiled by Day, Reed and Secrist under the Council of National Defense by the U. S. Planning and Statistics Central Bureau, Washington, D. C. It was published October 10, 1918 in the Weekly Statistical News at Washington, D. C. It is quoted as given by W. C. Marshall in Graphical Methods, op cit.

4--Use linear magnitude for quantities rather than areas or volumes.

5--The vertical scale should be selected to bring the zero line on the diagram but if it will not appear normally make a horizontal break in order to show it.

6--The base or zero lines of the scales which represent standards of attainment should be sharply distinguished from the other co-ordinate lines.

7--When curves are drawn on log co-ordinates the limiting lines of the diagram should each be at some power of ten on the log scales.

8--The curve lines of a diagram should be sharply distinguished from the ruled lines.

9--Do not show more co-ordinate lines than are necessary to guide the eye in reading the diagram.

10--When curves are obtained from a series of observations, it is advisable to indicate clearly on the diagram all the points representing the separate observations.

11--The scale intervals on any single diagram should be exactly proportional to the gradation of number, size or time represented. (log scale excepted)

12--Items should be grouped so as to facilitate the comparison of items most significantly related. Within groups some systematic order should be adopted. The most serviceable arrangements are according to (a) sequence of the items in time with the earliest at the left, or (b) the size of the items with the largest at the top or left, or (c) the favorableness, with the most favorable at the top or at the left.

13--Data shown graphically in a diagram should be given in tabular form beside or within the diagram or in the appendix. Figures should not be placed so as to distort the visual impression displayed by the chart.

14--The title of a diagram should be made as clear and complete as possible. Sub-titles or descriptions should be added if necessary to insure clearness.

Material should always be presented in a truthful, clear and appropriate form verifiable by the reader. For

clearness, material in diagrams should be compared in only one dimension. Visual comparisons of areas are particularly inaccurate and should not be necessary in making any statistical graphical diagrams. Units of measure in terms of a given area or volume should be avoided. In case surface diagrams are used, the area, not one dimension, should be proportioned to the whole data. The most accurate of these types is the circle chart. Each element presented is shown as being a fraction of the whole. A percentage is given each fraction, the total equaling 100%.

The kinds of graphs most applicable to survey presentation are the reference, descriptive and analytical graphs. The reference graph is used to present a selected set of facts. An example is a curve showing the increase in membership of a farm bureau over a ten year period, or a curve showing the decrease in the birth rate in a community for a ten year period. These are used principally to display a time series of events.

The descriptive graph is less selective than the reference graph. It is used as an appeal to the reader through an emphatic visual comparison. An example is a bar diagram showing the number of deaths in a community from automobile accidents.

The analytical graph is used to emphasize a relationship between two elements. An example is a graph

containing two curves, one showing a curve of the increase in population of a community and a curve with it showing increase (or decrease) in the number of organizations¹ and institutions serving the population.

As a conclusion to this section on Methodology, the following quotation from Lundberg is cited:²

"The only test of the validity of a method is its efficacy in securing the results sought. It follows that we are justified in the use of any method, regardless of its degree of objectivity, if it helps throw even a little light on the problem we are seeking to solve. From this point of view most social problems call for a composite method--the full utilization of historical and genetic sources, the non-quantitative description of individual cases in complete social situations, as well as the more rigid, objective and quantitative tests--all of which give us a more accurate account than any single approach can give. The purpose of pointing out the weaknesses of certain methods, therefore, is not to advocate their abandonment as long as they contribute something to our knowledge. The purpose of evaluating them has been to help us avoid extravagant assumptions as to the validity of the conclusions which they are capable of yielding."

1--W. C. Marshall, Graphical Methods
McGraw Hill, N. Y., 1921, p. 14.

2--Geo. A. Lundberg, Social Research
Longmans, Green & Co., N. Y., 1929, p. 241.

Part IIIAnalysis of Twelve Rural Community SurveysEXPLANATION OF SURVEY ANALYSIS

The following group of twelve rural community surveys has been selected from forty-two available surveys as being typical in form, subject matter, personnel and administration. The methods used in these surveys will be outlined and analyzed. This more intensive review of a few surveys was thought to be more valuable than a scattering analysis of the entire group. Some of these surveys represent the most valid methods of rural investigation and others are shown to be unreliable as a basis for conclusions. The most recent investigations are shown to be not always the most objective and scientific in procedure. This seems to have been influenced by the personnel as well as by the administration and supporters of the investigation.

Surveys conducted at the Cornell, Virginia, and Wisconsin Agricultural Experiment Stations have been exceptionally well done. ¹ Competent personnel together with

1--Note: The reader will be aware of the absence of the classic studies of Kolb and Sanderson from this list. The author has purposely omitted these. Kolb's study is largely concerned with the methods of determining the primary group areas rather than the analysis of the community as a unit. Sanderson's was excluded for the reason that the author did not wish to include more than two reports from any one station. Cornell Bulletin 487 on Rural Population was selected as a means of placing emphasis on such studies for preliminaries to surveys. Cornell Bulletin 523 was selected because of its recent date and outstanding methodology.

more funds available doubtless account for this fact. The bulletins printed by organizations other than agricultural experiment stations seem to be less careful and accurate in procedure. It seems that mis-representation of data is present such as in the surveys of church conditions. The administrators in those investigations may tend to limit the field workers in scope and direction of research. It would seem more advisable to rely upon investigations made by organizations who have no thought or desire to present a biased report of any social or economic conditions in any area.

The twelve surveys have been analyzed in part as to what methods were used and in part as to how these methods coincided or complied with the methodology in Part II.

The points covered were:

- 1--Project title
- 2--Author and administration named
- 3--Clear statement of purpose
- 4--Introductory (including any advance preparation or exploration)
- 5--Whether the methods as used were stated and an analysis of them.

The subjects of the surveys investigated were:

"Spiritual growth" and advance-----	3
Rural institutions and organizations-----	3
Rural groups-----	2
Church and social improvement-----	1
School development-----	1
Rural-village relationships-----	1
Population-----	<u>1</u>

Total 12

An analysis and comparative evaluation of methods

used in past surveys should be the first training for anyone contemplating a rural community investigation. Time, effort and money would be saved by the elimination of faults and errors caused by lack of knowledge of survey methods. The field of investigation itself is the social scientist's laboratory and the surveys completed are its experiments. Progress based in part upon experience is more firm in its advance than progress built upon repeated trial and error processes alone. It is hoped that the methodology here presented and the survey methods analyzed can be of some help to those looking forward to research in rural sociology.

-1-

Rural Social Organization of Clark County

by

E. A. Taylor and F. R. Yoder

State College of Washington
Agricultural Experiment Station

United States Department of
Agriculture cooperating

Bulletin 225, 1928

Purpose

The survey is a study of groupings of rural people in their relation to each other in the rural area and in their town-country and village-country relationships. The cause for a neighborhood spirit is investigated. Participation in the rural organizations and institutions is investigated and also the trend of this as compared to the use of urban services by farmers.

Analysis of Methods

A--Introductory.

Apparently no preliminary investigation was made prior to commencement of this survey. Clark county was chosen as being typical of the state of Washington. Explanation of methods of securing a "typical" county is omitted. As a preliminary to the survey, descriptive

statements of the general characteristics of the county and its location in the state are given.

B--Collection of data.

1--Secondary sources.

Population data and valuation of property and trends were taken from the United States Census reports. A chronological development is thus presented to better understand present conditions. The use of other social surveys is not alluded to as being used in this study.

2--Primary sources of data.

Most of the data used was obtained through field work. The methods used were personal interviews with farmers, farm leaders, newspaper editors, teachers, ministers, bankers, merchants and others informed in rural life conditions. Intensive study was made of the farmer marketing and economic service organizations and social institutions.

C--Classification of data.

Definite differentiation was made between the author's conception of rural neighborhoods and rural communities. Although the reader might not agree as to the need of this distinction, they were easily understood as referred to in the survey. Several examples were given to support and explain the author's definitions. Such a practice aids in understanding the data and the problem and should be encouraged in all reports.

Units used in presenting the data in the tables were clear and did not allow mis-interpretation.

Scoring of the intensity of group consciousness of different communities was made. This was done on the basis of overt neighborhood spirit manifest by the number, strength and activity of the various institutions in the neighborhood. This was divided into "high", "medium", and "low" intensity which allows entrance of subjective opinion. This intensity was based primarily on "activity" of the institutions. A better plan would have been the scoring of them and comparing separate scores of different neighborhood institutions according to the definite formula explained in Part II.

D--Interpretation.

A descriptive analysis was used throughout the survey to explain the trends and the present status of organizations and institutions. The descriptive analysis used in the conclusion included factors of (1) transportation and communication, (2) neighborhood and neighborhood activities, (3) rural schools and churches and other rural institutions, (4) recreational facilities, (5) marketing system and (6) town and country relations. Formulation of general principles of rural social organization was not attempted.

E--Presentation.

Maps are used to outline trade areas and social

areas. Pictures of the buildings of the various organizations and institutions are included with their descriptions. Tables are used as the principle means of presenting data of the neighborhoods and their formal groups.

-2-

A Church and Community Survey of Pend Oreille County

by

Edmund deS Brunner
Director, Department of Town and Country Surveys

Committee on Social and Religious Surveys
Interchurch World Movement

1921

Purpose

The survey is made in an attempt to measure economic and social conditions as they affect church life. Factors that make up the social mind, such as social life, public opinion, leadership, communication, social affiliations and community spirit are evaluated.

Analysis of Methods

A--Introductory.

This survey is one of a limited number of surveys selected from among the numerous surveys completed by this organization. These few selected surveys were to be studied intensively as being typical of different sections of the United States. A geographical description and an historical introduction of the county is given as a background to the survey. A rather complete description is given of the natural resources and the local transporta-

tion, industry and agriculture.

B--Collection of data.

1--Secondary sources.

Figures from the government religious census are used. No other secondary sources are mentioned.

2--Primary sources.

Data was probably obtained by blanks filled out by field workers. No statement is made however of the sources or methods used. This does not aid further investigation based on this survey. It also makes the data seem less reliable and accurate. The reader has no opportunity for evaluating the methods used and hence the validity of the findings may be questioned.

C--Classification.

Definitions of terms used in the surveys were not given. The different communities are rated but no method is shown as to the basis of that rating. Such a statement as this is made--"Ione may be taken as a type of many of the communities in the county at their best". No basis is given for its selection. Recreational activities for the county are listed but not given separately for each community. No accurate scoring or rating devices were used. There was a notable lack of logical and reasonable classification of the data given under "Social Characteristics".

The chapter on "The Religious Situation" is more ac-

curately portrayed. However, no references were given as a means of checking the data. An attempt is made to rate the churches on a basis of twenty-five points possible. Neither the questions asked nor the points allowed each question are mentioned in the survey.

D--Interpretation.

The interpretation of the social characteristics is a random description of leadership, community spirit, education, health and recreational life. Little coherence is obtained. The description of church finance, equipment and membership is treated more logically. Statistical treatment of these factors is given in a comparison of village with country churches. The present conditions and trends are outlined.

E--Presentation.

Sources of information in the forms of tables and charts are lacking. No support is given the reader of the various findings other than the author's statements. Many pictures and a few maps and charts are used in the presentation. The "pie" charts used in the comparison of village and country churches give a clear picture of the situation.

-3-

Ohio Rural Life Survey, Northwestern Ohio

by

W. H. Wilson and R. A. Felton

The Department of Church and Country Life
Board of Home Missions of the Presbyterian Church

1913

Purpose

The authors feel that rural advance is dependent upon the churches. The problem was to discover whether or not the churches in northwestern Ohio were causing rural social improvement.

Analysis of Methods

A--Introductory.

The counties discussed in this survey had previously been surveyed. A description is given of natural resources and farming and marketing conditions.

B--Collection of data.

1--Secondary sources.

Figures were taken from the government census reports and the state bureau of vital statistics. No other sources are mentioned.

2--Primary sources.

Most of the data was collected by field workers

assigned to a township which was the unit of study. Field workers were either college trained men or were adults of seasoned judgment. They obtained their information by interview using formal schedules. Several days were allowed for collection of data in each township by the interviewer assigned. His personal observations were attached to the schedule in addition to the specific answers for questions relating to religious, educational, social and political conditions. Case studies were made of the rural ministers and of school teachers.

C--Classification.

Definitions of terms used is not given. The classification of "rural" and "village" is the same as used in the government census reports. Under vital statistics the classifications are given as taken from the census reports.

A scoring of the moral tone of the communities is attempted but is mainly subjective. The units used as representing morality or lack of it are debateable as being mere opinions. A start was made toward scoring of institutional activities. Total membership, participation and percentage of the whole population entering into the activity were found. The different institutions could have been objectively compared through use of the mathematical formula for scoring. The separate statistical analysis of each was well done.

Correlations are shown between farm tenancy and various social conditions and between the absentee minister and church efficiency by means of tables and charts.

D--Interpretation.

A keen statistical analysis seems to have been made of the rural institutions. Comparisons were made through both description and correlation.

E--Presentation.

The functional analysis made in the survey loses value because of poor techniques of presentation. Illustrations used with the descriptions are adequate. Many different forms of graphic presentation were used which are not comparable with forms in other surveys. It causes confusion in relating data even within the survey. Triangles, rectangles, circles and lines have been used without regard to standardization. A few "pie" charts are used which are adequate as are the maps used.

-4-

Rural Social Survey of Hudson,
Orange and Jesup Consolidated School Districts,
Blackhawk and Buchanan Counties, Iowa.

by

George H. Von Tungeln and Harry L. Eells

Agricultural Experiment Station
Iowa State College of Agriculture

Bulletin 224
November 1921

Purpose

The purpose of the study is to give each district included a true life picture of itself to enable the inhabitants to advance their own physical, intellectual and spiritual growth.

Analysis of Methods

A--Introductory.

A description of the location, communication and transportation of each district is given. An historical sketch of each district is recounted. Some of this information was obtained through interviews with the oldest settlers in the districts. A population study of race, marriages, and size of families precedes the survey of economic and social conditions.

B--Collection of data.

1--Secondary sources.

Information is taken from the government census reports, Iowa State Teacher's College bulletins, state census reports, newspapers, magazines and from reports of the Iowa Agricultural College Experiment Station.

2--Primary sources.

Professor H. L. Eells or the superintendent of the local school, interviewed each family in the three consolidated school districts. The information was secured on formal blanks and listed according to families. No statement is given as to whether or not the schedule was tried out or checked before being used.

C--Classification.

A preliminary definition of terms is not given. The activity of the communities is shown by a calendar of programs and entertainments arranged.

Rating the districts or scoring the institutions of each is omitted. This may be due to the fact that the survey was a joint effort of the three districts. Comparative scores might have created friction between the districts with the highest and lowest scores.

General classification in the tables followed that of the government census reports.

Correlation is used to show relations between tenancy and farm conditions and also between church membership of

parents with that of children.

D--Interpretation.

A descriptive analysis of the conditions in the three school districts is well made. Comparisons are made but differences are not emphasized. A comparative analysis of the Orange district is possible because of a previous survey made there in 1916. Tables are given showing clearly the conditions present for each year.

E--Presentation.

The data is presented principally in the form of tables. These are divided into logical classes of data and present a clear idea of the conditions of each community. The descriptions are accompanied by illustrations. Charts and graphs are totally lacking.

-5-

Social and Economic Survey
of a
Community in the Red River Valley

by

Louis D. H. Weld

University of Minnesota

Current Problems No. 4
1915

Purpose

The object of the survey is to subject to statistical measurement certain rural social and economic forces in order to furnish more exact data as a foundation for constructive programs of rural advance. Generalizations are to be made only after further intensive surveys have made certain methods valid by their related discoveries. A separate study of a village is included and used to compare its life with that in the rural areas.

Analysis of Methods

A--Introductory.

This community was selected for study as being typical of the large farm, grain growing section of Minnesota. The survey of social conditions is preceded by a general historical outline of agriculture, trans-

portation and educational facilities.

B--Collection of data.

1--Secondary sources.

Historical data was obtained from economic histories of the Red River Valley, government census reports, local papers and bulletins of the experiment station.

2--Primary sources.

Most of the data of farm conditions was obtained through interviews with the farmers. Field work was done by the author and one helper. Mention as to form of schedules used was omitted.

Case studies of economic service institutions were made for investigation of farm produce and marketing. Case studies were also made in the section devoted to the village of the industrial plants.

C--Classification.

Most of the data in tables is classified according to the classes and units used in the government census. Definitions and explanations were lacking.

In a comparison of the efficiency of managers of grain elevators, classes of wheat were given as evidence of wrong buying without defining the grade or value of wheat. A comparison of the membership in the farm organizations was made in percentages but no objective comparison by means of the formula was made. The activity of each was guessed or left unsolved.

Scoring of the village social activities could have easily been made through the use of data in a table giving membership, purpose and participation in the organizations. A valuable comparison could then have been made between rural and village social activities. This was not done.

D--Interpretation.

The data was interpreted mainly through a descriptive analysis. Statistics were used accurately but their use could have been enlarged upon by further tabulations and used in bringing out further characteristics of the data.

Comparison of village and country was supposed to have been made but this was omitted except for one table in the conclusion comparing social activities and economic facilities in the homes of each. Some comparison is brought out by correlating yearly business conditions in the village with conditions of farm crops. This was done through descriptive analysis. A nine point summary is given which is a repetition of descriptive statements made throughout the survey.

E--Presentation.

Illustrations accurately depict economic conditions of homes in both the village and country. Tables of supporting data accompanied the author's descriptive statements of economic and social conditions. Descriptive, reference and analytical graphs were used in presenting

facts of importance. "Pie" charts and maps were also used. As a whole the survey is better presented than most surveys compiled up to that time.

-6-

Rural Organizations in Relation to
Rural Life in Virginia

With special reference to Organizational Attitudes

by

W. E. Garnett

Virginia Agricultural Experiment Station
United States Bureau of Agricultural Economics
cooperating

Bulletin 256, 1927

Purpose

This survey was made to test the efficiency in rural institutions and organizations. It is also to test the attitude of the people toward organizations and institutions from a social viewpoint.

Analysis of Methods

A--Introductory.

This was the first survey made by this station so no previous investigation could be relied upon. Of all the questions of rural sociology, this question was selected as being the most urgent for careful research work. This survey was to be the first of a series of intensive investigations. With this in view the survey investigates only two of the factors influencing organiza-

tion--population density and type of farming.

B--Collection of data.

1--Secondary sources.

Data was obtained from the general books on rural sociology and rural economics, reports of the government census, Virginia Compendium, State department of Education, State Chamber of Commerce and other state reports of the experiment station.

2--Primary sources.

Schedules were used to objectify results. Personal interviews were used in addition to more fully cover all conditions present. The results were compiled in systematic notes by the interviewer. The interviews were obtained from a sufficient number of persons in the majority of communities of forty counties to get a reliable picture of the prevailing conditions. These interviewed included county agents, county superintendents of education, individual farmers and others having special knowledge of the field.

Questionnaires were mailed to selected leaders in the field. Schedules were filled from information obtained in organization reports and the library of organizations' leaders.

Data was obtained from participation in informal discussions and conversations with casual farm groups. The author was well qualified to obtain information by

this means because he was guided by complete familiarity with rural life. Further reliability of the data is thus secured.

A case study was made of a Tobacco Grower's Association to show the importance of membership attitudes to the success of cooperation, and of solving social problems brought about by it. This is written in a vivid style to appeal to the readers' imagination and move him to action if he is a member of that community. The history of the association is given through its origin, growth, decline and disruption. This is concluded by giving reasons for the failure and possibility of success of a later association.

C--Classification.

Definitions are given at the beginning of the study and the map of the field is outlined.

Classes of data are used as taken from the state and government census reports. In some cases composite units in the government census were corrected to meet certain needs of the author in dealing with the data.

Scoring for comparisons of rural school efficiency was taken from a reference work and the method is not listed. The percentage of membership of the total population in the different institutions and organizations is given. Objective statistical comparison is not made. The great inefficiency of the farming methods practiced

is described in detail by tables showing access to better methods which is not taken by the farmers. An introductory study this is suitable as the activity of all organizations is found to be low. Statistical comparison is therefore unnecessary. The inefficiency is shown by an example of the average meeting which is outlined through its program, procedure and final result, which is usually inaction. Index numbers were used in stating the efficiency of county schools. The method used is presented in notes.

Tables were included showing number of workers in separate fields who read certain books, magazines, and bulletins. This is a very complete and excellent analysis of the failure of farmers and other rural people to help themselves in their own problems.

D--Interpretation.

Descriptive analysis and explanations with statistical support are used. Organizational activities of the associations, agencies and institutions was given through short summary sentences. Comparisons were given descriptively but no mathematical correlations were attempted. They are unnecessary for an introductory investigation.

Although much of the material is in the field of social psychology, the author's power of analysis is shown in his explanations of organizational attitudes.

E--Presentation.

A literary style is used throughout to add vividness to the findings. This is suitable to this type of survey.

Tables, charts, descriptive graphs and analytical illustrations have been used to emphasize the organizational attitudes existing. Maps were used more than other forms of graphic presentation. Symbols were used to portray geographically an outline of the state of various economic, social and health conditions bearing on the problem. In some cases the wording on the maps is inadequate in explaining them clearly without the necessity of studying the written material. Statements are accompanied by tables of compiled material with references to guide the reader and give authenticity to the survey.

-7-

Educational, Economic and Community Survey of
Bledsoe County

by

B. O. Duggan, D. M. Brown and J. H. Miser

Extension Series
University of Tennessee Record

Volume IV, No. 2, 1927

Purpose

The purpose is to study intensively rural school conditions and help make rural schools more nearly meet rural community needs. The data is not to be presented in an exhaustive manner but is put in a form easily read by the rural people interested.

Analysis of Methods

A--Introductory.

A general history and geographical summary precedes the survey. This includes a brief population study. This should be given a separate heading as being more important to social life than a scientific summary of geology and topography.

B--Collection of data.

1--Secondary sources.

Data was obtained from government census reports,

geological surveys, state reports and bulletins of the University of Tennessee record.

2--Primary sources.

A survey was taken of the county with the school community as a unit. This data was gathered by the professor of rural sociology and one graduate student.

Interviews were obtained from bankers, business men, county officials and farmers.

The chapter on homes is made principally of excerpts from the government census and added little original data or analysis of home conditions.

A scoring of health conditions in each community is reported as being "high", "medium", or "low". The methods of making that selection are omitted. A rating of school buildings was made without the method being presented.

C--Classification.

Definitions of terms are given throughout the survey. The majority of tables were taken from the government census. The same classes and units were used.

D--Interpretation.

The survey consists of an elementary description of economic and social conditions. Little analysis of the data is made. About the only comparisons made are those between tenancy and farm conditions. This is merely a descriptive comparison. A summary of findings and recommendations is given.

E--Presentation.

The material is presented so that it is easily read and understood. One map of the country is given. All other data is presented in tables taken from the government census. The use of graphs and charts would have added definitely to the emphasis of the findings.

-8-

Buncombe County SurveyEconomic and Social

by

A. M. Moser

F. J. Herron J. C. Cheeseborough
P. S. Randolph I. E. Monk

The Buncombe County Club
University of North Carolina

1923

Purpose

No purpose is stated for the bulletin except that of presenting facts about the county so all can know them. It seems to be mainly an advertisement of the county.

Analysis of Methods

A--Introductory.

This survey was preceded by an historical sketch of the county and an extensive explanation of its geographical characteristics, natural resources and industries.

B--Collection of data.

1--Secondary sources.

Sources of information are listed following each chapter or section. A rapid check of individual items is impossible, however, as references are not cited for specific data. Data was obtained from government and

state and city reports and bulletins from the University of North Carolina files.

2--Primary sources.

The methods of collection are not given. Most of the data was obtained from secondary sources. Some information was obtained through correspondence with persons in the county. The type of questions asked was not mentioned.

For purpose of checking the validity of the survey the methods used should be included. A publication which omits that loses that scientific tone which builds up reliance toward the data and the conclusions.

C--Classification.

Data was obtained from the various reports and rearranged into more useful forms. Different classes and units were used to give a better picture of conditions.

No scoring or rating of institutions was attempted.

D--Interpretation.

Descriptions are made of the economic and social conditions and are accompanied by statistical analysis. The analysis of economic conditions is very well done.

Comparison is used to show the position of the county in relation to other counties in the state. Chronological comparison of the county itself is also given.

E--Presentation.

A literary style of writing was used. The survey can

be sharply criticized as being a presentation of the "things to be proud of in Buncombe county". Much more space is given to the good things present than to the problems to be solved. Many picturesque scenes and illustrations are included. No graphs or charts showing social and economic conditions are included.

-9-

Rural Community OrganizationA Comparative Study of Two Rural Communities in
Northern Illinois

by

Milo L. Whittaker

Northern Illinois State Teacher's College
United States Department of Agriculture
Cooperating

Volume XLV
Bulletin 2, 1929

Purpose

The purpose of the study is to determine the value of community organization through the contributions it makes to community life.

Analysis of Methods

A--Introductory.

A brief but intensive history of each community and its family groups is given. This includes the first settlements and agricultural and educational history.

B--Collection of data.

1--Secondary sources.

Data was obtained from the Agricultural yearbook, sociology texts, autobiographies of inhabitants and

journals of historical societies.

2--Primary sources.

A questionnaire was mailed to each family in the two communities. This was followed by a house to house canvass for the purpose of securing more detailed information. Interviews were held with the more prominent community leaders, school principals, teachers, business men and others able to give dependable data.

Case studies were made of some of the leading Quaker families.

C--Classification.

Original tables were used to present data obtained from the field investigations. Some terms such as "largest", "smallest" and "medium" sized farms should have been accompanied by further explanation of the actual size.

Scoring of organizational activity was not done. This would have tested the organizational efficiency and allowed more exact comparison between the two communities.

Ratings of the intelligence of children from families in each community was made through the use of intelligence tests. The type of tests used is given and explained. This was done to compare children in each community. Differences were then partially analyzed but not stated as final conclusions.

D--Interpretation.

The bulletin is written in a clear and brief form. A fine analysis of conditions and results found is made by the author. The limitations of the methods used is acknowledged. Possible conditioning factors are mentioned along with the conclusions at the end of the bulletin. A scientific attitude is shown in his hesitancy to state positive principles and generalities from the findings.

Many comparisons are described of social and economic conditions of each community and also as compared to the same and other states of the middle west.

The summary includes a synthesis of tabulations into new percentages to expand the possibility of obtaining a further insight from the data at hand.

E--Presentation.

All the data is presented which might help the reader in checking the conclusions stated or in forming other opinions.

Several maps are included and are very clearly explained. The data could have been presented more vividly by the use of graphs and charts made from data included in the tables presented.

Most of the data gathered and the analysis made was with the Quaker community. There may have been a bias of the author toward this one group. An equal amount of research and analysis should have been made for each community.

-10-

The Sociology of a Village and the Surrounding Territory

by

Bruce L. Melvin

Cornell University Agricultural Experiment Station

Bulletin 523, 1931

Purpose

The purpose of the survey is to make an analysis of a village and a rural area in order to discover the nature of change in rural-urban relationships now in progress. The object was also an attempt to make a purely sociological study of rural social problems. The object of rural sociology as stated is to solve rural social problems. These problems as found have therefore been stated with their possible solutions.

Analysis of Methods

A--Introductory.

Previous studies of the Cornell Experiment Station pointed the way for this study. The areas studied are outlined as to geographical characteristics and industries present.

B--Collection of data.

1--Secondary sources.

Data was obtained from reports of the government and state agencies, newspapers, histories of the county and from studies on file in the experiment station records.

2--Primary sources.

Questionnaires were used in connection with visits to all families in the area. Duplicates of questionnaires and schedules used are given in the appendix. Special blanks were used for recording data regarding each business agency, organization and institution. Interviews with residents of the area were obtained.

Data was obtained for the population study through case studies of families.

C--Classification.

In many of the tables on population, the same classes and units are used as taken from the government census. Many original tables are also given. In these latter tables, all indefinite or unusual classes and terms are explained and defined.

Hour units are used in this study very clearly and effectively in the study of social interaction and social contact. The different socializing agencies are scored by means of these hour units, one contact hour with each agency being counted for each individual. The count of educational hour units per month or year can be compared with the number of recreational hour units obtained through listening to radio entertainments, attending

shows or dancing. These units have been tabulated in the bulletin as to hour units of participation. The author remarked that the work on them had been criticized as being quite inaccurate. They could be checked for a whole community by the activity scores of all institutions and agencies of that community affording social contacts. If the activity scores were small, and the hour units recorded were small, then they would probably be accepted as nearly true indications. If one were very large and the other very small, then the difference could be attributed to error and a recheck be made of one or both methods. This is the only survey in the list of twelve that includes measurement of social contacts through hour units. It seems to be a very acceptable and valuable method in the study of social interaction.

Definitions of such terms as "town" and "township", "contact hour" and "regular" and "irregular" attendance are given. In the summary the author declined to define "neighborhood" and "community". The statement was then made as to the presence of each in the area studied. It seems that some definition of them should have been included to show what the author meant by them if he acknowledged their presence.

D--Interpretation.

The study is introduced by a descriptive analysis of the area studied and its economic problems. The statis-

tical study of the population which followed was very well done. An analytical study of the population as is given would seem to be a necessary part of every complete investigation of rural life. The analysis of social change is important in its method and findings.

Comparison of the two villages and the open county were carried throughout the survey.

E--Presentation.

According to the author's own statement, only the most obvious deductions are drawn for the reader. The data is all presented in various table forms so that the reader can add further deductions of his own. Implications resulting from the analysis were drawn but not stated dogmatically. The synchronization of events that were found in the process of social change are pointed out. No tabulations of data are omitted from the survey that might aid the reader in drawing further conclusions to the investigation.

Outline maps of the villages and country areas are presented. A topographical map of the entire area is given. Church, trade, school and other areas are outlined on maps.

Descriptive, analytical and reference graphs are used and presented according to standard practice.

The bulletin in its entire methodology and presentation is a model for almost any rural community investiga-

tion and report.

-11-

Rural Population, Tompkins and Schuyler CountiesNew York, 1925

by

Bruce L. Melvin

Cornell University Agricultural Experiment Station

Bulletin 487, 1929

Purpose

The object is to find (1) the distribution of population according to residence in the incorporated villages, the un-incorporated villages, and the open country, (2) sex and age composition, particularly as related to residence, (3) occupations of both sexes by residence, (4) size of families in the different residential groupings, and (5) the conditioning factors in particular types of sex and age distributions.

Analysis of Methods

A--Introductory.

This survey itself is a preparation of data introductory to later social surveys. This study is also a continuation of previous population studies at the same experiment station. The location in the state of the counties is given and also their general geographic and

physiographic features and characteristics.

B--Collection of data.

1--Secondary sources.

Information was obtained from government and state census reports, publications of the American Sociological Society, various other books and bulletins and from publications of the Cornell Experiment Station.

2--Primary sources.

The sources of data other than that obtained from secondary sources is not mentioned. References have been listed but a statement should have been included as to whether or not primary data was obtained and used.

C--Classification. Definitions of terms used in the government census tables are given. The classification of occupations follows that used in the government reports. All tables are accompanied by notes explaining terms and classes used. Some of the classes such as population working in "labor on roads", or in a "trade" were defined.

The practice of the government census bureau of throwing together all population groups below 2500 and classing them as rural is severely criticized by the author. Unreliable and inaccurate work results from studies based upon such an inclusive class.

D--Interpretation.

The bulletin stays with its asserted purpose in

consisting primarily of findings of conditions of population. Little generalizing is done except for a few statements explaining the conditions and factors in sex and age distribution.

E--Presentation.

An explanation is given of the forms of presentation used in the bulletin by the author. The data is presented in tabular and in graphic form, using principally descriptive graphs. Plotted maps showing densities of population, and population pyramids showing sex and age distribution are given. "Pie" charts are used giving percentages of population as to residence. A new form of map is used to show farms abandoned or in the process of abandonment.

Totals are shown in tables and are then discussed. Both counties as a whole are discussed, with special consideration for variations from the average being considered. The textual material is merely descriptive and is very brief.

-12-

Rural Population Groups

by

E. L. Morgan and Owen Howells

University of Missouri Agricultural Experiment Station

Research Bulletin 74, 1925

Purpose

The object is to analyze the status and relationships of neighborhoods and communities and to show what appears to be the present trend in functional responsibility between them.

Analysis of Methods

A--Introductory.

Boone county was selected as being typical of the greater part of rural Missouri. No introductory statements as to natural features or economic characteristics are made.

B--Collection of data.

1--Secondary sources.

Data was obtained from the government and state reports, newspapers, sociology texts, records of local organizations and bulletins of this and other agricultural experiment stations.

2--Primary sources.

Primary group areas were determined by the names given the locality by the inhabitants. These names were obtained from schedules mailed to the teachers who secured the information from each family. An example of the schedule is given, and results are tabulated.

Further information was secured from old residents of the county.

The second step was to visit each primary group area with a tentative map of the neighborhoods outlined. The map was then corrected according to the resident's own statements. This was a check on the information received through the schedules.

Questionnaires were sent to the schools, churches, farm organizations and lodges for information concerning membership, attendance and activities. These inquiries were supplemented by personal interviews. Church and lodge areas are mapped out.

C--Classification.

Definitions are given of "primary population group" and of "neighborhood". Explanations of terms in tables are given in notes.

An attempt was made to rate the amount of intensity of primary group consciousness for comparison in the different groups. The author recognizes that his method is somewhat arbitrary and subjective. The intensity is

based on objective manifestations of group consciousness such as meeting, and acceptance of the group name. The classification of "high", "medium plus", "medium" and so forth were acknowledged as representing the comparative evaluations of the field workers.

The amount of activity of the different social institutions is not scored--only their areas of influence are outlined.

D--Interpretation.

The survey is for the most part scientific in its methods and presents a good analysis of rural population primary and secondary groups.

Comparisons of the groups as to intensity is made and correlations suggested from tabular presentation. Exact mathematical correlations are not figured. The use of correlation tables would have aided in presenting the correlations better than did the table used. Such factors were correlated as origin of the group with intensity and manifestation of group consciousness with intensity.

E--Presentation.

The survey is briefly presented in textual form with tables for short statistical summaries of findings.

Maps are used to outline the existing trade, lodge, church and other areas as correlating with primary group areas. Maps showing secondary group areas are presented. These maps are easily read and present clearly the

interdependence of the individuals and the groups.

Conclusion

The technique of rural social investigation is still somewhat undeveloped. More study is being devoted to the improvement of methodology than was true in the past. The inclusion in colleges and universities of courses for training graduate and undergraduate students in social research should be encouraged. Too many field workers and other social research workers are chosen upon their interest if they are acquainted with the field instead of their familiarity with research procedure. The result is usually a survey composed of a scattered collection of data upon a variety of topics, with no attempt to evaluate facts with reference to recognized standards. The lack of direction or purpose, together with the lack of standardized technique has little chance of producing other than a spasmodic report of unrelated items.

Some of the most recent surveys have been made by sociological leaders who know their field of investigation and are quite familiar with its methods. The results have been gratifying and promises a brighter outlook in the evolution of social research methods. It can not be expected that each worker would suddenly become

transformed into a model scientist. The universal acceptance of scientific technique will be gradual. The following points have been summarized to emphasize certain conclusions and recommendations drawn from the analysis of the surveys and survey methodology.

1. Greater co-operation in terminology and methodology is needed between the various state extension departments, rural sociology departments and other agencies. There is at present a trend toward co-operation especially among the state extension departments through the Purnell fund. This feeling has not yet extended to include outside research agencies. It has been suggested there be exchanges of completed reports between all the different research groups so each may become familiar with the other. A general acceptance of the most common terminology and most satisfactory methods of measurement and presentation would be encouraged. Most surveys up to the present time have suffered due to failure on the part of the social surveyor to apply the better methods which now exist. This would be lessened if an exchange of all finished projects was made.

2. Special survey types and a differentiation between them should be developed according to the function which each is best suited to perform.

3. Graphic presentations should be standardized. Unique individual figures and charts are undesirable. The use of accepted statistical forms should be encouraged. Social and economic conditions of different areas as reported in different surveys can be more quickly and accurately compared when standardized graphs and charts are used. Pictures represent static conditions and are inadequate in presentation.

4. In every report of a rural investigation an outline of the survey, a statement of the purpose, advance preparation and scope of investigation, sources of primary and secondary data, and methods of collection, classification, interpretation and presentation should be stated in the introduction. A bibliography should also be included. Correlation between the purpose of the survey and the agency conducting it will aid in determining its reliability. Follow up projects can be comparable in purpose, scope and methods.

5. Surveys should be an investigation of the functional activity of the social area and not a mere static description of what exists at the time the survey is taken. A survey is more useful in pointing out what will be than in describing what is. The survey of Buncombe county seems to be only a good description of present conditions. ✓

6. It is recommended that case studies be used both to precede and follow the main investigation. The first studies are precautionary measures or signals to guide the investigation. The case studies that follow can be used as checks upon details in the findings or bases for further conclusions. Case studies were used to good advantage in the study of two communities in northern Illinois by W.L. Whittaker. W.E. Garnett also effectively used case studies in his study of rural organization in relation to rural life in Virginia.

7. It is suggested that population studies of the area to be investigated should precede the study of social and economic institutions and organizations. The make up of the population colors all group activities. B.L. Melvin in his rural population study of Tompkins and Schuyler counties of New York in 1925 emphasizes that a full understanding of rural society is impossible without some knowledge of the composition of the population. Different methods of research can be applied to a homogeneous population as apposed to a heterogeneous population. The primary groups will have different origins in many cases for the different types of population. This will influence the rural community in its composition and intensity of relationships.

8. Sound conclusions depend upon sound research methods.

The methods used are more important than the facts themselves. The personal element must be eliminated so that the results will be true for all minds.

9. The validity of research methods seems to depend in a large measure upon the effort extended by the social surveyor to their objectivity in application to each problem.

10. The greatest present need is for a co-operation in the use of existing methods. There is no doubt but what many accurate measurements are yet to be invented. Their invention alone will not relieve the confusion unless they are universally accepted. It seems then that this general acceptance of present methods is more urgent than the addition of many new and individual methods.

11. The difficulty of making a rural survey proves its importance. This difficulty lies in applying scientific techniques to complex social and economic conditions and relationships. Rural and social disorganization which has resulted from ignorance of scientific social methods and their application to present problems might be lessened somewhat by knowledge of those methods of analyzing and evaluating institutions and organizations.

Appendix

This bibliography is not a comprehensive list of all rural community surveys up to the present time. It is a compilation of surveys available at the present time through the Oregon State Agricultural College library and private sources. The surveys marked by astericks have been selected from the group for analysis. The selection was made with reference to administration, author and personnel, subject or problem undertaken and the year the investigation was made. This might be of some help to students undertaking rural research problems.

Arkansas

Ashenhurst, J.O.

A rural survey in Arkansas

Department of Church and Country Life, Board of Home Missions of the Presbyterian Church, 1912.

California

Morse, H.N.

A rural survey of Tulare county

Department of Church and Country Life, Board of Home Missions of the Presbyterian Church, 1915.

Illinois

Whittaker, Milo L.

A comparative study of two rural communities

Northern Illinois State Teachers College, Vol. XLV, Bul. 2, November 1929.

Indiana

Felton, R.A. and Neff, C.A.

A rural survey in Indiana

Department of Church and Country Life, Board of Home Missions of the Presbyterian Church, 1911.

Iowa

Tungeln, Geo Von

A rural social survey of Lone Tree Township, Clay county, Iowa

Iowa State College of Agriculture, Experiment Station, Bul. 193, March 1920.

Tungeln, Geo Von and Eells, H.L.

A rural social survey of Hudson, Orange and Jesup consolidated school districts, Blackhawk and Buchanan counties

Iowa State College of Agriculture, Experiment Station, Bul. 224, November 1924.

Tungeln, Geo Von and others

A rural social survey of Orange Township, Blackhawk county

Iowa State College of Agriculture, Experiment Station, Bul. 184, December 1918.

Tungeln, Geo Von and others

The social aspects of rural life and farm tenantry, Cedar county

Iowa State College of Agriculture, Experiment Station, Bul. 217, August 1923.

Kansas

Landis, Benson Y.

Sedgwick county, a church and community survey

Federal Council of Churches, Committee on Social and Religious Survey, Town and Country Department, 1922.

Kentucky

Nicholls, W.S., C.U. Jett and Galloway, Z.L.

A study of farm organization and management in Mason and Fleming counties

University of Kentucky, Experiment Station, Bul. 253, June 1924.

Minnesota

Price, H.B. and Hoffer, C.R.

Services of rural trade centers the district of farm supplies

University of Minnesota, Experiment Station, Bul. 249, October 1928.

Weld, L.D.H.

- # A social and economic survey of a community in the Red River Valley
University of Minnesota, Division of Research in Economics, Current Problems, No. 4, January 1915.

Missouri

Morgan, E.L. and Howells, Owen

- # Rural population groups
University of Missouri, College of Agriculture, Experiment Station, Bul of Research, 74, March 1925.

Eastman, E.F. and Boisen, A.T.

- A rural survey in Missouri
Department of Church and Country Life, Board of Home Missions of the Presbyterian Church, 1909.

Nelson, W.L. and Witten, M.W.

- A rural survey of Morgan county
Missouri State Board of Agriculture, Vol. XIV, No. 2, February 1916.

Montana

Baumgartel, Walter H.

- A social study of Ravalli county
University of Montana, Experiment Station, Bul. 160, September 1923.

New Jersey

Brunner, Edmond deS

- A church and community survey of Salem county
Federal Council of Churches, Committee on Social and Religious Surveys, Town and Country Department, 1922.

New York

Melvin, Bruce L.

- # Rural population, Thompkins and Schuyler counties, 1925
Cornell University, Experiment Station, Bul. 487, March 1929.

Melvin, Bruce L.

- # The sociology of a village and the surrounding territory
Cornell University, Experiment Station, Bul. 523, May 1931.

Sanderson, Dwight and Thompson, W.S.
 Social areas of Otsego county
 Cornell University, Experiment Station, Bul. 422,
 July 1923.

Wakeley, R.E.
 Communities of Schuyler county, New York, 1927
 Cornell University, Experiment Station, Bul. 524,
 June 1931.

North Carolina

Moser, A.M. and others

- # An economic and social survey of Buncombe county
 University of North Carolina, Buncombe County
 Club, June 1923.

North Dakota

Bornman, Rev. Chas.J.

- Rural survey of Alice, Cass county
 Moravian Country Church Commission, Ph. No. 16,
 1915.

Ohio

Brunner, Edmond deS

- # Survey of northwestern Ohio
 Department of Church and Country Life, Board of
 Home Missions of the Presbyterian Church, 1912.

Felton, R.A.

- Survey of southeastern Ohio
 Department of Church and Country Life, Board of
 Home Missions of the Presbyterian Church, 1913

Oerter, M.F. and Brunner, Edmond deS

- Rural survey of Sharron Parish, Tuscarawas, Ohio
 Moravian Country Church Commission, 1915.

Vogt, Paul L.

- Survey of southwestern Ohio
 Department of Church and Country Life, Board of
 Home Missions of the Presbyterian Church, April
 1913.

Vogt, Paul L.

- Greene and Clermont counties surveyed
 Miami University Bul., Series XII, No. 11, July
 1914.

South Carolina

- Godbold, G.E. and G.A. Williamson, Jr.
Marion county
University of South Carolina, Bul. 130,
September 1923.
- Green, J.M. Jr. and Fairey, W.F.
Orangeburg county
University of South Carolina, Bul. 124,
June 1923.
- Hope, R.M., Kelley, Fant and others
Union county
University of South Carolina, Bul. 128,
August 1923.
- Johnston, O.L. and others
Anderson county
University of South Carolina, Bul. 126,
July 1923.
- McNeil, J.P. and Chase, H.A.
Florence county
University of South Carolina, Bul. 103,
October 1921
- Ramsey, R.H. and Green, A.H.
Sumter county
University of South Carolina, Bul. 112,
June 1922.
- Stockman, J.E. and Shull, D.S.
Lexington county
University of South Carolina, Bul. 122,
May 1923.
- Teal, Isom, Campbell, A.L. and Sherril, C.A.
Chesterfield county
University of South Carolina, Bul. 111,
July 1922.
- Thompson, E.T. and Stephens, Dewey
Dillon county
University of South Carolina, Bul. 110,
June 1922.

Wittowsky, G.H. and Moseley, J.L.

Kershaw county

University of South Carolina, Bul. 120,
April 1923.

Tennessee

Boisen, A.T.

A rural section surveyed in Tennessee

Department of Church and Country Life, Board of
Home Missions of the Presbyterian Church, 1911.

Duggan, B.O. and others

Educational, economic and community survey of
Bledsoe county

University of Tennessee, Extension Division,
Vo. IV, No. 2, April 1927.

Virginia

Garnett, W.E.

Rural organizations in relation to rural life in
Virginia

University of Virginia, Experiment Station,
Bul. 256, May 1927.

Washington

Brunner, Edmond deS

A church and community survey of Pend Oreille
county

Department of Town and Country Surveys,
Federal Council of Churches, Geo H. Doran,
N.Y., Publisher, 1922.

Taylor, E.A. and Yoder, F.R.

Rural social organization of Clark county

Washington State College, Experiment Station,
Bul. 225, April 1928.

Taylor, E.A. and Yoder, F.R.

Rural social organization in Whatecom county

Washington State College, Experiment Station,
Bul. 215, June 1927.

Wisconsin

Kolb, J.H. and Wileden, A.F.

Special Interest Groups in rural society

University of Wisconsin, Experiment Station,
Res Bul. 84, December 1927.

Kolb, J.H.

Rural primary groups and agricultural neighborhoods
University of Wisconsin, Experiment Station,
Res Bul. 51, December 1921.

Authors' Index

- Bailey, W.B., 17
 Bernard, L.L., 3
 Borgardus, E.S., 10
 Bowley, A.L., 33, 57
 Brown, D.M., 86
 Brunner, E.deS., 68
 Burgess, T.O., 46
- Chaddock, R.E., 27
 Chapin, F.S., 16, 17, 19, 46
 Cheeseborough, J.C., 89
 Clarke, E.L., 14, 15, 31
 Cumming, John, 17
- Duggan, B.O., 86
- Eells, H.L., 74
 Elmer, M.C., 40, 41
 Eubank, E.E., 28, 29
- Faris, E., 8
 Felton, R.A., 71
- Garnett, W.E., 81
- Herron, F.J., 89
 House, F.N., 47
 Howells, Owen, 103
- Jerome, Harry, 24, 26, 31,
 32, 38, 48
- Kolb, J.H., 61
- Lundberg, G.A., 11, 32, 37, 52
- Marshall, W.C., 56, 60
 Melvin, B.L., 95, 100
 Miser, J.H., 86
 Monk, I.E., 89
 Morgan, E.L., 103
 Moser, A.M., 89
- Odum, H.W., 38, 46, 60
- Palmer, V.M., 46
 Park, R.E., 9
 Pearson, Karl, 6
- Randolph, P.S., 89
 Rice, S.A., 20
- Sanderson, Dwight, 61
 Schluter, R., 6, 53, 56
 Seerist, Horace, 33, 57
- Taylor, E.A., 64
 Tungeln, Geo.Von, 74
- Weld, L.D.H., 77
 Whipple, G.C., 48, 49
 Whittaker, M.L., 92
 Wilson, W.H., 71
- Yoder, F.R., 64