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THE INTERVIEW VS. THE QUESTIONNAIRE AS A MEANS OF MEASURING MORALE

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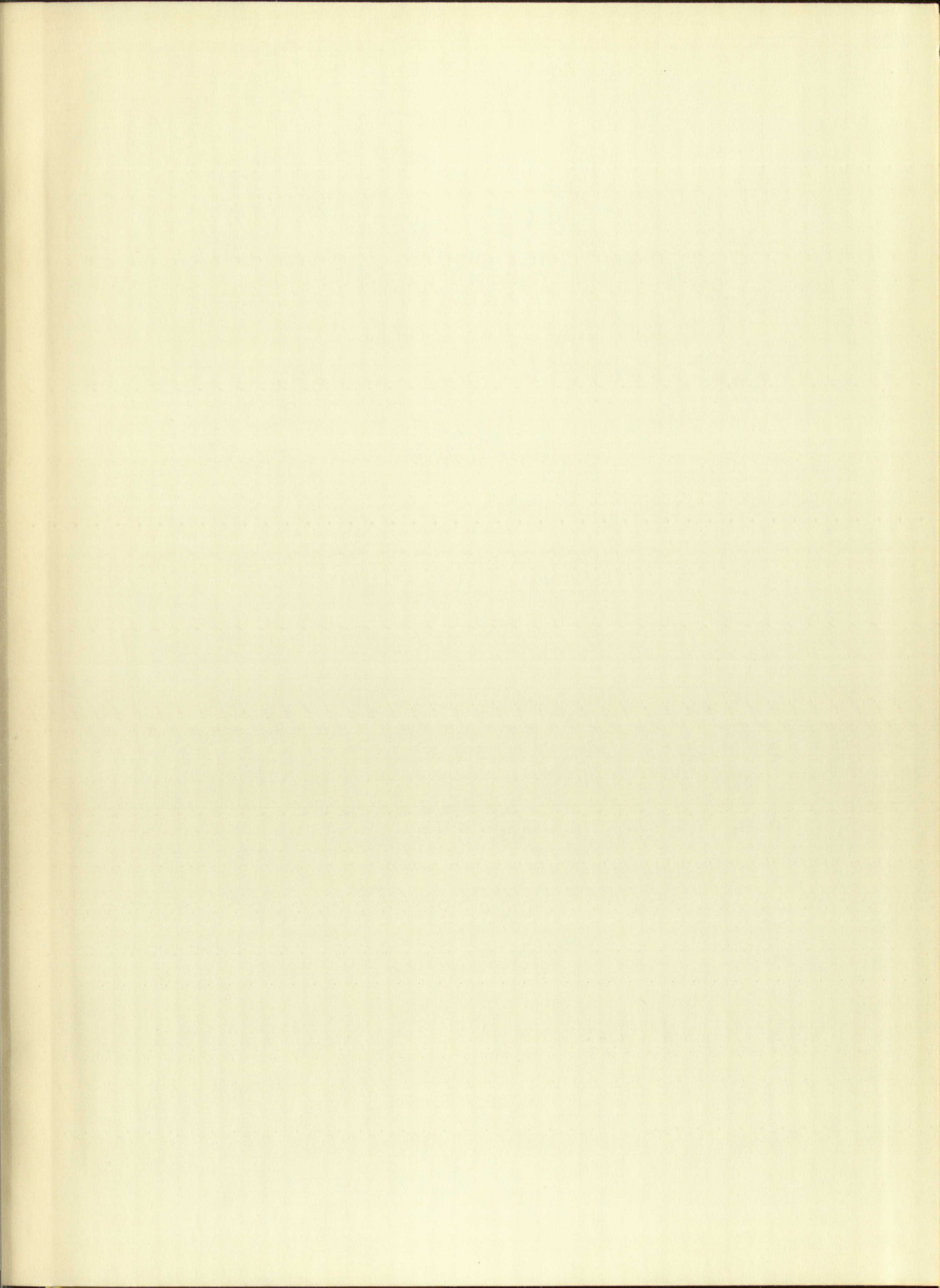
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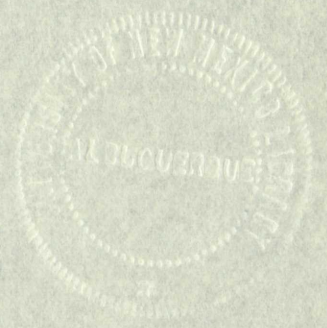
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AN ANALYSIS OF THE INTERVIEW VERSUS THE
QUESTIONNAIRE AS A MEANS OF MEASURING
MORALE IN A SCIENTIFIC LABORATORY



By

Joseph R. Garcia

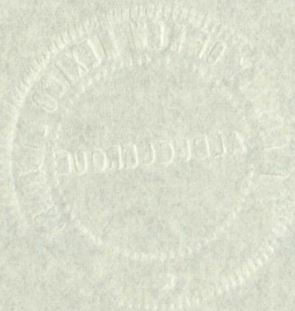
A Thesis

Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Business Administration

The University of New Mexico

1961

AN ANALYSIS OF THE CRIMINAL RECORDS THE
QUESTIONS AS A MEANS OF MEASURING
MORALE IN A SCIENTIFIC LABORATORY



BY
RACCAZZE BOWEN

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A Thesis

Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Business Administration

The University of New Mexico

1961

This thesis, directed and approved by the candidate's committee, has been accepted by the Graduate Committee of the University of New Mexico in partial fulfillment of the requirements for the degree of

MASTER
OF
BUSINESS ADMINISTRATION

E. Castetter
Dean

Date June 1, 1961

Thesis committee

Howard V. Finston
Chairman

A. C. Welch

Tom T. Sandoz

This thesis, directed and approved by the candidate's committee, has been accepted by the Graduate Committee of the University of New Mexico in partial fulfillment of the requirements for the degree of

MASTER
OF
BUSINESS ADMINISTRATION

[Signature]
Dean

[Signature] Date

Thesis committee

[Signature]
Chairman

[Signature]

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CHAPTER I

THE PROBLEM AND DEFINITION OF MORALE

INTRODUCTION

Despite the phenomenal success of our industrial private enterprise system, there are frequent indications that we have not achieved enough understanding of people. Strikes, slowdown, major and minor grievances are frequently indicative of attitudinal factors and their influence on the industrial situation. These problems have been viewed primarily as due to economic pressure. Others attribute them to increasing productivity which is often stressed as a major need for the next half century. There is increasing evidence that the continuing growth of our economy will depend on improved technology, increased productivity, and a highly motivated work force.

Some recognition of this need has been given through the great popularity of human relations programs. Widespread use of incentive systems, recreational programs, fringe benefits, morale or attitude surveys all testify to the willingness of management to give attention to the employee attitudes and to spend large sums of money to cope with them. Unfortunately, most of

CHAPTER 1
THE PROBLEM AND DEFINITION OF MOTIVATION
INTRODUCTION

Despite the phenomenal success of our industrial private enterprise system, there are obvious indications that we have not achieved enough understanding of people. Strikes, slowdowns, major and minor grievances are frequently indicative of dissatisfaction factors and their influence on the industrial situation. These problems have been viewed primarily from the economic pressure. Others attributed them to increasing productivity which is often stressed as a major need for the next half century. There is the existing question that the continuing growth of our economy will depend on improved technology, increased productivity, and a highly motivated work force.

Some recognition of this need has been given through the great popularity of human relations programs. Widespread use of incentive systems, recognition programs, fringe benefits, morale or attitude surveys all testify to the willingness of management to give attention to the employee attitudes and to spend large sums of money to cope with them. Unfortunately, most of

the money has been spent on solutions of specific problems, or what is hoped to be a solution, rather than an effort to acquire more basic information about attitudes which can be applied to many problems.

We have been able to meet high minimal levels of physical demands and now must face the necessity of satisfying the psychological needs of our industrial population. This is necessary because of the desire to make people happier or better adjusted to their jobs and because we are forced in an attempt to increase performance on the job.

In the past twenty years numerous articles have been written on techniques industry has followed in measuring morale. In 1932 the National Industrial Conference Board surveyed personnel activities of 2,700 companies. They discovered that the companies' experience with attitude surveys was so limited that no question was even asked about them. In 1944 the Board had difficulty in finding 50 companies that had conducted surveys, but in 1947 about seven per cent of nearly 3,700 companies surveyed had used either a questionnaire or interviews in collecting information regarding their employees' attitudes.¹

¹National Industrial Conference Board, Experience with Employee Attitude Surveys (Studies in Personnel Policy No. 115. New York: National Industrial Conference Board, 1951), p. 7.

the money has been spent on solutions of specific problems, or what is hoped to be a solution rather than an effort to acquire more basic information about attitudes which can be applied to many other cases. We have been able to say that while the physical demands and now more the necessity of satisfying the psychological needs of our industrial population. This is necessary because of the desire to make people happier or better adjusted to their jobs and because we are forced in an attempt to improve performance on the job.

In the past twenty years numerous studies have been written on technical training and selection in measuring morale. In 1947 the National Industrial Conference Board surveyed personnel attitudes of 1,000 companies. They discovered that the companies' interest with attitude surveys was so limited that no question was even asked about them. In 1947 the Board had difficulty in finding 30 companies that had conducted surveys, but in 1949 about 100 companies had conducted surveys. 3,700 companies surveyed and most of them had conducted or interviews to collect information regarding morale employees' attitudes.

¹National Industrial Conference Board, Personnel with Employee Attitude Surveys (Conference Board Policy No. 1117, New York: National Industrial Conference Board, 1949), p. 1.

I. THE PROBLEM

Statement of the problem. It is the purpose of this study (1) to present two specific techniques used by industry in measuring employee morale; (2) to review the use of the interview technique as it is used as a means of determining morale in a large scientific laboratory; (3) to present the results of a questionnaire approach as a means of complimenting the interview; and (4) to compare the results of interview versus the questionnaire and determine which technique yields the most meaningful and useful information.

Limitations in resolving the problem. Little information has been published regarding the comparison of the questionnaire versus the interview as a technique to measure morale. Companies have adopted one or the other, but few have attempted to carry out both techniques as a means of deciding which is the most meaningful.

Once a particular technique or program is adopted by a company, top management is reluctant to consider a change, particularly if they feel their present program is providing them with accurate information.

A large number of company executives are beset with fears and misgivings about the questionnaire as

1. THE PROBLEM

Statement of the problem. Within the process of this study (1) to present two specific techniques used by industry in measuring employee attitudes (2) to define the use of the interview technique as it is used as a means of determining morale in a large organization (3) to present the results of a laboratory and field study of the interview technique as a means of correlating the interview and (4) to compare the results of interview, questionnaire and laboratory which technique is the most meaningful and useful.

Limitations in resolving the problem. The information has been obtained from a limited number of the questionnaire forms and the interview as a means to measure morale. Companies have adopted one or the other, but few have attempted to combine the two techniques as a means of testing which is the most meaningful.

Once a particular technique or program is adopted by a company, too management is reluctant to consider a change, particularly if it has been successful. The program is providing a means with which to measure morale. A large number of companies have adopted the interview with fears and misgivings about the questionnaire.

a means of measuring attitude. They fear the questions covered by the survey will bring to employees' minds cause for complaints which the employees would not otherwise have noticed or thought about.² This is one major reason why some companies prefer the interview technique since the interviewer using the non-directive technique will only discuss items which the employees feel are important.

To introduce a new technique to evaluate a current program may create a problem since management may question its outcome, particularly if the new approach contradicts the information provided by the established program. Then serious doubts are created as to which approach is the most meaningful.

The ideal situation is to carry a scientific study by comparing one approach to another without jeopardizing either approach. This type of climate or acceptance by management is difficult to obtain.

II. DEFINING MORALE

Morale has been given a variety of meanings, some of which correspond quite closely to the concept of attitude. For example, Likert defined morale as an

²Ibid., p. 48.

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either approach. This type of attitude or behavior
by management is difficult to obtain.

III. DEFINING MORALE

Morale has been given a variety of meanings, some
of which correspond quite closely to the concept of
attitude. For example, Thayer defines morale as an

individual's "mental attitude toward all features of his job situation and toward all of the people with whom he works."³ Similarly, Guion has recently defined morale as "extent to which individual's needs are satisfied and the extent to which an individual receives that satisfaction stemming from his total job situation."⁴

Morale is also used to refer to some aspects of group functioning. Lasswell, for example, speaks of group morale as a "group persistence in the pursuit of collective purposes."⁵ When the morale concept is defined in this way, it has little direct correspondence with attitudes.

From the extensive studies completed at the Survey Research Center of the University of Michigan, Daniel Katz offers the following four important dimensions of morale: intrinsic job satisfaction, pride in the work

³R. Likert and J. M. Willets, Morale and Agency Management. (No. 1, Morale - The Mainspring of Management. Hartford: Life Insurance Sales & Research Bureau, 1940), p. 27.

⁴R. M. Guion, "Industrial Morale (A Symposium) The Problem of Terminology," Personnel Psychology, 11:62, Spring, 1958.

⁵H. D. Lasswell, "Morale," in E. Seligman and A. Johnson, Encyclopedia of the Social Sciences (New York: The MacMillan Company, 1933), X, 640.

individual's "mental attitude toward his job situation and toward all the people with whom he works." Similarly, other researchers have defined morale as "extent to which individuals' needs are satisfied and the extent to which an individual's behavior is satisfaction stemming from his level of achievement." Morale is also used to refer to an individual's group functioning. Lippitt, for example, speaks of group morale as a group's persistence in the pursuit of collective purposes. When the morale concept is defined in this way, it has little direct correspondence with attitudes.

From the extensive studies completed at the University Research Center of the University of Michigan, Katz offers the following four important dimensions of morale: intrinsic job satisfaction, status in the work

³ R. Lippitt and L. M. White, *Management in Organizations* (New York: McGraw-Hill, 1959), p. 100.

⁴ R. M. Lippitt, "The Problem of Morale in Organizations," *Administrative Science Quarterly*, 11:62, Spring, 1966.

⁵ H. D. Lippitt, "Morale in Organizations," in H. D. Lippitt and J. P. Johnson, *Research in the Social Sciences* (New York: The MacMillan Company, 1966), p. 240.

group, satisfaction with wages and with promotional opportunities, and identification with the company.⁶

The writer's definition of the term morale as it will be used in this paper will refer to job satisfaction, identification with management, contentment to the organization, and pride in work. Each involves feelings such as liking or disliking, favoring or not favoring, directed toward some object in the work environment.

Only recently has top management shown relative interest in employee job attitudes. The literature in the area of worker productivity shows a shift from the emphasis of 30 years ago on manipulation of wage incentives and environmental conditions to contemporary emphasis on human relations. This change in emphasis can be seen in the early works of Taylor and other "efficiency experts."

Walter Lee Bingham, considered one of the founders of contemporary industrial psychology, stresses the need for increased job satisfaction as a means of raising efficiency of the industrial worker. The experience of management and studies in industrial psychology indicate that morale has an effect on turnover and absenteeism.

⁶ D. Katz, Current Trends in Industrial Psychology, (Pittsburgh, Pennsylvania, University of Pittsburgh Press, 1949), p. 163.

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III. FACTORS AFFECTING EMPLOYEE MORALE

Conjectures about the specific factors influencing job attitudes have appeared since the first writing in industrial psychology, but experimental studies have been slow in supporting or opposing early opinions.

In the summary of several large-scale studies, Ross Stagner points out that if the workers are asked directly about the importance of pay in their overall satisfaction, pay invariably ranks near the top in importance. On the other hand, if more indirect questioning is used, pay drops substantially in importance and other factors are considered more important.⁷ This example emphasizes that other apparent differences can be accounted for, depending on the method of measurement used in specific studies.

A great many different terms have been used to express job factors. In 150 studies conducted by Ross Stagner, the following defined ten job factors appeared to be the most frequently mentioned:⁸

⁷Ross Stagner, "Psychological Aspects of Industrial Conflict, I. Perception," Personnel Psychology, 1:132, Autumn, 1948.

⁸Ross Stagner, "Motivational Aspects of Industrial Morale," Personnel Psychology, 11:13, Spring, 1958.

III. FACTORS AFFECTING THE STUDY

Conflicting views about the specific factors influencing job attitudes have appeared since the first studies in industrial psychology, and substantial evidence has been shown in support of opposing views. In the summary of several large-scale studies, Ross Stagner points out that if the worker has a direct say in the importance of pay in their overall satisfaction, pay invariably ranks near the top in importance. On the other hand, if more indirect questioning is used, pay drops substantially in importance and other factors are considered more important. This example emphasizes that other significant differences can be accounted for, depending on the method of measurement used in specific studies. A great many different terms have been used to express job factors. In 150 studies conducted by Ross Stagner, the following factors were mentioned: appeared to be the most frequently mentioned:

⁷Ross Stagner, "Psychological Aspects of Industrial Conflict," *Personnel Psychology*, 11:182, Autumn, 1958.

⁸Ross Stagner, "Motivational Aspects of Industrial Morale," *Personnel Psychology*, 11:18, Spring, 1958.

Intrinsic Aspects of the Job. Includes all of the many aspects of the work itself, aspects which would tend to be constant for this work regardless of where the job is performed.

Supervision. Pertains to the relationship of the worker with his immediate supervisor. Supervision was a factor generally influencing job attitudes.

Working Conditions. Includes those physical aspects of the working environment which are not necessarily part of the job. They are more a function of the particular organization or company. Hours of work were included in this factor because it is primarily a function of organization affecting the individual's comfort and convenience in such a way as other physical working conditions. In many cases comparisons involving hours would be separated from those involving working conditions.

Wages. Includes all aspects of the job involving present monetary remunerations for work done. This is one of the most homogeneous of the ten major factors.

Opportunities for Advancement. Includes all those job aspects which the individual sees as potential sources of betterment of economic position, organizational status, and professional experience.

Intrinsic Aspects of the Job. Includes all of the

many aspects of the work itself, aspects which would tend to be constant for this work regardless of where the job is performed.

Supervision. Pertains to the relationship of the

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present monetary remuneration for work done. This is one of the most homogeneous of the ten major factors.

Opportunities for Advancement. Includes all those

job aspects which the individual sees as potential sources of betterment of economic position, organizational status, and professional reputation.

Security. This includes those features of the job situation which lead to assurance for continued employment either within the same company or within the same type of work profession.

Company and Management. Includes many of those aspects of the worker's immediate situation which are a function of organizational administration and policy. This factor is among the least unique of the ten defined, since administrative policies either directly or indirectly affect many of the other factors.

Social Aspects of the Job. Includes all job aspects involved in the relationships of the worker with other employees, especially those employees of the same or nearly the same level within the organization. This would also include all the on-the-job contacts with these individuals, whether these contacts were for working or operating purposes or for professional reasons.

Communications. Includes those aspects of the job situation involving the spreading of information in any direction within the organization.

Benefits. Included here are all those specific phases of company policy which attempt to prepare the worker for emergencies, illnesses, old age, hospitalization. Also included would be company allowances for holiday, leave of absence and vacation.

Security. This includes those features of the job

situation which lead to an employee's continued employment either within the same company or within the same type of work profession.

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Community. Includes those aspects of the

job situation involving the spreading of information in any direction within the organization.

Benefits. Includes here all those specific

phases of company policy which attempt to give the worker for emergencies, ill-health, old age, retirement, etc. Also included would be company allowances for holiday, leave of absence and vacation.

CHAPTER II

WAYS OF MEASURING MORALE

Volumes have been written in regard to the various methods used in measuring morale. The two most common techniques are the interview and the questionnaire. A brief summary of these two techniques will be discussed in this chapter, and their advantages and disadvantages will be highlighted.

THE INTERVIEW

Interviewing is not new nor is it scientific, yet it occupies a distinctive place on the list of management method. There are many types and methods of conducting interviews. The three most popular methods of conducting interview surveys are: (1) standardized, (2) non-directive, and (3) directed but not standardized.

Standardized. In standardized interviews, the company decides at the outset what it wants to explore and carefully phrases questions that will elicit employee thoughts about these items. The same questions are put to all employees interviewed and usually in the same order. Some of these questions are actually read aloud by the interviewer from a printed questionnaire.

CHAPTER II

WAYS OF MEASURING MORALE

Volumes have been written in regard to the various methods used in measuring morale. The two most common techniques are the interview and the questionnaire. A brief summary of these two techniques will be discussed in this chapter, and their advantages and disadvantages will be highlighted.

THE INTERVIEW

Interviewing is not new in its application, yet it occupies a distinctive place in the field of management method. There are many types and methods of conducting interviews. The three most popular methods of conducting interview surveys are: (1) standardized, (2) non-directive, and (3) directed and non-standardized.

Standardized. In standardized interviewing, the company decides at the outset what it wants to explore and carefully phrased questions that will elicit employee thoughts about these items. The same questions are put to all employees interviewed and usually in the same order. Some of these questions are usually asked by the interviewer from a printed questionnaire.

The answers are filled in by the interviewer. One of the chief reasons for the relative popularity of the standardized interview is that the company can focus attention on topics it wishes to explore. This concentration leads to another important advantage. Employees' responses can be recorded and classified into a readily understandable and usable manner. For each question, shades of differences of favorable and unfavorable attitudes can be shown as well as relative prevalence of each among those interviewed.

Non-directive. The term non-directive was originated by Carl R. Rogers to describe certain aspects of client-centered therapy.⁹ With this method, the employees selected for interviews are asked one or two general questions and then are encouraged to talk about whatever they wish. Thus, the outstanding feature of the non-directive interview is that the employee is given greater latitude on the theory that he will talk voluntarily and spontaneously about the things that are important to him. Those who favor this method believe that it tends to bring forth information that might not emerge under more prescribed or "guided" procedures.

⁹R. L. Kahn and C. F. Cannell, The Dynamics of Interviewing (New York: John Wiley & Sons, Inc., 1957), p. 209.

The answers are filled in by the interviewee. One of the chief reasons for the value of the standardized interview is that the interviewer can focus attention on topics of value to himself. The interview is a lead to another important subject. Responses can be recorded and classified in a way that is understandable and useful. The interview is a lead to shades of differences of response and attitude. Attitudes can be shown as well as facts. The interview is of each among those interviewed.

Non-directive. The term non-directive was originated by Carl R. Rogers in his book "Client-Centered Therapy". The interview is of client-centered therapy. The interview is of employees selected for interview are asked one or two general questions and then are encouraged to talk about whatever they wish. Thus, the interview is a lead to the non-directive interview is a lead to a greater given greater latitude of the interview. The interview is voluntarily and spontaneously given. The interview is important to him. Those who have this method believe that it tends to bring forth information that might not emerge under more prescribed or guided conditions.

Moreover, it has an important therapeutic effect since it provides the employee an opportunity to "say his piece."¹⁰

Like the employee, the interviewer in this method also has more latitude than in the standardized interviews. His primary job is to get the employee to talk spontaneously and as the employee leads the conversation from one topic to another, the interviewer frequently takes the opportunity to probe at length into areas which he thinks are of significance. In this probing, the interviewer is careful not to put the employee on the defensive.

The non-directive method provides top management with little opportunity to decide before the survey what it will do about the findings because the company cannot know in advance what the employees will discuss. On the other hand, this method requires much less time and effort than any other method except for deciding on and planning the introductory comments and questions. No other questions need to be prepared because they are developed extemporaneously during the interview.

¹⁰ Norman R. F. Maier, The Appraisal Interview, (New York: John Wiley & Sons, Inc., 1958), p. 109.

Moreover, it has an important characteristic which is that it provides the employee an opportunity to say his "please."

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Directed but not standardized. This is the middle of the road method as compared to the other two methods of interviews. Specific questions are asked about certain things but the same questions are not necessarily put in all the employees' interviews. Compared with the standardized interview, this method provides greater latitude for both the interviewer and interviewee, yet it gives the company greater control of the course of interview. This is not the case with the non-directive interview. As in the standardized method, the interviewer must be prepared with carefully worded questions before the survey gets under way. He must also be ready to follow up on the spur of the moment to questions raised by the employees during the interview.

Directed but not standardized interviews permit the company to explore items in one department that it believes may not apply to others. For example, questions about accident hazards might be put to workers in a factory. Such questions may be given much less emphasis in interviews with office employees.

As far as advance preparation for specific questions is concerned, preparatory work required of this method is at times greater than in non-directive techniques, and it may be also greater than standardized interviews.

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In actual practice, few interviewers adhere rigidly to a single one of the three types of interviews just described. The result is that many interview surveys are, to some extent at least, a composite of all three but in nearly every interview survey the characteristics of one of the three types prevail.

QUESTIONNAIRE OR SURVEY APPROACH

There are variations in the methods used to conduct attitude surveys. The most widely used is a written questionnaire. Almost without exception the written questionnaire consists of a series of prepared questions that require checked answers or Yes and No replies. Many also give the employee an opportunity to write out his thoughts.

TYPES OF QUESTIONNAIRES

The various types of questionnaires are not mutually exclusive. Their classification is based on the predominant method used to obtain data rather than on exclusive characteristics. Questionnaires range from a short list of three or four questions mailed on a postal card to ten pages and often more. The three most common types are: (1) closed form, (2) open form, and (3) pictorial.

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Closed form is used when categorized data is desired. The informant chooses from a set of provided responses and merely checks the response which most closely approximates or describes his situation or opinion. Frequently the closed form provides some spaces for additional answers and comments and at times solicits also a descriptive essay on at least some of the questions included on the questionnaire.

Open form is used chiefly for intensive studies of a limited number of cases or for preliminary exploration of novel problems. The respondent is asked to write descriptive essays on each question posed. Generally, the questions posed in this type of questionnaire are sufficiently definite for the responses to be quantified, although much qualitative data is also secured.

Pictorial is used primarily in conducting surveys among illiterate groups. Usually they are given a series of pictures and asked to select the one that applies to their situation. The pictorial questionnaire is probably a result of the habit created by the steadily increasing number of pictorial magazines.¹¹

¹¹Pauline V. Young, Scientific Social Surveys and Research (New York: Prentice-Hall, Inc., 1953), p. 230.

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CONFUSION BETWEEN ATTITUDE SURVEYS AND OPINION POLLS

Many people have confused employee attitude surveys with public opinion polls used to predict political election results. There are several reasons for this confusion:

1. The methods of gathering the desired information are similar in both the edited survey and public polls. Trained pollsters set forth to find out what are the opinions, feelings, and attitudes of a group of people.
2. In some employee surveys, but in practically all public opinion polls, sampling is used. A few people in the group to be surveyed are carefully selected as participants.
3. Many individuals use the term "opinion poll" for both kinds of surveys.

The two should not be confused. Their purposes are different, and it is this basic difference that affects the reliability of the interpretation of results. Unlike the employee attitude survey, public opinion poll that attempts to predict the outcome of the elections is not concerned solely with finding out current opinions and attitudes. It must go beyond that into a more hazardous territory. The public pollster must first guess the number of people that will actually

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vote on the day of election; then he must go forth on a limb by guessing what changes in attitude take place as election day draws close.

In the employee attitude survey, the participants are asked about their current attitude. They are rarely, if ever, asked to say what they will do about this or that at some future date.

HYPOTHESIZED ADVANTAGES AND DISADVANTAGES OF THE INTERVIEW AND QUESTIONNAIRE

Industry has usually adopted one of the other techniques as a means of determining the attitudes of their employees. Each system has its own advantages and disadvantages. One approach may be more effective than the other depending on what type of information is sought and how the information will be used.

The following is a summary of the advantages and disadvantages of the interview technique and the questionnaire.

THE INTERVIEW

Advantages

1. It allows the employee an opportunity to express his feelings to a company representative.
2. The employee tends to talk about what is

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THE INTERVIEW

Advantages

1. It allows the employee an opportunity to
express his feelings to a company representative.
2. The employee tends to talk about things he

uppermost in his mind to a sympathetic and skillful listener.

3. It provides a company with useful information since the interview can act as a sounding board.

4. It establishes a feeling that the company is personally interested in its employees' opinions.

5. The interviewer, as a company representative, can correct any misunderstandings or misinterpretations regarding company policies or procedures during the interview.

Disadvantages

1. It is sometimes difficult to establish rapport and gain the confidence of the employee.

2. Frequently, the employee has no complaints or suggestions. Consequently, limited information is gained from the interview.

3. The employee's comments can be misinterpreted by the interviewer.

4. The interviewer's bias can color the reporting of the interview. (This tendency to react emotionally by forming an evaluation of a statement from your own point of view is a major barrier to interpersonal communication.)¹²

¹²Carl R. Rogers and F. J. Roethlisberger, "Barriers and Gateways to Communication," Harvard Business Review, XXX, (July-August, 1952), p. 47.

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Disadvantages

1. It is sometimes difficult to establish rapport and gain the confidence of the employee.
2. Frequently, the employee has no suggestions, and consequently, limited information is gained from the interview.
3. The employee's answers may be predetermined by the interview.
4. The interviewer's bias can color the reporting of the interview. (This tendency to make a selection by forming an evaluation of a statement that has been point of view is a major barrier to interviewing communication.)

5. It is difficult to tabulate subjective information.

6. It is difficult to compare information gained from interviews over a long period of time.

7. It may take considerable time and money for the interviewer to accumulate enough information to determine whether a common problem may exist within an organization.

THE QUESTIONNAIRE

Advantages

1. It permits a quick appraisal of attitudes and feelings in less time than the interview method.

2. It facilitates comparisons between organizations.

3. It facilitates reporting to management objective rather than subjective data.

4. It quickly pinpoints trouble spots.

5. The interviewer spends less time accumulating information and more time analyzing data.

6. It provides the interviewer with accurate information as to the type of complaints or problems that may exist within an organization.

7. It is impersonal and there is very little risk of violating employee confidence, particularly when questionnaires are anonymous.

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7. It is impersonal and there is very little

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Disadvantages

1. The impersonal nature of the questionnaire can detract from the established rapport between the employee and the interviewer.
2. It fails to identify problems of the individual.
3. The questionnaire does not tell why an individual employee may feel the way he does regarding a specific problem.
4. If management fails to take decisive remedial action on indicated problem, the whole project or program can develop into a waste of time and produce serious negative effects.

WASTE BOARD

QUESTION 10

Disadvantages

1. The impersonal nature of the questionnaire can detract from the enthusiasm and support between the employee and the interviewer.
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CHAPTER III

THE INTERVIEW AS A MEANS OF MEASURING MORALE IN A LARGE SCIENTIFIC LABORATORY

For the past ten years a large scientific laboratory has been using the non-directive interview technique as a means of measuring morale of its scientific personnel. This chapter will discuss how the program was initiated and administered. The reactions of the employees and management will be highlighted.

THE INTRODUCTION OF AN INTERVIEW PROGRAM

A large scientific laboratory, a subsidiary of Western Electric Company, in 1951 was faced with a problem of attracting young, qualified engineers to the Southwest. Because of security restrictions that prevented the employee from having an adequate preview of his job prior to hiring, the company was quite concerned about the proper placement of their young engineers. The vice president in charge of the research organization indicated to the personnel department that he was concerned over the fact that he had received considerable complaints among the engineers regarding their assignments and that they

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did not have an opportunity to express their opinions to management. In March, 1951, the personnel department assigned an interviewer to conduct a pilot interview program to determine the attitudes and opinions of the engineers.

The results of 100 interviews indicated that it was evident that the young engineers were anxious to express their opinions to an interested party and that there was considerable agitation for possible unionization. This evidence prompted the personnel department to consider a formal interview program.

A REVIEW OF THE HAWTHORNE STUDY RESULTS

Since the laboratory was a subsidiary of Western Electric, it was decided that the interview program used in the "Hawthorne Study" should be reviewed before proceeding with a formal program.

The Hawthorne interview program was a result of the experimental studies of human relations conducted in 1927 at the Hawthorne Works of the Western Electric Company in Chicago. The interview program started out essentially as a plan for improving supervision. The need for this improvement had been shown in the initial studies, which clearly indicated that there was a close relation between employee morale and supervision.

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A review of the Hawthorne supervisors' training course revealed that supervisors did not give sufficient attention to the matter of morale. In attempting to find out from the supervisors what the employees liked or disliked about their jobs, they discovered that supervisors referred to their own opinions or experiences. Thus, it became evident that the best way to gather the essential facts was to go to the employees themselves and ask them what they liked or disliked about their working environment.

The Hawthorne interviewers at first patterned their procedure on the existing techniques of interviewing. The technique used would today be considered a combination between the directed and standardized method of interviewing. In 1929, after experimenting with various interview techniques, they adopted an indirect approach or what is today considered non-directive interviewing. The results not only proved an effective way to determine the attitudes and opinions of the employees, but they also revealed that it provided therapeutic value to the employee.¹³

¹³F. J. Roethlisberger and W. J. Dickson, Management and the Worker (Cambridge: Harvard University Press, 1949), p. 227.

A review of the Hawthorne experiments, however, course revealed that emphasis should be placed on attention to the worker's individuality, to find out from the employees what they wanted or disliked about their work, to give them supervisors referred to their own opinions on experience. Thus, it became evident that the best way to increase essential facts was to go to the employees themselves and ask them what they liked or disliked about their working environment.

The Hawthorne interviewers at first practiced the procedure on the existing techniques of interviewing. The techniques used would have to be considered in relation between the direct and standardized method of interviewing. In 1925, after experimentation with various interview techniques, they adopted an indirect approach or what is today considered representative interviewing. The results not only proved an effective way to determine the attitudes and opinions of the employees, but they also revealed that it provided valuable value to the employee.

The personnel department's review of the "Hawthorne Study" indicated that they should initiate a non-directive program. Introducing the program did not produce too much resistance by top management since several were transferees from the Western Electric Hawthorne plant and were familiar with the program.

The program was formally adopted in 1951 under the title Progress Review. The idea of the Progress Review was to get the engineer to talk to a personnel interviewer who would listen attentively to what he had to say. In 1952 the program was expanded to cover 800 young engineers at six, twelve, and eighteen months after hire. During the last ten years, the program has been expanded to cover over 4,200 technical and administrative staff employees and now includes first-level supervision.

THE OBJECTIVES OF THE PROGRESS REVIEW PROGRAM

The basic purpose of the Employee Progress Review Program is to aid in the establishment of a more stable and efficient staff. In accomplishing this objective, the program:

1. Affords the employee the opportunity to speak freely about his job and the company.
2. Reflects the interest of management in

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individual employee progress, welfare, attitudes and opinions.

3. Supports line supervision in the improvement of employee-supervisor relations and understandings.

4. Acts as a sounding board for employee attitudes and opinions and communicates meaningful information to supervision.

5. Enables the personnel organization to become more familiar with individual employee attitudes.

6. Communicates to supervision constructive suggestions from employees regarding operational procedures.

7. Where advisable, aids employees in adjusting to their work situation.

8. Provides information to supervisor and non-supervisory personnel regarding the company personnel policies and practices.

HOW THE PROGRAM OPERATES

The program is divided into two significant areas of responsibility -- that of the supervisor and that of the personnel organization. The supervisor's responsibility is as follows.

Six months and annually after the employee is on the roll, the personnel department sends a form to the

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Six months and annually after the employee is on the roll, the personnel department sends a form to the

employee's supervisor. See Appendix A - Performance Evaluation Form. This form is a guide for the supervisor to use in recording the employee's strengths and weaknesses as demonstrated in the performance of his assignment. The supervisor is instructed to evaluate the employee's recent performance and, where possible, specific examples of performance should be indicated. The main purpose of the evaluation form is to provide the supervisor with a fairly objective means of evaluating the employees. The evaluation is not intended to be used as a means of comparing the employee against other employees or for the purpose of making a preference list.

The supervisor is instructed that once he has completed the form and assured himself that he has honestly evaluated the employee's past performance, he should conduct an interview with the employee in private and without distractions or interruptions. During the interview the employee should be allowed ample opportunity to express his attitudes and opinions concerning his job and his performance. Any pertinent comments expressed by the employee during the interview should be noted by the supervisor on the form. The form is then returned to the personnel organization, which in turn will call the employee over for an interview at a later date.

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The personnel organization has assigned an interviewer to each of the major line organizations. The personnel representative is available to assist supervisors and engineers and all non-graded research staff in all personal matters. When a new employee is signed in, on his first day he is introduced to his personnel representative who briefly explains the purpose of his function and informs him that he will be interviewed by his supervisor and by his personnel representative six months after date of hire.

The interviewer has the responsibility of conducting interviews with the employees in the organization. The interview is fundamentally uncontrolled. The primary job of the personnel representative is to utilize the non-directive interview technique, to be a good listener, and to encourage the employee to express himself freely regarding the company, his work, and work situation. Whenever there is a misinterpretation of management policies, the personnel representative explains management's position to the employee. During the interview, the employee is encouraged to make specific suggestions for the improvement of general conditions or situations which he has commented on unfavorably.

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The interviewer has the responsibility of conducting interviews with the employees in the organization. The interview is fundamentally unstructured. The primary job of the personnel representative is to utilize the non-directive interview technique, to be a good listener, and to encourage the employee to express himself freely regarding the company, his work, and work situation. Whenever there is a misinterpretation of management policies, the personnel representative explains management's position to the employee. During the interview, the employee is encouraged to make specific suggestions for the improvement of working conditions or situations which he has mentioned as unfavorable.

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Following the interview, the personnel representative dictates the highlights of the employee's comments. He attempts to accurately reflect the employee's attitudes and opinions regarding the company, his work, and his work situation. The purpose of the interview notes is to record and reflect the "feel and gist" of the interview. The summary is the confidential property of the interviewer and is not turned over to supervision. Pertinent comments recorded by the supervisor on the performance evaluation form are included in the interview write-up. Later the evaluation form completed by the supervisor is returned for his own use.

INTERVIEW CATEGORIES

The interview summary is then categorized according to broad subjects. These items become the basis for the statistics used in preparing the individual organization report. The categories used are defined as:

1. Planning and organization. Includes comments on matters such as consistency and interpretation of company policy, maintaining clearly-defined organizational functions, planning for anticipated needs (equipment, policy, staff, etc.), coordination between organizations, staffing, and utilization of manpower in groups.

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groups.

2. Communications. Includes comments regarding amount and clarity of job instruction, availability of supervision for advice and counsel on job problems, and adequacy of information spread, both in connection with operations and projects, as well as a general sense of being "in the know."

3. Physical conditions. Includes comments about physical conditions surrounding employment. (Also, includes comments about traffic, parking and the like.)

4. Salary. Includes comments about personal salary as well as those concerning the general policy and its administration.

5. Opportunity for advancement. Includes comments about the opportunity or lack of opportunity for advancement up recognized channels of promotion, or comments regarding lack of sufficient channels of promotion.

6. Benefits. Includes comments about such "fringes" as vacations, holidays, insurance, retirement, educational aides, recreational programs, etc.

7. Services. Includes comments about the adequacy or inadequacy of administrative and technical services provided.

8. Job satisfaction. Includes comments by the employee relating to his own placement, job security,

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7. Services. Includes comments about the adequacy or inadequacy of administrative and technical services provided.

8. Job satisfaction. Includes comments by the employee relating to his own placement, job security,

or development, recognition, assignment, and job challenge.

9. Employee-supervisory relationships. Includes comments about the personnel relationship between the employee and his supervisor and the personal characteristics of the supervisor which affect the well-being, satisfaction, attitude, and the work performance of the employee. (Included are any comments directed at specific levels of supervision which do not fall under any of the categories above.)

REPORTING THE RESULTS TO MANAGEMENT

The personnel representative who conducted the interviews will usually report orally and in writing to his assigned organization on a semi-annual and annual basis. This depends on the size of the sample of interviews that he has conducted within the group to which he is assigned. The written report summarizes the results of the interviews conducted with the employees and points out the more significant items for the supervisors' attention. It will reflect the morale of the employees and point out personal problems which exist within a given organization.

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organizations. If the interviewer uncovers an employee problem which he feels calls for the immediate follow-up by the employee's supervisor, he will discuss the matter with the supervisor. When the interviewer considers that a difficult organizational situation requires the attention of top management, he will take the necessary steps to bring it to their attention.

In addition to a general organization report, a company-wide written report is prepared for top management's review. This report summarizes the more significant items as reflected in individual organization reports. Through this method of reporting, top management is kept apprised of the attitude and opinions of the engineers. The results are useful to management in evaluating policy.

THE REACTIONS TO THE PROGRAM

In an attempt to determine the effectiveness of the program, the reactions of the employees, the first-line supervisors, and top management were solicited through a random sample interview approach.

Employees' Reactions

A random sample of thirty employees representing twelve organizations were personally contacted by the

organizations. If the interviewer uncovered an employee problem which he feels calls for the immediate follow-up by the employee's supervisor, he will discuss the matter with the supervisor. When the interviewer considers that a difficult organizational situation requires the attention of top management, he will take the necessary steps to bring it to their attention. In addition to a general organization report, a company-wide written report is prepared for top management's review. This report summarizes the more significant items as reflected in individual organization reports. Through this method of reporting, top management is kept apprised of the attitude and opinion of the engineers. The results are useful to management in evaluating policy.

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Employees' Reactions

A random sample of thirty employees from thirteen twelve organizations were personally contacted by the

writer to determine their reactions to the program. Most of the employees had over 3 - 5 years' service and had been interviewed at least twice.

Over 75 per cent of the employees stated that they enjoyed the program and felt that it gave them an opportunity to express their feelings and thoughts. Many commented upon the recognition by management of the employee's point of view which the program implied.

Equally interesting were the many comments from employees who felt that supervision had improved because of the program. Many improvements made by the company were undeservedly attributed to the program, or the program was credited with having made improvements that had not been made.

Not all the opinions were favorable. Ten employees could not see the benefit of such a program and expressed themselves accordingly. They wondered whether real expressions would actually be given and if they were, whether management would act on many of them. Some were suspicious as to how the interviews would be used, and several stated that they felt the interviews were useless since nothing had been done about their previous complaints.

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and several stated that they felt the interviews were
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complaints.

First-Level Supervisors' Reactions

A sample of twenty first-line supervisors representing ten organizations were contacted to determine their reactions to the program. Many of the comments were favorable and they thought the program was having a good effect on employee morale.

Eight of the supervisors expressed satisfaction regarding the "feed-back" information from the interviews. They felt that they had a better idea as to how their employees felt about their work environment. Several stated that the material gathered from the interviews was discussed in supervisory conferences and that their sessions had improved because of the factual information.

Forty per cent (eight supervisors) were suspicious of the program and questioned the real reason for the program. Several felt that the unfavorable interview comments were going to be used against them. Some felt that their employees should discuss their personnel problems with them rather than an outsider who couldn't do anything about the problem. Four stated they were not getting any "feed-back" at all from the interviews.

Top Management's Reactions

Ten top managers (vice presidents and directors) were contacted. Their reactions were somewhat mixed.

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Forty per cent (eight supervisors) were doubtful of the program and questioned the real reason for the program. Several felt that the supervisor's attitude comments were going to be a negative thing. Some felt that their employees might discuss their personal problems with them rather than to others who can do anything about the problem. Some stated they were not getting any "free talk" at all from the interviews.

Top Management's Reactions

Ten top managers (vice presidents and presidents) were contacted. Their reactions were somewhat mixed.

Four indicated they found the semi-annual and annual reports interesting and factual. Two stated they felt a disgruntled few could distort the results which would not truly reflect the opinions of the employees. Two felt the program gave them another viewpoint regarding the employees' attitudes and opinions. One felt the complaints expressed by the employees were repeated year after year, and the remaining one indicated he felt the program was too expensive and wondered why the number of interviews were declining.

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Four indicated they found the questionnaire and a number of reports interesting and helpful. The others said they felt a discrepancy for some reason in the results which would not truly reflect the opinions of the employees. They felt the program gave them another viewpoint regarding the employees' attitudes and opinions. One said the complaints expressed by the employees were repeated year after year, and the training one indicated he felt the program was too expensive and unnecessary. The number of interviews were counted.

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CHAPTER IV

INVESTIGATING THE TIME AND COST OF THE INTERVIEW VERSUS THE QUESTIONNAIRE

This chapter will review the new duties that were assigned to the personnel department and will highlight the effect they had on the Progress Review Program. A comparative cost study of the interview versus the questionnaire will be reviewed.

NEW DUTIES ARE ASSIGNED TO THE PERSONNEL DEPARTMENT

As the personnel department became more proficient in uncovering personnel problems, they soon became involved in a number of line personnel problems. Because of the close contact with the supervisor and his employees, the personnel representative was soon called upon by the supervisor to provide assistance in recommending various approaches that might be followed in resolving his personnel problems. This meant that considerable amount of time was spent by the personnel representative in the counseling role, not only with the employee but with the supervisor.

Later the personnel department assumed the responsibility of assisting the employees in finding suitable placement. As the department gained more

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INVESTIGATING THE TYPE AND NATURE
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This chapter will review the new duties and responsibilities assigned to the personnel department and will discuss the effect they had on the personnel review program. A comparative cost study of the interview program and questionnaire will be reviewed.

NEW DUTIES AND RESPONSIBILITIES OF THE PERSONNEL DEPARTMENT

As the personnel department became more professional in uncovering personnel problems, they soon became involved in a number of line personnel problems. Because of the close contact with the supervisor and his employees, the personnel representative was soon called upon by the supervisor to provide assistance in recommending various approaches which might be followed in resolving his personnel problem. This meant a considerable amount of time was spent by the personnel representative in the technical role, not only with the employee but with the supervisor.

Later the personnel department assumed the responsibility of assisting the supervisor in making suitable placement. As the department shifted more

experience in these areas, additional duties were assigned to them such as conducting exit interviews and providing management with personnel statistical data.

As a consequence, the more the personnel representative became involved in these activities, the less time he had to conduct his progress review interviews. It soon became evident that the personnel representative was not conducting enough interviews to adequately report the morale of the employees to supervision and top management.

The first-level line supervisors began to criticize the personnel organization that it was taking too long for the interviewer to collect trend data within a given organization. By the time the information was reported to them, the situation had either been resolved or it no longer required immediate action since they felt the information was more historical than current.

AN ANALYSIS OF TIME DEVOTED TO THE INTERVIEW PROGRAM

In order to determine the time devoted to the program, the past two years' (October, 1958 - September, 1960) progress review interview activity was assembled and analyzed by quarters. Table I summarizes the results.

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AN ANALYSIS OF TIME REVIEW

TO THE INTERVIEW PROGRAM

In order to determine the time needed for the program, the past two years (October 1960 - September 1960) progress review interview activity was analyzed and analyzed by quarters. Table 1 summarizes the results.

TABLE I

QUARTERLY SUMMARY OF TIME DEVOTED
TO PROGRESS REVIEW PROGRAM
October, 1958 through September, 1960

Quarter	Total No. Interviews Conducted During Qrt.	Ave. No. Interviews Conducted Per Month	Number SM's Con- ducting Interviews	Ave. No. Interviews Per Inter- viewer	Per Cent of Organi- zation time devoted to Interviews
Oct. 58 - Dec. 58	686	230	8	28	15
Jan. 59 - Mar. 59	357	119	8	14	9
Apr. 59 - June 59	300	100	8	13	9
July 59 - Sept. 59	207	69	8	8	12
Oct. 59 - Dec. 59	293	97	8	12	13
Jan. 60 - Mar. 60	233	77	7	11	INA
Apr. 60 - June 60	233	77	5	15	INA
July 60 - Sept. 60	144	48	5	9	INA

INA - Information not available

A review of Table I indicates that the total number of interviews had declined during the past two years and the per cent of time the organization was able to devote to the program varied from 9 to 15 per cent of the total staff time.

Interviews were held with the supervisors responsible for the program to determine what accounted for this decrease in the number of interviews. According to the supervisors, their work load had shifted during the past two years, and their responsibility had been broadened to include additional personnel duties. The new programs had been considered by their management to be of a higher priority and as a consequence, the interview program, being more flexible, had been set aside until the other programs could be completed.

Additional interviews were conducted with the line supervisors to determine their reaction to the lack of "feed-back" on interview data. They were aware that their employees were not being interviewed, and they questioned the value of completing performance evaluation forms and sending them to the personnel organization, particularly when the personnel organization was not in a position to interview their employees.

Thus, it became evident that the personnel organization was required to devote more time to this

A review of Table I indicates that the number of interviews conducted during the past two years and the per cent of time the organization was able to devote to the program varied from 9 to 15 per cent of the total staff time.

Interviews were held with the supervisors responsible for the program to determine why, notwithstanding this decrease in the number of interviews, referring to the supervisors, they continued to conduct during the past two years, and their responsibility had been broadened to include additional personnel within the new programs had been accepted by their management to be of a higher priority and as a consequence, the interview program, being now limited, had been set aside until the other programs could be completed.

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program in order to provide management with this information or to adopt another means of measuring the attitudes of employees

DETERMINING THE COST AND TIME OF A QUESTIONNAIRE OR INTERVIEW SURVEY

One of the important questions that arises when a company first begins to consider an attitude survey is "how much will it cost?" The National Conference Board had conducted a survey of 76 companies who were using questionnaires to determine the cost per employee surveyed. The cooperators were asked to include in their figures the cost of developing and administering the questionnaire or conducting interviews, tabulating the answers, and presenting the report. They were specifically asked to exclude the time employees spent in filling out the questionnaire.¹⁴

The following is the results of the National Conference Board Survey:

Questionnaire survey costs. Seventy-six companies furnished cost per employee figures for written surveys. To avoid comparing cost surveys that were obviously

¹⁴National Industrial Conference Board, No. 115, op. cit., p. 20.

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DETERMINING THE COST AND TIME OF A QUESTIONNAIRE ON THE FIRM SURVEY

One of the important questions that a company
a company first begins to consider in relation to
is "how much will it cost?" The National Conference
Board had conducted a survey of 10 companies who were
using questionnaires to determine the cost to employees
surveyed. The companies were asked to include in
their figures the cost of developing and administering
the questionnaire or conducting interviews, tabulating
the answers, and preparing the report. They were
specifically asked to exclude the time employees spent
in filling out the questionnaire.

The following is the result of the National
Conference Board Survey:
Questionnaire survey cost. Seventy-five companies
furnished cost per employee figures for written surveys.
To avoid comparing costs among companies that were

different, separate tabulations were made of those surveys that covered a wide variety of topics and of those that covered a relative few. The cost per employee data of 54 written questionnaire surveys that covered a wide variety of topics is shown in Table II.

The data did not show any positive relationship between the cost figure and the number of questions asked. For instance, the cost of two surveys both containing 28 questions was \$.75 and \$15.00. The cost of one survey containing 147 questions was \$4.00. Yet, in another company with only 31 questions the cost was \$6.00 per employee. There appeared to be no positive relationship between the above cost per employee and the number of employees surveyed.

Interview survey costs. The cost per employee for interview surveys covering a wide variety of topics tends to be considerably higher than similar broad surveys of the written variety. The median cost was \$5.00 to \$5.99 as compared to \$2.50 to \$2.99 for written questionnaires.¹⁵

Another question frequently raised is how much time does an employee spend on a survey. Again,

¹⁵Ibid.

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different, separate organizations were made. From surveys that covered a wide variety of topics and those that covered a narrow topic. These were then analyzed data of 54 written questionnaires. The data showed a wide variety of topics as shown in Table II.

The data did not show any consistent relationship between the cost figure and the number of questions asked. For instance, the cost of two surveys was \$1.00, containing 28 questions was \$1.00 and \$1.00. The cost of one survey containing 14 questions was \$1.00. Yes, in another company with only 14 questions the cost was \$6.00 per employee. There appeared to be no definite relationship between the above cost per employee and the number of employees surveyed.

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TABLE II
COST PER EMPLOYEE TO CONDUCT
WRITTEN SURVEYS

Cost	Number of Companies
Less than	
\$.50	2
.50 to \$.99	4
1.00 to 1.49	4
1.50 to 1.99	8
2.00 to 2.49	6
2.50 to 2.99	4
3.00 to 3.49	6
3.50 to 3.99	1
4.00 to 4.99	7
5.00 to 5.99	4
6.00 to 8.00	3
10.00	1
15.00	1
16.50	1
30.00	1
Total	54

Median cost - \$2.50 to \$2.99

Source: National Industrial Conference Board,
"Experience With Employee Attitude
Surveys," No. 115, P. 20, 1951.

TABLE II

COST PER EMPLOYEE TO COMPANY
WHILEN SURVEY

Number of Employees	Cost
1	1.50
2	2.50
3	3.50
4	4.50
5	5.50
6	6.50
7	7.50
8	8.50
9	9.50
10	10.50
11	11.50
12	12.50
13	13.50
14	14.50
15	15.50
16	16.50
17	17.50
18	18.50
19	19.50
20	20.50
21	21.50
22	22.50
23	23.50
24	24.50
25	25.50
26	26.50
27	27.50
28	28.50
29	29.50
30	30.50
Total	

Median cost - \$21.50

Source: National Industrial Conference Board
Experience With Employee
Surveys, Vol. 1, p. 20, 1941.

referring to the Conference Board Survey, the companies that conducted written surveys were asked to furnish number of minutes it took the average employee to fill out the questionnaire. Similarly, the companies that used interviews were asked the number of minutes required for the average interview.

In some cases the average time was quite precise; in others, it represented only estimates. In either case the time required to participate in a survey is affected by the number of questions and topics and by ease or difficulty with which questions may be answered. A summary of the average time consumed on a questionnaire and the interview is summarized in Table III.

COMPARING THE COSTS OF THE INTERVIEW TO THE QUESTIONNAIRE

Since the time devoted to the interview program is a significant cost of the program, an attempt was made to determine how much time the interviewers spent per interview.

According to the eight interviewers responsible for the Progress Review program, they were devoting approximately one hour per interview. Each interviewer conducted approximately 16 - 20 interviews per month or 192 - 240 interviews per year. Since there were eight

referring to the Conference Board survey, the findings that conducted written surveys were asked to indicate number of minutes it took the interviewers to fill out the questionnaire. Similarly, the respondents that used interviews were asked the number of minutes required for the average interview.

In some cases the average time was quite variable. In others, it represented only a small fraction of the case the time required to fill out the questionnaire. The number of cases of each type and the number of cases or difficulties which were noted in the questionnaire. A summary of the average time consumed on each type of case and the interview is presented in Table III.

COMPARING THE COST OF THE INTERVIEW TO THE QUESTIONNAIRE

Since the time devoted to the interview is a significant cost of the program, an attempt was made to determine how much time the interviewers spent on each interview.

According to the study, interviewers' time was for the Progress Review program, they were devoted approximately one hour per interview. Each interview conducted approximately 15 - 20 interviews per hour. 192 - 240 interviews per hour. These data were obtained

TABLE III
AVERAGE TIME CONSUMED IN WRITTEN QUESTIONNAIRE
AND INTERVIEW SURVEYS

Number of Minutes Consumed	Total Number	Companies Per Cent	Number of Companies Using Written Questionnaire	Number of Companies Using Interview Survey
Less than 15	14	13	11	3
15 - 29	24	23	17	7
30 - 44	35	32	28	7
45 - 59	19	18	13	6
60 - 89	6	6	6	-
90 - 120	7	7	4	3
Up to 3 1/2 Hrs.	1	1	-	1
Total	106	100	79	27

Source: National Industrial Conference Board, "Experience With Employee Attitude Surveys," No. 115, p. 21, 1951.

TABLE III

AVERAGE TIME CONSUMED IN AVERAGE WORKING DAY
AND TRAVELING HOURS

Number of Minutes Consumed	Number of Employees Using Trucks	Number of Employees Using Trucks	Number of Employees Using Trucks	Number of Employees Using Trucks
Less than 15	1	1	1	1
15 - 29	1	1	1	1
30 - 44	1	1	1	1
45 - 59	1	1	1	1
60 - 74	1	1	1	1
75 - 89	1	1	1	1
90 - 104	1	1	1	1
Up to 3 1/2 Hrs.	1	1	1	1
Total	103	103	103	103

Source: National Industrial Conference Board, "The
With Employee Activities Survey, Nov. 1951."
1951.

interviewers assigned to this task, the organization was conducting approximately 1,536 to 1,920 interviews per year.

To determine the cost of the program, the interviewer's salary per hour was computed. The average salary per hour was \$4.00. The average salary of the interviewees was computed as approximately \$4.50 per hour. Thus, it cost the company \$8.50 per hour to conduct the Progress Review program. Considering the fact that 1,536 to 1,920 interviews were conducted per year at \$8.50 per interview, the total cost of the program for the year ranged from \$13,056 to \$16,320.

Since the use of a questionnaire was being considered, the cost of conducting a survey was computed. Estimating that it would take approximately one hour for each of the 1,536 - 1,920 employees to complete the questionnaire, the total cost at \$4.50 per hour per employee would range from \$6,912 to \$8,640 per year. If the interviewers would divide the group into 25 - 30 sessions during the year, the interviewers' time would cost the company \$100 - \$120 per year. The total cost to administer the questionnaire would range from \$7,012 to \$8,760 per year. The difference between the cost of the interview and the questionnaire survey would range from \$6,044 to \$7,560.

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Although it appears that a considerable savings would be realized through the use of a questionnaire approach, the major question raised would be the matter of sacrificing quality for a more quantitative approach.

Again referring to the fact that 4,200 employees were technically eligible for interviews once a year, the organization was capable of interviewing approximately 50 per cent of the total eligible for interview. In other words, the remaining half would not be interviewed.

The suggestion made was to consider the development of a questionnaire. The survey could be administered to the one-half not interviewed and the next year the interviewed group would be surveyed. Thus, the total population of those eligible for interviews would be surveyed by either the questionnaire or the interview technique. This would also serve as a cross-check on the data generated from both approaches.

If the personnel department was unable to develop a questionnaire, a suggestion was made that they consider a random sampling approach rather than attempt to interview all the employees. This technique would provide them with a representative coverage if they structured their sample to include employees from all the organizations covered by the program.

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CHAPTER V

THE DEVELOPMENT OF A QUESTIONNAIRE AND MANAGEMENT'S REACTION

If the morale or attitudes of the employees is to be gauged or measured, means must be found to encourage them to express their true feelings. A correctly designed questionnaire which is carefully administered and interpreted can be a useful device with which to measure employee morale.

This chapter will discuss the problem of designing the questionnaire and preparing the format for ease of scoring and machine tabulation. Management's fears and misgivings about attitude surveys will be reviewed, and the reaction of management to the proposal that a questionnaire be considered as a means of measuring morale will be discussed.

DESIGNING THE QUESTIONNAIRE

Practically everything that is done during the preparatory stages of an attitude survey is dependent upon the kind of survey used. Since it was already apparent that a questionnaire was needed, the main problem centered around whether or not the employees were to be asked to answer specific questions in

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were to be asked to answer specific questions in

writing or to give their answers by checking yes, no alternatives or by checking one of a series of prepared answers.

One of the greatest problems is presenting a question clearly and meaningful to a group of people with different cultural background, education, and experience.¹⁶

The Conference Board Survey of 111 companies revealed that companies word their questionnaires by asking questions followed by several prepared answers of different gradations. Employees are asked to check only one of the graded responses; if they are expected to check more than one, the instructions are printed above the prepared question. A few companies follow the pattern of furnishing an equal number of favorable and unfavorable responses to each question. Others use the technique that questions are followed by only one negative and one positive answer, and in some cases four or more answers are given in order to balance the alternatives under a question. Examples of balanced types of responses discussed in the Conference Board

¹⁶H. H. Remmers, Introduction to Opinion and Attitude Measurement (New York: Harper and Brothers, Publisher, 1955), p. 142.

writing or to give their answers of checking, and in
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 prepared answers.

One of the greatest problems in presenting a
 question clearly and meaningfully to a group of people
 with different cultural backgrounds, education, and
 experience.

The Conference Board survey of 111 companies
 revealed that companies were using questionnaires by
 asking questions followed by several prepared answers
 of different gradations. Employees are asked to mark
 only one of the given responses; if they are asked
 to check more than one, the instructions are printed
 above the prepared question. A few companies follow
 the pattern of furnishing an equal number of favorable
 and unfavorable responses to each question. Others use
 the technique that questions are followed by only one
 negative and one positive answer, and in some cases
 four or more answers are given in order to balance the
 alternatives under a question. Examples of various
 types of responses obtained in the Conference Board

ATTITUDE BOND

Lo H. H. Newman, International Co. Organization
 Attitude Measurement (New York: Harper and Brothers
 Publishers, 1955), p. 12.

Survey are exemplified by the following sample questions:

When changes are made in the work of
your department, how often are you told why
this is being done?

_____	Never
_____	Rarely
_____	Sometimes
_____	Usually
_____	Always

Whenever you have discussed your problems
with your boss, has he been prompt in doing
something to help you?

_____	Always
_____	Sometimes
_____	Rarely
_____	Never

There are two quite different kinds of prepared questions to multiple-choice questions. One school of thought favors brevity and conciseness and tends to use only a word or two in each statement. The other favors longer statements and frequently uses complete sentences on the theory that full statements leave less chance for confusion in the employees' minds. An example of each shows a difference between the two approaches.

As compared to what you believe you would
earn elsewhere for the same kind of work, do
you think your earnings are: (check only one)

Survey are exemplified by the following sample questions:

When changes are made in the way of
your department, how often are you told
this is being done

Never
Seldom
Sometimes
Often
Always

Whenever you have experienced your problems

with your department, has been known in doing
something to help you

Never
Seldom
Sometimes
Often
Always

There are two quite different kinds of questions
to multiple-choice questions. One kind of
thought favors brevity and conciseness and tends to
use only a word or two in each statement. The other
favors longer statements and tends to use complete
sentences or the theory that the statements are less
chance for confusion in the respondent's mind.
example of each shows a difference between the two
approaches.

As compared to what you believe you would
earn elsewhere for the same kind of work, do
you think your earnings are (over, all, and)

_____ Lower
 _____ About the same
 _____ More

How do you feel the salary for your job compares with the salary for the same kind of job in other companies around here? (Please give your impression even though you are not sure.)

_____ My pay is lower here than any of the other companies.

_____ My pay is lower here than in most of the other companies.

_____ My pay is about the same as in other companies.

_____ My pay is higher here than in most companies.

_____ My pay is higher here than in any of the other companies.

Some surveys straddle these two extremes as in the next question.

How do you feel the salary for your job compares with the salary paid for the same sort of work by other employees?

_____ My salary is lower than that paid by any employer for the same sort of work.

_____ Lower than most of the other employers.

_____ About the same as others.

_____ Higher than most of the others.

_____ Higher than any of the others.

Lower
about the same
higher

How do you feel the salary for your job
compares with the salary for the same kind of
job in other companies around here? (Please
give your impression even though you are not
sure.)

My pay is lower here than at other
companies.
My pay is lower here than in most of
the other companies.
My pay is about the same as in other
companies.
My pay is higher here than in most
companies.
My pay is higher here than in any of
the other companies.

Some survey results show the difference in the
next question.

How do you feel the salary for your job
compares with the salary for the same kind of
work by other employees?
My salary is lower than the salary of
any employee for the same kind of work.
Lower than most of the other employees.
About the same as others.
Higher than most of the other employees.
Higher than any of the others.

In recent years there has been a noticeable trend for establishing an order of sequence pattern and holding to it throughout a given survey. It is now a widespread practice to put the negative or unfavorable statements first. The purpose is to prevent the participant from gaining the impression that the company is "begging" the question.¹⁷

In addition to specific questions put to the employees in writing, the vast majority of written questionnaire surveys also provides an opportunity at the end of the questionnaire for the participants to write their thoughts in their own words. Abundant space is usually provided for these essay-type responses.

In a great many questionnaire surveys this open invitation to write about anything the employee wishes is the only opportunity given for essay-type responses. However, there is a tremendous amount of work needed to study, classify and interpret written replies, particularly if a high percentage of employees actually write out their comments at the end of the survey.

The organization and arrangement of questions is another factor that must be considered in the develop-

¹⁷Allen L. Edwards, Techniques of Attitude Scale Construction (New York: Appleton-Century Crafts, Inc., 1957), p. 12.

In recent years there has been a noticeable trend for establishing an order of precedence between holding to it throughout a survey. It is a widespread practice to ask the respondent to make statements first. The purpose is to prevent the participant from gaining the impression that the survey is "begging" the question.

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The organization and arrangement of questions is another factor that must be considered in the design

ment of the questionnaire. There is no rigid rule of thumb procedure regarding this. Questions in most surveys, however, are arranged at least roughly according to subject matter. In other words, most questions on pay are placed together, as are the questions about the supervisor, about employee benefit plans, service departments, physical working conditions, etc. Usually, the major groupings or divisions are clearly indicated, some surveys by brief headings or by bold-face type.

In the main, most questionnaire surveys start out with questions of a general nature: How well do you like the company as a place to work? How are you treated as compared to other companies that you know about? How do you like your job? Do you get a square deal here? Beyond this, the order in which different surveys move from one major topic to another will vary.

The author of the questionnaire will usually attempt to phrase the questions so that the employees understand what they are being asked.

Companies learn from experience or their own trial and error. They soon discover the kinds of questions and phraseology that are most readily understandable and have uniform meaning to the people in their survey group. Some companies turn to outside

ment of the questionnaire. There are no right or wrong
thumb procedure regarding this. Questionnaire in general
surveys, however, are subject to several faults.
according to subject matter. In other words, most
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In the main, most questionnaires are sent out
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Companies learn from experience on their own
trial and error. The reason however the kinds of
questions and phrasings that are used are very
standard and have nothing meaning to the respondent
their survey group. Some respondents are so

consultants to prepare their survey since they want the accumulated experience of the specialists. Others construct their own surveys and merely seek the help of other companies that have learned from experience.

RULES FOR WRITING QUESTIONS

Companies have labored over the construction of questions. The joint experience of the group indicates that experience in questionnaire construction provided several basic guides that should be followed for best results.¹⁸

1. Use simple, common words.
2. Be brief and direct.
3. Be formal.
4. Use words and jargon peculiar to the industry, (as long as everyone is familiar with them).
5. Take care to avoid "begging" or "slanting" questions.
6. Ask one question at a time.
7. Avoid trick questions.
8. Allow ample space for each question.
9. Be ready for employees who cannot read or write.

No questions should be included in the survey if there is a possibility that the employees' responses

¹⁸Ibid., pp. 13-14.

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the accumulated experience of the agency. The
construct their own survey and merely rely on the help of
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BASIC WRITING QUESTIONS

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7. Avoid trick questions.
8. Allow ample space for each question.
9. Be ready for employees who cannot read or
write.

No questions should be included in the survey if
there is a possibility that the employee's response

may be such that the company cannot or is unwilling to act upon them.

There is also general agreement that if considerable specific information is needed in order to give a meaningful response, and if that specific information is not generally known, questions regarding such items should be avoided. For example, "Should the company lower its dealers' allowance?", and "Should the company open a branch plant in Canada?". These are examples of questions that are rarely, if ever, included in an attitude survey.

Closely related to this reasoning is a widespread admonition to exclude questions that are really extraneous to the normal topics of thought and conversation of employees alike..."What would you do if you were chairman of the board of directors?". Some answers may be given to a question like that, but it is unlikely that very many of those responding have ever thought very much about it. Most attitude survey specialists shy away from asking questions about what "other people" think, especially when the "other people" are not employees of the company.

It goes almost without saying that questions concerning politics, religion, and race are also excluded from surveys.

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are not employees of the company. It goes almost without saying that questions of this
concern political, religious, and other kind of questions

from surveys.

PREPARING THE QUESTIONNAIRE FOR MACHINE TABULATION

Hand tabulation of any large number of questionnaires is very cumbersome and some mechanical method is preferred. Savings may be made in the cost of tabulation of the findings, and interpretations of the survey will be made much easier if the tabulator is consulted during the preparatory stage.

One technique that is usually suggested by the tabulator is to assign numbers to prepared answers on the survey form. This results in coding of the answers. And the coding numbers are usually printed next to the question.

There are a number of companies that refuse to code their surveys in spite of the advantages gained. They fear that employees may suspect that the coding numbers are a trick means of identification. Also, there are others who fear that even though the coding numbers may not be suspected, they may, nevertheless, cause confusion.

At any rate, there is general agreement among attitude survey specialists that if coding numbers are used, it is the responsibility of the company to tell the participants what the numbers are, why they are on the form, and how they will put them to use.

PREPARING THE QUESTIONNAIRE

MAKING TABULATION

Hand tabulation of any large number of questionnaires is very cumbersome and some mechanical method is preferred. Savings may be made in the cost of tabulation of the findings, and interpretation of the survey will be made much easier if the tabulation is completed during the preparatory stage.

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There are a number of companies that refuse to code their surveys in spite of the advantages listed. They fear that employees may suspect that the coding numbers are a trick means of identification, and there are others who fear that even though the coding numbers may not be associated, they may nevertheless cause confusion.

At any rate, there is general agreement among attitude survey specialists that if coding numbers are used, it is the responsibility of the company to tell the participants what the numbers are, why they are on the form, and how they will put them to use.

One of the advantages of the written questionnaire is the relative ease in which responses can be tabulated. In the simplest type of analysis anyone who can count is able to do the job. He merely tabulates the check marks opposite each prepared statement and arrives at a total figure in each case. When the analysis is limited to this simplest of methods, the overall report to the company's executives is equally simple. It usually consists of the original questionnaire on which the total number of employees who checked each item is indicated.

More prevalent than the above method for arriving at a score for each question is the practice of assigning values to each item and the question. The value or weight is multiplied by the number of employees who checked the item. When this has been done for all items in a given question, the products are added together and divided by the number of employees who answered the question. The quotient is the scores or weighted average for the responses to that question. This method offers a handy, easy way of comparing survey results, but it also possesses the limitation of all averages.

Some companies develop an overall score for a questionnaire survey. This usually involves assigning

One of the advantages of the weighted questionnaire is the relative ease in which responses can be tallied. In the simplest type of analysis, anyone who can count is able to do the job. The strictly tabular check marks opposite each proposed statement and response at a total figure in each case. When the analysis is limited to tallies of correct and incorrect responses to the company's statements, the analysis is usually consists of the original questionnaire on which the total number of employees who checked each item is indicated.

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Some companies develop an overall score for a questionnaire survey. This usually involves averaging

values or weights to whole questions on the theory that questions differ in relative importance. The differences in importance are taken into consideration in assigning the various weights. When this is done, the overall attitude score is derived from the weighted scores of all or selected questions.

MANAGEMENT'S FEARS AND MISGIVINGS ABOUT SURVEYS

The National Industrial Conference Board investigated the reasons why company executives are beset with fears and misgivings about attitude surveys. The survey revealed that executives are definitely opposed to surveys. In fact, most seem to agree that surveys are a good idea; but many add the stipulation that is more frequently implied than expressed, i.e., "surveys are a good idea for other companies - but not for ours."¹⁹

In terms of their own employees, executives are afraid that attitude surveys will increase griping, start negative thinking, "awaken sleeping dogs." They fear that the topics and questions covered by the survey will bring to employees' minds causes for complaints which the employees would not have other-

¹⁹National Industrial Conference Board, No. 115, op. cit., p. 48.

values or weights to whole questions on the survey. But questions differ in relative importance. The difference in importance between two questions in a survey is the various weights. Since this is done, the overall attitude score is derived from the weighted average of all or selected questions.

MANAGEMENT'S VIEW AND REACTION TO SURVEYS

The National Industrial Conference Board has investigated the reasons why company executives are often afraid of surveys and misgivings about attitude surveys. The survey revealed that executives are often only partially correct in their view. In fact, most need to agree that the survey is a good idea; but many are not so sure. The reason is frequently implied that executives, i.e., surveys are a good idea for other companies - but not for ours. In terms of their own company, executives are afraid that attitude surveys will increase employee start negative thinking. Taken at face value, they fear that the copies and questions covered by the survey will bring to employees' minds other complaints which the employees would not have expressed.

wise noticed or thought about. Many doubt that their employees will take the survey seriously or be frank in what they say.

Executives admit a vague fear that something will happen as a result of a survey that will cause employees to join a union. Others are bothered by the thought that employees may be upset by surveys through worrying, misgivings, and distrust of the idea. And not infrequently those executives who believe that they themselves are poor administrators shy away from attitude surveys because they do not want their shortcomings to be shown up by the findings.

Common sense offers four methods of allaying management's fears for its own security:

1. Refer management to other companies that have been successful in conducting surveys.
2. Assure management that the findings will be handled confidentially.
3. Where the attitude survey is recommended by an outside consultant, he can accept the responsibility for the effect of the poll upon the employees.
4. Sometimes management will consent to a poll in one department on a trial basis, later assured it will go ahead with the entire organization.

wise noticed on thought and... Many...
employees will take the survey seriously and...
what they say.

Executives... a...
happened as a result...
to join a union...
that employees may be upset by...
mistakings, and distrust of the...
ly those executives who believe that they...
poor administrators...
because they do not want their...
up by the findings.

Common sense...
management's...
... Better management...
been successful in...
2. Assume management...

handled confidentially.
3. Where the...
an outside consultant...
for the effect of...
4. Sometimes management...
in one department...
will go ahead with...

It might be said that the greatest impending danger associated with the use of employee attitude surveys and opinion polls is the failure of management to help correct conditions in need of adjustment as revealed by the studies. Negligence or refusal to take action may add employee distrust of management to the existing dissatisfaction and result in more hostile feelings and tensions.

Some unions may resent the survey of employee opinions and attitudes if they are indoctrinated with the fear that this is another management tool with which to combat the union. However, if the study is conducted in an unbiased scientifically-controlled manner, and members of the union are protected from reprisals of management, it is difficult for union officials to oppose such studies. There are some unions which recognize the good that can come from such studies. In 1945 the Conference Board conducted a survey of forty-three union leaders in all types of unions representing several different levels of union leadership which revealed that attitude surveys have been conducted under the joint management-union sponsorship.

Employees as individuals are usually favorably disposed toward attitude surveys. A typical report

It might be said that the greatest danger associated with the use of opinion surveys and opinion polls in the hands of management to help correct conditions is based on the fact that the studies, regardless of whether or not they are employed, do not result in any action may and employees' attitudes toward existing dissatisfaction and result in more hostile feelings and tensions.

Some unions may desire the survey of employees' opinions and attitudes if they are inconsistent with the fact that this is another management tool which which to combat the union. However, if the study is conducted in an unbiased scientifically-conducted manner, and members of the union are protected from reprisals of management, it is difficult for union officials to oppose such studies. There are some unions which recognize the good that can come from such studies. In 1967 the Conference Board conducted a survey of forty-three union leaders in all parts of the country representing several different levels of union leadership which revealed that attitudes toward management had been conducted under the joint management-union sponsorship.

Employees as individuals are usually fairly disposed toward attitude surveys. A typical union

of a study made by H. B. Bergin revealed that 74 per cent of the employees favored such studies; 22 per cent were neutral; 3 per cent were unfavorably disposed to such studies, and 1 per cent did not answer.²⁰

THE REACTION OF MANAGEMENT TO THE INTRODUCTION OF THE QUESTIONNAIRE

The results of the quarterly summary of time devoted to the Progress Review was discussed with management. A suggestion was made that in view of the criticisms expressed by the line supervisors and the increased work load on the interviewing organization, a questionnaire should be developed and administered experimentally. The questionnaire could compliment the interview method until sufficient data had been obtained to determine which of the two were most useful in providing information for the company.

Several of the advantages discussed were that less time and money would be spent in accumulating information. The information generated by the questionnaire would be more objective and current.

Management's reaction was somewhat cautious. Their reaction was similar to management's concern about the

²⁰Remmers, op. cit., p. 355.

of a study made by H. P. Dyer, revealed that 50 per cent of the employees favored such studies; 30 per cent were neutral; 10 per cent were unfavorably disposed to such studies, and 1 per cent did not know.

THE REACTION OF MANAGEMENT TO THE QUESTIONNAIRE OR THE QUESTIONNAIRE

The results of the quarterly surveys of the devoted to the Progress Review are discussed with management. A suggestion was made to the effect that criticisms expressed by the line supervisors and the increased work load on the increasing organization, a questionnaire should be developed and administered experimentally. The questionnaire could be administered by interview method until sufficient data had been obtained to determine which of the two were most useful in providing information for the company. Several of the advantages discussed were that time and money would be saved in conducting the survey. The information generated by the questionnaire would be more objective and current. Management's reaction was somewhat doubtful. Their reaction was similar to management's reaction toward the

attitude and opinion survey approach previously
discussed in this chapter.

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attitude and opinion survey approach especially

discussed in this report.

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CHAPTER VI

THE ADMINISTRATION OF THE STEIN RESEARCH ENVIRONMENT ATTITUDE SURVEY

Experience has demonstrated that frequently a progressive executive is quite influential in persuading other members of the management staff to accept a new program which they view with some caution.

This chapter will review the specific request by a director of technical employees to conduct an environment opinion survey in his organization. The search for a "tailored" survey and the resultant modification of the Stein Research Environment Survey will be discussed, and management's reaction to the information will be highlighted.

A REQUEST FOR A RESEARCH ENVIRONMENT OPINION SURVEY

When it appeared that most of management was opposed to the development of a questionnaire, a very fortunate request was made by one of the directors of the research laboratory. He specifically was concerned about the attitude of his employees in regard to the research environment. His particular organization consisted of a highly select group of engineers who were considered creative.

STEIN RESEARCH

ENVIRONMENTAL SURVEY

STEIN RESEARCH ENVIRONMENTAL SURVEY

Experience has demonstrated that identifying a progressive executive is difficult. Identifying in personnel other members of the management staff is equally a new program which they view with some caution. This chapter will review the specific request by a director of technical services to conduct an environment opinion survey in his organization. The search for a "tailored" survey and the resulting modification of the Stein Research Environment Survey will be discussed, and management's reaction to the information will be reviewed.

A REQUEST FOR A RESEARCH ENVIRONMENTAL SURVEY

OPINION SURVEY

When it appeared that most of management was opposed to the development of a questionnaire, a very fortunate request was made by one of the directors of the research laboratory. He specifically was concerned about the attitude of his employees in regard to the research environment. His particular organization consisted of a highly skilled group of engineers who were considered essential.

An attempt was made to review the comments expressed by these employees in their progress review interviews. The review indicated that as a group they were very cautious in their criticisms and said very little in regards to their environment. The limited scope of comments regarding the research environment was probably due to the fact that since the non-directive technique was utilized in interviewing these employees, they merely discussed the things which they felt the interviewer was most interested in and completely avoided the discussion of their research environment.

The organization was faced with the problem of attempting to develop a questionnaire seeking outside assistance, or purchasing a "ready-made" questionnaire.

ADMINISTERING THE SURVEY

A survey was made of the questionnaires used by American Telephone & Telegraph, Standard Oil of New Jersey, Sears Roebuck and Company, and Western Electric. Since these did not meet the need, several testing companies were contacted. A discussion with Science Research Associates in Chicago, Illinois, revealed that the Stein Research Environment Survey, developed by a team at the University of Chicago, appeared to meet all

An attempt was made to follow the common sense expressed by these employees in their program review interviews. The review indicated that as a group they were very cautious in their attitudes and gave very little in regards to their environment. The limited scope of comments regarding the research environment was probably due to the fact that these employees directive technique was utilized in interviewing these employees, they merely discussed the things which they felt the interviewer was most interested in and completely avoided the discussion of their research environment.

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ADMINISTERING THE SURVEY

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the required needs of adequate questions covering the field of environment surveys.

The survey was composed of 171 items covering twenty-seven specific categories considered important to laboratory work situations. The instruments appeared to have excellent possibilities as an efficient data-gathering tool to provide information to management about the work climate. Since the questionnaire was new and Science Research Associates were anxious to accumulate normative information, arrangements were made with the publisher for a cooperative research project. The assigned survey was slightly modified to make the terminology correspond to the corporation structure. (See Appendix B for an example of the questionnaire.)

Each of the questions was assigned a score or weight. The scores ranged from 0 - 6. Prior to the administration of the survey, a matrix was prepared so that each respondent's scores or answers could be recorded and the group results could be summarized.

The modified questionnaire was reviewed by the director of research and he expressed satisfaction with its coverage.

Arrangements were made to administer the survey to 30 volunteers. The group was divided into two groups. The first group consisted of 17 men, and the second

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the reported needs of business questions covering the field of environmental surveys.

The survey was composed of 11 items covering twenty seven specific categories considered important to business for work situations. The instrument appeared to have excellent possibilities as an efficient case-history tool to provide information to management about the work climate. Since the questionnaire was new and Science Research Associates were anxious to determine its reliability, arrangements were made with the publisher for a cooperative research project. The assigned survey was slightly modified to make the terminology correspond to the construction standards. (See Appendix B for an example of the questionnaire.)

Each of the questions was assigned a score or weight. The scores ranged from 1 to 5, with 5 being the highest. The scores were provided administration of the survey, a matrix was prepared so that each respondent's scores on answers could be recorded and the group results could be summarized.

The modified questionnaire was reviewed by the director of research and he expressed satisfaction with its coverage.

Arrangements were made to administer the survey to 30 volunteers. The group was divided into two groups. The first group consisted of 15 men and the second

group consisted of 13 men. The difference in the two groups was that the first group, or morning session, consisted of employees considered by management as the more creative. The afternoon group consisted of employees considered less creative. Hereafter, these two groups will be referred to as samples I and II, respectively.

The administration of the survey questionnaire took a little over an hour for each group. The data generated was recorded on the matrix, and the frequency of response to the various items was computed.

An analysis of the demographic data of the survey showed that the average was a male of about 33 years of age who had a Ph.D. He had been an employee of the company for about three to five years since his last degree, and had some six to ten years of professional employment. He had been in his present organization between one and two years, and his salary was between the range of \$10,000 to \$12,000.

ANALYZING THE RESULTS

Although the total sample was small, the survey did generate considerable data. The most significant findings are as follows:

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group consisted of 15 men. The difference in the two groups was that the first group, on morning session, consisted of employees considered by management as less more creative. The afternoon group consisted of employees considered less creative. However, these two groups will be referred to as samples I and II, respectively.

The administration of the survey questionnaire took a little over an hour for each group. The data generated was recorded on the matrix, and the frequency of response to the various items was computed. An analysis of the demographic data of the survey showed that the average was a male of about 35 years of age who had a Ph.D. He had been an employee of the company for about three to five years since his last degree, and had some six to ten years of professional employment. He had been in his present organization between one and two years, and his salary was between the range of \$10,000 to \$12,000.

ANALYSIS OF THE RESULTS

Although the total sample was small, the survey did generate considerable data. The most significant findings are as follows:

1. There appeared to be no significant differences in attitudes among employees when the data was cross-analyzed by age, length of service, department, educational level, etc.

2. The scientific prestige of the company surveyed was rated below average by a sizable number of persons. This is especially true of the Ph.D's.

3. Although the group felt that there were many new scientific areas to explore, they felt their assignments had tended to be narrower than the challenge that exists.

4. Very few of the respondents indicated that "ideas were expedited." The impression gained is that ideas are permitted and perhaps expected but not really encouraged by management.

5. In the area of creativity the survey indicates a gap between the potential and actual situation. The respondents see themselves as potentially creative and indicate great importance attached to this in their value structure.

6. The overall pattern indicated that the level of satisfaction with the research environment was generally more slanted towards satisfaction than dissatisfaction, although few people used the highest degrees of satisfaction on the scale. The question raised was

1. There appeared to be no significant differences in attitudes among employees when the data was first analyzed by age, length of service, educational level, etc.
2. The scientific picture of the working situation was rated below average by a majority of respondents. This is especially true of the H.A.A.
3. Although the group felt that there were many new scientific areas to explore, they felt that assignments had tended to be narrower than the area that exists.
4. Very few of the respondents indicated that "ideas were expected." The frustration gained in the ideas are permitted and properly executed and not really encouraged by management.
5. In the area of creativity, the survey indicated a gap between the potential and actual situation. The respondents see themselves as potentially creative and indicate great importance attached to this in their value structure.
6. The overall pattern indicated that the level of satisfaction with the research environment was fairly more slanted towards satisfaction than dissatisfaction although few people held the highest degree of satisfaction on the scale. The question raised was

what actual conditions account for the gap between expectations and realization of truly creative work climate.

Taking the items in survey order, the following summary paragraphs highlight the supporting data:

1. A sizable number of respondents felt that the prestige of the company as a research institution is somewhat low, but they felt that the future is bright. (See items 1 through 5.)

2. The research problems facing the research group are seen as broad, but the scope of problems at which the individuals work is less broad. This seems to imply that the assignments are not as sophisticated as they would prefer them. (See items 15 and 16.)

3. The support service areas such as photo services, patent tracing facilities and routine maintenances were considered as a minor hindrance. (See items 34, 36 and 41.)

4. Lack of a quiet place to think and working space were the two items under the work area and plant category that were causing trouble. (See items 42 and 43.)

5. Satisfaction with salary and benefits was seen as very high. (See items 48 through 54.)

what actual conditions seemed to be in between
expectations and realization of truly creative work
climate.

Item 1. Taking the items in survey order, the following
summary paragraphs highlight the supporting data:
1. A sizable number of respondents felt that the
prestige of the company as a research institution is
somewhat low, but they felt that the future is bright.
(See items 1 through 5.)

Item 2. The research group was finding the research
group are seen as a group, but the scope of programs at
which the individuals work is less broad. This seems
to imply that the assignments are not as representative
as they would prefer them. (See items 6 and 7.)

Item 3. The support service areas such as food
services, patient laundry facilities and machine
maintenances were considered as a minor hindrance.
(See items 8, 9, 10 and 11.)

Item 4. Each of a series of items to indicate working
space were the two items about the work area and plant
category that were causing trouble. (See items 12 and
13.)

Item 5. Satisfaction with salary and benefits was seen
as very high. (See items 14 through 16.)

6. The group, as a whole, indicated that they had a great deal of freedom in choice of problems. (See items 65 through 69.)

7. Some roadblocks to information flow are seen to exist in the division level. The responses did not come from any homogenous group. (See item 94.)

8. In general, the people in both samples feel that they did not know what higher echelons of management thought of their work, although the two samples differ markedly here. Sample I employees felt that management was more aware of their work. (See items 107 and 108.)

9. A deficiency is seen in the expediting of ideas. Although the survey question 126 was rather lengthy and many did not answer it, the few who did said, "items are almost always expedited." (See items 127 through 129.)

10. The employees indicated that the best sources of technical information that they had available were books and articles and scientific and technical meetings outside their organization. This seems to imply that technical information is mainly coming from outside the company. (See items 130 through 138.)

11. The best way the employees felt of obtaining information was from their colleagues and from

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6. The group, as a whole, indicated that there was

a great deal of freedom in choice of projects. (See

items 65 through 69.)

7. Some restrictions on information flow were seen

to exist in the division level. The respondents did not

come from any homogeneous group. (See item 65.)

8. In general, the people in some groups felt

that they did not know what higher-level details of management

thought of their work, although the two groups

differ markedly here. Amongst respondents that the

management was more aware of their work. (See items

107 and 108.)

9. A deficiency in flow in the reporting of

ideas. Although the survey question 120 and related

lengthy and many did not answer it, the few who did

said, "Items are always expected." (See items

127 through 129.)

10. The employees indicated that the best sources

of technical information that they had available were

books and articles and scientific and technical journals

outside their organization. This seems to imply that

technical information is mainly coming from outside the

company. (See items 130 through 132.)

11. The best way the employees felt of obtaining

information was from their colleagues.

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supervisors. Other communication media they felt was not too effective. (See items 140 through 149.)

On the topic of creativity the survey indicated a gap between the potential and the actual situation. In general, the respondents see themselves as potentially creative and indicate a great deal of importance attached to this in their respective value structures. However, the encouragement of creativity by management is seen as lagging. It appears to tie down to policies of management, working space and lack of technical assistance. (See items 152 through 154, 158 through 167.)

An additional analysis of the data was made by averaging the scores by categories for groups I and II and combining groups I and II. Table IV contains a summary of categories by subject matter. The total number of respondents was divided by total accumulated score to arrive at the mean score. Table V contains the same information but the items are grouped under topical headings.

In order to present management with a graphic summary of the categories and the average scores of groups I and II combined, Table VI graphically illustrates the dissatisfaction or satisfaction response of the individuals to the Stein Research Environment Survey.

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TABLE IV
SUMMARY OF STEIN CATEGORIES

		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV	XXV	XXVI	XXVII
		(1-5)	(6, 8, 10, 11)	(12,14)	(15,16)	(30-36)	(37-41)	(42-47)	(48-54)	(55-63)	(64-69)	(70-79)	(93-100)	(101-106)	(107-112)	(113-118)	(119-124)	(125,126)	(127-129)	(130-139)	(140-150)	(151,152)	(153,154)	(155-157)	(158-167)	(170)
Group I	N	85	68	32	34	116	81	100	118	151	97	160	136	98	97	93	97	26	51	168	176	34	34	50	168	17
	EX	256	216	94	131	342	251	285	429	529	287	329	384	379	315	347	294	42	181	576	458	137	141	179	649	51
	X	3.01	3.18	2.94	3.85	2.95	3.10	2.85	3.64	3.50	2.96	2.06	2.82	3.87	3.25	3.73	3.03	1.62	3.55	3.43	2.60	4.03	4.15	3.58	3.86	3.00
Group II	N	64	52	25	26	91	64	78	91	116	70	120	104	78	75	77	76	24	39	130	143	26	26	39	126	13
	EX	204	145	66	99	300	191	270	326	395	196	250	247	264	222	266	252	41	116	436	387	106	108	133	483	27
	X	3.19	2.79	2.64	3.81	3.29	2.98	3.46	3.58	3.41	2.80	2.08	2.38	3.38	2.96	3.45	3.32	1.71	2.97	3.35	2.71	4.08	4.15	3.41	3.83	2.08
Groups I & II	N	149	120	57	60	207	145	178	209	267	167	280	240	176	172	170	173	50	90	298	319	60	60	89	294	30
	EX	460	361	160	230	642	442	555	755	924	483	579	631	643	537	613	546	83	297	1012	845	243	249	312	1132	78
	X	3.09	3.01	2.81	3.83	3.10	3.05	3.12	3.61	3.46	2.89	2.07	2.63	3.65	3.12	3.61	3.16	1.66	3.30	3.40	2.65	4.05	4.15	3.51	3.85	2.60

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TABLE V
CATEGORY MEANS FOR GROUPS I AND II
(Items Grouped Under Topical Headings)

	Mean		
	Group I N=17	Group II N=13	Groups I & II N=30
I. Status of Research and Development, or Engineering Organization (1-5)	3.01	3.19	3.09
II. Importance of Work (6,8,10,11)	3.18	2.79	3.01
III. Influence of Work (12,14)	2.94	2.64	2.81
IV. Scope of Research Problems (15,16)	3.85	3.81	3.83
V. Satisfaction with Support Personnel and Services (30,36)	2.95	3.29	3.10
VI. Satisfaction with Supplies and Equipment (37-41)	3.10	2.98	3.05
VII. Satisfaction with Work Area and Plant (42-47)	2.85	3.46	3.12
VIII. Satisfaction with Salary, Fringe Benefits, Etc. (48-54)	3.64	3.58	3.61
IX. Satisfaction with Miscellaneous Job Factors (55-63)	3.50	3.41	3.46
X. Independence in Problem Selection and Work (64-69)	(Mean not appropriate)		

CATEGORY-MEANS FOR GROUPS I AND II
(Items grouped under Factor Headings)

Group I from 11-15
Group II from 16-20

I.	Status of Research and Development, or Engineering Organization (1-5)	2.04	1.74	1.89
II.	Importance of Work (6,8,10,11)	2.18	2.13	2.15
III.	Influence of Work (12,14)	2.04	2.04	2.04
IV.	Scope of Research Problems (13,15)	1.87	1.81	1.84
V.	Satisfaction with Support Personnel and Services (16,17)	2.08	2.04	2.06
VI.	Satisfaction with Supplies and Equipment (17-21)	2.10	2.04	2.07
VII.	Satisfaction with Work Area and Plant (22-27)	2.04	2.04	2.04
VIII.	Satisfaction with Salary, Fringe Benefits, Etc. (28-34)	2.04	2.04	2.04
IX.	Satisfaction with Miscellaneous and Factors (35-37)	2.04	2.04	2.04
X.	Independence in Item Selection and Work (38-39)	2.04	2.04	2.04

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TABLE V (continued)

	Mean		
	Group I N=17	Group II N=13	Groups I & II N=30
XI. Apportionment of Work Time (70-79)	(Mean not appropriate)		
XII. Relative Importance of Abilities necessary for Success (17-29)	Categories XII and XIII are rank order data and the mean is not applicable.		
XIII. Relative Assessment of Own Abilities (80-92)			
XIV. Relationships Among Others (93-100)	2.82	2.38	2.63
XV. Individual's Personal Relationships (101-106)	3.87	3.38	3.65
XVI. Knowledge of What Others Think of Work (107-112)	3.25	2.96	3.12
XVII. Competency of Superiors and Associates in Performing Functions of Jobs (113-118)	3.73	3.45	3.61
XVIII. Qualifications of Superiors and Associates in Technical Areas (119-124)	3.03	3.32	3.16
XIX. Support of Research Ideas (125,126)	1.62	1.71	1.66
XX. Opportunity and Utilization of Skills (127-129)	3.55	2.97	3.30

TABLE V (continued)

	Mean		
	Group I N=17	Group II N=13	Groups I & II N=30
XXI. Sources of Information Relevant to Specific Work (130-139)	3.43	3.35	3.40
XXII. Sources of General Information on Non-Professional Matters (140-150)	2.60	2.71	2.65
XXIII. Opportunity for Creative Work (151,152)	4.03	4.08	4.05
XXIV. Evaluation of Individual Creative Ability (153,154)	4.15	4.15	4.15
XXV. Importance of Creative Work in Organization (155-157)	3.58	3.41	3.51
XXVI. Hindrances to Creative Work (158-167)	3.86	3.83	3.85
XXVII. Guidance in First Assignment (170)	3.00	2.08	2.60

Numbers in parentheses indicate item numbers in each category.

Group I Group II Group III
N-11 N-12 N-13

XXI.	Source of Information Relevant to Specific Work (130-139)	2.00		
XXII.	Source of General Information on Work Professional Matters (140-150)	2.00	2.00	2.00
XXIII.	Opportunity for Creative Work (151-159)	2.00	2.00	2.00
XXIV.	Evaluation of Individual Creative Ability (160-169)	2.00	2.00	2.00
XXV.	Importance of Creative Work in Organization (170-179)	2.00	2.00	2.00
XXVI.	Hindrances to Creative Work (180-189)	2.00	2.00	2.00
XXVII.	Guidance in Final Assignment (190)	2.00	2.00	2.00

Numbers in parentheses indicate item numbers in each category.

TABLE VI
DISSATISFACTION - SATISFACTION SCALE

	<u>Dissatis- faction</u>	<u>Satis- faction</u>
I. Status of R & D, or Engineering Organi- zation	*	
II. Importance of Work	*	
III. Influence of work	*	
IV. Scope of Research Problems		*
V. Satisfaction with Support Personnel & Services	*	
VI. Satisfaction with Supplies & Equipment	*	
VII. Satisfaction with Work Area & Plant	*	
VIII. Satisfaction with Salary, Fringe Benefits, etc.		*
IX. Satisfaction with Miscel- laneous Job Factors	*	
X. Independence in Problem Selection and Work		(Mean not appropriate)
XI. Apportionment of Work Time		(Mean not appropriate)
XIV. Relationships Among Others	*	
XV. Individual's Personal Relationships		*

TABLE VI

DISSEMINATION - SATISFACTION SCALE

Rating
1-5

Location
Section

- I. Status of R & D
Engineering Organization
- II. Importance of work
- III. Influence of work
- IV. Scope of Research
Problems
- V. Satisfaction with
Support Personnel &
Services
- VI. Satisfaction with
Supplies & Equipment
- VII. Satisfaction with work
Area & Plant
- VIII. Satisfaction with Salary,
 fringe Benefits, etc.
- IX. Satisfaction with Miscel-
laneous Job Factors
- X. Independence in Decision
Selection and Work (Rating for supervisor)
- XI. Appointments of work
Time (Rating for supervisor)
- XIV. Relationships among
Others
- XV. Individual's Personal
Relationships

TABLE VI (continued)

	<u>Dissatis-</u> <u>faction</u>	<u>Satis-</u> <u>faction</u>
XVI. Knowledge of What others Think of Work	*	
XVII. Competency of Superiors & Associates in Per- forming Functions of Jobs	*	
XVIII. Qualifications of Superiors & Associates in Technical Areas	*	
XIX. Support of Research Ideas	*	
XX. Opportunity and Utilization of Skills	*	
XXI. Sources of Information Relevant to Specific Work	*	
XXII. Sources of General Informa- tion on Non-Professional Matters	*	
XXIII. Opportunity for Creative Work		*
XXIV. Evaluation of Individual Creative Ability		*
XXV. Importance of Creative Work in Organization	*	
XXVI. Hindrances to Creative Work	*	
XXVII. Guidance in First Assignment	*	

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- XVI. Knowledge of what others think of work
- XVII. Competency of management & associates in performing functions of the
- XVIII. Qualifications of associates & associates in technical areas
- XIX. Support of research teams
- XX. Opportunity and utilization of skills
- XXI. Sources of information relevant to specific work
- XXII. Sources of general information on non-professional matters
- XXIII. Opportunity for creative work
- XXIV. Evaluation of individual creative ability
- XXV. Importance of creative work in organization
- XXVI. Hindrances to creative work
- XXVII. Guidance in first assignment

DISCUSSING RESULTS WITH MANAGEMENT

A complete report was prepared on the results obtained and the demographic data was reviewed with the director. He was surprised that his employees regarded the prestige of their organization so low and was disturbed to find that certain departments were blocking ideas of the scientists.

The suggestion was made to the director that he review the data and discuss the information with his supervisors. When they had arrived at some action they would take in regard to the information generated, they should discuss the results with their employees.

It was further suggested that an analysis be made of the progress review interview information generated by the interviewer to compare the results of the Stein Survey to the progress review interviews conducted in the same organization. This analysis should reveal whether the Stein Survey revealed the same information obtained in the interview or whether the employees were more critical in the survey.

DISCUSSING RESULTS WITH MEMBERS

A complete report was prepared on the results contained and the description of the results was given to the director. He was surprised that his employees regarded the results of their organization as poor and was disturbed to find that certain departments were blocking ideas of the organization. The suggestion was made to the director that he review the data and discuss the information with his supervisors. When they had received some action they would take in regard to the information presented. They should discuss the results with their employees. It was further suggested that an analysis be made of the progress review data on a basis of general by the interviewer to compare the results of the survey to the progress review. It was suggested that the same organization. This analysis should reveal whether the survey revealed the same information obtained in the interview or whether the employees were more critical in the survey.

CHAPTER VII

COMPARING THE INTERVIEW /AND QUESTIONNAIRE RESULTS

In this chapter a comparison will be made between the information obtained from progress review interviews to the information generated from the questionnaire. The significant difference will be discussed, and management's reaction to the comparison will be noted.

A CONTENT ANALYSIS OF PAST INTERVIEWS

The personnel representative assigned to the organization had conducted 26 interviews during the last six months of the calendar year, 1960. A review was made of his interview notes. A summary of the interviews according to the nine specific progress review categories revealed the following information.

The employees had expressed some concern about the lack of well-defined objectives. They were also concerned about the freedom of the creative atmosphere. Some felt that they were given too much freedom and that the organization lacked employees with research experience. Others felt that the new employee lacked guidance and needed additional support in the form of a better orientation period. A few employees expressed some concern with the lack of definite research

CHAPTER VII

COMPARING THE INFORMATION AND ORIENTATION OF EMPLOYEES

In this chapter a comparison will be made between the information obtained from the review interviews to the information generated from the questionnaire. The significant differences will be discussed and management's reaction to the comparison will be noted.

A CONTENT ANALYSIS OF THE INTERVIEWS

The personnel representative assigned to the organization had conducted 30 interviews during the last six months of the study period. A review was made of his interview notes. A summary of the interviews according to the study's objectives, review categories revealed the following information. The employees had expressed some concern about the lack of well-defined objectives. They were also concerned about the freedom of the creative atmosphere. Some felt that they were given too much freedom and that the organization lacked employees with relevant experience. Others felt that the new employees lacked guidance and needed some initial support in the form of a better orientation period. A few employees expressed some concern with the lack of realistic targets.

objectives. Several felt they were doing applied research and not pure research.

There were frequent comments in regards to lack of space and private offices and that management was attempting to direct their scientific areas along prescribed lines. A few felt that communications from top management to lower level supervision was lacking and that the people in positions of authority did not know what the scientists were working on.

Most of the employees appeared to be satisfied with the fringe benefits and the salaries paid. There were a few comments in regards to service organization, particularly the delay in getting purchasing requisitions processed.

Employees were complimentary toward their department manager and their director in regards to the interest shown by them. However, several indicated that they felt their management was more interested in development work rather than basic research.

QUESTIONNAIRE RESULTS

The questionnaire information revealed that basically many of the same criticisms expressed in the interview were quite similar to the data obtained through the questionnaire. Since the data generated

objectives. Several felt they were being hindered
research and not doing research.
There were several comments in regard to lack
of space and nature of jobs and that management was
attempting to direct them without giving them
prescribed limits. A few felt that management was forcing
top management to lower level supervision was forcing
and that the people in positions of authority did not
know what the scientists were working on.
Most of the employees expressed no dissatisfaction
with the fringe benefits and the salaries paid. There
were a few comments in regard to the organization
particularly the delay in getting outstanding research
tions processed.
Employees were complimentary about their superiors
management manager and their division in regard to the
interest shown by them. However, several indicated
that they felt their management was more interested
in development work rather than basic research.

CONCLUDING REMARKS

The questionnaire information revealed that
basically many of the same criticisms expressed in
the interview were also appearing in the data obtained
through the questionnaire. Some of the data presented

from the interview was classified or categorized according to nine specific areas, it was difficult to statistically correlate the questionnaire results to the progress review results. Primarily due to the fact that (1) the categories used in the progress review were arbitrarily selected and have not been mathematically analyzed to determine if they are truly significant factors; (2) the Stein Survey was developed to measure a particular aspect of employee attitude and was not intended to be compared to an on-going program.

The only effective way of comparing the data was to determine whether or not the same specific critical comments picked up in the interviews were also picked up in the questionnaire.

SIGNIFICANT DIFFERENCES NOTED

The progress review information generally was more specific since the comments could be related to individuals. The interviewer had recorded the individual's name, classification, and organization. This was not possible to do in the use of the questionnaire since the employees did not identify themselves.

The progress review interviews covered a much wider range of subjects than the questionnaire. The

from the interview was almost entirely on categorical
according to nine specific items. It was difficult to
statistically correlate the qualitative responses to
the progress review results. Fortunately one of the first
things (1) the categories used in the progress review
were appropriately selected and have not been modified
and analyzed to determine if they are truly
significant factors; (2) the study design was developed
to measure a particular aspect of employee attitudes
and was not intended to be compared to an existing
program.

The only effective way of comparing the data was
to determine whether or not the data were statistically
comments placed in the interview were also placed
up in the questionnaire.

STATISTICAL DIFFICULTIES

The progress review interview generally was not
specific since the comments could be related to
individuals. The interview was designed to
individual's name, classification, and organization.
This was not possible to do in the use of the questionnaire
since the employee did not identify themselves.
The progress review interviews covered a much
wider range of subjects than the questionnaire. The

questionnaire was more directed toward the individual's opinion of his research environment. The prestige of his organization was not touched upon in the interview.

The questionnaire was more specific in soliciting the attitudes and opinions of the employee in regards to the climate, whereas the interview technique did not go into any great detail in this respect.

MANAGEMENT'S REACTION TO THE COMPARISON

The director of research expressed interest in the comparison of the two techniques and agreed that it appeared both techniques generally measured the same information. The questionnaire method was able to determine the attitudes of the employees in a two-hour period, whereas the interviews stretched over a six-month period.

He felt that the questionnaire information was more current, since the data had been analyzed and reported back to him within a week's period of time. He questioned the historical significance and validity of the interview notes since the interviews had been stretched out over a long period of time.

Another favorable feature of the questionnaire was that employees' comments were anonymous; therefore, he felt there might be a greater acceptance on the part

questionnaire was more directed toward the individual's opinion of his research environment. The primary of his organization was not focused upon the individual. The questionnaire was more specific in obtaining the attitudes and opinions of technology in regard to the climate, whereas the interview technique did not go into any great detail in this regard.

MANAGEMENT'S REACTION TO THE QUESTIONNAIRE

The director of research expressed interest in the comparison of the two techniques and expressed that it appeared good technique. He specifically mentioned the same information. The questionnaire method was used to determine the attitudes of the employees in a two-hour period, whereas the interview method covered a six-month period.

He felt that the questionnaire information was more current, since the data had been analyzed and reported back to him within a week's period of time. He questioned the historical significance and validity of the interview notes since the interview had been stretched out over a long period of time.

Another favorable feature of the questionnaire was that employees' comments were anonymous; therefore, he felt there might be a greater acceptance in the past.

of the employees to participate in the questionnaire survey. He stated that employees had expressed some concern to him about their comments being reflected back to management in the interview process.

Another feature of the questionnaire according to the director was that it could be modified and additional questions could be included as the organization felt there was need to inquire about the attitudes of the employees toward a particular program within the organization.

It appeared that the director of research was quite satisfied with the questionnaire approach and felt that perhaps the questionnaire could be first administered to the organization. The results could be analyzed, and later depth interview or follow-up interviews could be held with his employees to determine the seriousness of their complaints.

Several weeks after the results were reported to the director, the writer was informed that the director had held two meetings with his department heads to review the report. A summarized version of the report was also circulated among the employees to inform them that management was aware of their feelings.

of the employees to participate in the survey. He stated that the employees had expressed their concern to him about their comments being reflected back to management in the interview process.

Another feature of the questionnaire was that the director was that it could be modified and modified. All questions would be included in the questionnaire. There was need to include some of the questions of the employees toward a particular project within the organization.

It appeared that the director of the company was quite satisfied with the questionnaire and felt that perhaps the questionnaire could be further administered to the organization. The results would be analyzed, and later, after the interview on follow-up interviews could be held with the employees to determine the satisfaction of their organization.

Several weeks after the results were reported to the director, the director was informed that the director had held two meetings with his department members to review the report. A summarized version of the report was also distributed among the employees to inform them that management was aware of their feelings.

CHAPTER VIII

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The hypothesis that either the interview technique or the questionnaire would yield more meaningful information was not borne out.

The significant difference between the two techniques was the amount of time saved in conducting the questionnaire versus the interview and the fact that the same general information could be obtained through this technique as compared to the interview technique.

SUMMARY

This study was conducted to investigate the qualitative and quantitative approach to the assessment of the attitudes of research personnel. An effort was made to analyze the information gathered through the non-directive interview situation which was obtained over a six-month period of time in comparison with results of a questionnaire administered to the same group.

A modified version of the Stein Research Environment Survey questionnaire was administered to a group of employees. The employees included in the

CHAPTER VIII

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The hypothesis that either the interview technique or the questionnaire would yield more meaningful information was not borne out. The significant difference between the two techniques was the amount of time taken in conducting the questionnaire versus the interview and the fact that the same general information could be obtained through this technique as reported to the interview technique.

APPENDIX

This study was conducted to investigate the qualitative and quantitative approach to the assessment of the attitudes of research personnel. Initially was made to analyze the information gathered through the non-directive interview situation which was obtained over a six-month period of time in comparison with results of a questionnaire administered to the same group.

A modified version of the Rensis research Environment Survey questionnaire was administered to a group of employees. The employees included in the

sample were divided into two groups consisting of creative and less creative employees. An analysis was made of the attitudes of the two groups, and it was determined that no significant differences were reflected in the attitudes of the two groups.

An analysis of the data indicated that the questionnaire in a two-hour period of time was able to determine the significant areas of concern, whereas the interview contained basically the same information but took a longer period of time to accumulate the data. The reaction of management to the questionnaire was far more favorable since the questionnaire involved less time to administer, was easily scored, analyzed, and more current.

From a cost point of view, the questionnaire was far superior in many respects to the interview approach since less interviewer time was spent accumulating the data. The only unfavorable aspect of the questionnaire approach was that it did not specifically indicate why the employees developed such attitudes toward certain situations, nor did it identify any specific individual.

CONCLUSIONS

The result of the data indicated that the quantitative approach yielded similar information to the data

sample were divided into two groups consisting of creative and less creative employees. An analysis was made of the attitudes of the two groups, and it was determined that no significant differences were reflected in the attitudes of the two groups.

An analysis of the data indicated that the questionnaire in a two-hour period of time was able to determine the significant areas of concern, whereas the interview contained basically the same information but took a longer period of time to accumulate the data. The reaction of management to the questionnaire was more favorable since the questionnaire required less time to administer, was easily scored, analyzed, and more current.

From a cost point of view, the questionnaire was far superior in many respects to the interview approach since less interviewer time was spent obtaining the data. The only unfavorable aspect of the questionnaire approach was that it did not specifically indicate the employees developed such attitudes toward certain situations, nor did it identify any specific individuals.

CONCLUSIONS

The result of the data indicated that the questionnaire approach yielded similar information to the interview.

obtained through the interview. Therefore, it is more economical to use a questionnaire approach to gather gross information. Possibly through the restructuring of the interview from a non-directive to a patterned approach, less time would be spent in gathering information and more time could be devoted to analyzing questionnaire data. Management might well consider conducting depth interviews in those areas which seem to have lower than average morale.

RECOMMENDATIONS OR SUGGESTIONS FOR FURTHER RESEARCH

It is suggested that the experimental administration of the Stein survey results be completely analyzed by the organization responsible for the administration of the progress review program. The information should be discussed with their management.

It is also suggested that further consideration be given to the possible development of a questionnaire by the organization responsible for the progress review program. The data generated from past interviews should aid them in the construction of a questionnaire. A questionnaire could be used experimentally with a group of on-roll employees. The data could be factor analyzed to determine the factor structure. Through

experience this information could be utilized in other organizations.

Another interesting study would involve the difference of attitudes of supervision and staff employees. Since morale or employee attitudes is so complicated, a further statistical analysis of the questionnaire would yield a meaningful picture. From the standpoint of practical diagnosis, the analysis would be a contribution of general knowledge in understanding the circumstances and ingredients of high and low morale.

experience this information could be utilized in other

organizations.

Another interesting study would involve the effect

of attitudes of employees and staff members.

Since morale or employee attitude is so important

a further statistical analysis of the data obtained

would yield a meaningful picture. From the comparison

of practical diagnosis the analysis would be a

contribution of general knowledge in management.

The circumstances and conditions of life and

morale.

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APPENDIX A

PERFORMANCE EVALUATION FORM

1992

COVER SHEET

FOR

PRIVATE

PERSONNEL AND ADMINISTRATIVE INFORMATION

ROUTING

[illegible]

NDER _____ ORG. _____ EXT. _____ DATE _____

THIS INFORMATION IS NOT TO BE LEFT WHERE AN UNAUTHORIZED PERSON MAY HAVE ACCESS TO IT. IT IS YOUR RESPONSIBILITY THAT THE CONTENTS ARE NOT DISSEMINATED TO SUCH INDIVIDUALS.

PERFORMANCE EVALUATION FORM

Date _____

Name _____ Job Title & Grade _____ Org. No. _____

Date of Birth _____ Effective Service Date _____ Date of Last Evaluation _____

How long on this or related work? _____ Years. How long under your supervision? _____ Years.

What is this employee's present assignment? _____

1. QUANTITY OF ACCEPTABLE WORK

The quantity of acceptable work turned out by this employee:

☐ Is consistently low☐ Fluctuates; should be increased☐ Regularly meets recognized standards☐ Sometimes exceeds recognized standards☐ Is exceptionalRemarks: _____

2. QUALITY OF WORK: Accuracy, thoroughness and neatness of work.

The quality of work turned out by this employee:

☐ Is consistently inferior☐ Fluctuates; should be improved☐ Regularly meets recognized standards☐ Sometimes exceeds recognized standards☐ Is exceptionalRemarks: _____

3. JOB KNOWLEDGE: Extent of job information, skills and understanding possessed by the employee.

In carrying out assignments this employee has demonstrated that his job knowledge:

☐ Is seriously inadequate☐ Is sometimes insufficient☐ Meets present job requirements☐ Sometimes goes beyond present job requirements☐ Is exceptionally broadRemarks: _____

4. INITIATIVE: The capacity for independent action.

In carrying out assignments this employee:

☐ Requires constant prodding☐ Requires prodding as often as not☐ Keeps things moving satisfactorily☐ Displays considerable drive☐ Displays exceptional driveRemarks: _____

5. INGENUITY: Skill in creating new ideas or methods, or in devising effective combinations of existing ones to meet problems arising out of assignments.

In resolving problems arising out of assignments, this employee:

☐ Requires constant help☐ Requires help as often as not☐ Seldom needs help for usual problems☐ Displays considerable creative ability☐ Displays exceptional creative abilityRemarks: _____

6. ORAL EXPRESSION: The ability to speak clearly and effectively.

In the contacts required by his assignments, this employee's speech:

☐ Is halting, confused☐ Does not do justice to his ideas☐ Is satisfactorily organized and presented☐ Is ably expressed, well organized☐ Is exceptionally vivid and effectiveRemarks: _____

7. WRITTEN EXPRESSION: The ability to write clearly and effectively.

The writing which this employee does in connection with his assignments is:

☐ Jumbled, obscure☐ Carelessly organized and stated☐ Satisfactorily organized and stated☐ Ably expressed, well organized☐ Exceptionally vivid and effectiveRemarks: _____

8. RELATIONS WITH OTHERS: The ability to work well both with and for others and to obtain willing and effective action from them. In carrying out assignments which require contact with others, this employee:

() Is quarrelsome; antagonizes others
 () Sometimes irritates others
 () Gets along satisfactorily
 () Is very effective in dealing with others
 () Displays exceptional ability to deal with others

Remarks: _____

9. ATTITUDE TOWARD JOB: Amount of interest shown in work.

Judged by his statements and actions, this employee:

() Is discontented; dislikes job
 () Is half-hearted about his work
 () Is satisfied with most phases of job
 () Is interested; likes his work
 () Is enthusiastic about his work

Remarks: _____

10. OVERALL EVALUATION OF EMPLOYEE PERFORMANCE:

() Does not fully meet requirements of present job
 () Just meets minimum requirements of present job
 () Meets desired requirements of present job
 () Exceeds requirements of present job

Remarks: _____

11. Is this employee properly placed? _____ If not, in what other work has he a better chance to succeed?

12. Is this employee capable of assuming increased responsibility now? _____ If so, in what type of work?

13. Has this employee demonstrated capacity for future growth? _____ If so, in what types of work? _____

What training or experience is needed to accomplish this?

14. Please comment on your general impressions about this employee.

Signature of Evaluator _____ Org. No. _____ Date _____

Notes on progress discussion:

Discussed with employee on:

_____ By _____
Date Section

_____ By _____
Date Division

_____ By _____
Date Department

APPENDIX B

RESEARCH ENVIRONMENT SURVEY

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APPENDIX A

RESEARCH INVESTIGATION CURVE

AMERASE BOND

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RESEARCH ENVIRONMENT SURVEY

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INFORMATION CATEGORY

CODE

(Place appropriate number in box to left for each category)

A. Sex	_____	{ 1. Male	2. Female
B. Age	_____	{ 1. Below 22 years 2. 23-27 years 3. 28-32 years	4. 33-40 years 5. 41-50 years 6. Over 50 years
C. Education	_____	{ 1. High school or some college only 2. Bachelor's degree	3. Master's degree 4. Doctor's degree 5. Post-doctoral work
D. Time since last degree	_____	{ 1. 0-2 years 2. 3-5 years 3. 6-10 years	4. 11-15 years 5. More than 15 years
E. Time of professional employment	_____	{ 1. Less than 1 year 2. 1-2 years 3. 3-5 years	4. 6-10 years 5. Over 10 years
F. Time in present R&D organization	_____	{ 1. Less than 1 year 2. 1-2 years 3. 3-5 years	4. 6-10 years 5. Over 10 years
G. Present Salary	_____	{ 1. Less than \$5,000 2. \$5,000-\$6,000 3. \$7,000-\$9,000	4. \$10,000-\$12,000 5. \$13,000-\$15,000 6. \$16,000-\$20,000 7. Over \$20,000
H. Department number	_____	{ 1.  2.  3. 	

The Purpose of the Survey. The purpose of the Research Environment Survey is to gather both facts and opinions on a variety of factors related to your job. There are no "right" or "wrong" answers to the questions. It is your own, honest opinion that is requested. Please answer the questions as completely as possible.

Answering the Questions. In most cases, the questions have been so constructed that you may indicate your answer, or that answer that comes closest to your own opinion, by placing an "X" or a check in the appropriate space. For other questions, you are requested to rank order a series of items from highest to lowest in terms of their importance. If you wish to elaborate or clarify your response, use the space provided on the last page of this Survey booklet to write a more lengthy reply. When your comment refers to a specific question in the Survey, preface the comments with the number of the question. Do not hesitate to express your subjective opinions, for these also are important in assessing your working situation. Please ask for clarification if you are doubtful about the meaning of any question.

After answering the specific questions in the Survey, if you think anything has been omitted, or if there is any special thing about your work environment that you feel is important, please write these "general comments" also in the space provided on the last page of the Survey booklet. Use additional sheets, if necessary.

Do not discuss your answers with anyone before you have completed this Survey or before they have completed theirs.

The Survey is Anonymous. Your name is not required on this questionnaire. However, certain items of general information are requested. This information is to be indicated by placing the appropriate number in the boxes on the opposite page. For categories "A" through "H", use the code printed on the right side of the page. This information will be used only to make the results more meaningful. It will not be used to identify your Survey blank.

Questions concerned with attitudes to working "here" or working conditions "here" refer to the research and development organization.

Relative to other R&D organizations in other companies that are working in the same technical area as your own, how would you rate your R&D organization on the following factors?

Status of Org.

	Among lowest 0-20% (1)	Below average 20-40% (2)	About average 40-60% (3)	Above average 60-80% (4)	Among highest 80-100% (5)	Don't know (0)
1. Prestige in the scientific and/or engineering world	—	—	—	—	—	—
2. Prospects for its growth and expansion	—	—	—	—	—	—
3. Number of professional personnel	—	—	—	—	—	—
4. Quality of professional personnel	—	—	—	—	—	—
5. Quality of administrative personnel responsible for research organization	—	—	—	—	—	—

The work done by different divisions within the R&D organization may be more or less important to the total research or engineering program of the organization. They may also differ in influence. How would you rate the following?

- How important would you say the top management in the R&D organization considers your division to be for over-all research or engineering program?
Among least 1 Below average 2 About average 3 Above average 4 Among most 5 Don't 0
important in importance in importance in importance important know
- If you did not rate your division as among the most important, which division(s) do you think top management in the R&D organization regards as most important? _____
- How important do you consider your division to be for the over-all research or engineering program?
Among least 1 Below average 2 About average 3 Above average 4 Among most 5 Don't 0
important in importance in importance in importance important know
- If you did not rate your division as among the most important, to which division(s) would you assign that rating? _____
- How important would you say your immediate supervisor considers your contribution to be?
Less than any-1 Less than most 2 About 3 More than most 4 More than any-5 Don't 0
one else's of the others average of the others one else's know
- How important do you feel your contribution is?
Less than any-1 Less than most 2 About 3 More than most 4 More than any-5 Don't 0
one else's of the others average of the others one else's know

Importance of Work

12. How influential is your division in determining the policy or program of research or engineering?
- | | | | | | | | | | | | |
|-------------------------|---|----------------------------|---|----------------------------|---|----------------------------|---|------------------------|---|------------|---|
| Among least influential | 1 | Below average in influence | 2 | About average in influence | 3 | Above average in influence | 4 | Among most influential | 5 | Don't know | 0 |
|-------------------------|---|----------------------------|---|----------------------------|---|----------------------------|---|------------------------|---|------------|---|
13. If you did not rate your division as among the most influential, to which division(s) would you assign that rating?
14. How influential are you in deciding what is going to be done in your division?
- | | | | | | | | | | | | |
|-------------------------|---|----------------------------|---|----------------------------|---|----------------------------|---|------------------------|---|------------|---|
| Among least influential | 1 | Below average in influence | 2 | About average in influence | 3 | Above average in influence | 4 | Among most influential | 5 | Don't know | 0 |
|-------------------------|---|----------------------------|---|----------------------------|---|----------------------------|---|------------------------|---|------------|---|

The scope of problems undertaken by R&D organizations varies. Some limit themselves to a single product and work on the variations that may be obtained from it. These are considered narrow in scope. Others work on a wide variety of products and are constantly seeking new areas to explore. How would you rate the scope of problems undertaken by your R&D organization compared with others that are working in a similar technical area? And how would you rate the scope of the problems you have worked on?

Scope of Work

15. Research and development organization

16. Those you have worked on

Very narrow	Fairly narrow	Medium	Fairly broad	Very broad	Don't know
1	2	3	4	5	0
—	—	—	—	—	—
—	—	—	—	—	—

Different kinds of abilities and activities make for success in different R&D organizations. From your experience and observation, what pays off for success in this R&D organization? Please rank order the items listed below from the one which is most rewarded (assign it a rank of "1") to the one which is least rewarded (assign it a rank of "13"). Do not leave any blanks and do not assign the same rank to more than one item.

Importance of Abilities Necessary for Success

17. Originating and developing ideas for useful products and processes
18. Effectively communicating ideas and findings through writing or talking to other professional persons (scientists and/or engineers)
19. Planning for and solving the problems of facilities, services, budgets, or personnel for research
20. Being able to get along well with colleagues and superior
21. Developing and carrying out the scientific or engineering ideas of others
22. Staying with the company long enough
23. Independently carrying out your own ideas
24. Carrying out the routine aspects of the work efficiently and accurately
25. Knowing the right people
26. Planning and directing the research programs of other professional men
27. Working in close cooperation with customers, contractors, etc.
28. Effectively "selling" ideas and findings through writing and/or talking to management or customers
29. Making original discoveries of theoretical value for the growth of scientific knowledge and/or engineering knowledge

Listed below are a number of conditions and auxiliary services that may contribute directly to the effective performance of your work, or they may refer to conditions that have an indirect bearing on your performance. Please rate each one on how satisfied you are with the adequacy of these conditions in your organization at the present time.

- | | Satisfaction | Neutral | Dissatisfaction | Very | Don't |
|---|--------------|---------|-----------------|--------|-------|
| | Very | Fairly | or mixed | Fairly | Very |
| | much | much | feelings | much | much |
| | 5 | 4 | 3 | 2 | 1 |
| | 0 | | | | |
| 30. Outside consultants | 5 | 4 | 3 | 2 | 1 |
| 31. Assisting and supporting personnel (technicians, draftsmen, analysts, etc.) | 5 | 4 | 3 | 2 | 1 |

Support Services & Personnel

6.

		Satisfaction Very much 5	Fairly much 4	Neutral or mixed feelings 3	Dissatisfaction Fairly much 2	Very much 1	Don't know 0
Support Service & Personnel	32. Funds for research	—	—	—	—	—	—
	33. Secretarial, dictating and typing services	—	—	—	—	—	—
	34. Photographic services	—	—	—	—	—	—
	35. Library facilities and services	—	—	—	—	—	—
	36. Patent tracing facilities and services	—	—	—	—	—	—
Supplies & Equipment	37. Getting supplies from storeroom	—	—	—	—	—	—
	38. Requisitioning supplies from outside the company or organization	—	—	—	—	—	—
	39. Obtaining major non-expendable equipment	—	—	—	—	—	—
	40. Means of fabricating new equipment (metal, wood, and glass blowing shops)	—	—	—	—	—	—
	41. Routine maintenance and repair of facilities (plumbing, air conditioning, lighting)	—	—	—	—	—	—
Work Area & Plant	42. Quiet place to sit and think	—	—	—	—	—	—
	43. Working space	—	—	—	—	—	—
	44. Safety precautions	—	—	—	—	—	—
	45. Rest room facilities	—	—	—	—	—	—
	46. Physical plant of the research organization	—	—	—	—	—	—
Salary & Fringe Benefits	47. Physical location of the research organization	—	—	—	—	—	—
	48. Salary	—	—	—	—	—	—
	49. Prospects for salary increases	—	—	—	—	—	—
	50. Permanence of job	—	—	—	—	—	—
	51. Job review procedures	—	—	—	—	—	—
	52. Employee fringe benefits	—	—	—	—	—	—
	53. Vacation schedules	—	—	—	—	—	—
	54. Sports and social activities sponsored by the research organization and/or the company	—	—	—	—	—	—
		—	—	—	—	—	—

Miscellaneous Job

Factors

	Satisfaction	Fairly	Neutral	Dissatisfaction	Very	Don't
	Very much	Fairly much	or mixed feelings	Fairly much	Very much	know
55. Flexibility of working hours	5	4	3	2	1	6
56. Flexibility of working <u>extra</u> hours	—	—	—	—	—	—
57. Report writing requirements	—	—	—	—	—	—
58. Rewards of accomplishments in research	—	—	—	—	—	—
59. Patent policy	—	—	—	—	—	—
60. Publication policy	—	—	—	—	—	—
61. Policy for attending professional meetings	—	—	—	—	—	—
62. Freedom to make suggestions and complaints	—	—	—	—	—	—
63. Attention given by management to suggestions and complaints	—	—	—	—	—	—

Independence in Problem Selection

64. Do you work independently of others or with others as a member of a team?	5	4	3	2	1	0
Almost always independently	5	4	3	2	1	0
For the most part independently	—	—	—	—	—	—
Independently about half the time	—	—	—	—	—	—
How are the research or engineering problems on which you work selected? What proportion of them are selected in the following ways?	Less than 10%	About 1/3	About 1/2	About 2/3	About 3/4	More than 3/4
65. Independently by you	1	2	3	4	5	6
66. Jointly by you and supervisor	—	—	—	—	—	—
67. Decided on it by you or staff meeting in which you participate	—	—	—	—	—	—
68. Assigned to a supervisor	—	—	—	—	—	—
69. Once a technical problem has been selected or assigned to you, how much independence can you exercise in developing and in choosing the methods and operations for carrying it out?	5	4	3	2	1	0
Almost complete independence	5	4	3	2	1	0
Generally submit for supervisor's approval	—	—	—	—	—	—
Work out jointly with supervisor	3	4	0	—	—	—

70. During a typical work week, how much time do you usually spend on the job? (Include time spent in outside contacts or meetings if it contributes directly to your work. Also include time spent on meals and travel during job-related activities.)

40 hours 1 40-43 hours 2 45-47 hours 3 48-50 hours 4 50-55 hours 5 More than 55 hours 6

During a typical work week, what proportion of your time is spent in the following activities while "on the job"?

Less than 10% About 1/3 About 1/2 About 2/3 About 3/4 More than 3/4

71. Doing research on problems you selected or that were assigned to you (include the writing of reports)

1 2 3 4 5 6

72. Doing consulting ("service work") requested by others

73. Supervising the research activities of subordinates

74. Engaging in technical and developmental work (product testing, application research, etc.)

75. Attending professional meetings inside and outside the company and/or organization

76. Taking care of administrative matters (record keeping, correspondence, committee or staff meetings on budgets, facilities, or personnel)

77. Miscellaneous

78. During a typical week, about how many hours do you spend on your professional activities while you are away from the research organization ("on your own time")?

0-1 hour 1 2-3 hours 2 4-5 hours 3 6-9 hours 4 10-15 hours 5 More than 15 hours 6

79. How much pressure do you feel is being put on you by others in the R&D organization to get things done?

Very much 1 Much 2 A fair amount 3 Little 4 No 5 Don't know 0

What skills and abilities do you have? Which of the following activities are you good at? Please rank them according to how much ability you feel you have to do each one. Assign a rank of "1" to the one you do best, and a rank of "13" to the one you do least well. Do not leave any blanks and do not assign the same rank to more than one item.

Rank

Assessment of Own Abilities

80. Working in close cooperation with customers, contractors, etc., _____
81. Independently carrying out your own ideas _____
82. Carrying out the routine aspects of the work efficiently and accurately _____
83. Getting along well with colleagues and superiors _____
84. Originating and developing ideas for useful products and processes _____
85. Planning and directing the research programs of other professional men _____
86. Effectively "selling" ideas and findings through writing and/or talking to management or customers _____
87. Getting to know the right people _____
88. Planning for and solving problems of facilities, services, budgets, or personnel for research _____
89. Making original discoveries of theoretical value for the growth of scientific and/or engineering knowledge _____
90. Developing and carrying out the scientific or engineering ideas of others _____
91. Effectively communicating ideas and findings through writing or talking to other professional persons (scientists and/or engineers) _____
92. Capacity to 'stay around' long enough _____

For each of the following relationships, please indicate the degree to which there is withholding of information, friction and/or conflict between or among the people or units named.

	None 5	A little 4	Some 3	Considerable 2	A great deal 1	Don't know 0
93. Among the men in your laboratory or division	_____	_____	_____	_____	_____	_____
94. Between the men in your lab or division and their immediate supervisor	_____	_____	_____	_____	_____	_____
95. Between your lab or division and others in the same department or directorate	_____	_____	_____	_____	_____	_____
96. Between your department or directorate of the R&D organization and other parts of the organization	_____	_____	_____	_____	_____	_____

Relationship among Others

Relationships
Among Others

- 97. Between the R&D organization and the production units of the company
- 98. Among supervisory personnel in the R&D organization
- 99. Among top administrative personnel in the R&D organization
- 100. Between your organization or company and other similar organizations or companies

None 5
little 4
Some 3
considerable 2
A great deal 1
Don't know 0

Individual
Personal Relations

In general, how well would you say you get along with each of the following people?

- 101. Your vice-president
- 102. Your director
- 103. Your department head
- 104. Your division head
- 105. Members of your work group
- 106. Assistants (if any)

Very well 5
Fairly well 4
Neither well nor poorly 3
Very poorly 2
No contact or don't know 0

How well do you know what the following people think of your work?

What Others Think
of Your Work

I know very well 5
Fairly aware 4
Somewhat aware 3
A little aware 2
I know very little 1

- 107. Your vice-president
- 108. Your director
- 109. Your department head
- 110. Your division head
- 111. Others in your work group
- 112. Assistants (if any)

How competent do you feel the following people are in performing the functions of their job?

Competency of Superiors

Qualifications of Superiors

Support of Research Ideas

Very competent 5 Fairly competent 4 Average competence 3 Fairly incompetent 2 Very incompetent 1 Don't know 0

113. Your vice-president

114. Your director

115. Your department head

116. Your division head

117. Members of your work group

118. Assistant (if any)

How well qualified do you believe the following are to make scientific, professional, and technical suggestions, comments, and recommendations about the general problem area in which you are currently working?

Very well qualified 5 Fairly well qualified 4 Has average qualifications 3 Poorly qualified 2 Very poorly qualified 1 Don't know 0

119. Your vice-president

120. Your director

121. Your department head

122. Your division head

123. Members of your work group

124. Assistants (if any)

125. Many organizations have key men who can either expedite or block ideas shortly after they are "hatched" or before they come to fruition. Are there such men in your organization?

Yes 1 No 2 Don't know 0

126. If "yes", please indicate below the effect this has on how frequently your ideas are expedited or blocked,

Ideas almost always blocked 1 Ideas blocked more often than not 2 Expedited and blocked equally 3 Expedited more often than not 4 Almost always expedited 5 Don't know 0

127. To what extent are your best skills and abilities being used on the job?

None are being used 1 Some are being used 3 All are being used 5 Few are being used 2 Most are being used 4 Don't know 0

128.

128. In your R&D organization, what would be your opportunities for increase in salary and status if you wanted to devote your full-time to technical work (conducting research studies, etc.)?

No opportunity 1 A little opportunity 2 Some opportunity 3 Considerable opportunity 4 Excellent opportunity 5 Don't know 0

129. In your R&D organization, what would be your opportunities for increase in salary and status if you wanted to devote your full-time to the activities of management and direction of R&D work?

No opportunity 1 A little opportunity 2 Some opportunity 3 Considerable opportunity 4 Excellent opportunity 5 Don't know 0

How valuable do you find the following ways of receiving information that is relevant to the scientific or technical aspects of the work you are doing?

	Very valuable 5	Fairly valuable 4	Somewhat valuable 3	Of little value 2	No value at all 1	Do not use 0
130. Research organization seminars	—	—	—	—	—	—
131. Scientific and professional meetings outside of the research organization	—	—	—	—	—	—
132. Bull sessions, journal clubs, and other small groups in the research organization where current literature is discussed	—	—	—	—	—	—
133. Newsletters, memos, and research reports of colleagues	—	—	—	—	—	—
134. Books, journals in the company or other libraries	—	—	—	—	—	—
135. Talking with superiors in the research organization	—	—	—	—	—	—
136. Talking with colleagues in the research organization	—	—	—	—	—	—
137. Talking with people in other parts of the company	—	—	—	—	—	—
138. Talking with people not employed in the company or organization	—	—	—	—	—	—

139. How much information do you receive about the R&D organization's activities and plans that is relevant to your specific field of work?

Much less than you need 1 Less than you need 2 About as much as you need 3 More than you need 4 Much more than you need 5 Don't know 0

How valuable do you find the following ways of receiving information concerning company or R&D organization policy, factors affecting your job, other people, gossip, etc. -- that is, all non-professional matters

Sources of General Informaion

		Very valuable	Fairly valuable	Somewhat valuable	Of little value	No value at all	Do not use
		5	4	3	2	1	0
140.	Research organization seminars	—	—	—	—	—	—
141.	Scientific and professional meetings outside of the research organization	—	—	—	—	—	—
142.	Bull sessions, journal clubs, and other small groups in the research organization where current matters are discussed	—	—	—	—	—	—
143.	Newsletters, memos, and research reports of colleagues	—	—	—	—	—	—
144.	Journals, books, and newspapers	—	—	—	—	—	—
145.	Talking with superiors in the research organization	—	—	—	—	—	—
146.	Talking with colleagues in the research organization	—	—	—	—	—	—
147.	Talking with subordinates in the research organization	—	—	—	—	—	—
148.	Talking with people in other parts of the company	—	—	—	—	—	—
149.	Talking with people not employed in the company	—	—	—	—	—	—
150.	How much information do you receive about the R&D organization's activities and plans in areas <u>other</u> than your own specific field of work?						
	Much less than you need	1	Less than you need	2	About as much as you need	3	More than you need
					4	Much more than you need	5
						Don't know	0
151.	Field and work areas vary in the opportunity they allow for creative developments. How much opportunity would you say there is in your own field or work area for creative developments?						
	Great many opportunities	5	Many opportunities	4	Some opportunities	3	Few opportunities
					2	No opportunities	1
						Don't know	0

Opportunity

14.

152. How much opportunity do you feel your job allows for creativity?

Very much opportunity 5 Much opportunity 4 Some opportunity 3 Little opportunity 2 No opportunity 1 Don't know 0

153. How creative do you think you could be if you had maximum opportunities and minimum hindrances?

Very creative 5 Fairly creative 4 Somewhat creative 3 A little creative 2 Not at all creative 1 Don't know 0

154. How important is it to you, personally, to be creative?

Very important 5 Fairly important 4 Somewhat important 3 Of little importance 2 Not at all important 1 Don't know 0

Job situations vary in the extent to which creativity is emphasized or encouraged in them. In some job situations, men are encouraged to work on their ideas; they are provided with the necessary means to carry them out; and their products are put into the system. In other situations, the orientation is to hold the line or to keep up with new developments, but creativity is not really emphasized very much. Considering the different levels of employees and management in your own situation, to what extent is creativity emphasized or encouraged by each of them?

Very much 5 Much 4 Some 3 A little 2 Not at all 1 Don't know 0

155. By your immediate work group

156. By your immediate supervisor

157. By top management of the research organization

How much do you feel the following factors impede your creativity on your job?

Very much 1 Much 2 Some-what 3 A little 4 Not at all 5 Don't know 0

158. The character of the problems on which you work

159. The attitudes and personalities of your colleagues

160. The lack of scientific knowledge and capacities of your colleagues

161. The lack of scientific knowledge and capacities of your assistants

162. The attitudes and personalities of individuals responsible for the management of research


163. The lack of scientific knowledge and capacities of individuals responsible for the management of research

Hindrance to Creative Work

How much do you feel the following factors impede your creativity on your job? (con't.)

- | | Very
much
1 | Much
2 | Some-
what
3 | A
little
4 | Not
at
all
5 | Don't
know
0 |
|---|-------------------|-----------|--------------------|------------------|-----------------------|--------------------|
| 164. Limitations of equipment | — | — | — | — | — | — |
| 165. Limitations of space | — | — | — | — | — | — |
| 166. Policies of management | — | — | — | — | — | — |
| 167. Limitations in number and quality of technical assistants | — | — | — | — | — | — |
| 168. Others (specify) _____ | — | — | — | — | — | — |
| 169. _____ | — | — | — | — | — | — |
| 170. In your first project assignment in 1963 , how much guidance was provided?
Practically none <u>1</u> General discussion only <u>2</u> Occasional consultation <u>3</u> Close consultation <u>4</u> | | | | | | |
| 171. What talent(s) do you have which are not being used? | | | | | | |
| _____ | | | | | | |
| _____ | | | | | | |
| _____ | | | | | | |

Use the space below for writing any additional comments you have about any of the specific questions in the Survey or about any important matter not included in the Survey. When a comment refers to a specific question, preface it with the item number. Use additional sheets if necessary.



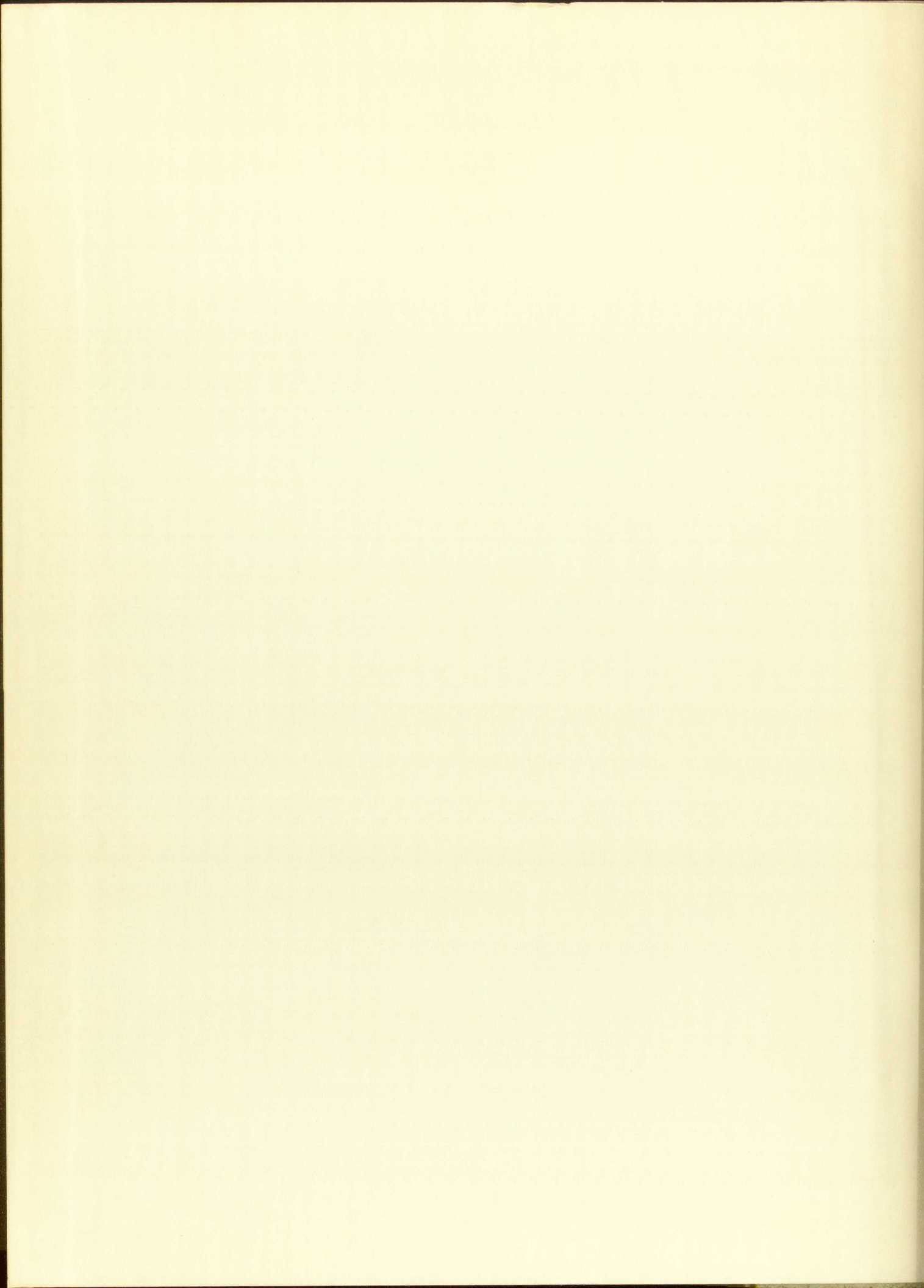


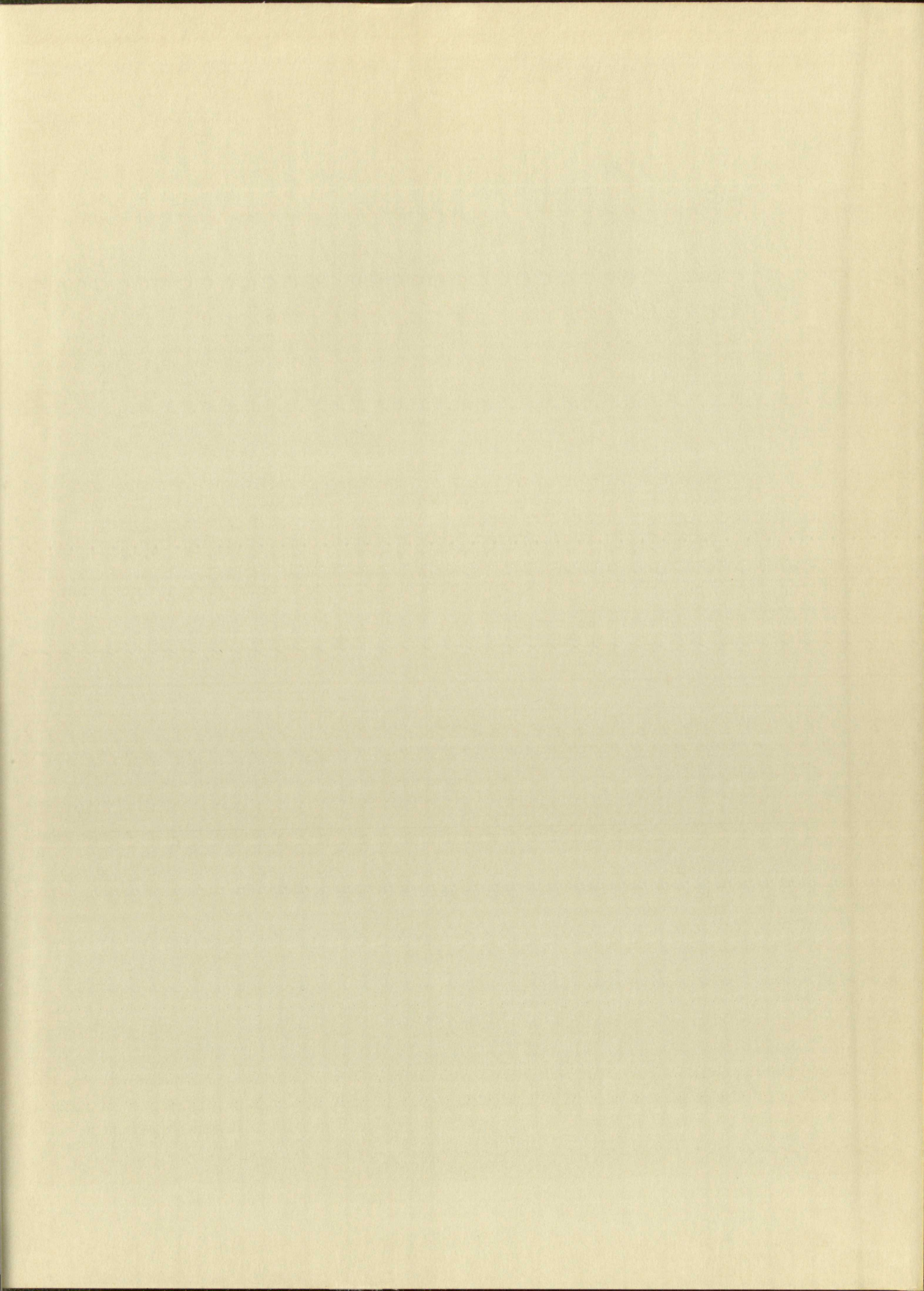
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1911

COTTON CONTENT
EXHIBIT
MILKERS BATTLE

NOTION CONTENT
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