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The Allegiance Patterns of Unionized Professionals

Francis Xavier Paone

Loyola University Chicago

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THE ALLEGIANCE PATTERNS OF
UNIONIZED PROFESSIONALS

by
Francis Xavier Paone

A Dissertation Submitted to the Faculty of the Graduate School
of Loyola University in Partial Fulfillment of the Require-
ments for the Degree of Doctor of Philosophy

June
1960
LIFE

Francis Xavier Paone was born in New York City, Dec. 19, 1919. He graduated from Xavier Military Academy in New York in June, 1938 and from Fordham University in June, 1942 with the degree of Bachelor of Arts.

From late 1942 to January 1947 he was on active duty in the Army Air Corps as Communication Officer, serving in England, Wales, Scotland and Iceland for about half of that time. From January, 1947 through November, 1956 he was employed as an Equipment Engineer at the Western Electric Company in Cicero, Illinois. In June, 1954 he graduated from the Loyola Graduate School with the Master of Arts degree in Psychology. From April, 1951 to September, 1952 he served with the Air Force in the Korean Emergency. From June, 1954 through 1958 he was associated with the Human Relations Research Staff at Loyola working under Fr. Purcell on the Swift study. This was a part time activity.

From November, 1956 to June, 1958 he was Assistant Director of Market Research at Pabst Brewing Company. From that time to the present he has been Director of Market Research at Wilson & Company.

Mr. Paone is also an instructor in the Institute of Social and Industrial Relations at Loyola teaching courses in Testing and Selection in Industry, Industrial Counseling and Problems of Communications in Industry.
The present study was conducted with the tacit approval of individual supervisors at Western Electric Company and indeed the writer was aided greatly by these persons in developing the research method and instrument. Officially, however, the Company expressed the feeling that "If it were not approached formally it could not refuse formally."

The reluctance to support this research stemmed in part from the fear that such a study in the troubled atmosphere of the present Company - Council conflict might be more disturbing than helpful. Also the fear was voiced by one Company spokesman that the information obtained might be used by the Council of Western Electric Professional Employees as part of a collective bargaining stratagem.

The writer acknowledges the help given him in his work by the Council and its leaders. While this organization helped immeasurably both in terms of manpower (collation and mailing of the questionnaire) and finances (partial subsidization of the research) there was no attempt made to influence the design of the project or the interpretation of the data.

Most especially, thanks are due the rank-and-file Council members, over 250 of whom spent, on the average, two hours filling out the long questionnaire sent them. Their enthusiasm and cooperation were indeed indicative of the professional nature of this group.
The writer also wishes to thank Mr. Ted Phelps, past Chairman of the CUEPE-N organization in the western area for his help and Miss Nancy Cooley of National Certified Interviews, Inc. for her generosity in providing the tabulation facilities.

The writer wishes also to acknowledge his debt of gratitude to T. V. Purcell, S J, his advisor on this research, who since 1954 had been an unfaillng source of strength and guidance.

Finally, a special note of thanks are due Mrs. Paone and Joseph Paone, the writer's wife and son, who sacrificed many long hours in assisting with the laborious details of tabulation.
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PART I — INTRODUCTION & BACKGROUND

CHAPTER I

INTRODUCTION

Brief Orientation

There has been a tremendous growth in the number of professional employees included in the labor force in America. In 1910 the Bureau of Census reported approximately 90,000 technicians and engineers as compared with 7000 engineers and surveyors in 1870. In 1950 this number had increased to 525,000 engineers, 122,000 draftsmen, 74,000 chemists and 25,000 architects. In addition, in the 1950 Census, 141,000 designers and technicians were reported.¹

This burgeoning in numbers is not the only significant aspect of this group. In addition, the great majority consists of salaried employees. This latter group has been estimated as comprising over 80 per cent of the total professional and technical work force.² Of the salaried professional group, various professional and white-collar unions claim to represent in collective bargaining more than 55,000.


The pressures bringing about this trend toward unionization on the part of the salaried professional employee have been investigated in various research projects, noteworthy among which was the study conducted in 1956 by the National Industrial Conference Board and a study conducted at the University of Chicago by Bernard Goldstein. An analysis of the findings of these two projects suggests that the pressures of modern industry have combined to threaten the professional status of these workers, encouraging them to seek protection through the devices of collective bargaining.

A major source of difficulty apparently stemmed from the fact that enlightened personnel policies had not been developed for administering large, professional, salaried groups. This has resulted in confusion and dissatisfaction as professional privileges have been overshadowed by management's inability to recognize and understand the sources of friction and conflict.

Another source of dissatisfaction has been the problem of salary telescoping. In 1929 engineers with one year's experience received a median salary of $1,313 while the engineer with nine to twelve years' experience received $3,674. This was a ratio of 2.8 to 1. In 1954 the indicated hiring salary of an engineering graduate was $4,140 a year, while the engineer with ten years' experience received a median salary of $7,850.


Thus the ratio had changed from 2.8 to 1 in 1929 to 1.9 to 1 in 1954.  

By far the most serious source of dissatisfaction, however, has been the increasing difficulties encountered by the salaried professionals in their endeavor to maintain professional dignity and status in firms employing hundreds or thousands of professionals like themselves. This has been regarded by many as a primary cause of engineering unionization. Working in large groups, especially in the airframe and electronics industries, the professional engineers have lost their status as members of the management team. A lack of communication between these workers and higher supervision has resulted in an incomplete understanding of company policies on the one hand and worker attitudes on the other. Some companies have ceased to regard their engineers as professionals and have included them and the rank-and-file employees under the same management policies and personnel directives. Others have been forced, because of the large numbers of such employees and other factors, to curtail sharply professional activities such as the participation in professional meetings, the discussion of technical aspects of the work in professional journals and other professional activities. Still another source of dissatisfaction has been the practice of assigning engineers to sub-professional work, an expedient clearly opposed to professional development and recognition.

There is little doubt from all that has been said and written on the subject that this trend of the professional toward unionization indicates a chronic and increasing dissatisfaction among this group of workers. Union

officials and managers alike readily admit that employees do not pay union dues and participate in union activities unless they are dissatisfied. Unionization among professionals may be regarded as symptomatic of a lowered morale and a substantial downward revision of their status in the industrial community.

The fact that this dissatisfaction exists in this group is a matter of concern to many. To the educator it forecasts a difficult time ahead in the recruitment of young men for engineering and technical careers. Intelligent men do not flock to a profession characterized by industrial conflict, dissatisfaction, tension and lack of social recognition. To our heads of government it is a gloomy indicator of possible failure in America's technological race with Russia. Scientific advancement is paced by creativity and creativity is sparked by enthusiasm— a quality difficult to nurture in a stressful and prohibitive environment. To the sociologist it is the bellwether of a pervasive re-alignment of a whole segment of American culture. To the industrial psychologist it suggests a breakdown of essential vis-a-vis relationships, an interruption of wholesome communications, a solidifying of insular attitudes, a developing re-evaluation of allegiances.

The Need For Objective Appraisal

Since the days of the now famous Western Electric studies commencing in the twenties, researchers have been studying the behavior, accomplishments, limitations and attitudes of the rank-and-file employee. Most aspects of his physical and social work environment have been explored. So prolific have been the students of the industrial community that recent years have seen the
development of standardization population data for numerous employee attitude inventories.

This growth, however, has been largely confined to the study of company-related attitudes such as advancement, salary, working conditions, morale, supervision, and employee benefits. Much less attention has been given the worker's attitudes and sentiments toward his union, his union allegiances and his union-related needs and satisfactions.

A second area of imbalance has been that of professional employees in industry. Little interest has been shown this group by social scientists even as the trend toward professional unionization started to manifest itself. Only in recent years, when this phenomenon could no longer be ignored, have these key employees received even summary notice.

Today, as a result of this imbalance, we know a great deal about the rank-and-file employee and relatively little about his professional fellow worker who has remained almost unnoticed in the plant community. Now, when finally our attention has been directed his way, we find our level of knowledge concerning him and his problems limited. Ignorant of his problems, his goals and his status needs many of us evidence surprise and even dismay when confronted with the professional union movement. We hear such utterances as, "Engineers are part of management, why should they form a union?!" and "An engineering union, why that's a contradiction in terms!"

This confusion is understandable. Here in the 1960's our mental image of the salaried professional is somewhat outdated. We envision him
possessing the same loyalties, freedoms, privileges and social position in the industrial community as the lawyer, the doctor and the technical consultant. We have not visited typical engineering work locations and seen hundreds of professionals working side by side amid seas of blue prints and a confusion of sameness. We have not listened to the grievances and studied the attitudinal climate of this essential segment of the American work force.

What, then, can we say of the allegiances of this group? Should we expect these skilled workers to have retained their age-old management orientation and loyalties? Should we demand of them more dedicated service than we do of the rank-and-file workers? In short, even when our many social and psychological studies have found a definite dual allegiance\(^6\) characteristic of the blue-collar worker, should we expect the unionized professional to be predominantly loyal to management with correspondingly less allegiance to the union he has thought it necessary to bring into existence?

To answer these questions, and in so doing to construct an attitudinal profile of this kind of worker, the present research was designed. We have attempted to measure the attitudes and allegiances of a small segment of these unionized professionals in an attempt to obtain a better understanding of

\(^6\) A detailed treatment of this concept will be found in succeeding chapters. In the above context it refers to that industrial condition in which the worker has allegiance to both institutions, the company and the union.
their problems. If these workers are in fact standing at the outermost defenses of our culture and society while bestowing upon us the technological superiority we think essential to our freedom, our interest and understanding are long overdue.

Before entering upon a discussion of the specific research problems investigated in this study, however, the following chapters are offered by way of acquainting the reader with the company and professional union involved.
CHAPTER 11

THE WESTERN ELECTRIC COMPANY

Factors Underlying Choice of Problem Area

The present research was conducted among a randomly sampled group of unionized Western Electric Company engineers. This Company was chosen for this research for several reasons. The writer had been employed at this Company as an engineer from 1946 through 1956 and during that period had been given the opportunity of observing the development of a professional union within the Company; the Council of Western Electric Professional Employees—National.

In that time he had the opportunity of experiencing a typical engineering existence and thus gained valuable insight into the problems encountered in a large engineering community. During this period he was able to perceive some of the industrial pressures, technological changes and management difficulties which had finally led this professional group into a collective bargaining relationship.

These factors culminated in the decision to study in some detail the attitudes and allegiances of this professional group and to compare these with those of blue-collar workers studied in other plant environments. This decision was strengthened when it became apparent in 1955 that a serious collective bargaining problem was developing around the concept of professionalism. The
history of this conflict and its pertinence to this research will be discussed in a later chapter.

Western Electric Company - A Short Description

The Western Electric Company is a wholly-owned subsidiary of the American Telephone and Telegraph Company with plants throughout the East and Mid-West. It is one of the several integrated subsidiary organizations which, through the over-all supervision and control of A.T.& T., unite to constitute the largest public utility in the telephone industry. The Western Electric Company functions as the manufacturing unit of the wide-spread enterprise. It procures, produces, distributes and installs all the permanent equipment of the telephone system.

Most of the research and development required for this system is carried on by the Bell Telephone Laboratories, another A.T.& T. subsidiary. Operation of the telephone equipment and the provision of telephone service to the public is the responsibility of eighteen telephone operating companies, also wholly owned subsidiaries of the parent Company. Each Company is allotted a portion of the United States in which to function as names such as "The New England Bell Telephone Company", "The Southwestern Bell Telephone Company" and "The Mountain States Telephone Company" suggest.

Western Electric's principal offices and headquarters are located in New York City. At the commencement of this study it employed a total of over
141,000 employees of whom approximately 7,000 were technical-professionals represented by the Council of Western Electric Professional Employees—National.

**Company Divisions And Operations**

Western Electric's activities may be grouped into seven divisions: Manufacturing, Radio, Telephone Sales, Installation, Legal and Patent, Purchasing and Traffic, and Finance. In varying degrees each division has employees located at headquarters in New York and in scattered locations. The professional employees being surveyed in this research are all found in the first two divisions.

The Manufacturing Division, with approximately eighty-three per cent of the engineers, manufactures all the communication equipment used by the operating telephone companies. The Radio Division, with about twelve per cent of the engineers, manufactures radar and other electronic equipment, a large proportion of which is sold to the government. The Telephone Sales Division, with about three per cent of the engineers, warehouses, sells and distributes to the operating companies the various products manufactured by the first two divisions. Finally there is the Installation Division, with less than two per cent of the engineers, which installs the central office exchange equipment sold to the telephone companies and the switchboards used by the telephone subscribers.

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The Manufacturing and the Radio Divisions carry on their production operations at various plant locations. The Manufacturing Division has three groups of plants, called Works, each of which in turn consists of three to five plants. The several works and their associated plants are as follows:

**The Hawthorne Works**
- St. Paul, Minnesota
- Lincoln, Nebraska
- Omaha, Nebraska
- Cicero, Illinois
- Montgomery, Illinois

**The Kearn Y Works**
- Kearny, New Jersey
- Haverhill, Massachusetts
- Middle Village, New York

**The Point Breeze Works**
- Baltimore, Maryland
- Allentown, Pennsylvania
- Tonawanda, New York
- Indianapolis, Indiana

The Radio Division operates three plants the principal one of which is at Winston-Salem and two smaller ones in Burlington and Greensboro, all in North Carolina. There are engineers stationed at each of these locations. In addition, both the Manufacturing and the Radio Divisions have engineers permanently stationed at the Company's New York City headquarters and the Radio Division has a group of field engineers working out of this same headquarters.

Organizational Control and Hierarchy of Authority

With this short description of the Company's far flung operation offered as a background let us turn to an examination of the organizational structure and hierarchy of authority which coordinates all these activities. In the 1952 decision to permit the Council of Western Electric Professional
Employees—National nation-wide bargaining powers, the Washington NLRB declared that the ultimate control of each of the several divisions centered at the New York headquarters.\(^2\) In that decision it was concluded by the government that the general policy of the Company was formulated here, not only regarding production but also with respect to working conditions, wages, pensions, employee benefits and all other personnel and labor relations matters of a major nature.

Below the Vice-President of each division is a Works Manager who is in charge of a separate group of plants and, lower down in the managerial hierarchy, superintendents and assistant superintendents over the various single plant locations.

Headquarters control is exercised by a constant flow of written instructions to all organizations. These instructions are the official source of detailed information concerning the various operations and organizations of the Company and explain the manner in which policies and functions are to be carried out. There is a series of such instructions for each division. Those for the Manufacturing Division, for example, called Manufacturing Division Instructions (MDIs) are prepared under the direction of the Comptroller of Manufacture by the business methods organization at New York.

The business methods organization receives its directions from the particular executive or headquarters committee responsible for that phase of the Company's activities giving rise to the written instructions.

\(^2\) NLRB 98 No.154, Case No.2-RC-1753,D-6051,Baltimore,Md., Western Electric Co.,Inc.,Employer and Council of Western Electric Tech. Empl.—National, Petitioner.
When headquarters MDIs are received at the Works Locations they are reissued through the local business methods organization over the signature of the Works Manager.

Centralized control over the manufacturing operations of all locations, particularly as it affects the work of engineers, is also seen in the system whereby an Engineer of Manufacture, located at New York, determines the location or locations at which each ultimate product shall be made and handled. He establishes for each such product an Engineering Headquarters which then is responsible for the development of the necessary manufacturing process, specifications, analysis and planning of apparatus and equipment. Whenever several manufacturing locations are involved, production proceeds at each under direction of a single Engineering Headquarters.

The New York Headquarters further controls and coordinates the operations of all locations through the Personnel Committee and an Employee Benefit Committee. The Personnel Committee, headed by the Personnel Director, consists of the Vice President in charge of each division, the head of the Installation Division and the Comptroller of the Manufacturing Division. This committee originates and recommends for executive action, policies and methods designed to insure optimum employee relations. Among the functions of this committee is the establishment of a company-wide overtime policy, the annual and semi-annual salary increase policy and all labor relations problems subsumed under the heading of collective bargaining.

The Employee Benefit Committee, appointed by the Board of Directors,
is responsible for the administration of the Employee Pension Plan. It also controls many matters not covered by the plan but related to it. These include procedures governing the application of the plan and procedures for determining term of employment.

Within the framework of this over-all supervision and control from the New York Headquarters, the separate Works, as well as their associated plant locations, function with some degree of autonomy. Each plant has its own employment office, separate payroll, personnel department and freedom to make decisions necessary to normal daily operations.

* * *

In the following chapter we shall look briefly at the collective bargaining history of this Company and in more detail at the professional union being studied in this research; The Council of Western Electric Professional Employees—National.
Collective Bargaining among Western Electric employees dates back to 1933 when an Employee Representative Plan was in effect. Up to 1937, when, following judicial affirmation of the Wagner Act, the Plan ceased to function, all employees, wherever located and regardless of category, were joined in a single bargaining unit. Starting in 1937 there grew up a number of independent unions at various locations representing, for the most part, the hourly paid employees. Except for various changes in affiliation or union name, most of these organizations still exist at the various plants or works.

In the Manufacturing Division independent unions began to represent hourly paid employees at the central locations of the three then existing works, these being Kearny, Hawthorne and Point Breeze. Comparable units developed at the Lincoln, St. Paul, Queensboro, Haverhill, Tonawanda, and Allentown plants. Some of these unions subsequently affiliated with larger organizations, such as the National Federation of Telephone Workers, The National Association of Telephone Equipment Workers and later The Communication Workers of America. In 1949 a number of these units affiliated with the CIO. Some few units, such as
Allentown, St. Paul, and Indianapolis, became AFL affiliates. At the Point Breeze plant in Baltimore, the independent union was dis-established by the NLRB in 1945. The hourly paid workers there are now represented by the Communication Workers of America. At present all hourly paid employees in the Manufacturing Division are in single plant units. In the Radio Division the employees at the Winston-Salem and Burlington plants are in a two-plant unit.

The hourly paid employees in the Installation and Telephone Sales Divisions are now represented in division-wide units. Those in the Installation Division, scattered throughout the United States, are represented by Division 18, CWA-CIO. This unit has existed since 1944 with the local organizations handling grievances only. The hourly paid employees in the Telephone Sales Division at first were represented in separate units for each of the approximately 28 warehouse locations throughout the country. In 1944 all were joined in a division-wide unit, represented by the National Association of Telephone Equipment Workers. In 1947 this union became the Communication Workers of America and in 1949 it became Division 6, CWA-CIO. The only other collective bargaining among employees of these two divisions is a unit of accounting employees at the Telephone Sales Division limited to the Eastern area of the Company's operations.

Between 1939 and 1947 the various independent unions representing hourly paid employees combined to form the National Committee of Telephone

Workers for the purpose of negotiating at Headquarters with respect to a number of matters. The three unions at the principal location of each of the three works and the two associations representing the hourly paid employees of the Installation and the Telephone Sales Division participated in this national committee. The other plant locations were represented intermittently as the various plants came into existence or were discontinued. The membership of the committee, therefore, changed together with changes in the number and identity of the constituent unions.

The methods and scope of the National Committee's activities remained constant throughout its eight year life. On behalf of the constituent unions it bargained with the Company on such matters as standard work schedules, overtime pay, holiday pay, vacations, absences, layoff pay, matters affecting military duty, and treatment of union officers. Negotiations were conducted at headquarters, with many of the company negotiators being executive officers. The resultant agreements were formalized in identical contracts with each of the constituent unions and ratified by them. As to matters of a purely local nature, such as wages, the constituent unions bargained separately and made separate contracts dealing with those subjects not covered by the National Committee's agreements. In 1947 the Company ceased bargaining with the National Committee.

Collective Bargaining Among Western Electric Engineers

From 1937 through 1945 the group of management employees, of which the engineers were a part, received only scattered nominal merit increases in salary. The organized shop employees, in addition to receiving equally liberal
merit increases, received on three occasions general increases totaling more than twenty per cent. In addition, pressure from the organized blue-collar employees brought about steady improvements in their working conditions, their supervision, their treatment by management, the redress of their grievances through formalized procedures and the elevation of their industrial status through legally recognized representation organizations. The engineers, on the other hand, were virtually forgotten by the policy makers.

In 1944, when it became evident to this group that some kind of collective bargaining action might help to avoid further worsening of the social and economic status of its members in the industrial community, the Associated Communication Engineers was formed in the Equipment Engineering Branch. In 1945 the Guild of Western Electric Manufacturing Engineers was formed in the Engineers of Manufacture Organization at Kearny, New Jersey. Neither of these groups was intended to be a certified, collective bargaining unit. They were formed to present to management problems which were of serious concern to a large body of its technical employees. By presenting suggested remedies, these employees hoped to encourage the Company to take adequate corrective action.

The two groups prepared and dispatched a letter to the Company, asking for a meeting at which various problem areas could be discussed. Management replied that until all the requirements of law had been fulfilled and the organizations had become certified by the NLRB the Company would not agree to a meeting.

The Associated Communication Engineers (Equipment Engineers) and the Guild of Western Electric Manufacturing Engineers (Manufacturing and Plant
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Engineers), together with two other newly formed groups, the Guild of Western Electric Wage Engineers (Wage Incentive or Industrial Engineers Organization) and the Specialty Products Engineers Society (Radio Shops), all at Kearny, affiliated themselves as the Council of Western Electric Technical Employees. ²

In June of 1945 CWETE filed a petition with the NLRB for representation of the technical employees at the Kearny plant. The board ruled that the engineering group which CWETE sought to represent was an appropriate bargaining unit and directed that an election be held. The election was held on June 20, 1945, and the results as announced by the board were as follows:³

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<tr>
<td>Votes Cast For CWETE</td>
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<tr>
<td>Votes Cast For No Union</td>
<td>204</td>
</tr>
</tbody>
</table>

Shortly after this election the Council approached the Company to discuss a contract. After a series of bargaining sessions, a one year contract was agreed upon and ratified by a secret ballot of the entire membership. This first contract became effective January 28, 1946. Apparently, therefore, what started out as an informal association of professional employees evolved finally into a collective bargaining unit because of the initial reluctance of the Company to discuss informally the problems of these people.

In the course of negotiations with the Company during the following three years, the Council leaders observed that all the important decisions on labor relations were made at Western Electric headquarters in New York. Accord-

² CWEFE-N privately circulated booklet, The Council Story, 3.
³ Ibid.
ingly, it was decided to encourage the engineers at other Western Electric locations to organize and form a single bargaining group for all Western Electric engineers. At first it was thought that a series of independent but cooperating councils would suffice. After a series of meetings, however, the Council of Western Electric Technical Employees—National was formed and formally announced in June of 1949. ⁴

In October, 1949, this group asked the Company to recognize it as the collective bargaining representative of the engineers and scientists of all Western's locations. The Company again took the position that it would recognize the Council only after certification by the NLRB. Shortly thereafter the Council filed a certification petition.

The Company was strongly opposed to the certification of the Council as a national unit, to be representative of all the technical and professional people employed. It held that each plant was largely autonomous regarding labor relations problems and therefore collective bargaining should be maintained at a local level. In addition, the Company claimed that such a certification would be contrary to the previous history of collective bargaining at Western Electric.

Hearing before an NLRB examiner in New York extended over a period of twenty-one months and involved 10,000 pages of testimony and related information. The formal hearings were completed on July 9, 1951 after which a certification decision was handed down on April 2, 1952.

⁴ The name of the organization was changed to The Council of Western Electric Professional Employees—National in 1958.
In the ensuing election which was held on May 22, 1952, the engineers voted as follows:

Total eligible to vote - - - - 4374
Votes cast for CWETE-N - - - - 2424
Votes cast for No Union - - - - 1703

Negotiations on the initial contract with CWETE-N got under way on August 4, 1952. Two articles in the first contract are of interest in that they disclose the unique nature of the collective bargaining relationship agreed upon between the Company and this collective bargaining group. In addition, it was around these articles that a long, bitter, industrial conflict has been and is still being waged by these two organizations. These articles are reproduced below:

Article 1 - Recognition

The Company, in accordance with the certification of the National Labor Relations Board, dated June 13, 1952 (Case 2-RC-1753), recognizes the Council as the exclusive representative of all nonsupervisory technical-professional employees of the Company, per Section 2(12) of the Labor Management Relations Act of 1947, whose employment is or may hereafter be classified under the occupational code numbers and titles listed in Appendix A of this Agreement, for the purpose of collective bargaining with respect to rates of pay, wages, hours of employment, and other conditions of employment... this recognition covers the following Company locations and any new work locations where eligible employees may be located...5

Article XXVI - Professional Standards

It is recognized that the occupational classifications listed in Appendix A require various degrees of professional qualifications. In the selection of individuals to be hired or transferred into such occupational classifications the Company will use its judgment in determining on an individual basis the qualifications for the job to be filled; in the exercise of such judgment, the Company shall give consideration to Section 2(12) of the Labor Management Relations Act, 1947,(Taft-Hartley Act). It is agreed

5 General Agreement between the Western Electric Co., Inc. and CWETE-N, an Affiliate of ESA, Effective Nov. 30, 1952, 2.
that the Company will not reduce the minimum qualifications for the occupational classifications involved below those used for the employees in the unit at the time of certification of the Council (June 13, 1952)\textsuperscript{6}

It may be seen from an examination of these two articles that the Western Electric agreed to recognize this group as the bargaining unit of all the technical-professional employees of the Company. In addition, it was made clear in these articles that the definition of "professional" for application in this agreement was the one set forth in Section 2(12) of the Labor Management Relations Act of 1947.

It was also clearly stated in this agreement, in Article XXVI, that the Company, in selecting employees for and in transferring employees to jobs listed as occupied by professionals in the Appendix to the first contract, would give consideration to this definition of "professional" as set forth in the Act.

In the very next year, 1953, the Council objected to various Company decisions and personnel relocations into the positions listed in the contract as occupied by professionals. The main criticism was that the Company was not abiding by Section 2(12) of the Labor Management Act in its engineering selection and transfer program. The Council argued that the Company was attempting to dilute the unit with a large number of sub-professional employees who did not measure up to the professional qualifications agreed upon.

The Company replied to complaints of this nature that it was in fact abiding by the spirit of the contract, while at the same time retaining its

\textsuperscript{6} Ibid. 50.
right to manage the business.

Through the life of the 1953 and 1954 agreements a continual debate ensued on this one problem. In addition to the usual type of internal grievance incidents during which this problem was frequently encountered, the Council instituted or attempted to institute legal action through arbitration to force the Company to transfer into engineering jobs only those employees meeting the minimum qualifications proposed by the Council. The following is a brief summary of these arbitration cases:

1. Early in 1953, the Council protested the transfer of four employees from the machine shop at North Carolina to the classification "Wage Incentive Analyst - Code 2643." The Council claimed that the company had violated Article XXVI of the contract since these employees did not meet the criteria set forth in Section 2(12) of the Taft-Hartley Act. In June of 1953 the Council demanded arbitration of this grievance but, after considerable discussion, the parties felt that an amicable solution was preferable to arbitration and it was finally agreed that the case would be considered settled on the basis that the Company would carefully screen any such future transfers at North Carolina which might be considered borderline cases under Article XXVI.

2. In June 1954, the Council demanded arbitration of a grievance regarding an employee who was selected for layoff at Tonawanda. The Council claimed that another employee who was not a college graduate but who had a longer term of employment should have been selected for layoff since the Council held that he had less professional qualifications than the first employee. Thus the charge was that the company had misinterpreted Section 2(12) of the Act. The Board of Arbitration selected by the parties conducted a hearing on October 28, 1954 and issued an Opinion and Award on December 28, 1954 which held that the Company had not violated the contract.

3. In July, 1954, the Council requested arbitration of a grievance involving the assignment of four employees to a position classified as professional in the appendix to the contract. The Council claimed that these employees were not qualified as technical-professionals and by transferring these employees into the Council unit, the company had violated Articles I and XXVI of the contract. The company did not agree that it had violated the contract since the qualifications of these employees were not less than those for employees who had previously held this assignment and who were in the unit at the time it was certified in June, 1952. However, it was agreed that this occupation in the Merchandise organization did not encompass engineering work and it was assigned an occupational title and code outside of the Council unit. Arbitration was therefore not necessary.  

4. On October 5, 1955, the Council instituted an action against the Company in the Federal Court at New York seeking damages of $200,000 and charging, in effect, that the Company had violated the provisions of the contract by transferring into or hiring for the occupational classifications listed in the appendix of the Agreement, employees who did not meet the qualifications of "professional employees" as defined by the Taft-Hartley Act. The Council was attempting by this civil suit against the Company to have a third party interpret the provisions contained in Articles I and XXVI so as to require that the Company employ what the Council regarded as "professional engineers". Thus the Council was hoping to accomplish by litigation what it had unsuccessfully attempted in negotiations.  

Toward the close of the 1955 contract, as a result of this history of industrial unrest, which had been going on almost continuously since the first contract was signed in 1952, the Company attempted to clarify once and for all the argument by submitting to the Council a letter which read as follows:

7 Ibid.
Mr. A. M. Marin, National Chairman
Council of Western Electric Technical Employees—National
20 Central Avenue
Newark 2, New Jersey

Dear Mr. Marin:

This confirms our understanding as to the interpretation of Article 1, Recognition and Article 26, Professional Standards of the Agreement dated 1955, between the Council and the Company.

It is agreed that nothing in these articles in any way limits the Company's right to place in the occupations represented by the Council such employees as the Company deems qualified, with the understanding that the minimum qualifications for the occupational classifications involved will not be reduced below those used for the employees in the bargaining unit at the time the Council was certified (June 13, 1952).

As evidence of the Council's acceptance of the above, please sign the attached copy of this letter and return it to me.

Very truly yours,

Approved: __________________

The Council not only refused to accept this written agreement as any kind of a solution but immediately filed an unfair labor practice with the NLRB on February 9, 1956. The Council accused the Company of:

Trying to change the character of the professional unit as certified by the NLRB — by demanding that, as a condition of signing a contract, the National Chairman sign a "clarifying letter" which would allow management to legally, and without challenge, transfer or hire "quack" engineers in

8 Ibid. 13.
disregard of the NLRB certification and Section 2(12) which covers education, and/or equivalent experience.⁹

In a decision on March 30, 1956, the Regional Director of the NLRB at New York refused to issue a complaint against the Company on the Council’s unfair labor practice charge stating that the charge lacked merit. This ruling was appealed to the General Counsel of the NLRB in Washington, D.C. and on June 1, 1956, the General Counsel sustained the New York Regional Director’s decision.

Council Seeks a Re-Certification Election

When it became apparent to the Council leaders, subsequent to this series of unsuccessful strategies, that no real progress could be made toward building into a new contract what they considered to be sufficient safeguards around the professional nature of the organization, a new representation election was requested of the NLRB covering:

All professional engineers as defined in Section 2(12) of the Labor Management Relations Act at the Multi-plant locations of the Company, and specifically excluding all technical employees, all other employees and supervisors.¹⁰

By this move the Council hoped that the NLRB would in its formal decision, describe once and for all the responsibilities of the Company in its engineering personnel policies, and support, in the process, the Council’s case, that only professionally qualified personnel could populate jobs listed in the

⁹ CWETE-N, The Council Compass, No. 73, Feb. 11, 1956.

original certification as engineering positions. The leaders of this organization felt confident that, when given the opportunity to do so, the professional employees would vote for the Council as their collective bargaining representative.

Between June and November, 1957, the Council and the Company met in a series of seven informal meetings in the offices of the NLRB in New York City. The purpose of these meetings was to determine whether the parties could agree jointly on the composition of an appropriate unit under which such a consent election could be conducted.

During these meetings it became apparent that the two parties could not agree upon what criteria to use in describing the employees who would be considered eligible to vote, i.e. who were professional. As a result, on December 13, 1957, the NLRB notified the two organizations that a formal hearing would be set for January 9, 1958.

During these hearings, which were held in New York City and presided over by Mr. L. L. Baldwin (who had presided over the original certification proceeding in 1952), it was necessary for the two parties to come to agreement concerning which of the employees represented by the Council were in fact professional and which were not. During a long series of bitter meetings, in which each job was studied in detail and the employees filling these jobs scrutinized, there were many cases in which the two parties could not come to an agreement. When the meetings were adjourned in October, 1958, the status of these cases was as shown in the following table:
## TABLE I

### STATUSES OF COMPANY–COUNCIL DISAGREEMENTS

**CONCERNING PROFESSIONAL EMPLOYEES**

*NLRB HEARINGS, N.Y., OCT. 1, 1958*

<table>
<thead>
<tr>
<th>Designated As Professional</th>
<th>Designated As Non-Professional</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>By Company</strong></td>
<td>5,732</td>
</tr>
<tr>
<td><strong>By Company &amp; Council</strong></td>
<td>5,513</td>
</tr>
<tr>
<td><strong>Disagreements</strong></td>
<td>219</td>
</tr>
</tbody>
</table>

### The Final Stages of the Disagreement

After the Washington NLRB has resolved the 507 disagreements shown above, an election will be held among those engineers finally described as professionals. In that election these selected employees will decide whether they wish the CWEPE-N organization to represent them for the purposes of collective bargaining with the Company. When this election is concluded, the present conflict will have been resolved. Either the way will be opened for a continuation of normal labor-relations activities on the part of the two organizations or the Council will be dissolved.

*The Engineers & Scientists of America*

By way of rounding out this description of the CWEPE-N organization
It remains for us to discuss briefly the national federation of engineering unions of which it is a member. The Council is affiliated with the ESA which includes, on a nation-wide basis, many similarly organized groups of technical-professional employees in other companies. This federation, which held its constitutional convention in Chicago in 1952, originally had as charter members fifteen organizations with the following designations:

Association of Engineers and Engineering Assistants (AEEA)
Association of Industrial Scientists (AIS)
Association of Professional Engineering Personnel (APEP)
Council of Western Electric Technical Employees (CWEETE)
Engineers' Association (EA)
Engineers' Association of Arma (EA-Arma)
Engineers and Architects Association (EAA)
Engineers Guild of Oregon
Minneapolis Federation of Honeywell Engineers (MFHE)
Research and Engineers Professional Employees Assn (REPEA)
San Francisco Area Group of Professional Employees (SFAGPE)
Seattle Professional Engineering Employees Association (SPEEA)
Southern California Professional Engineers Assn (SCPEA)
TVA Engineers Association (TVA-EA)

The ESA is a national federation of employee groups, some of which engage in collective bargaining. Other member units, being made up of governmental employees, are precluded from collective bargaining. Being a federation the ESA
has no individual members but only the groups themselves. The organization handles matters of national scope, not interfering in the internal affairs of the member organizations.

The basic aim of this organization is that of promoting the welfare of engineering employees throughout the country. This purpose is achieved in these ways:

1. Representing the engineering and scientific employees before government bodies, the public etc. This includes public relations, lobbying, contacts with the NLRB, Congress etc.

2. Acting as statistical clearing house. This includes such things as salary and job evaluation surveys, industrial evaluation surveys, etc.

3. Organizing new member units.

The ESA receives its financial support in the form of dues from the member units. The dues are presently set at six dollars per year per individual member of a member unit.

*ESA and Professionalism*

Between 1952 and 1956 the membership in the ESA gradually declined as member units dropped out because of various internal problems and collective bargaining experiences. In 1957, those ESA units which were still affiliated, and several others which had joined ESA subsequent to 1952, split into two groups, those which wanted the ESA to consist of purely professional units, and those which wanted the ESA to represent both professional and non-professional technicians.

At the fifth annual ESA convention, which was held in Los Angeles in
May, 1957, the ESA constitution and by-laws were amended to insure that ESA would remain a completely professional organization. Those groups upholding the concept of a purely professional organization remained in ESA, while the remaining groups, those favoring a heterogenous organization consisting of mixed groups, withdrew and formed the Engineers and Scientists Guild (ESG).

As of 1958, the membership in each group was as follows:

**ESA MEMBER UNITS**

Council of Western Electric Professional Employees
Westinghouse Engineers Association - National
Association of Professional Engineering Personnel (RCA)
Seattle Professional Engineering Employees Ass'n (Boeing)
Wichita Engineering Association (Wichita-Boeing)
Southern California Professional Engineers Ass'n

**ESG MEMBER UNITS**

TVA Engineers Associations
Engineers Association - Sperry Company
Engineers and Architects Association of Southern California
Engineers and Scientists of California
Technical Association of Ward-Leonard
Railway Technical Engineers

The Engineers and Scientists Guild, which is constituted from groups splintered off from the ESA, at this writing is a paper group only. There has been no real attempt at organizational development. Apparently the heterogenous nature of the groups involved, the diverse nature of the goals of its
members and the difficulties of reorganization and consolidation of the member units have combined to thus far prevent serious integration activities.

In its sixth convention in 1958, the ESA took further steps to insure the homogeneity of its structure. In addition to strengthening and purifying still further the constitution and by-laws, the convention approved new qualifications for ESA officers and executive board members: (a) registration as a professional engineer under the licensing laws of a state or (b) a degree in science or engineering from an accredited institution of higher learning or (c) employment in an engineering, scientific or otherwise professional position within the characteristics set forth in Section 2(12) subdivisions (i) and (iii) of the Taft-Hartley Act for period of not less than eight years.

It may be seen from this short discussion of the tribulations facing ESA that the same problems of professionalism which led to the industrial relations conflict at Western Electric were being faced by many similar engineering organizations in the United States.
CHAPTER IV  

THE PURPOSE AND SCOPE OF THE RESEARCH

In the preceding chapters we have attempted to sketch for the reader a backdrop or frame of reference against which to view the research which is reported here. After the expiration of the last contract in November, 1955, the tempo of the disagreement quickened. The engineers were called upon to stage various types of collective demonstrations as evidence of solidarity. To these requests they were quick to respond. Slow-downs, walk-outs, mass meetings, picketing and other methods were employed by the Council as the union leaders attempted to shift the industrial conflict in their favor.

The Company was not idle during all this. Letters were circulated from top management to each engineer stating the official position on each major issue. Informal departmental meetings were held during which the first-line supervisors expressed the official attitude on each new issue. Payment was withheld and one-day suspensions were meted out to bring the engineers back into line after unusually bitter periods of disagreement. On one occasion certain engineers were locked out as a result of an exceptionally bitter exchange.

It is evident from all of this that the engineers in our study were exposed to unusual tensions and pressures in these recent years. Uncertainties and frustrations could easily have resulted in some realignments and reapprais-
als taking place. Both organizations, the Company and the union, must have undergone a detailed evaluation at the hands of most of these men who in their daily work life have become accustomed to critical and painstaking attention to detail. In the eight years of their unionized existence, these engineers have often been exposed to labor problems which seriously affected their way of life. They have observed the habitual reactions of the Company to the demands of their collective bargaining representative on the one hand while at the same time they have followed with personal involvement the tactics and strategies of this union organization as it attempted to obtain for them those freedoms and privileges which they felt essential to their professional growth.

A question naturally arises as a result of this pressure-ridden and stressful environment concerning the changing attitudinal pattern among these workers. More specifically we cannot help but speculate as to the effect this struggle has had on the allegiances of the engineers involved. As was mentioned in the first chapter, this abnormal situation may well be expected to bring about some shift in the traditional management-oriented allegiance among this type of worker.

Why Measure Allegiances?

In the usual blue-collar setting, limitations are necessarily placed upon an individual's activities and interests while on the job. Specific goals are set for each coordinated group and, as in the case of the Western Electric shop employees, certain incentives are used to bring about an attainment of those goals. Generally speaking, then, the work situation is pretty much con-
trolled and predictable.

In the professional plant community, however, the nature of the work is essentially different. Here the emphasis is upon creativity and freedom of thought. Here, too, the rewards are less obvious and the responsibilities more pervasive. The professional obligations of these workers demand that they devote themselves to a continuing attempt to improve the existing situation while at the same time planning a greater sophistication of future creations.

Such dedicated service involves loyalty to the goals of the institution involved. Unless genuine satisfaction exists among these professionals in this type of setting, the drive to create must surely be hampered. This type of creativity must be built upon a foundation of enthusiasm and trust.

It is no wonder, then, that the enlightened, modern, industrial organization endeavors to win quickly and retain consistently the allegiance of this key worker.

The present research has been designed in an attempt to discover whether, in the industrial conflict discussed earlier, the Western Electric Company has managed to retain the favorable attitudes and allegiances of its professionals.

A Discussion of Workers' Allegiances

In our examination of the attitudes and allegiances of the worker we have limited ourselves to those directly related to the work environment. In so doing we specifically excluded political, national or religious considerations from our discussion. Workers most assuredly do have allegiances to their
church, their political party and their country but these allegiances are not usually an essential part of the industrial milieu.¹ We would not expect a worker's loyalty to his country or religion to be affected by the treatment he receives as a professional at the hands of his employer.

A worker, be he blue-collar or white-collar, builds up a rather specific attitude toward the company for which he works. When he thinks of his company, or talks about it, this attitude reflects itself. It is more than simply a feeling about a specific supervisor, although sometimes a key supervisor may influence the development of a worker's attitude toward the company. It is more than the worker's attitude toward his position in the company, and more also than his feelings about his work environment or the benefits he receives. Just as a chemical compound is more than a mere sum total of the constituting parts, a worker's attitude toward his company is more than a sum total of his attitudes or feelings toward each facet of the work situation. There is something over and above these, a rather generalized set, which characterizes a worker's habitual mode of relating to his company as an institution. This mental set built up from and founded upon the countless experiences of the work situation, is not simply a conscious, logical way of thinking. There is, in addition, an underlying emotional element of acceptance or rejection characteristic of the

¹ A possible exception to this concerns the UAW. Some observers believe that this union will become more aggressive in political action in the future. cf. Arthus Kornhauser, Harold L. Sheppard and Albert J. Mayer, When Labor Votes, New York, 1956, 299.
worker's orientation toward the company as an institution.

Krech and Crutchfield have referred to this generalized set as follows:

When objects, or people or events have been involved in emotional situations in the individual's past, there are likely to be left permanent "traces" in the form of enduring predispositions for or against the objects, people or events. ²

In thinking about this disposition, the writer felt it necessary to consider the possibility that the psychological phenomenon involved was not an attitude but really a sentiment. The possibility of the latter was suggested by the element of love, loyalty and emotional involvement which frequently may be found enmeshed in the worker's way of relating to his company or his union. This is rather dramatically illustrated by the picket line violence which flares up occasionally during unusually bitter collective bargaining demonstrations. It is also exemplified in the extraordinary devotion and whole-hearted effort frequently discovered in the exceptional worker's daily work activities.

This element of pure affect, of emotional involvement, would be described by some authors as a sentiment. McDougall, in describing this concept spoke of it as that "which gives consistency, continuity, and order to our life of striving and emotion." ³

The decision as to which term, attitude or sentiment, to attribute to this predisposition was made after an analysis of the nature of the two concepts and the difference between them. Allport lists several such distinctions:

1. A sentiment presupposes underlying propensities (instincts), whereas attitude is a disposition within the organism considered without regard to its origins or source of energy.

2. An attitude may be either specific or diffuse in its reference whereas a sentiment is centered around a definite object. One could speak, for example, of an "antisocial attitude" but scarcely of an antisocial sentiment.

3. Sentiments are conceived as more lasting and hierarchical than attitudes need be. The transitory Aufgabe (task set) is an attitude as truly as an enduring philosophy of life, but it is not a sentiment.

4. Sentiment is conscious and benign while an attitude could cover both wholesomely conscious and morbidly repressed dispositions. 4

Generalizing from these distinctions, the concept of attitude appears more appropriate in describing the set of the worker in his typical way of thinking and feeling about his company or his union. This predisposition which acts as a guiding influence in many of the worker's specific evaluations of the work situation is diffuse rather than concrete, it may be either positive or negative depending upon whether the sum total of the work experiences has been satisfactory or otherwise. It may be consciously perceived or a sub-conscious entity, and it may be transitory, as in the case of the new employee or relatively permanent. 5

4 Ibid. 45.

5 Certain other authors have expressed strong preference for the concept of sentiment and strong dislike for the attitude unit. To Murray and Morgan, for example, "attitude seems to superficial, too motor, to represent the basic organization of needs and cathexes that is, to their minds, the core of sentiment." Ibid. 46.
Company Allegiance

It is this predisposing factor which we believe characteristic of the worker's way of relating to his company to which we have given the name "Company Allegiance." We could have called it "Company Acceptance" or "Company Favorableness" but the "Allegiance" concept carries with it something of the emotional element of pure loyalty which we believe should be emphasized when discussing the worker's basic company-directed orientation. Believing as we do that there is some single, common factor underlying and integrating the many disparate evaluations and feelings which constitute the psychological universe of the worker's work existence, we define "Company Allegiance" as follows:

Company Allegiance is an attitude of acceptance of the Company as a place to work built up and modified by countless occupational experiences. This attitude constitutes both a frame of reference and a unifying influence for the worker in his evaluations of the various aspects of the work situation.

Framing the worker's attitudinal orientation toward his company in this way it is clear that we are not referring to one specific act or response of the individual. Rather what we have is an abstraction from a large number of related acts or responses. For instance, when we state that a certain engineer has less company allegiance than another, we mean that engineer A's many different statements and actions concerning this organization are consistently less favorable than engineer B's.

This way of viewing the concept of company allegiance is entirely compatible with Allport's way of describing the attitude concept. In his discussion of this concept, Allport concluded that "an attitude is a mental and neural state of readiness, exerting a directive and dynamic influence upon the individ-
ual's response to all objects and situations with which it is related. It is clear that this scientist was not referring to one transitory response or one superficial reaction, but rather to a pervasive substratum which characterizes an individual's adaptation to a specific element in his environment.

The "unifying influence" of our definition and the "directive and dynamic influence" of Allport's are clearly in evidence in the research which will be reported in later chapters. The reader will note that there is a consistency in the pattern of responses which will be reported here. Workers who have high company allegiance have fairly uniform attitudes of favorableness toward most of the individual facets of the work situation being measured. Conversely workers who have no company allegiance have an equally consistent pattern of unfavorable attitudes toward these specific work-related areas.

Union Allegiance

For the unionized worker the labor organization to which he belongs is an essentially integrated element in his industrial existence. He votes to bring this institution into existence because of some basic needs which he believes it will satisfy. He pays dues to keep it strong and supports its policies in as many ways as he can, sacrificing at times the income he receives to support its program. In many ways the goals of this institution are in conflict with those of the company. It usually cares not for the company's goals as it seeks to

6 Ibid. 45.
gain greater benefits for its members. It calls out its members from their production lines and in so doing abruptly discontinues the planned functions of the employing organization. It demands expensive concessions for its members even if these mean that the employer will have to raise his prices to protect his margin of profit.

For all of this the weight of research in this area reveals that the American worker feels the union to be a necessary institution in that it provides him with protection, status and security in an industrial culture where automation and industrial progress have combined to threaten his social and economic status.

It is not surprising, therefore, that this worker feels a definite allegiance to this institution, an allegiance as strong and as pervasive as that which he feels toward the company which employs him. The research which has concentrated on the attitude of the American worker has rather uniformly found a high union allegiance to exist. As we shall illustrate in the discussion of the related literature in the next chapter, in most cases where there is a high company allegiance, the workers feel an equally strong feeling of acceptance and support toward the collective bargaining organization which represents them. Apparently the industrial employee, even when recognizing the fundamental differences between the two institutions, sees no inconsistency in maintaining favorable attitudes toward both. The present research will look closely at this aspect of the Western Electric unionized engineers' attitudinal anatomy.

Our definition of Union Allegiance is similar to the one we have
advanced for Company Allegiance with the one necessary change being that we substitute "of the union as an institution" in place of "of the company as an institution." In advancing this definition however, we hasten to add a word or two of explanation by way of differentiating the two concepts:

1. Company Allegiance and Union Allegiance are similar psychological phenomena in that each is built up essentially from the same raw materials, viz. the daily experiences encountered in the industrial environment.

2. These two attitudinal entities are different in two ways:
   a. The objects of the attitudes are different
   b. The formulation of the attitude is different in each case

The first difference listed, the differing objects of the two attitudes, requires no extended explanation. It is obvious that the two institutions involved, the company and the union, are essentially different from the viewpoint of organization, procedures, policies, goals, leadership, origins, and purpose. The second difference listed requires a modicum of explanatory comment. Company Allegiance comes about and proliferates as a result of the worker's evaluation of those facets of the work situation for which he holds the company responsible. Thus if supervision is adequate and employee benefits generous, for example, the worker may begin to adopt the favorable attitude toward the company which we call Company Allegiance. Union Allegiance, on the other hand, is a result of those aspects of the work situation for which the worker holds the union responsible. These might include such things as seniority, job security, pay, grievance procedures, work schedules, job qualifications, or any other facet concerning which the union engages in collective bargaining. This distinction is a fine one and fairly difficult to defend. If one could
categorically list certain aspects of the work situation which could be circumscribed by the nomenclature "company responsibility" and could do likewise for a selection which could be assigned as the responsibility of the union, the distinction would be more tenable. In the practical instance, however, such is not the case. In modern collective bargaining it is very difficult to find a specific aspect of industrial relations which is not subject to labor negotiations.

Regardless of this real confusion, however, it is admitted by most observers that the worker has no trouble in ascribing responsibility to one or the other institution. Thus one Western Electric engineer may credit the Council for the gains made in working conditions and pay during its existence and as a result of these and other evaluations may have strong Union Allegiance. Another engineer may attribute these gains to the generosity of Western Electric management and as a result may have high Company Allegiance. In either case, the engineer chooses certain aspects of the work situation which are important to him and uses these to form his attitudes toward each of the two institutions.

Dual Allegiance

In discussing the concepts of Company and Union Allegiance the writer was referring to real attitudes of the worker, attitudes which could be brought to the surface quite readily and concerning which the worker is usually quite capable of expressing himself. As the weight of previous research in this area has shown, the worker can clearly differentiate the attitudes he possesses in regard to his company as a place to work from those which deal with the union of which he is a member.
When we consider the psychological climate of the work place, however, it is possible to view these attitudes jointly. We may find that the worker has favorable attitudes toward only one of the two institutions, that he is unfavorable to both, or that he is ambivalent or neutral in regard to them. As we shall see from an examination of the research which has been done, however, the usual case so far encountered is none of these alternatives. Rather we find that the worker is quite favorably disposed toward both institutions. When such a condition is encountered the workers are said to have Dual Allegiance, which concept we define as follows:

Dual Allegiance refers to that industrial condition which is characterized by the phenomenon of the unionized workers possessing equally favorable attitudes of acceptance toward the company and the union. At any point of time the extent to which this condition exists may be inferred from a statistical comparison of the company and union allegiances which may be found to exist.

Much has been written about the value of this concept in industrial relations. Certainly, as we shall see, it is a valuable indicator of the psychological equilibrium of the industrial community. Also in those cases where a duality of allegiances is not found, the direction toward which the attitudes shift may be a subtle indication of the extent to which each organization will be successful in retaining the support of the worker in an impending industrial crisis.

The social scientists who have worked in this area speak with less assuredness concerning the extent to which this concept has practical, predictive value. The very fact that duality of favorableness exists makes ad hoc predictions extremely tenuous. The predictive value of the Dual Allegiance
concept remains an unexplored area of industrial research. The present research in touching lightly on this aspect of the Dual Allegiance phenomenon, will do little more than point the way for more detailed study by other researchers.

The Statement of the Problem

The present research has been designed to discover the extent to which the industrial condition herein defined as "Dual Allegiance" exists in a randomly selected sample of unionized Western Electric engineers. The verification of this hypothesis will only have transfer value in regard to the population from which the sample was drawn, namely the engineers at Western Electric who are union members. This research makes no attempt to measure or predict the attitudes of those engineers who have not become Council members. Since this latter group amounts to more than half of the total engineering population at this Company the results of the research should be interpreted with extreme caution and in no event should they be used as representative of the whole engineering work force.

A formal statement of the hypothesis to be tested in this study is as follows:

The industrial condition herein defined as Dual Allegiance will be found to exist among a randomly selected sample of Western Electric unionized engineers.

1. In verifying this hypothesis it will be shown that the sampled engineers possess equally favorable attitudes of acceptance toward both institutions; the Company and the Council.

2. This hypothesis will be tested as follows:
a. The last item of each of the two sections; Company Allegiance and Union Allegiance will be used in the statistical analysis involved. The rationale of this procedure is set forth in a later chapter. These items read:

- Everything considered, Western Electric is a fine place to work.
- In general I am well satisfied with the Council as the organization representing Western Electric Company professional employees.

3. Those respondents agreeing to both of these statements will be said to have Dual Allegiance.

4. The respondents agreeing with the first statement but not with the second will be said to have Company Allegiance but not Union Allegiance.

5. The respondents agreeing with the second statement but not the first statement will be said to have Union Allegiance but not Company Allegiance.

6. The respondents agreeing with neither statement will be said to have allegiances to neither institution.

7. DUAL ALLEGIANCE WILL BE SAID TO EXIST IF A SIGNIFICANT MAJORITY OF THE SAMPLED ENGINEERS RESPOND FAVORABLY TO THESE TWO ITEMS. Using a one-tail test, if the percentage of the sample having Dual Allegiance is significantly above chance, (50 per cent), at the 5 per cent level of confidence or better, Dual Allegiance will be said to exist. A one-tail test is suggested by the fact that we are only interested in the extent to which our sample significantly departs from chance in the direction of greater favorableness.

8. If Dual Allegiance is not found to exist and the stated hypothesis is disproved we will test the extent to which the level of Company Allegiance significantly differs from that of Union Allegiance in order to discover which institution has been more successful in retaining the favorable attitudes of the workers. Here the significance of the difference between the two proportions will be tested. In this case the test used will involve the formula for the standard error of the difference between proportions. Once again the differences must be significant at the 5 per cent level of confidence.
Before proceeding to a discussion of the research which was designed to test the above stated hypothesis it remains for us to review the research which has touched on this or similar areas of investigation. This will give the reader a necessary perspective from which to evaluate the implications of the present investigation.
CHAPTER V

REVIEW OF THE RELATED LITERATURE

Dual Allegiance Studies

This chapter will summarize the findings of thirteen research projects which attempted to explore relatively similar attitudinal areas. In eleven of these the findings suggest, usually quite distinctly, that Dual Allegiance existed in the industrial environment being studied. Only in two studies were conditions of unilateral allegiance reported. Thus, as we shall see from the weight of evidence included in this review, the phenomenon of Dual Allegiance is predominantly the rule in the usual industrial situation. In the one clear case of unilateral allegiance the study was conducted during a period of conflict, somewhat suggestive of the climate being experienced in the present research.

The Illini City Studies

A group of researchers from the Institute of Labor and Industrial Relations at the University of Illinois conducted a large-scale research project in eight Illinois establishments. The primary object of the study was a comparison of the union-management relationships in these companies.

The major finding of this research was that those firms ranking high in the percent of responses favorable to the company ranked high also in the
percent of responses favorable to the union. These findings supported the prediction that "men feeling positive allegiance to the company feel similarly about their union." Stagner concluded:

We are therefore led to the development of the concept of "attitudinal climate" and to the conclusion that this climate, whether favorable or hostile, tends to embrace both the company and the union . . . Our workers do not accept the inevitability of conflict nor do they accept the necessity of binding themselves to one group or the other. Apparently they look at the whole relationship, including company and union, as a single unit. They accept the status of dual allegiance, and, at least under normal conditions, seem to experience no internal stress as a result.

Research at the Local Union Level

Arnold Rose, studying the Teamster's Local 688 in St. Louis reached the conclusion that:

People can have loyalty to two or more groups or two sets of values even when these groups or values are in conflict. In concrete terms, loyalty to the union does not mean disloyalty to the employer.

Miller and Rosen in another study of a large local union noted that allegiance to the union (union solidarity) does not necessarily mean antagonism to employers.

Lois Dean, working at the New York State School of Industrial and Labor Relations, Cornell, studied union members in three unions.


2 Arnold Rose, Union Solidarity, Univ. of Minn. Press, Minneapolis, Minn., 189, 1952.

The object of the study was "To obtain some basis for a comparative analysis of the phenomenon of dual allegiance among unionized workers." The study employed two major research methods; an extended period of observation, interviewing of union and management personnel and a mail questionnaire of non-supervisory production in each of three plants. Miss Dean concluded from her data that:

Positive attitudes toward management may be related to positive attitudes toward the union, regardless of the degree of conflict in the union-management relationship. In any particular plant this "dual allegiance" tends to be modified in accordance with at least two variables, the general character of the union-management relationship and the extent of a worker's participation in an exclusively union environment.

Seidman, London, Karsh and Tagliacozzo made an attitude study of union members in six mid-western locals; coal miners, plumbers, steel workers, metal workers, knitting mill employees, and telephone workers. The study was concerned with attitudes toward company, union, and job. The research method was the interview of rank-and-file members as well as union leadership. An attempt was made to interpret the attitudinal pattern against the socio-economic background of the worker's job and lives. The treatment was qualitative rather than statistical. Some conclusions of the study were:

I. COAL MINERS

With only rare exceptions, the miners thought highly of their company, most of them pointing to fair treatment as the factor they liked.


5 Ibid. 535.
"They treat you like human beings" was a common remark. "The Company is a pretty nice place to work for." "You can talk to the bosses and they don't snub (sic) you off." "Like I've seen some jobs where the boss won't even answer your question."6

For most of the miners, unionism was a normal and natural part of the environment in which they grew up, an institution to be accepted and identified with almost in the way one's church is accepted. Loyalty to the union developed much as did loyalty to one's country.7

2. THE STEEL WORKERS

Most of the steel workers had a high regard for the company many of them asserting that it was the best place they knew to work. Many of the active unionists gave the union the credit for making the company a desirable one for which to work. "As long as you hold a stick over them it's O.K. If there was no union, none of us would like anything about the company. If there wasn't any union we'd be back to the days of 1935 and it would be hell."8

3. THE METAL WORKERS

The workers had a predominantly favorable attitude toward the company despite frequent qualifications or an underlying note of criticism. "It's a nice place to work, the foreman don't push you and let you work at your own pace."

(In regard to the Union)
The overwhelming majority joined willingly with some degree of conviction that the union was a valuable institution deserving their support. The great majority joined because of the conviction growing out of their earlier expressions that, with a union, a worker enjoyed better conditions and fair treatment and was better able to adjust any difficulty that arose.9

7 Ibid. 23.
8 Ibid. 72.
9 Ibid. 100.
4. THE TELEPHONE WORKERS

White-collar workers working for one of the operating companies of
the Bell System were also included in the Seidman study. As white-collar
workers it might be expected that their appraisal of the organization in which
they worked and the union of which they were members would differ somewhat
from that of the blue-collar worker. As we note in Seidman's remarks in this
section of the research, these workers are highly favorable toward the company,
somewhat less favorable toward the union, for which no great emotional ties
had been built up. Seidman remarks:

The telephone workers were overwhelmingly favorable toward their employer.
There was often enthusiastic praise for the company expressed in superla­
tives such as "It's the most wonderful place in the world, I like it." The
workers were gratified to be associated with a large and powerful corpora­
tion, without the apprehension prevalent among factory workers that the
company's power could be a threat to them. They likewise appreciated the
pension and other benefits, plus the fact that they were reasonably
assured of steady work, even during business recessions. Still others emphasized
the ease with which they were extended credit because they were telephone
employees."

(In regard to the Union)
Since most workers held a very favorable view of their employer, the most
important consideration leading them to join the union was the desire to
have some form of protection available in the event it should be necessary
... Implicit was the view that the company was fundamentally fair, though
this might not have been true of every minor supervisor. Factory workers
are far more likely to doubt the good intentions of their supervisor."

Seidman on Dual Allegiance

In discussing the typology of union members, Seidman separates his

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10 Ibid. 151.
11 Ibid. 155.
union members in various categories depending upon the individual's attitudes toward his union, his emotional and intellectual involvement in the union, and his attitudes toward the company. Thus he talks about The Ideological Unionist (He sees the union as an instrument for furthering his doctrine of social philosophy), The "Good" Union Man (Strongly emotional toward the union, he supports its policies and strikes without hesitation), The Loyal and Critical Member (Loyal to the union but prone to criticize its leadership for inefficiency, incompetence, dishonesty, etc.), The Crisis Activist (An active supporter, without emotional involvement, interested in the benefits he obtains from the union but without any interest in its internal life or its prestige), The Dually-oriented member (while loyal to the union, he views efficiency and production from the point of view of management), The Indifferent Member (joins the union to be part of the group, completely indifferent toward unionism as such), and The Unwilling Unionist (forced into the union against his will by legal or social pressures).

In discussing this typology, Seidman concludes: "It seems quite likely that most of our good men, loyal but critical members and crisis unionists would show dual allegiance..." 12

The Swift Studies

T. V. Purcell, S.J. of Loyola University in Chicago interviewed 192 hourly-paid meat packing employees in the Swift plant in Chicago, 121 in Kansas City and 114 in East St. Louis. In the Chicago plant he found that 73 per cent

12 Ibid. 249
of the workers had favorable attitudes toward both the company and the union, in Kansas City 78 per cent of the workers and in East St. Louis 99 per cent had favorable attitudes toward both institutions. He concluded from this attitudinal pattern that dual allegiance was a fact in this industrial environment. In his as yet unpublished book summarizing this research, he drew these conclusions:

Company Allegiance does not perfectly sum up all the company-related attitudes, nor Union Allegiance the union-related attitudes, nor does Dual Allegiance perfectly describe the interrelations between the two. This does not mean that Dual Allegiance theory fails to make an important contribution to understanding the American worker as employee and unionist. It does. But we cannot expect a single theory to explain completely by itself the complex relationships of the modern industrial plant. This is precisely why we have brought so much other data into our three comparative case studies. 13

A Sociologist Studies CWETE-N

Bernard Goldstein, at the University of Chicago, studied the historical development of the CWETE-N organization prior to the present crisis. His study was completed in 1955, just about the time the present study was begun. In his discussion of the concept of Dual Allegiance, he quarrels with Purcell’s definition of the term:

Until now the concept of allegiance has implied loyalty, the acceptance of duties and responsibilities, and the willingness to sacrifice for the sake of the institution to which one pays allegiance. Purcell asks his reader to


14 The Worker Speaks His Mind, Cambridge, 1953.
"stretch his conception to include our definition," but little seems to be gained in this process beyond added confusion. The paradox that this leads to is immediately clear in reviewing Purcell's findings. He found that 73 per cent of all employees displayed dual allegiance. But, in addition, 57 per cent of the foremen likewise showed dual allegiance. How a foreman can be conceived of as accepting membership in a group, that is, in the union, is difficult to imagine. There is now no way of predicting behavior on the basis of "allegiance."15

In this research, Goldstein found that the engineers he interviewed who joined the CWETE organization revealed no real bitterness toward the company. He states: "Clearly those engineers who joined the Council before it was certified did not view this as an act of disloyalty to the Company."16

Other Reported Instances of Dual Allegiance

John Riegel, in a study of eight manufacturing firms and six local unions, found that in those organizations where employee interest in company success had been built up consciously through management effort the company was able to operate at a larger margin of profit because of increased productivity and greater operating efficiency. He pointed out that:

Union leaders should not seek the exclusive loyalty of their members. Such an effort will only create costly friction between the employees and the managers who necessarily collaborate in producing goods and services for the consumers. We believe that a contest between the managers of a successful or prospectively successful company and the officers of a union for the exclusive loyalty of the company's employees will be a mistake unjustified by the economics of modern corporate enterprise. For although the employees have a partisan interest in increasing their share of the earnings of the company, they have an equal interest in increasing the total of those earnings in the re-investment of a portion of the earnings


16 Ibid. 240.
to strengthen further the company's competitive position."\(^{17}\)

Kunio Odaka, Chairman of the Department of Sociology at the University of Tokyo in a study of a Japanese steel mill and a coal mine designed to examine "worker identification with union and management," concluded from his data that "positive identification with both union and management was the most numerous class of response." Based upon this fact he attempted to establish a theory concerning what he calls "dual allegiance" of industrial workers to union and management.\(^{18}\)

The McGraw-Hill Research Department in a study of factory employees in thirty-two cities and twenty-four states, reports that "workers are more inclined than they were eight or ten years ago to believe that both the company and the union are interested in the welfare of the working man."\(^{19}\)

Katz, Jacobson, Willerman and others from the University of Michigan's Institute of Social Research surveyed workers in a large automotive plant. These authors state that "the great majority of workers see no fundamental conflict between the aims of the company and the aims of the union."\(^{20}\)

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19 "What Workers Think Now, Factory Management and Maintenance, September 1952.

In a study of four industrial local unions located in Michigan, Kahn and Tannenbaum observed that:

Active union members as a group do not express more hostility toward the company than do the inactive members. They both generally feel that the company is co-operating with the union and is being fair to its employees. This perhaps is an expression of dual loyalty on the part of many but not all actives.  

Instances of Uni-lateral Allegiance

The Bureau of Industrial Relations at the University of Michigan conducted a study of engineers' attitudes in ten companies, eight of which were manufacturers of mechanical products and two of which were public utilities. In none of these companies were the engineers unionized. A sample of 264 of these workers were asked to register their opinion in regard to collective bargaining for engineers and scientists.

The responses of these engineers were categorized into an eight point scale ranging from strongly anti-union to strongly pro-union. The range of possible weighted scores was from a minus 500 to a plus 500. A minus 500 would indicate that all the engineers in the sample were strongly anti-union. Using this scaling system Riegel found there to be a strong antipathy for the ideal of collective bargaining among these respondents:

The respondents, taken together, registered a degree of disfavor for collective bargaining which is shown by the figure -282. On a linear scale, this is approximately twenty-two per cent of the distance from the extreme of complete rejection and seventy-eight per cent of the distance from the extreme of complete acceptance.


22 John Riegel, Collective Bargaining As Viewed By Un-organized Engineers and Scientists, Bureau of Industrial Relations, Univ. of Mich.,1959,5.
We would expect, of course, findings such as these in organizations which did not have collective bargaining organizations for the engineers. The real contribution made by this study was the acquisition of information from these professionals concerning factors which might lead them into a unionized relationship. In this regard the importance of intangible rewards loomed as extremely important. Apparently the engineers interviewed in the Riegel study expressed a strong determination to preserve their professional freedom and status. Riegel reported that:

They want to be given personal responsibility for their assignments and to have freedom to manage their own work. They welcome being consulted on technical problems, and they appreciate business information pertinent to their projects... The importance of non-material rewards to engineers and scientists should never be lost sight of by their managers, whether or not these professionals are organized for collective bargaining. Such rewards motivate them to do their best work, and yield them the highest satisfaction in doing it."  

John La Point studied a small Illinois firm whose management was strongly antagonistic toward the union. As a result of this bitterness, feeling ran high. The findings indicated that those workers who favored the company were strongly anti-union and those who favored the union were strongly

23 For a discussion of this factor of "intangible rewards" cf. report on this subject by Riegel. Intangible Rewards for Engineers and Scientists, Bureau of Industrial Relations, Univ. of Mich., 1958.

24 Riegel, Collective Bargaining, 105.
anti-company. This finding of uni-lateral allegiance was made in an industrial situation characterized by conflict—a situation much like that being described in the present research.25

Kornhauser, Sheppard and Meyer's study of the UAW in 1956 brought out the finding that most of the workers studied tended to vote Democratic rather than Republican and they trusted the union's political recommendations rather than management's. They concluded from these findings that unionism for these workers was far from "the currently popular philosophy of emerging unity, basic harmony and 'Dual Allegiance.'" 26

Comment on the Related Literature

There are several differences between the research which has been summarized in this chapter and the Western Electric allegiance study presently being reported. With the exception of the Riegel study, these projects have all dealt with blue-collar or clerical white-collar workers. No research has thus far been reported concerning a union-management study among unionized professionals. In addition, most of the reported projects have been conducted during periods of industrial peace. Certainly the present research appears to be the only attempt thus far made to study the attitudes of professionals dur-


ing a period of industrial conflict. Thus the concept of Dual Allegiance is being put to a rather strenuous test. If the hypothesis of this study is not verified we may begin to draw some rather definite conclusions concerning the universality of the concept. If, on the other hand, we find that Dual Allegiance breaks down during industrial conflict, a finding which would support La Point's conclusions, we will be faced with the task of having to re-evaluate the practical implications of the Dual Allegiance concept.
PART II -- RESEARCH ON THE INSTRUMENT

CHAPTER VI

THE DESIGN OF THE RESEARCH

AND THE PILOT STUDY OF 1956

A Basic Design Feature

To test the underlying hypothesis of this study, namely, that the industrial condition of Dual Allegiance exists among the unionized engineers in our sample, we have designed a research instrument which explores a multitude of the various aspects of the company and the union as these relate to the worker. This instrument leads the respondent, step by step, through a series of discrete evaluations of each of a number of company-related and union-related facets of the work situation. At the conclusion of those evaluations dealing with the company, the engineer is asked to sum it all up, so to speak, and rate the company on the whole as a place to work. In like manner, when the engineers have completed the series of evaluations in regard to the union, he is asked to rate this institution as his collective bargaining representative. This generalized evaluation at the end of each major division of the questionnaire is then taken as an indication of this worker's allegiance toward the institution in question.
If we had asked the engineers to report their attitudes toward the company or the union without first leading them through this detailed evaluation of the various aspects of the work and union situation, the resulting rating would not necessarily have been a considered one, i.e., would not necessarily have been based upon a careful, conscious analysis of the more important aspects of the industrial milieu. Instead, this general evaluation could very easily have been little more than a rash judgment. This guided evaluation method is intended to diminish the possibility of that type of response. In addition, by studying the detailed responses, we are able to isolate many of those facets of the industrial situation which are unusually favorable or unfavorable from the viewpoint of the respondent. The use of this method, therefore, gives us a means of measuring the respondent's attitude toward the institution as a whole while at the same time providing us with the means of estimating what environmental influences have combined to form this basic attitude.

The Selection of Attitudinal Categories

As a result of a ten-year period of intimate association with the company involved in this study, the writer is familiar with the major aspects of the work environment as it applies to the engineering force. During this time he has had ample time to observe the various factors which the engineering employee considers as important to his industrial well-being. The development of a list of attitudinal categories to be used in this research was thereby made somewhat less arduous. Before the final version of this list was decided
upon, however, the writer made reference to the methods employed by the various researchers discussed in the preceding chapter. It was found that there was a sizable group of factors repeatedly referred to and concerning which there was good agreement. In addition, reference was made to the work done by the Industrial Relations Center of the University of Chicago. The Employee Attitude Research Group of this organization has developed an Employee Inventory which contains various factors or attitudinal categories similar to those tentatively selected by the writer for insertion in the present research instrument.¹

When a tentative list of these company-related and union-related factors was at last compiled, it was turned over to several interested first line supervisors and union leaders. Certain of the categories were modified or eliminated and several more were added as a result of the suggestions made by these people. There resulted a list which, for the purposes of this study, seemed to be fairly complete and equally acceptable to these company and union judges to whom the list was submitted for review.

The following is a list of these prominent attitudinal categories separated into the two divisions of "company-related factors" and "union-related factors":

<table>
<thead>
<tr>
<th>Company-related Factors</th>
<th>Union-related Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Job itself</td>
<td>Union Policies</td>
</tr>
<tr>
<td>Salary</td>
<td>Union Leaders</td>
</tr>
<tr>
<td>Advancement</td>
<td>Paid Area Leadership</td>
</tr>
<tr>
<td>Recognition</td>
<td>Finances</td>
</tr>
<tr>
<td>Communications</td>
<td>Publications</td>
</tr>
<tr>
<td>Working Conditions</td>
<td>Strikes</td>
</tr>
<tr>
<td>Company Publications</td>
<td>Against CIO/AFL Affiliation</td>
</tr>
<tr>
<td>Suggestion System</td>
<td>The Engineers &amp; Scientists of America</td>
</tr>
<tr>
<td>Fellow Employees</td>
<td>Grievance Machinery</td>
</tr>
<tr>
<td>Employee Benefits</td>
<td>Union Meetings</td>
</tr>
<tr>
<td>Discrimination</td>
<td>Benevolent Services</td>
</tr>
<tr>
<td>Employee Services</td>
<td>Service Fee</td>
</tr>
<tr>
<td>Company Allegiance</td>
<td>Discrimination</td>
</tr>
<tr>
<td></td>
<td>Social Activities</td>
</tr>
<tr>
<td></td>
<td>Minimum Professional Standards</td>
</tr>
<tr>
<td></td>
<td>Union Allegiance</td>
</tr>
</tbody>
</table>

Most of these categories are fairly obvious and need no explanation at this point in our discussion. There are several, on the other hand, which we shall discuss briefly for the sake of clarity.

Under the company-related factors, "Employee Benefits" refer to those fringe benefits other than salary which the company offers its employees as incentives to improve morale and decrease turnover. Examples of these are; the pension, death benefits, the stock plan, vacation pay, etc. "Employee services" are those small considerations given the employees by management to make their working existence somewhat happier, less burdensome, and more rewarding. Examples of these are; check cashing services, social clubs, an employee library, a savings and loan association, etc. The category entitled "Discrimination" refers to any formalized or systematic discriminatory practice of the company in regard to race, religion, color, political affiliation, fraternal group membership, or union membership.
Under the heading of union-related factors, there are several categories which merit some explanation. "Paid Area Leadership" refers to the problem of selecting and hiring a full time area Council chairman for intensified organizational and recruitment activities. At the present time this move has not been possible because of budget limitations and differences of opinion among the rank-and-file union members. The category "Against CIO/AFL Affiliation" refers to the possibility of this group affiliating with the trade union movement, a move advocated by some to bring more power against the Company in the present crisis. "The Engineers and Scientists of America" refers to the present affiliation of the Council with this federation of professional engineering unions. There are some engineers who argue against this tie. "Minimum Professional Standards" refers to the program set up by the Council to screen all new engineering employees prior to acceptance into the unit. Minimum Professional Standards Committees at the various works locations consider the qualifications of new employees, measures these against certain set criteria, and then decide whether the new employee is worthy of professional union membership.

The Research Instrument

The selection of research instrument was determined by the nature of the population to be sampled, time and cost considerations. Since the Council had requested that this be a national rather than a regional study it was not possible to employ an interview method in gathering the research data. The only alternative was a mail questionnaire.
The format for this instrument in turn was dictated by several considerations:

1. It should be so constructed as to incorporate the guided evaluation method discussed at the beginning of this chapter.

2. It must be comprehensive enough to include all the above listed categories and their related items.

3. The items selected for use should be in no way pejorative to either institution, the company or the union.

4. The scoring method to be used should be simple enough to preclude furnishing the respondent any extensive explanation.

5. The data collected from this scoring method should be such as to permit machine tabulation since the writer was limited by time and lack of clerical assistance.

In keeping with these requisites a questionnaire was constructed with two major subdivisions, one concerning company-related factors, and one devoted to union-related factors. The originally devised items included under company attitudes totalled 168. The total number of items in the union section was 145.

The items were composed so as to exhaust fairly well the category in question consistent with a necessary restriction on questionnaire length. For example, the "Job" category was made up of fifteen items covering various aspects of the engineering job, such as pride of work, pressure and tension on the job, job monotony, the amount of training required, the amount of responsibility associated with the job, and the personal satisfactions involved. As was mentioned previously, the intent was to have the engineer review each of these aspects of his job in order that his summing-up evaluation of the job as
a whole would be more meaningful and considered.

After the items were drawn up they were turned over to the group of company and union representatives who had acted as judges in the development of the major questionnaire categories. This group once again made many suggestions and constructive criticisms. As a result many modifications and additions were made which resulted in the questionnaire containing 183 company-related items and 155 union-related items.

The items were all couched in statement form, positively slanted, in each instance, to the institution involved. This was done in an attempt to keep questionnaire bias to a minimum and equally constant in all divisions of the research instrument.

The scoring method selected was a five point scale. The number 1 was circled if the respondent strongly agreed with the item, the number 2 score signified simple agreement, the 3 was a neutral score, the 4 represented simple disagreement, and the 5 strong disagreement. A ? was added for the respondent who didn't know enough about the topic in question to state an opinion intelligently.

The addition of the ? or "Don't Know" response category was decided

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2 In the design of the Employee Inventory, the Industrial Relations Center, Univ. of Chicago, utilized this same approach as a result of research on the question of item bias. Cf. SRA Employee Inventory, page 23, footnote 1.
upon after a perusal of the research of Rosen\textsuperscript{3} and Dunnette.\textsuperscript{4} These studies suggested that respondents who normally circle a "neutral" scoring category are made up of two distinct groups, (a) persons who lack sufficient information on the point in question to form an attitude and (b) persons who do have knowledge of the point in question, have considered the pros and cons, and have arrived at a neutral position. The inclusion of a "neutral" and a "don't know" category tends to eliminate this over-lapping response pattern.

\textbf{The Pilot Study}

After the questionnaire was completed and revised as a result of the criticism of the supervisors and union leaders to whom the writer turned for guidance, it was felt that by means of a pilot study the instrument could be still further improved before commencing a national study. Consequently, in the Spring of 1956, a small scale study, confined to the Hawthorne plant in Chicago, was conducted. This involved mailing a questionnaire to a stratified, random sample of fifty engineers. Each cell in this sample population, as in the subsequent national study, was directly proportional to its corresponding segment of the Hawthorne unionized engineering population.

The following table shows the proportions of selected engineers falling into the various cells of the pilot study sample:

\begin{table}
\centering
\begin{tabular}{|c|c|c|c|}
\hline
Cell & Proportion & & & \\
\hline
(a) & & & & \\
(b) & & & & \\
\hline
\end{tabular}
\caption{Proportion of Selected Engineers in Pilot Study Samples}
\end{table}

\textsuperscript{3} Hjalmar and Ruth Rosen, "The Validity of 'Undecided' Answers In Questionnaire Responses", \textit{Journal of Applied Psychology}, 1955, 39, 178-181.

TABLE II

CELL PROPORTIONS OF PILOT STUDY SAMPLE
HAWTHORNE UNIONIZED ENGINEERS, SPRING 1956 (N=49)

<table>
<thead>
<tr>
<th>Length of Service</th>
<th>Engineers of Manufacture</th>
<th>Industrial Engineers</th>
<th>Equipment Engineers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Service (1-5 years)</td>
<td>4%</td>
<td>2%</td>
<td>14%</td>
</tr>
<tr>
<td>Middle Service (6-15 years)</td>
<td>12</td>
<td>2</td>
<td>26</td>
</tr>
<tr>
<td>Long Service (16 &amp; Up)</td>
<td>12</td>
<td>4</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>28%</td>
<td>8%</td>
<td>64%</td>
</tr>
</tbody>
</table>

A word of explanation is pertinent here regarding the engineering classifications used in the above table and elsewhere in the report. The engineers in our study fall into three categories according to the specific nature of the duties involved as follows:

**Engineers of Manufacture:** Develop methods, practices, processes, tools, machines and materials used in the manufacture, maintenance and testing of dial central office equipment. Included in this category are some radio engineers who develop various types of electronic gear for radio transmission equipment.

**Equipment Engineers:** Prepare engineering specifications used in the construction or modification of dial central office telephone equipment. This activity involves analyzing the functions of telephone circuits, relations between these circuits and necessary control and power equipment, requisites for specialized operations, etc.
Industrial Engineers: Resolve manpower utilization problems, cost reduction and control studies, establish standard time study data, evaluate hourly and salary occupations, conduct time and motion studies etc.

While we include radio engineers in the "Engineer of Manufacture" category, there are no engineers of this type in the Hawthorne plant, this group being confined to the Southern Works area including Point Breeze, Baltimore, Winston Salem and Burlington.

In addition to this engineering classification we included a stratification by length of service in the event that it should prove feasible later in the research to compare the attitudes of the younger engineers with the longer service engineers, there being some evidence that the longer service technical employees were less union-minded than the younger fellow workers.

While the pilot study was intended merely to gather data for the purpose of purifying the research instrument, a discussion of the findings of this phase of the research appears to be in order to shed some light on the attitudinal climate of this group in the early days of the Company-Council conflict.

In order to position properly the reader in time it might be mentioned once again that the last contract between the two organizations expired in November, 1955. This pilot study was conducted a short time later, in April-June, 1956. The final study which will be discussed in subsequent chapters was conducted eighteen months later, in December, 1957. During this period the tenor of the negotiations quickened, the language used became more acrimonious, and the pressures brought to bear upon the engineers to shift their allegiances intensified. Consequently, the comparison of the attitudinal pattern found in the earlier study with that of the final study should reveal the extent to
which each organization has been successful in retaining the favorable attitudes and allegiances of the unionized engineers.

Explanations of Method

In the discussion of the pilot study findings as well as in the later examination of the final study data, the proportion of respondents favorable or unfavorable toward the category in question is taken from their response to the summing-up item concluding that category. For example, if it is reported that 61 per cent of the respondents are favorable toward their working conditions this should be interpreted to mean that this proportion circled either a "1" or a "2" for the item: "Working Conditions, on the whole, are satisfactory."

This method of interpreting and reporting the data was arrived at as a result of the following considerations:

1. It will be recalled that each category in the questionnaire contains a number of items, each of which dwells upon a distinct aspect of the category under discussion. Thus, in the "Job" category, such aspects of the Job as pride of work, pressure or tension, monotony, importance of the work, difficulties of learning the work, training, responsibility, personal satisfaction and allegiance to this type of work (professional allegiance) are explored.

It remains for the last item of this category, "On the whole I am pretty well satisfied with my job," to summarize the respondents' attitudes toward the category as a whole. None of the other items do this, and it would be difficult to deduce the attitude of these workers toward this category from any other item of the group.

Thus, while it is necessary to explore the various elements which go to make up the factor in question, it is also necessary to allow the engineer to express his attitude toward the category in general, putting himself at a psychological distance from the bricks and mortar, so to speak.
2. Someone may claim that this method has value only if the category has content validity, i.e., if the items used exhaust the attitudinal continuum involved. For example what proof have we that the fifteen items selected for use in the "Job" category sufficiently and accurately explore the full range of possibilities? We answer that in designing the pilot study we included, at the end of each category, an open-end question which allowed the respondent to add any comments he wished in regard to that category. Had there been any serious omissions in a given category, the open-end responses would have highlighted these. An examination of these responses revealed no serious weaknesses of this nature.5

3. Despite these arguments a question may be raised concerning the necessity of providing some statistical proof of the validity of this method. A statistical technique was devised, therefore, by way of lending credence to these arguments and to this approach. The statistical approach used was as follows:

If the last item of a category accurately reflects the respondent's attitude toward the category as a whole there should be close agreement between a measure of central tendency of the scale values of the various items of the category with the scale value selected for the last item. For example, if the mode scale value of respondent "A" for items one through fourteen of the "Job" category was a "3" and the selected scale value for the last item was also a "3" we may be fairly certain that this last item has accurately reflected the respondent's attitude toward the category in general. We do not mean by this that the summing-item accurately reflects the psychological structure of all the remaining items. Certainly each of the items listed in a category explore much too complex an attitudinal entity for such a simple device to be a valid psychological representation. We only claim that the statistical relationship is close enough to warrant our using the last item as a convenient numerical substitute for all the remaining items in a category.

The mode was selected rather than the average score since it was feared that the use of the latter might result in some error in those cases where extreme scores caused significant shifts in this measure of central tendency.

Using this technique it was possible to express the relationship between the scale value selected for the last item of a category with that of the remaining items. Forcing the scores into two artificial categories, "Favorable" or "Unfavorable," it was possible, using a tetrachoric correlation method, to express this relationship for the pilot study data. The tetrachoric method was selected rather than the Coefficient of Contingency since the latter provides correlations of a lower magnitude, a circumstance which can result in some problems of interpretation. Also the latter is more difficult and complex in computation. The use of the tetrachoric formula necessitated the writer's disregarding the neutral and don't know responses. However the incidence of these scores was low enough to result in no severe distortion. The following table summarizes these correlational data:

### TABLE III

**Statistical Relationship Between Scale Values Selected for Last Item and Those Selected for Remaining Items of Category, Pilot Study Data, Hawthorne Plant, April 1956, (N=49)**

<table>
<thead>
<tr>
<th>Category</th>
<th>( r_t )</th>
<th>Category</th>
<th>( r_t )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job</td>
<td>.97</td>
<td>Union Policies</td>
<td>.92</td>
</tr>
<tr>
<td>Pay</td>
<td>.76</td>
<td>Union Leader</td>
<td>.91</td>
</tr>
<tr>
<td>Advancement</td>
<td>.84</td>
<td>Paid Area Leader</td>
<td>.96</td>
</tr>
<tr>
<td>Recognition</td>
<td>.95</td>
<td>Union Finance</td>
<td>.90</td>
</tr>
<tr>
<td>Supervision</td>
<td>.74</td>
<td>Union. Publ.</td>
<td>.96</td>
</tr>
<tr>
<td>Communications</td>
<td>.83</td>
<td>Strikes</td>
<td>.88</td>
</tr>
<tr>
<td>Working Cond.</td>
<td>.90</td>
<td>CIO/AFL Affl.</td>
<td>.93</td>
</tr>
<tr>
<td>Co. Publications</td>
<td>.93</td>
<td>Griev. Mach.</td>
<td>1.00</td>
</tr>
<tr>
<td>Suggestion Sys.</td>
<td>.79</td>
<td>Union Mtgs.</td>
<td>.91</td>
</tr>
<tr>
<td>Fellow Empl.</td>
<td>.69</td>
<td>Bene. Serv.</td>
<td>1.00</td>
</tr>
<tr>
<td>Empl. Ben. Sys.</td>
<td>.82</td>
<td>Service Fee</td>
<td>.98</td>
</tr>
<tr>
<td>Discrimination</td>
<td>.86</td>
<td>Discrimination</td>
<td>1.00</td>
</tr>
<tr>
<td>Employee Serv.</td>
<td>.94</td>
<td>Social Activ.</td>
<td>.96</td>
</tr>
<tr>
<td>Co. Allegiance</td>
<td>.98</td>
<td>M.P.S.</td>
<td>.97</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Union Allegiance</td>
<td>.95</td>
</tr>
</tbody>
</table>

*The tetrachoric coefficient was arrived at by use of the estimate equation

\[
 r \cos \pi \cdot = \cos \left( \frac{180}{\sqrt{a+d}} \right)
\]
It should be emphasized that this devised method is at best only a
rough measure of agreement between the two groups of scores. For one thing the
trichoric method assumes normality, a condition which we cannot defend in
every category of the response data. In addition this technique is more vari-
able than a Pearson "r," especially when the N is small and the divisions of
the two sets of scores are not close to the medians. However, even allowing
for a sizable standard error of $r_t$ there still is sufficient evidence for
assuming close agreement between the last item of each category with the re-
mainin items in that group.

The Hawthorne Unionized Engineers' Attitudes in 1956 - Company-Related Atti-
tudes

There is one word of explanation needed which will help in understand-
ing the findings which will be reported below. Regardless of the label given
category it should be remembered that the various items were designed in such
way that favorableness toward the item indicates favorableness toward the
institution under consideration. For example, in regard to the category en-
titled "Discrimination," a proportion of 67.7% of the respondents were favor-
able toward the summing item which read, "On the whole I do not think there
are any formal discriminatory practices followed by this Company." In this
instance it is clear that favorableness toward the item is an indication of
favorableness toward the Company. Using this method of item design and scoring
the writer has made it possible for the reader from a brief scrutiny of the
attitudinal pattern, to obtain a general impression of the prevailing attitude toward the institution under study.

The following table summarizes the responses of the pilot study sample toward the summing item of each of the fourteen company-related categories:

### TABLE IV

**ATTITUDINAL PATTERN OF HANThORNE UNIONIZED ENGINEERS IN PILOT STUDY, APRIL 1956 (COMPANY-RELATED CATEGORIES, N=49)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Favorable</th>
<th>Unfavorable</th>
<th>Neutral</th>
<th>?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job</td>
<td>61.2% b</td>
<td>30.6%</td>
<td>6.1%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Pay</td>
<td>30.6% b</td>
<td>57.2</td>
<td>6.1</td>
<td>6.1</td>
</tr>
<tr>
<td>Advancement</td>
<td>14.3 b</td>
<td>65.3</td>
<td>10.2</td>
<td>10.2</td>
</tr>
<tr>
<td>Recognition</td>
<td>6.1 b</td>
<td>71.5</td>
<td>16.3</td>
<td>6.1</td>
</tr>
<tr>
<td>Supervision</td>
<td>36.7</td>
<td>44.9</td>
<td>16.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Communications</td>
<td>26.5 b</td>
<td>63.3</td>
<td>6.1</td>
<td>4.1</td>
</tr>
<tr>
<td>Working Conditions</td>
<td>40.8</td>
<td>55.1</td>
<td>4.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Co. Publications</td>
<td>42.8</td>
<td>46.9</td>
<td>10.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Suggested System</td>
<td>40.8</td>
<td>40.8</td>
<td>10.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Fellow Employees</td>
<td>89.8 b</td>
<td>4.1</td>
<td>6.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Benefit Program</td>
<td>51.0</td>
<td>42.9</td>
<td>6.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Discrimination</td>
<td>69.4 b</td>
<td>10.2</td>
<td>8.2</td>
<td>12.2</td>
</tr>
<tr>
<td>Employee Services</td>
<td>67.3 b</td>
<td>14.3</td>
<td>12.3</td>
<td>6.1</td>
</tr>
<tr>
<td>Company Allegiance</td>
<td>24.5 b</td>
<td>57.1</td>
<td>16.3</td>
<td>2.1</td>
</tr>
</tbody>
</table>

a. The "Favorable" category is made up of respondents circling a "1" or "2", the "Unfavorable" category of those circling a "4" or "5", the "Neutral" category of those circling a "3". The "?" category is made up of those respondents who did not know enough about the topic to express an opinion.

b. Significant Difference between favorable and unfavorable proportions at the 1% level of confidence or better using the Chi-Square.
A study of the attitudinal pattern contained in the above table sheds considerable light on the attitudes of those engineers as these were reported in 1956. Of the fourteen company-related categories studied there were four concerning which the respondents expressed favorable attitudes, five towards which they were unfavorable and five concerning which the group was rather evenly split.

Categories Evoking A Favorable Response

The four categories concerning which the respondents to the pilot study reported generally favorable attitudes were; the Job itself, Fellow Employees, Lack of Discriminatory Practices (formalized prejudices because of race, religion, color, nationality, union membership, etc.), and established Employee Services such as the employee library, check cashing services etc.

The first category mentioned, the Job, comes the closest of any in the study to getting at the engineers' attitude toward his profession. The concept of "professional allegiance" was selected by the writer in discussing this attitudinal area. The attitudes measured here encompass the engineer's genuine liking for his work, his acceptance of that work and the feelings of pride and accomplishment which this occupation provides him. The generally favorable pattern found toward this category would indicate that, at the beginning of the industrial conflict described here, these engineers in the main possessed this "professional allegiance," an attitude of acceptance toward and identification with the occupation to which they have devoted themselves.

Concerning the group of engineers who reported unfavorable attitudes
toward their job, an item analysis reveals three major problem areas; pressure and tension on the job, the monotonous nature of the duties, and the inability for these employees to see the results of their work whenever they wish.

In regard to the second category toward which the respondents expressed favorable attitudes, Fellow Employees, this favorable pattern is consistent with much of the other research which has been done in the industrial setting. Workers on the whole generally develop an easy informal relationship with their fellow employees. This is especially true of employees during periods of industrial conflict where the group solidarity becomes stronger under the real or imagined threats of strikes and lay-offs.6, 7

With the exception of one important area the respondents did not indicate any concern with discriminatory tendencies on the part of the Company. This one area concerns union membership. Sixteen per cent of the engineers surveyed felt that the Company discriminates against engineers who are union members and another thirty six per cent were either neutral or refused to express an opinion in this regard. This is an interesting finding. Apparently a good percentage of these engineers feel uncomfortable in their role as union members and defensively expect the Company to treat them in a less favorable way because of this affiliation.


Categories Evoking a Divided Response

Supervision, Working Conditions, the Suggestion System, the Company publications, and the Company Benefit Program were areas toward which these employees expressed rather evenly divided attitudes. As was noted in Table IV above, there were no significant differences found in the proportions of respondents expressing favorable as compared with unfavorable attitudes toward these facets of the work situation.

The engineers in the sample appear to be quite favorable toward their immediate supervisors. According to the respondents the only serious drawback characteristic of the first line of supervision is a certain degree of technical incompetence. The item "Our supervisors usually know their jobs, and ours," was considered unfavorably more frequently than any other item dealing with this supervisory level.

In regard to higher supervision, however, the sample was generally unfavorable. The majority of respondents did not feel that higher supervision was interested in the welfare of the average engineer, made no attempt to listen to his problems, and likewise made no attempt either formally or informally to meet with him in an attempt at achieving rapprochement.

In regard to Working Conditions it should be mentioned that the pilot study was conducted at the Hawthorne plant in Chicago, one of the oldest plants in the system. The engineering offices consisted of lofts at the top of the six-story factory buildings. Engineers were crowded together with no allowances made for noise and no provisions made for privacy. As many as 175 to 200 engineers, draftsmen, and technical clerks were assigned to a room. Each engi-
engineer had access to a phone which kept him in communication with the shop which was manufacturing his segment of the central office equipment on the boards. The consequent din from this alone was sufficient to create a small bedlam. Add to this the constant traffic through the aisles and around the desks as blue prints and specifications were picked up and delivered and the ceaseless traffic of other workers through these offices and you begin to visualize the disturbing conditions under which these men worked. In addition, the rest room facilities for each of these areas were designed for a much smaller work force, the buildings having been engineered as factory space. Over and above all this the ventilation for these offices was accomplished by use of large factory windows which, once each hour, during the dead of winter, were opened for five minutes to air out the rooms. In these same quarters, in the summer, these windows permitted smoke and soot from the belching factory chimneys to cover the blue prints and the workers.

Against this background the attitudinal responses of these engineers take on greater meaning. Examining the responses to the fifteen items in the "Working Conditions" category, we find that the main drawbacks, in the estimation of these workers, were: the untidiness of the work area, the inadequacy of the rest room facilities, the archaic method of ventilation, the high noise level of the offices, the lack of privacy in which to work, and the crowded conditions in the engineering departments.

It should be mentioned at this point that, since the pilot study, many of the engineers were moved to the Loop section of Chicago, the majority going to the Merchandise Mart. In making this move the Company took cognizance of
the physical handicaps under which these workers operated and instituted many improvements, such as partitioned divisions of the work space, air conditioning and smoking privileges (which were not permitted at Hawthorne because of the fire hazard). As a result of these changes we should see some improvement of attitudes toward the working conditions in the western area stratum of our national study.

In regard to the Suggestion System employed by the Company, a critical element is the fact that the engineer and scientist is expected to make suggestions in keeping with his professional role. Suggestions which are accepted, therefore, do not result in a tangible reward. In responding to the items in this category, the respondents were for the most part unfavorable toward this element of the system, indicating indirectly their feeling that this practice does not constitute sufficient incentive to extraordinary effort.

The Western Electric Company uses four methods of communication in disseminating information, news, current and future plans to the employees. The most important of these is the WE magazine, a company-wide periodical which carries articles dealing with almost any facet of the Company operation from a National Defense project to the installation of a new central office. Occasionally included will be a feature story about selected employees who have, in one way or another, become newsworthy. An example of this might be a telephone worker who won the Vail medal for heroism in an incident outside the call of duty.

A second method of communication is the local plant magazine, issued more frequently than the WE publication. This is in tabloid form and more in-
formal than WE. At the Hawthorne plant this publication is called The Microphone. The content would usually be confined to items of local interest, stories of local plant personalities, happenings of plant-wide scope etc.

Another organ is a newsletter called News Brief. This is a short release, issued at sporadic intervals, bringing the work force up to date on a major item of general interest.

Still another method of disseminating information is the employee letter, a release addressed collectively or individually to a group of workers. The content is usually devoted to a discussion of a collective bargaining issue or something of an equally serious nature.

In reacting to the items in the pilot study questionnaire dealing with these methods of communication, the engineers were mostly favorable in regard to the local plant tabloid, The Microphone, more critical of the WE magazine, News Briefs, and the employee letters. In regard to WE, the engineers felt that it contained stories which were in the main of little interest to them, being devoted to people, places and events far removed. The majority indicated that the editorial policy of this periodical could be substantially improved. The News Briefs were criticized because of its being circulated long after the item of interest had become general knowledge. The employee letters were disapproved of mainly because it is through this channel of communication that the Company discusses those collective bargaining issues with the engineers which are major sources of disagreement in the Company-Council negotiations. Apparently, these engineers were for the most part more prone to accept the information they receive on collective bargaining issues in the Council publications.
The Western Electric Company provides several noteworthy fringe benefits to its employees. These include a pay-roll deduction stock plan (A.T.& T. Co. stock), a retirement pension, a sickness or death benefit, and a vacation program. The engineers indicated strongly favorable attitudes toward the stock plan and the sickness benefits, were rather neutral toward the death benefits, and uniformly critical of the pension program and vacation practices.

In regard to the pension program, the major criticisms were that a) the pension of the average engineer was not sufficient to support him, b) the Social Security payments from the government should not be considered by the Company in setting its pension payments and finally c) the pension allowance was not tied in some way to the increases in cost of living. A large proportion of the sample indicated a preference for a contributory pension system to the one presently in force.

In regard to the vacation policies of the Company, there was a general feeling that these were not as liberal as those of other companies. In addition, the engineers disliked the practice of scheduling all vacations at the same time each summer. While the Company thinks that a complete stoppage of operations for two weeks in July is the most feasible arrangement, many employees feel the need to take their vacation at different periods of the year.

Categories Evoking an Unfavorable Response

The five categories which elicited responses which most mostly unfavorable were; Pay, Advancement, Recognition, Company Communications and Company Allegiance.
The Council has fought from the beginning of its existence for an improvement of the engineering salary structure throughout the Company. It has argued that there were three basic weaknesses in the present system, 1) The basis for determination of merit increases was inadequate, 2) the average salary among engineers at Western Electric does not compare favorably with that of other companies engaged in the same type of operation, and 3) the ratio between the salary of the longer service engineer and the beginning engineer has consistently decreased.

In a 1957 release, the Council supported its position with some figures. The average salary of a Western Electric Engineer in 1957 was $600 while the top salary for an engineer in the Company was $1060. This compares with an RCA engineering salary structure of $710 for the average engineer and $1312 for the highest paid. In addition, in 1957 forty-six per cent of the engineering work force received merit reviews as compared with seventy-seven per cent of the RCA engineers. In the same company-to-company comparison, it was pointed out that the RCA salary structure was based upon definite professional classifications through which the engineer moved by virtue of his performance and growth. Inherent in each class were definite salary increases and financial growth possibilities. The Western Electric merit increases, in 1957, were decided on the basis of multiple supervisory judgement, irrespective

8 Council Compass, July-August, 1957, 6,9.
of any structured professional evaluation.

In regard to the decreasing ratio between the salary of the beginning and the experienced engineer, this same release reviewed the salary trends in the Western Electric engineering work force between 1929 and 1957. The following data summarize this discussion:

**TABLE V**

**COMPARISON OF STARTING AND TOP ENGINEERING SALARIES**

**WESTERN ELECTRIC COMPANY 1929-1957**

<table>
<thead>
<tr>
<th>Date</th>
<th>Starting Salary (monthly)</th>
<th>Top Salary (monthly)</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>1929</td>
<td>$100</td>
<td>$360</td>
<td>3.60</td>
</tr>
<tr>
<td>1938</td>
<td>130</td>
<td>425</td>
<td>3.27</td>
</tr>
<tr>
<td>1946</td>
<td>230</td>
<td>640</td>
<td>2.78</td>
</tr>
<tr>
<td>1950</td>
<td>305</td>
<td>725</td>
<td>2.38</td>
</tr>
<tr>
<td>1954</td>
<td>365</td>
<td>890</td>
<td>2.44</td>
</tr>
<tr>
<td>1956</td>
<td>400</td>
<td>930</td>
<td>2.32</td>
</tr>
<tr>
<td>1957</td>
<td>465</td>
<td>1060</td>
<td>2.27</td>
</tr>
</tbody>
</table>

Not only has the Council been vigorous in arguing facts such as these with the Company, but it has been very loquacious in consistently communicating this information to the unionized engineers. Consequently, the rank-and-file union member is quite well informed in regard to these aspects of the Company's salary administration program. The following discussion of the respondents' reactions to the items in this category should be an indication to the reader of the extent to which the Council has been successful in getting its message across to the members.
In regard to their income from Western Electric, the engineers in the sample felt that there were not sufficient salary differences between the short, middle, and long service engineers. In addition, the majority indicated that they needed overtime compensation or outside employment to make ends meet, and that it was difficult to save on the engineering income. Also, the majority did not feel that advancement to positions of greater responsibility was necessarily accompanied by substantial financial adjustments. Not only did they feel that their pay level was low as compared with similar positions in other companies, but they indicated that there were many positions within the company of significantly lower importance which offered greater financial remuneration. In this regard the feeling was quite strong that the Company did not treat the professional in a more substantially generous way, salary-wise. The majority, seventy per cent, did not feel that they were receiving a just wage. In general the engineers indicated that the Western Electric salary structure in effect in 1957 was not a sufficient incentive in itself to remain with the Company.

Advancement in the engineering division is difficult. For every supervisory position, there are a large number of rank-and-file workers. A section chief in an engineering division may have thirty engineers under him and a department chief 120. An assistant superintendent may have 750 engineers in his division and the superintendent of a division well over 1500. Taking a typical equipment engineering division in existence in 1957, the ratio of supervisory to line engineer employees in the work force might have been in the area of 25 to 1. Looking upon promotion to a supervisory position as a step
upward, then, the average engineer was facing a fairly difficult competitive situation.

Even more serious was the problem of professional advancement. In 1957, as we have mentioned above, the Company had no formalized professional evaluation program tied in with professional classifications. Advancement was on the basis of the evaluations of the immediate supervisor, and his ratings were not necessarily made upon the basis of any standardized set of objective professional criteria. Therefore a man might move from the trainee status, to that of equipment engineer, checker, and section chief, not because of technical competence, but because of personal relationships. The reader will recall, in the above discussion of the "Job," that a large number of respondents felt the first line of supervision to be, to a certain extent, incompetent. The reason should now be apparent.

With the possibility of upward mobility hampered by a shortage of supervisory opportunities, and disgruntled by the more or less arbitrary procedures used in assigning professional classifications, the majority of respondents included in the pilot study were critical of the advancement possibilities open to them.

Recognition, in the context used here, refers to the rewards available to the engineer whose performance is superior. Some companies have bonus systems, some special stock offerings, others specialized salary structures for the outstanding professional. In 1957 Western Electric had none of these. Outside of the possibility of a somewhat more generous merit increase, or promotion to a supervisory position, the engineer in this Company had no incentive
for outstanding performance. Considering that the salary structure did not appear attractive to these workers, as evidenced by their responses in the present study, coupled with the difficulty of winning a promotion, the probability of the average engineer forcing himself to greater than called-for effort seems fairly remote. It is not surprising that only three of the forty-nine employees included in the pilot study were favorable toward the possibilities of recognition at Western Electric.

Between 1957 and the present the Company has been making some progress in this direction. A professional classification system, coupled with associated salary increases, has been put into effect. Those engineering employees, whom the Company decided were professional, were given the title engineer, while the marginal workers from the standpoint of professional qualifications were given the designation engineering associate. In addition, a professional journal for engineering articles was instituted. In the last two years, also, the Company developed a graduate training program for the more promising technical employees. Finally a more generous salary administration program was put into effect. In discussing the findings of the national study we shall note the effects these practices have had on the attitudes of the unionized engineers.

The category given the title "Communications" should not be confused with "Company Publications." The former refers to the methods used to disseminate technical information such as the "MDIs" discussed earlier. In addition it includes whatever means the Company uses to keep itself informed regarding the problems and attitudes of the work force. "Company Publications," as we have seen, refers to the various publications issued by the Company in commu-
nivating items of a morale-building nature or in reporting on some newsworthy incident in the Company operation. For our purposes we will define "Communications" as those facets of the Company's operating program by which the policies of the organization are made known to the line employees and by which the reactions of the employees are made known to management.

In addition to the "MDIs" (Manufacturing Division Instructions) which are used to set the practices and policies within a division, the Company makes use of "Bell System Practices," technical regulations of a system-wide scope, and the usual word-of-mouth downward communication from top management. In communications upward, reports from lower supervision are relied upon. The Company has not made use of the usual type of attitude inventory nor has it instituted any other formalized method of ascertaining the attitudinal pattern of its work force. In fact the one possible method of obtaining information in this area, the Western Electric Counseling program, is not available to the engineering employees.

How did the respondents of the pilot study react to the items in this section of the questionnaire? First of all, the majority felt that the Company was lax in informing its employees of contemplated changes prior to their being put into effect. Secondly, there was fairly strong agreement that the directives when finally issued were more often confusing than enlightening. Thirdly, there was a widespread feeling that the first line supervisor was unable to interpret the language of these directives to the rank-and-file engineer.

In regard to communications upward, the engineers felt that the Company was making no effort to listen to their problems, was therefore largely
ignorant of the effect certain of its policies was having on the professional work force.

The category "Company Allegiance" gives the respondent an opportunity to sum it all up and appraise us of his attitude toward the Company. We have seen the pattern of his attitudinal responses toward the major facets of the work situation and have heard his more serious criticisms. How did the problems which he has listed for us affect his acceptance of the Company as a place to work? What are we able to say of his Company Allegiance?

As shown in Table IV only twenty-five per cent of the pilot study sample had Company Allegiance. This is an extremely small percentage when viewed against the Allegiance pattern found in studies at the blue-collar worker level. This depressed allegiance pattern is more understandable, however, when viewed against the attitudinal pattern described above.

The extent to which the allegiance of these workers have been weakened by the present conflict may also be deduced from the manner in which they have responded to the other items in the "Company Allegiance" category. Only sixteen per cent of the respondents indicated that they would come to this Company to work had they to make this decision a second time. Only two per cent felt that they would want their children to work for the Company. Less than one-quarter of the sample indicated that they would recommend the Company as a place to work to their friends. Only twenty-per cent indicated that they would refuse a more lucrative job offer. In addition, only twelve per cent felt that the Company placed the welfare of its workers first and foremost in its operation and planning. Finally only eighteen per cent felt that the
Company was seriously interested in developing an adequate employee relations policy.

*Union-Related Attitudes, 1956*

The following table summarizes the responses of the pilot study sample toward the summing-item of each of the sixteen union-related categories:
TABLE VI
ATTITUDINAL PATTERN OF HAWTHORNE UNIONIZED
ENGINEERS IN PILOT STUDY, APRIL 1956
(UNION-RELATED CATEGORIES, N=49)

<table>
<thead>
<tr>
<th>Category</th>
<th>Favorable</th>
<th>Unfavorable</th>
<th>Neutral</th>
<th>?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union Policy</td>
<td>87.8%</td>
<td>4.1%</td>
<td>6.1%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Union Leaders</td>
<td>85.7</td>
<td>4.1</td>
<td>6.1</td>
<td>4.1</td>
</tr>
<tr>
<td>Paid Area Ldrshp.</td>
<td>71.4</td>
<td>10.2</td>
<td>18.4</td>
<td>0.0</td>
</tr>
<tr>
<td>Union Finance</td>
<td>75.6</td>
<td>2.0</td>
<td>6.1</td>
<td>16.3</td>
</tr>
<tr>
<td>Union Publications</td>
<td>95.9</td>
<td>4.1</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Strikes</td>
<td>3.4.7 b</td>
<td>49.0</td>
<td>16.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Against CIO/AFL Affl.</td>
<td>75.5</td>
<td>14.3</td>
<td>3.2</td>
<td>2.0</td>
</tr>
<tr>
<td>For ESA Affl.</td>
<td>85.7</td>
<td>2.0</td>
<td>12.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Grievance Machinery</td>
<td>77.5</td>
<td>0.0</td>
<td>14.3</td>
<td>8.2</td>
</tr>
<tr>
<td>Union Meetings</td>
<td>77.5</td>
<td>10.2</td>
<td>4.1</td>
<td>8.2</td>
</tr>
<tr>
<td>Benevolent Services</td>
<td>87.8</td>
<td>0.0</td>
<td>2.0</td>
<td>10.2</td>
</tr>
<tr>
<td>Service Fee</td>
<td>75.5</td>
<td>20.4</td>
<td>4.1</td>
<td>0.0</td>
</tr>
<tr>
<td>Discrimination</td>
<td>89.8</td>
<td>0.0</td>
<td>2.0</td>
<td>8.2</td>
</tr>
<tr>
<td>Social Activities</td>
<td>65.3</td>
<td>26.6</td>
<td>6.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Minimum Prof. Std.</td>
<td>75.5</td>
<td>8.2</td>
<td>6.1</td>
<td>10.2</td>
</tr>
<tr>
<td>Union Allegiance</td>
<td>79.6</td>
<td>16.3</td>
<td>4.1</td>
<td>0.0</td>
</tr>
</tbody>
</table>

a. The "Favorable" category is made up of respondents circling a "1" or "2", the "Unfavorable" category of those circling a "4" or "5", the "Neutral" category of those circling a "3". The "?" category is made up of those respondents who did not know enough about the topic to express an opinion.

b. No Significant Difference between the favorable and unfavorable proportions. In each of the other categories a Significant Difference between the favorable and unfavorable proportions at the 1% level of confidence was found using Chi-Square.

A glance at Table VI is enough to indicate to the reader that the respondents to the pilot study were strongly favorable to just about every facet of their union operation, program and leadership. In analyzing the individual
items in each category, the writer found it fairly difficult to find any substantial weaknesses in the attitudinal pattern of favorableness indicated in the above table. In this analysis the average score of each item was computed. By examining these average scores it was possible to discern some areas toward which the respondents were slightly less favorable. However, before beginning our discussion of this portion of the research, it should be emphasized that we are talking about minor differences. Thus, while we may be able to point to some areas where we find less than unanimous acceptance, even in these the attitudinal reaction was mostly favorable.

In responding to the "Union Policy" category, there were several items concerning which the majority were slightly less favorable. The first of these dealt with collective bargaining methods. Twelve per cent of the sample were not in favor of the Council's practice of using the unfair labor practice and the arbitration technique to gain an advantage in collective bargaining. Approximately twenty-five per cent were of the opinion that the Council's annual request for a general increase worked a disservice on the outstanding engineer, while at the same time unnaturally boosting the income level of the below-average worker.

In regard to the National Council leadership, the respondents were very favorable. Forty-three of the forty-nine respondents who returned questionnaires reacted favorably toward the national leadership, the other six were neutral. In addition the majority felt that the local leadership in each of the four areas was dedicated and effective and attempting to administer area affairs in an honest and intelligent way. When asked, however, if they them-
selves would be willing to assume a leadership role, sixty per cent were either uncertain or negative in their response. This is not a surprising reaction since the research which has been done on the personality of engineers and scientists indicates them to be frequently introvertive and reflective, traits which are not fully compatible with organizational leadership.\textsuperscript{9,10}

There was some difference of opinion in regard to the Council hiring full time area chairmen. The Council planned to finance this expense through bonds which were to be sold to the rank-and-file member. Fifty-two per cent of the sample indicated that they were not in favor of this method of raising money, and thirty-six per cent indicated their reluctance to vote for such a measure if the opportunity presented itself. In addition, approximately one third of the sample did not feel that a full time area chairman was necessary.

The "Strike" category was the one section of the union-related group which elicited a sizable number of unfavorable reactions from the engineers surveyed. The strike weapon has never been resorted to by this union. One day walk-outs, slow-downs, demonstrations, and picketing have been used, but there has never been a full-fledged strike called. In the author's opinion there are two reasons for this. First, the national Council leaders realize


\textsuperscript{10} Francis Paone, The Thurstone Temperament Schedule as an "Instrument of Engineer Selection, Unpublished Research Project," Loyola University, Spring, 1956.
that a general engineering strike would serve no useful purpose since the Company could operate for a long period of time without the engineering function. Secondly, there has been widespread feeling that the use of this technique is not compatible with professionalism. In their reactions to this section of the questionnaire, about forty per cent of the respondents felt that the use of the strike was beneath their professional dignity. The same percentage felt that there are other more effective methods of winning a collective bargaining debate. Forty-eight per cent indicated that they would not vote in favor of a strike if called upon to do so, and another sixteen per cent refused to commit themselves. Only twenty per cent of the sample felt that a willingness to strike was essential for strength in a collective bargaining organization. About half of the sample felt that, if a strike were called, there would be real difficulty in getting the rank-and-file union member to remain away from the job.

In summary this response pattern indicates this professional group to be rather evenly divided concerning the appropriateness and effectiveness of strike action.

With this reaction to the use of the strike weapon offered as a backdrop, the respondents' reactions to affiliation with the CIO/AFL become more meaningful. Only one third of the sample was in favor of an outright affiliation with a trade union. The indicated reasons were that such an affiliation would do great harm to the professional status of the organization. In addition, these engineers did not feel that the trade union leadership was in sympathy with their determination to advance the science of engineering as a profession. Indeed they felt that such leadership would be technically unable
to administer the needs of a professional group. However, there was some evidence that the status quo was itself not wholly desirable. Approximately thirty-six per cent of the sample did not feel that the Council was strong enough to gain its ultimate objectives single-handedly. Thus we see coming to the surface in this section of the research, the dilemma confronting these professionals. Reluctant to use the major weapon available to them in their industrial conflict, equally reluctant to align themselves with a strong trade union group, the engineers in our pilot study sample find themselves in a position of strategic weakness. Standing on their professional dignity and availing themselves of all the other legal techniques open to them, these workers have been attempting to gain with their intellectual resources what they cannot hope to achieve through force.

The Grievance machinery utilized by the Council is quite similar to that used in other unions. There is a Grievance Committee in each area to which a union member or his department representative refers any complaints or grievances. The Committee examines the problem to see if a contractual item has been violated. The Grievance representative for that department will then contact the appropriate level of supervision in an attempt to redress the grievance. For the most part this function operates smoothly in minor matters. In incidents involving major policies, however, the grievances work up through the various levels until New York headquarters personnel are involved. In these cases, the discussions usually bog down since they inevitably involve debates on contractual interpretation.

The engineers surveyed were quite favorable toward the Grievance Pro-
gram as a whole. They indicated a lack of knowledge in regard to its functioning, and were not too well informed concerning the specific nature of the cases handled. Apparently the Council had not taken any special pains to publicize the operations of this activity and consequently the union member was somewhat hesitant in expressing an opinion. One feeling did emerge quite clearly. Seventy per cent of the sample did not feel that the usual grievance could be settled at the first step. Since the Council has not published the percentage of grievances settled at each step in a given period it is not possible to verify whether this attitude is founded in fact. This response does indicate, however, that the engineers do not consider the first line supervisor to have the authority or competence to resolve satisfactorily the usual employee relations problem.

In regard to the Council sponsoring Social Activities, the majority opinion was negative. In reacting to the items in this category the majority of the respondents indicated that the Council was a collective bargaining, not a social organization. Consequently they were not too strongly in favor of Council dances, picnics, sports events or other social functions.

The Minimum Professional Standards Program was instituted by the Council as a means of preserving its professional integrity. M.P.S. Committees were set up at each Works Location and all new engineering employees were evaluated for inclusion in the unit in terms of their professional qualifications. The criteria used were those contained in Article 2 (12) of the Taft-Hartley law. Those employees not measuring up to these qualifications were not accepted as Council members.
In regard to the principle upon which the M.P.S. program was founded, namely the exclusion of sub-professionals from the Council, eighty-five per cent of the sample was favorable. Only twelve per cent thought that the criteria employed were too restrictive. The majority felt that the M.P.S. Committee was adequately performing its duties in judging membership qualifications, and approximately the same proportion felt that the decisions of the Hawthorne Committee were fair. When asked if, in their opinion, the M.P.S. program was effective in preventing the Council's being diluted with sub-professionals, however, about half the respondents replied in the negative. Apparently these respondents feel, as do the Council leaders, that NLRB adjudication is necessary in safeguarding their professional composition.

There were six categories the responses to which were so uniformly favorable that we shall not specifically deal with them in this discussion. They were: Finances, Union Publications, Affiliation with ESA, Benevolent Services offered by the Union, Union Meetings, the Service Fee which the majority of union members feel the non-member should pay, and Discriminatory Practices. In these categories there were, in all, fifty-three items, none of which elicited an average score higher than 1.95, which, on our "1" to "5" scale is "Very Favorable."

The category "Union Allegiance" allows the respondent to evaluate the Council as a whole, after having taken into consideration the many distinct facets of the union program. Ninety-six per cent of the sample indicated that some kind of collective bargaining organization was needed by the Western Electric engineers. Eighty-two per cent, in turn, felt that the Council was
adequately filling this function. Ninety-four per cent felt that they would vote for the re-certification of the Council if they had to do so. Finally eighty-four per cent of the sample indicated an attitude of general acceptance toward the Council, Union Allegiance, while another four per cent expressed neutral attitudes. This pattern of favorableness toward the Council and the general endorsement of its practices and policies is a clear indication of the degree to which the Council had won the support of its members prior to the beginning of the industrial conflict reported here. It will be interesting to see if the various devices employed by the Company to weaken this allegiance during the subsequent eighteen months has had any serious effect.

Dual Allegiance - 1956

It will be recalled that our definition of "Dual Allegiance" involved the statistical relationship of the engineers' attitudes toward each institution, the Company and the Council. By comparing each respondents' reactions to the Company Allegiance summing item with his response to the Union Allegiance summing item it is possible to arrive at a measure of the industrial phenomenon referred to as Dual Allegiance.

The following table summarizes the results of these comparisons:
TABLE VII
THE DUAL ALLEGIANCE PATTERN OF THE HAWTHORNE UNIONIZED ENGINEERS
APRIL, 1956 (N=49)

<table>
<thead>
<tr>
<th>Allegiance Patterns</th>
<th>Per Cent of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Allegiance, (Fav. to both Co. &amp; U.)</td>
<td>22.4%</td>
</tr>
<tr>
<td>Unilateral Company Allegiance (Fav. to Co., Unf., Neutral, ? to U.)</td>
<td>2.1</td>
</tr>
<tr>
<td>Unilateral Union Allegiance (Fav. to U., Unf., Neutral, ? to C.)</td>
<td>61.2</td>
</tr>
<tr>
<td>No Allegiances (Unf., Neutral or ? to both C. &amp; U.)</td>
<td>14.3</td>
</tr>
</tbody>
</table>

As a scrutiny of the above table will indicate, the industrial condition of Dual Allegiance was not present in the unionized engineering community at Hawthorne in the Spring of 1956. In the pilot study conducted at that time less than one-quarter of the sample possessed favorable attitudes toward both institutions, the Company and the Council. An equally important finding is the direction in which the allegiances had shifted at that time. Approximately sixty per cent of the engineers surveyed indicated a unilateral Union Allegiance while only two per cent confined their allegiances to the Company. Another group, constituting fourteen per cent of the pilot study sample, withheld their
allegiances from both institutions.

The Dual Allegiance concept, as utilized in this industrial setting, sheds considerable light upon the attitudinal climate resulting from the Company-Council conflict which had begun shortly before the pilot study was conducted. In specifics it tells us these things:

- A majority of the engineers surveyed apparently perceived the Company to be primarily responsible for the conflict which was then in existence. We may refer to these employees as comprising the Union Allegiance group.

- Coincident with this perception, these engineers have reacted by withholding from the Company their allegiance.

- Conversely, this same group, perceiving the Council as its protector, reacted by rewarding this institution with its allegiance and support.

In addition to this Union Allegiance group we have evidence that other, smaller, groups of engineers have formed different perceptions of this industrial milieu, and have, consequently, reacted differently in the formation of their attitudes. These groups may be characterized as follows:

- The Dual Allegiance Group, consisting of the engineers who, regardless of the issues involved, have preserved an essential "homeostasis" of allegiance, i.e. have remained loyal to both institutions.

- The No Allegiance Group, consisting of those engineers who perceived both institutions to be in error in their approach to the solution of the present conflict. These engineers have reacted by withholding their allegiances from both institutions.

- The Company Allegiance Group, consisting of engineers who perceive the Company as essentially right in its attempted solution of the conflict. These workers have reacted by favoring the Company with their allegiance, withholding it from the Council.

Thus, in the spring of 1956, when the labor-relation conflict between the Company and the Council had been in effect for six months, the pressures
brought to bear on these workers had resulted in their becoming segmented into various splinter groups, each of which differed from the others both in its perception of the conflict and in the ensuing appraisals made of the institutions involved.
CHAPTER VII

RELIABILITY, VALIDITY AND QUESTIONNAIRE REVISIONS

The pilot study, while yielding some suggestive data concerning the Hawthorne industrial climate in 1956, was conducted primarily to test the questionnaire for use on a larger, national sample of unionized engineers. The data obtained in the pilot study was therefore subjected to a careful analysis to test and "purify" the research instrument. This analysis included:

a. A Consideration of category homogeneity of reliability.
c. Questionnaire Revision
   1. Item screening
   2. Category elimination
   3. Scoring simplification

Category Homogeneity or Reliability

If we were to consider each category of the questionnaire as a test in itself, we could logically inquire whether each such test was reliable. Normally, parallel forms or test-retest methods are employed to arrive at a measure of this test feature. For obvious reasons these methods were not feasible in the present research. Fortunately several other approaches have been created to estimate reliability from item homogeneity.¹

¹ Harold Gulliksen, Theory of Mental Tests, New York, 1950, 220.
The method we have selected is the simplified Kuder-Richardson formula:

$$\gamma_{xy} = \frac{K}{K-1} \left[ 1 - \frac{M_x - \frac{M_x^2}{K}}{S_x^2} \right]$$

where $\gamma_{xy}$ is the reliability of the test

- $K$ is the number of items in the test
- $M_x$ is the test mean, and
- $S_x$ is the variance of raw scores on the test

Using this formula we were able to compute a coefficient of reliability for each category of the questionnaire and, using the summing items only, for each major sub-division of the questionnaire.

The following table summarizes the correlational data obtained from this operation:
**TABLE VIII**

**COEFFICIENTS OF RELIABILITY OF QUESTIONNAIRE CATEGORIES, WESTERN ELECTRIC STUDY, 1956 (N=49)**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>CATEGORY</th>
<th>COEFFICIENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job</td>
<td>Union Policy</td>
<td>.78*</td>
</tr>
<tr>
<td>Pay</td>
<td>Union Ldrs.</td>
<td>.78</td>
</tr>
<tr>
<td>Advancement</td>
<td>Area Ldrship</td>
<td>.75</td>
</tr>
<tr>
<td>Recognition</td>
<td>Union Finance</td>
<td>.55</td>
</tr>
<tr>
<td>Supervision</td>
<td>Union Publ.</td>
<td>.93</td>
</tr>
<tr>
<td>Communications</td>
<td>Strikes</td>
<td>.83</td>
</tr>
<tr>
<td>Work. Conditions</td>
<td>CIO/AFL Affl.</td>
<td>.90</td>
</tr>
<tr>
<td>Co. Publications</td>
<td>ESA Affl.</td>
<td>.91</td>
</tr>
<tr>
<td>Suggestion Sys.</td>
<td>Grievances</td>
<td>.85</td>
</tr>
<tr>
<td>Fellow Empl.</td>
<td>Union Mtgs.</td>
<td>.47</td>
</tr>
<tr>
<td>Benefit System</td>
<td>Bene. Serv.</td>
<td>.91</td>
</tr>
<tr>
<td>Discrimination</td>
<td>Service Fee</td>
<td>.86</td>
</tr>
<tr>
<td>Empl. Services</td>
<td>Discrimination</td>
<td>.87</td>
</tr>
<tr>
<td>Co. Allegiance</td>
<td>Social Acti.</td>
<td>.84</td>
</tr>
<tr>
<td>All Co. Categories</td>
<td>M.P.S.</td>
<td>.93</td>
</tr>
<tr>
<td></td>
<td>U. Allegiance</td>
<td>.93</td>
</tr>
</tbody>
</table>

*Coefficients of Correlation required at 5% and 1% Levels of Significance are .27 and .35 respectively.\

It may be seen from an examination of the above table that, with the exception of two categories, the various sub-sections of the test give indica-
tions of relatively high reliability of measurement. Furthermore, the coefficients for even these low categories, "The Employee Benefit System" and "Union Policy," are indicative of significant relationships at the 5 per cent level of significance.

In regard to the last coefficient shown for each major sub-division of the questionnaire, namely, "All Company Categories," and "All Union Categories," the technique used deserves mention. Just as the items of each category were inter-correlated through the use of the Kuder-Richardson formula as a means of determining the coefficient of correlation for that category, so also were the summing-items of each of these categories included in an over-all evaluation of the reliability of the major sub-division. By using this technique it was possible to determine the reliability of the major classifications of the questionnaire, i.e. the company-related attitudes, and the union-related attitudes. The coefficients of .84 and .93 for each of these segments, respectively, indicates the extent to which these instruments are reliable measures of the psychological phenomena being considered here.

Empirical Validity of the Research Instrument

The best validation for a psychological test is a statistical comparison of scores on the test with scores obtained from some external criterion. Thus if we were able to compare the attitudes of the respondents with their behavior on the job or in some union-related activity, we would be able to effectively demonstrate the extent to which this questionnaire was measuring what it was designed to measure. Unfortunately it has been impossible for the author to come up with a meaningful empirical measure of validity.
There are, nevertheless, some indications that the questionnaire does possess a high degree of validity. From all the communications we have read in the present conflict, we have been able to determine that the most serious points of contention between the two organizations have been Salary Levels, Advancement Opportunities, Recognition for Outstanding Achievement, Recognition as a Professional, and the Pension System. In addition we have frequently read union complaints dealing with Working Conditions and Incompetent Supervision. Also, from what we have been able to observe of the union-related activities, we are able to conclude that the union, in fact, does not condone the Strike weapon, and has been reluctant to educate the members to its use because of the widespread prejudice against it. When therefore we find, in reviewing the findings of the present research, that these same areas loom strongest as negatives in the attitudinal pattern being developed here, we have a logical argument for concluding that the questionnaire has validly measured what it was designed to measure, namely, the attitudes of the unionized engineers toward the more important facets of the work situation. Thus, while we cannot assign numbers to this relationship, we feel that the patterns disclosed in the pilot study have effectively demonstrated the validity of the measuring instrument.

Questionnaire Revision

Item Screening-

In order that each item of the questionnaire would sharply discriminate between the various attitudinal sub-groups of the national study, the dis-
criminative power of each item was analyzed using a "Q" technique. The intent was to eliminate any item which was ambiguous to the main body of respondents to the extent that the scores elicited were evenly spread across the five point scale. Such a screening would result in a questionnaire containing items which would be reacted to in a distinctly favorable or unfavorable way by the majority of respondents. This treatment not only somewhat shortened the questionnaire but reduced the number of items concerning which there was wide differences of opinion. The result should be a more efficient measuring instrument.

The method was as follows; Using a cumulative frequency ogive, the score dispersion of an item and its Semi-interquartile Range were computed. These values were obtained for each item in the questionnaire and those items were dropped the IQR of which was of the magnitude 1.50 or greater. This value was arrived at judgmentally, after a study of the IQR patterns for the various categories in the questionnaire. In all, forty-two items were eliminated from the questionnaire by the use of this method.

Category Elimination

Because of the passage of time, changes in the industrial situation, bargaining strategies, and many other factors, several categories which appeared important in 1956 were eliminated from the final study. The eliminated categories and the reasons for their being dropped are as follows:

**Employee Services** - A major relocation of engineering personnel to numerous other locations from plants such as Hawthorne made the Employee Service Program available to the engineers at each new location too complex to include in the study. An example of this is the check-cashing facility at Hawthorne. This service is not available for the Merchandise Mart or
Franklin Street Engineers.

**Paid Area Leadership** - Because of the financial straits of the Council in the present emergency, the issue of hiring full time area Chairmen is not too important and has not been an active consideration for some time.

**Benevolent Services** - Not a serious enough consideration during the present conflict. Consisted mainly of sending flowers and "Get-Well" cards to sick members, the Blood Bank, etc.

**Service Fee** - The Council at one time was demanding that non-members pay a small service fee to the union for services given them. This issue, like that of Paid Area Leadership, has decreased greatly in importance before the more serious problems facing the Council.

**Social Activities** - Not pertinent at this time because of the restricted nature of social events during the present conflict.

Thus, in the final version of the questionnaire, the total number of categories was reduced from thirty to twenty-five, and the number of items from 313 to 252.

**Scoring Revision**

In the pilot study a six-point scale was used; "1" being very favorable, "2," favorable, "3," neutral, "4," unfavorable, "5," very unfavorable, and "?," Doesn't Know. Several considerations led the writer to change this to a simple four point scale; "1," favorable, "2," neutral, "3," unfavorable and "?," Doesn't know. First, many of the engineers in the pilot study wrote notes on their answer sheet commenting that it was difficult to decide which to circle, the "very favorable" or the "favorable" response. Many suggested dropping the "2" and "4" score. Apparently the engineering mind sees blacks and whites and no greys. Secondly, the final survey results had to be entered on IBM cards. Using a six-point scale on 252 items necessitated the addition of a third IBM
card for each engineer thereby increasing the tabulation expense and difficulty.

In addition, in the analysis of the pilot study findings, the writer did not find it necessary to differentiate between those responses which were extreme from those which were more moderate. The reader will have noticed that in the discussion of the pilot study it was desirable to group the "1" and "2" responses and also the "4" and "5" responses into an favorable or unfavorable category.

The decision to shift from the six to four point scale was finally made after the writer had encountered the research completed by the University of Chicago on this same problem in the construction of the Employee Inventory. In the commercial version of this instrument this research is described, and from the data it is concluded that "These results indicate that, for the population for which this Inventory is designed, the use of a simple three-point scale yields substantially similar information as the use of a five-point scale when the extreme scale intervals are either weighted or unweighted."  

PART III - RESEARCH FINDINGS

CHAPTER VIII

THE NATIONAL STUDY - NOVEMBER, 1957
COMPANY-RELATED ATTITUDES

By the end of 1957 the CWEPE-N organization had been without a contract for two years. There had been an increasing amount of unrest among the engineers. In May of that year the Council, having given up its attempt to win a contract by means of direct negotiations, had petitioned the NLRB for a new certification election. This move was made to force the issue of professionalism. Subsequent to this there had been several informal meetings between the New York NLRB body and both organizations to resolve the problem concerning who would be allowed to vote in this election. Nothing came of these informal discussions and the problem went into a formal NLRB hearing.

This was the legal situation at the time of the national study. What about the psychological background? During the 1956-1957 period the Company had been taking steps to improve the morale of the engineers. Working conditions had been improved, several salary adjustments had been made, a graduate training program and an engineering magazine instituted. In addition, the Company developed a professional classification plan for the technical employees.
The Western Electric management, however, was adamant concerning the question of professional recognition of the engineers insofar as contractual agreements were concerned. This was evident by the Company's refusal to sign a contract which limited its hiring and selection policies for engineering jobs. Thus while many noteworthy improvements were made in the engineering milieu during the interim between the two studies being reported here, there was almost no progress toward the settlement of the basic dispute.

It was against this background that the findings of the national study, launched in November, 1957, should be viewed.

**Sample Description**

The national study was designed to cover all three Western Electric areas, the West, East and South. The names of four hundred Council members were drawn from the national Council's membership roster. Questionnaires were mailed both this group and to twenty-five Council leaders. Of this number 249 were returned, of which twenty-one were from the Council leaders. Of the 228 member questionnaires returned, thirty-three were discarded for various reasons, chief among which were: no personal data, careless completion, excessive multiple responses, too many omissions, etc.

The representativeness of the returned sample may be inferred from the following table which compares the actual cell proportions of the total Council membership to those of the members returning questionnaires:
<table>
<thead>
<tr>
<th>Cell Description</th>
<th>Membership Cells</th>
<th>Returned Mail Sample Cells</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EQUIPMENT ENGINEERS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WEST</td>
<td>26.3%</td>
<td>24.3%</td>
</tr>
<tr>
<td>SOUTH</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>EAST</td>
<td>17.5</td>
<td>16.2</td>
</tr>
<tr>
<td><strong>ENGINEERS OF MFR.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WEST</td>
<td>13.3%</td>
<td>17.5%</td>
</tr>
<tr>
<td>SOUTH</td>
<td>19.3</td>
<td>21.0</td>
</tr>
<tr>
<td>EAST</td>
<td>17.6</td>
<td>11.7</td>
</tr>
<tr>
<td><strong>INDUSTRIAL ENGINEERS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WEST</td>
<td>1.4%</td>
<td>4.6%</td>
</tr>
<tr>
<td>SOUTH</td>
<td>.7</td>
<td>1.2</td>
</tr>
<tr>
<td>EAST</td>
<td>2.9</td>
<td>3.5</td>
</tr>
</tbody>
</table>

It was not possible to compare the various cells on a length-of-service breakdown since this information was not made available by the Council. We are uncertain, therefore, concerning the nature of the length-of-service imbalances between the population and the sample in the three regions. This is unfortunate, since ideally we would have wanted to correct our sample by weighting for any cell imbalances whether of an engineering specialty, regional or length-of-service nature.
It was possible, therefore, to balance our sample on a regional and engineering specialty basis only.

It may be seen from this comparison that the sample cells quite closely resemble the population cells from which they were drawn and of which they are representative. This uniformity in the response pattern would indicate that, insofar as the indicated stratifications are concerned, there was a minimum amount of sample imbalances encountered. However, a question might still be raised concerning the extent to which the non-returnees in each cell were significantly different in their attitudes from those engineers who responded in the survey.

To determine the extent to which this condition may have actually occurred the allegiance responses of the engineers in the pilot study who returned questionnaires without follow-up letters were compared with those of respondents who sent in their questionnaires only after one or more follow-ups. There were twenty engineers in the first group and twenty-nine in the follow-up group. The average scores of both groups in regard to the company and union allegiance summing items were as follows:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>3.52</td>
<td>1.92</td>
</tr>
<tr>
<td>Follow-up</td>
<td>3.60</td>
<td>1.60</td>
</tr>
</tbody>
</table>

It is clear from this comparison that there was no significant difference in the attitudes of the two groups. It would seem logical that in the national
study, where no follow-up letters were used, the non-returnees would have responded in a manner similar to the engineers who returned questionnaires.

The Weighting Procedure

The weighting procedure we have used in correcting for the various cell imbalances involved these steps as described by Rosen:

1. By dividing the proportion of membership represented by a cell by the number of questionnaires gotten in that cell, a constant is obtained.

2. Multiplying this constant by the actual responses in any response category, we obtain the contribution of those responses to a weighted percentage response by category.

3. Adding the various response category percentages together gives a total weighted percentage response.\footnote{For discussion of this weighting procedure, cf. Rosen & Rosen, \textit{The Union Member Speaks}, N.Y., 1955, 183 and footnote.}

For ease of computation, tables were prepared by multiplying the constants by digits from one to the highest number in any category. Appropriate percentage values could then be read off the table for each response category.

The National Study - November 1957

In order to present the reader with a comprehensive yet simplified picture of the attitudinal pattern prevailing among the unionized Western Electric engineers in November, 1957, the basic data have been streamlined to permit inclusion into one table of the findings in total, by engineering specialty and by region. This was made possible by the expedient of reporting favorable and unfavorable proportions only in the following table. The discussion of neutral
## TABLE X
### ATTITUDINAL PATTERN, WESTERN ELECTRIC UNIONIZED ENGINEERS
#### NATIONAL SAMPLE, NOVEMBER 1957
##### COMPANY-RELATED ATTITUDES

(N=195)

<table>
<thead>
<tr>
<th>Category</th>
<th>Total Sample</th>
<th>Engineering Specialty</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(195)</td>
<td>Eqpt. Engr.</td>
<td>West (91)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engr. Of Mfr.</td>
<td>South (43)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ind. Engr.</td>
<td>East (61)</td>
</tr>
<tr>
<td>No. of Respondents</td>
<td>(195)</td>
<td>(79)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(98)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(18)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(91)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(43)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(61)</td>
<td></td>
</tr>
<tr>
<td>Job</td>
<td>72 16</td>
<td>73 15</td>
<td>76 16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>74 14</td>
<td>58 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>47 * 39</td>
<td>76 14</td>
</tr>
<tr>
<td>Pay</td>
<td>22 62</td>
<td>16 66</td>
<td>24 55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28 58</td>
<td>28 * 58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 66</td>
<td>18 72</td>
</tr>
<tr>
<td>Advancement</td>
<td>32 * 39</td>
<td>33 * 38</td>
<td>37 * 32</td>
</tr>
<tr>
<td></td>
<td></td>
<td>31 * 38</td>
<td>21 48</td>
</tr>
<tr>
<td></td>
<td></td>
<td>24 * 62</td>
<td>32 * 42</td>
</tr>
<tr>
<td>Recognition</td>
<td>14 58</td>
<td>15 58</td>
<td>17 54</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 59</td>
<td>12 60</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 54</td>
<td>13 63</td>
</tr>
<tr>
<td>Supervision</td>
<td>37 * 32</td>
<td>33 * 37</td>
<td>39 * 30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>43 * 27</td>
<td>28 * 39</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 * 53</td>
<td>40 * 32</td>
</tr>
<tr>
<td>Communications</td>
<td>31 * 39</td>
<td>32 * 46</td>
<td>31 * 46</td>
</tr>
<tr>
<td></td>
<td></td>
<td>32 * 34</td>
<td>24 * 47</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11 * 28</td>
<td>36 * 26</td>
</tr>
<tr>
<td>Work. Conditions</td>
<td>74 18</td>
<td>72 20</td>
<td>63 25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>75 17</td>
<td>76 17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>82 15</td>
<td>85 12</td>
</tr>
<tr>
<td>Co. Publications</td>
<td>56 20</td>
<td>53 25</td>
<td>56 23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>59 16</td>
<td>51 24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>53 6</td>
<td>59 14</td>
</tr>
<tr>
<td>Suggestion Sys.</td>
<td>33 47</td>
<td>51 22</td>
<td>49 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>46 * 30</td>
<td>33 * 47</td>
</tr>
<tr>
<td></td>
<td></td>
<td>63 15</td>
<td>57 20</td>
</tr>
<tr>
<td>Fellow Employees</td>
<td>92 2</td>
<td>95 3</td>
<td>93 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>88 2</td>
<td>88 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100 0</td>
<td>93 2</td>
</tr>
<tr>
<td>Benefit Program</td>
<td>56 15</td>
<td>57 17</td>
<td>59 13</td>
</tr>
<tr>
<td></td>
<td></td>
<td>57 12</td>
<td>63 9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>44 * 31</td>
<td>48 * 19</td>
</tr>
<tr>
<td>Discrimination</td>
<td>78 7</td>
<td>72 9</td>
<td>76 9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>84 5</td>
<td>77 9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>64 8</td>
<td>79 4</td>
</tr>
<tr>
<td>Company Allegiance</td>
<td>47 17</td>
<td>41 23</td>
<td>42 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>54 12</td>
<td>52 17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>32 * 15</td>
<td>49 14</td>
</tr>
</tbody>
</table>

*An asterisk has been placed between those pairs of proportions in a cell between which there is no significant difference. The favorable and unfavorable proportions in all other cells are significantly different at the 5% level or confidence or better using Chi-Square.*
attitudes is included in the comparison of the pilot study with the national study contained in the next major section of this chapter.

The Attitudinal Climate in 1957 - An Overview

As we examine Table X certain over-all patterns immediately appear. For one thing the attitudinal pattern, with minor exceptions, is relatively stable between regions and engineering classifications. In addition, there are sizable variations in the pattern of favorableness between categories.

On closer examination we find that these variations have resulted in the listed categories becoming separated into three divisions; the categories the items of which elicited mainly favorable responses, another group which elicited mainly unfavorable responses and still another group the responses to which were evenly divided.

The categories included in each of these groups are as follows:


Divided Response Elicited: Advancement, Supervision, Communications.

Unfavorable Response Elicited: Pay, Recognition, Suggestion System.

Taking advantage of this natural conformation of the data we will discuss the various aspects of the work situation under these headings. Later we will compare certain of these findings with those of earlier pilot study in an attempt to discover whether, in the western area at least, there had been any major shifts in the attitudes of these workers. Finally we shall discuss briefly the response patterns of the twenty-one Council leaders whose questionnaires we have received.
Differences in the response pattern between regions and between engineering specialties will be indicated where of sufficient magnitude.

Categories Eliciting Unfavorable Responses

Pay

Only twenty-two per cent of the engineers were satisfied with the salary administration program in effect for the engineering employees at Western Electric. The response pattern reported in the previous chapter in our discussion of this topic was repeated in the national study of 1957. Only fifteen per cent of the sample felt that a merit increase would be forthcoming when one was deserved. About half of the respondents reported that overtime compensation was necessary to make ends meet at home. Only eighteen per cent felt that their pay level compared favorably with that of other companies and approximately forty-two per cent felt that other jobs of lesser importance within the Company were higher paid. Actually half of the respondents reported that they were not able to save a moderate portion of their income. Only ten per cent felt that the present salary level was sufficient incentive to remain with the Company.

While this negative attitude was found in all engineering classifications at all locations, it was most severe in the East, among the Equipment and Industrial Engineers. The Engineers of Manufacture, who comprise a more highly skilled group, command better salary levels than either of the other two engineering specialties. Nevertheless, even in this group, over fifty per cent of the engineers were dissatisfied with their income.
Recognition

As the reader will have noted in his examination of Table X, the unionized engineers throughout the Company are uniformly dissatisfied by the lack of adequate incentives for the outstanding employee. Only fourteen per cent of the sample reported favorable attitudes in this area. This pattern of unfavorableness is characteristic of all engineering classifications and locations. We have indicated in the previous chapter some reasons for this. The tangible rewards usually available to the outstanding professional are for the most part not provided in this Company. With the salary levels constituting a source of dissatisfaction and with the professional status of these workers threatened it is not surprising that we find this pattern revealing itself.

What intangible rewards then, are available to these specialized workers? Riegel lists several such incentives frequently referred to by the engineers in his study.2 These include:

1. Association with other professionals of recognized ability
2. Opportunity to contribute to scientific knowledge
3. The respect of fellow scientists because of achievement
4. Treatment as a professional by the higher management
5. Membership in a company producing reputable goods and essential services
6. Opportunity to work on products, processes of a highly engineered nature

2 Riegel, 35.
Freedom to manage one's own work

Opportunity to see one's ideas put to use

A sense of job security because of attainments

Reviewing the engineering activities at Western Electric in the light of this list one finds several lacunae. The opportunity to contribute to scientific knowledge is limited to the engineers at the Bell Telephone Laboratories who alone are engaged in anything approaching pure research. The unionized engineers, of whom our sample are representative, do not engage in activities which lend themselves to applications of broader scope. Also, the engineer at Western cannot usually see the results of his efforts in any tangible way. In addition, the suggestion system, the only formal method available for presenting a new method for consideration, has been so structured that accepted suggestions do not result in a tangible act of gratitude on the part of the Company.

As far as treatment as a professional is concerned, eighty-six percent of the sample did not feel that the Company recognized the professional status of the engineering work force.

Finally, the opportunity of the engineer to find the necessary freedom to manage his own work is severely limited by the nature of the work and the size of the work force. Necessary restrictions have been imposed to insure the efficient flow of engineering work. Schedule and coordination requirements demand strict adherence to standardized procedures. Specialized modifications and refinements of circuitry have been largely eliminated by the "Bell System Practices," which have reduced most engineering activities to pre-set patterns.
It is possible to conclude from these considerations that, to a large extent, the possibility of the professional finding satisfaction in either a tangible or intangible way is fairly remote.

The Suggestion System

Less than one-third of our sample were favorable toward the operation of the Suggestion Program. Forty per cent felt that the engineers should be given a cash award for adopted suggestions. Fifty per cent of the respondents indicated that they did not consider the submission of suggestions a necessary part of their job. Conversely the Company refuses to grant financial rewards for adopted suggestions in the engineering divisions, because it maintains that this function is, in fact, part of the engineering job. Thus one of the few ways by which an engineer may improve his financial position is denied him.

Categories Eliciting Divided Responses

Company Communications

The items in this category are roughly divided into two sections, those dealing with communications downward, and those dealing with communications upward.

In regard to the former, as was mentioned earlier, we have reference to those formal regulations, directives, procedures, and published practices to which the engineer has recourse in the daily execution of his duties. In regard to the latter we include any devices used by the Company in gathering information about the work force.

The engineer respondents to our questionnaire are equally unfavorable
toward both modes of communication. Over sixty per cent indicated that they were not informed well enough in advance of any contemplated changes in their organization. Approximately this same percentage indicated that the Company was lax in periodically informing the engineers of new developments, future plans, and proposed personnel changes. Less than half of the sample felt that the directives issued were free of distortion or confusion. Over fifty per cent indicated that there were numerous instances in which these directives have resulted in serious misunderstanding in regard to recommended practices. Over forty per cent of the sample acknowledged that they were not fully competent in the use of these published regulations.

This confusion concerning mis-interpretation of published manufacturing and engineering practices may well be a reflection of the inadequacy of the training program in the engineering divisions. While it is true that these publications may occasionally appear ambiguous and misleading, it is more frequently true that sufficient instruction in their use would have reduced the probability of this contingency.

In regard to communications upward, the engineers, on the whole, did not feel that management was fully aware of their problems. Less than one-third of the respondents felt that their attitudes were accurately communicated to higher management, while only nineteen per cent appeared convinced that the Company ever made an attempt to become familiar with the wishes, needs, and problems of the professional work force.

Toward the subject of communications as a whole, only thirty per cent of the engineers were favorable. In terms of differences between segments of
our sample, the southern area as a whole and the industrial engineering respondents as a group were most frequently unfavorable toward the methods of communication employed.

Generally speaking, the engineer approaches his work with a healthy skepticism and questioning attitude, which marks him as an objectively-oriented, analytical thinker. In addition, as Danielson illustrates, he is frequently able to involve himself in his work to a much higher degree than would a rank-and-file blue-collar employee. Consequently impediments to a successful completion are a greater source of frustration and irritation to him. When the communication devices available to him, either in the form of written directives or verbal messages, are impeding rather than helpful, a serious strain is brought to bear. The network of communications within a professional organization is, therefore, a crucial factor, not only for operating efficiency but also for morale.

Advancement

Advancement for the engineer at Western is possibly of greater importance because of the difficulties involved in obtaining other forms of recognition for outstanding endeavor. When financial and professional recognition is relatively difficult to achieve in the routine of daily work, the path which

3 Lee Danielson, Characteristics of Engineers and Scientists, Ann Arbor, Michigan, 1960,12.
appears most promising is the one leading to promotion. Unfortunately this
too poses many problems to the professional worker. Advancement to a super-
visory position entails leaving behind the detailed, technical aspects of engi-
neering. Supervision to these men means administration. The first line super-
visor, with perhaps fifteen to thirty engineers under him, spends a great deal
of time scheduling jobs, coordinating the efforts of different engineering
functions, and doing, in addition, a large amount of personnel work.

Advancement, then, comes as a mixed blessing. While it may provide
some of the rewards which are sought but usually unattainable in a non-super-
visory capacity, these rewards are obtained at a sacrifice. To those engineers
who become intellectually and emotionally attached to their professional duties,
this transition is not a desirable one. Consequently the outstanding engineers
faces a dilemma. Driven to extra-ordinary effort by the need for recognition,
greater economic security, and love for scientific work, the professional at
this Company finds himself in a position of having to renounce many of his most
wanted pursuits if he is to attain these goals.

According to the respondents in the present survey, however, this di-
lemma is not one usually encountered, since the chances for advancement are
relatively poor. Over half of the respondents did not feel that outstanding
competence on the job was typically rewarded by timely promotion. About this
same proportion indicated that more often promotions were awarded on the basis
of politics or length of service. Consequently, when asked if "the men they
had grown to respect for their technical skill had been promoted to positions
of greater responsibility," fifty per cent of the sample replied in the negativ
Forty-three per cent of these employees went on to suggest that the Company was unfair in its advancement policies. About this same proportion indicated that they saw little chance of an opportunity developing in which they could move to a position of greater personal reward. In sum only thirty per cent of the respondents felt that there were sufficient opportunities for advancement available to them. Once again the industrial engineers and the respondents from the southern area were more unfavorably disposed in their response pattern.

Supervision

Danielson, in reporting the findings of the University of Michigan research dealing with engineers and scientists, isolates many of the important tasks facing the engineering supervisor. These may be summarized as follows:

—The need of the professional for greater freedom calls for freedom from close supervision

—The need of the professional for recognition entails individualized and interested treatment based upon the unique contribution made by the individual. Stereotyped group treatment will not suffice

—The professional's painstaking devotion to detail and perfection necessitates the supervisor's acting as a source of relief from tension and frustration

—The demand for accurate, up-to-date, technical information necessitates

4 Ibid., 14.
the supervisor's acting as a clarifying filter through which communications pass. 

We see from these considerations that the role of the supervisor is not simply one of administration and coordination. He must be extremely sensitive to the peculiar nature of the worker with whom he deals. While of necessity requiring the utmost in performance and quality of work, he must balance this with a warmth and permissive sympathy. Indeed, in the milieu presently being described, these aspects of his role may be of greater importance than in the more peaceful professional environment.

What, then, are the attitudes of the unionized Western Electric engineers toward their supervision? These respondents distinguished, in their attitudinal reactions, between first line and higher supervision. In regard to the former, the majority were mostly favorable; toward the latter, the attitudinal pattern became more critical.

Seventy-two per cent of the respondents were favorably impressed by the sincerity with which their immediate supervisors listened and sympathized with their problems. Fifty-four per cent felt that these superiors were absorbing much of the pressure which might have been brought to bear upon them. About this same proportion reported that their supervisors attempted to obtain proper recognition for outstanding performance. Sixty per cent felt that instructions and job specifications were issued in a clear, simple manner. Approximately this same proportion indicated that the first line supervision was fair in administering the engineering activities. In regard to the technical competence of these superiors, the respondents were slightly less favorable,
with only forty-five per cent of the sample expressing positive attitudes. In addition, this same percentage felt that their immediate supervisors were doing an adequate job of training.

This response pattern allows us to conclude that the first line supervisor is to a great extent fulfilling the role demanded of him in this difficult situation. In regard to higher supervision, however, these engineers feel differently. Sixty per cent indicated that top management was not delegating sufficient authority to local plant supervision. Only twelve per cent appeared convinced that higher supervision was sincerely interested in the welfare of the professional group.

Categories Eliciting Favorable Responses

The Job

With the exception of the engineers in the southern radio shops, the respondents were quite well satisfied with their jobs. The majority were convinced that their activities were providing a valuable contribution to the public welfare. In addition, there was a definite pride of work discernable, and in most cases a clean-cut allegiance to the profession in which these workers are engaged.

There were several weaknesses in this generally favorable pattern. Approximately half of the sample felt that there was an unusual amount of tension and pressure in their work. This is understandable when one realizes that the assignments on which these men work are carefully scheduled to tie directly into manufacturing and installation programs. While the engineer usu-
ally likes to devote himself to the fine details of his work, he often finds it impossible to check out these less important details because of the pressure of time. In addition this industry operates on a boom-or-bust basis. At one time the telephone companies are building new offices and modifying old equipment at a furious pace to keep up with population explosions or periods of prosperity and at another these same organizations cancel orders and retrench their expenditures almost over-night when a threat of economic recession appears on the horizon. This uneven scheduling of work results in uncomfortable stresses and tensions building up in the engineering departments.

Another cause of dissatisfaction concerns job training. Approximately forty per cent of the engineers did not feel that they had received adequate training. This complaint was strongest among the western area equipment engineers. In this engineering division, the training given a new engineer consists of coaching from an experienced man and a series of formal lectures on the telephone circuits being worked upon. This system breaks down since, in a great number of cases, the beginning engineer is not sufficiently well versed in the theory of electricity and circuitry to assimilate quickly the technical aspects of the work. The Council hopes to solve this problem by encouraging the Company to hire only graduate engineers.

Another frequent complaint dealt with monotony on the job. Approximately one-third of the engineers surveyed indicated their dissatisfaction with this aspect of the work. The problem is not one of job interest. The usual engineering job provides a large variety of interesting duties. The real prob-
lem is the fact that the average engineer never has the opportunity to inspect the results of his efforts. Separated physically, in most cases, from the manufacturing location, he is unable to visit the shop in which his frames are being manufactured. In addition, after manufacture, these frames are shipped to a remote corner of the country for installation in a central office. Consequently, the occasion only rarely occurs in which the engineer can actually observe his equipment under actual use conditions. The result of all this is that the engineer at Western Electric, particularly the Equipment Engineer, spends his work career writing specifications and preparing drawings, very rarely handling equipment.

Working Conditions

The subject of working conditions is rather difficult to discuss in generalities since these vary with the engineering location. At Kearny, at some southern locations as well as at the Hawthorne plant, many of the conditions described in the preceding chapter still exist. In others, notably the Loop engineering locations, in Chicago, the office facilities are more modern and these problems have been largely eliminated. The reactions of the respondents varied, therefore, according to their place of work. The Equipment Engineers, particularly in the West, were critical of the physical facilities given them, such as filing facilities and locker space. The Equipment and Industrial Engineers in the East indicated that they would like more consideration given their rest period accommodations. Usually no convenient facilities are available for coffee breaks, etc. All three groups indicated their displeasure with the
amount of noise in their engineering offices and with the large number of personnel assigned to one work area.

Outside of these shortcomings, however, the majority were not overly critical of the physical conditions of work.

Company Publications

As was indicated in the discussion of the pilot study findings, the engineers were more often critical of the formal WE publication than of the informal local plant periodicals (which were popular in all but the Southern area). The major criticism was that this publication dealt with topics of only peripheral interest to this group.

In responding to an item dealing with the newly instituted Western Electric Engineer magazine, the engineers were divided in their attitudes. Less than half the sample felt that this organ served a worthwhile purpose for the professional work force. Another twenty-five per cent had not yet formed an opinion, while an equal proportion were unfavorably disposed. The negative attitude toward this publication was most severe among the Western area equipment engineers. Apparently this magazine, which was introduced to heighten the sense of professional involvement of these workers, had not been fully accepted at the time of this study.

On the whole, the Company publications, toward which only about half of the respondents were favorable, are not too well received by these workers. Obviously designed for the work force as a whole they somehow fail to satisfy the interests and curiosity of this specialized segment of the work force. This
conclusion is supported by the finding that almost half of the respondents were critical of the fact that their type of work was seldom highlighted in these publications.

Fellow Employees

As the reader will note in Table X the engineers are very receptive of their fellow workers. The majority indicated that the men worked well together and reported little or no friction in the various departments. More than eighty per cent of the respondents felt that their engineering associates were as technically competent as any in the division. In addition over three-quarters of the respondents claimed to have formed lasting friendships among their fellow employees. These reactions are indicative of a healthy group environment in which the worker is accepted at face value and easily absorbed into the social milieu of the industrial community.

These responses, however, have dealt with the interactions which routinely take place among fellow workers. Between these workers and the Company another pattern has apparently taken shape. Forty-seven per cent of the sample felt that the morale of the men in the engineering group was low. This same percentage indicated that there was an unusual amount of dissatisfaction in evidence among the men with regard to their treatment at the hands of management. Finally a like percentage reported that many of the engineers were no longer content with their work. This unfavorable pattern was repeated in all three areas and in all engineering specialties. Thus we find an attitudinal climate, at the end of the eighteen month industrial conflict, characterized by
dissatisfaction and disillusionment. The issue of professionalism had apparently resulted in a widespread disarrangement of whatever healthy relationships the Company had developed over the years with this elite segment of the workforce.

The Benefit Program

Slightly over half of the respondents were favorable in their evaluation of the Company's fringe benefit program. These attitudes of favorableness were most frequently directed toward the stock plan, the sickness and death benefits, the accident policies and the hospitalization insurance. In regard to the vacation practices in force and the pension plan, however, the engineers were generally unfavorable. Less than forty per cent of the respondents felt that the vacation practices were as liberal as were offered elsewhere. About this same percentage were in favor of the standard July vacation schedule. The remainder indicated a preference for a more flexible arrangement.

In regard to the pension plan eighty-seven per cent of the engineers did not feel that the present practices provided the retired employee with an adequate income. About sixty per cent indicated that a contributory pension program would be an effective solution to this problem. In general, less than half of the sample felt that the Company was seriously concerned with the welfare of the older worker.

The pension question has been a hotly debated issue for some time both in Council negotiations and at stockholders' meetings. The Company has steadfastly maintained the position that its present program was as generous as
that offered at a large number of other companies. It repeatedly points out that as a public utility, and mindful of the welfare of the public and the stockholders, it must sharply control costs. In addition it points to the complete fringe benefit package which it feels marks it as outstanding in the area of employee relations.

**Discrimination**

The engineers in our sample indicated a very strong conviction that the Company has no formalized discriminatory practices in effect insofar as race, religion, political leanings, nationality, or fraternal group membership are concerned. As was brought out in the previous chapter, however, a sizable proportion of these workers feel that membership in the Council carries with it a certain amount of threat. Approximately forty per cent of the sample indicated that the Company may possess prejudicial attitudes toward those engineers who have joined the Council. An even larger percentage, (60%), felt that Council leadership activities were apt to result in prejudicial treatment.

These fears, as indicated by the above response pattern, do not have much foundation in fact. There have been numerous instances where the Company has promoted top-level Council leaders into first and second level management positions. Actually it is probably closer to the truth that active Council leadership may be a springboard to a supervisory position. As the engineer unionists involved in grievance committees or other union activities come into contact with management executives quite often, skills and managerial strengths are discerned which eventually result in promotion. It is safe to say that
more engineers have benefited from Council activities than have suffered because of them. Apparently both the Company and the Council alike are quick to recognize leadership characteristics when they become discernable.

**Company Allegiance**

When we arbitrarily placed Company Allegiance in the group of categories which elicited favorable responses, we did so merely because the proportion of respondents who reported favorable attitudes toward the Company was significantly larger than the proportion indicating unfavorable attitudes. Actually this favorable group comprises less than fifty per cent of the sample. For this reason we would have to admit that, on the whole, the engineers in our sample are not too favorably disposed toward the Company as a place to work.

This unfavorable pattern was noted in all engineering locations, and in each engineering specialty. As may have been noted in Table X, however, the Engineers of Manufacture were slightly more favorable, the Industrial Engineers by far the most unfavorable. We have seen many of the reasons for this potentially troublesome situation. In particular we have noted that the ways by which an engineer is usually rewarded for his efforts: increased salary, recognition, advancement, and awards for adopted suggestions, are to a great extent denied him. Confused over their professional status, torn between the two institutions which have been competing for their loyalties, disgruntled by many minor but irritating physical and psychological inconveniences, these workers have reacted by withholding their allegiance from the organization for which they labor.
In reacting to the various items in this section of the questionnaire, these workers reveal to us the extent of their dissatisfaction. Disallegiance reveals itself in many ways. Less than half of the sample indicated a desire to work for the Company had they the choice to make again. Only fourteen per cent would want their children to work for this organization. Considerably less than half of the sample would recommend the Company to a friend as a place to work. Only about the same proportion indicated that they felt a certain amount of pride in their association with the Company. Less than fifteen per cent of the group felt that the Company was seriously concerned over the welfare of its employees. Thus we see a repetition of the pattern found in the pilot study of 1956.

It is difficult to estimate the effect these adverse attitudes have had on the professional performance of this work force. One can only surmise that the enthusiasm which is needed for outstanding creativity and performance is missing. It is fairly evident, however, that the morale rebuilding job ahead for the management of this organization will be a difficult one. Whatever the outcome of the present collective bargaining impasse, it appears inevitable that, for the foreseeable future at least, a large segment of this group will be operating at far less than optimum efficiency.

Shifts in Company-related Attitudes - 1956 vs. 1957 - Western Area

In this brief discussion we shall compare the attitudinal pattern of the western area unionized engineers comprising the pilot study sample of 1956, with the respondents from this same area included in the national study of Nov-
ember, 1957. The purpose of this comparison is to determine, for the western area at least, if the developments in the dispute during this period have had any detectable effect on the company-related attitudes of these workers.

Unlike the discussion of the national study findings contained in the previous section, this longitudinal comparison will include, in addition to the proportions of employees favorable or unfavorable toward a category, the proportions of each sample indicating neutral attitudes. The inclusion of these data will permit a determination of whether or not the events of the interim period between studies have resulted in any major shifts from or toward a neutral position on any of the key issues being studied.

The following table summarizes these comparative data:
TABLE XI
THE ATTITUDINAL PATTERNS OF 1956
AND 1957 COMPARED, WESTERN AREA,
COMPANY-RELATED ATTITUDES

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>APRIL 1956 STUDY (N=49)</th>
<th>NOV. 1957 STUDY (N=91)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fav. %</td>
<td>Unf. %</td>
</tr>
<tr>
<td>Job</td>
<td>61</td>
<td>31</td>
</tr>
<tr>
<td>Pay</td>
<td>31</td>
<td>57</td>
</tr>
<tr>
<td>Advancement</td>
<td>*14</td>
<td>*6</td>
</tr>
<tr>
<td>Recognition</td>
<td>*6</td>
<td>72</td>
</tr>
<tr>
<td>Supervision</td>
<td>37</td>
<td>45</td>
</tr>
<tr>
<td>Communications</td>
<td>27</td>
<td>63</td>
</tr>
<tr>
<td>Work Conditions</td>
<td>*41</td>
<td>55</td>
</tr>
<tr>
<td>Co. Publications</td>
<td>43</td>
<td>50</td>
</tr>
<tr>
<td>Suggestion Sys.</td>
<td>41</td>
<td>41</td>
</tr>
<tr>
<td>Fellow Employees</td>
<td>90</td>
<td>4</td>
</tr>
<tr>
<td>Benefit Program</td>
<td>51</td>
<td>43</td>
</tr>
<tr>
<td>Discrimination</td>
<td>69</td>
<td>10</td>
</tr>
<tr>
<td>Company Allegiance</td>
<td>*25</td>
<td>*57</td>
</tr>
</tbody>
</table>

*The asterisk has been used here to indicate the categories concerning which there are significant differences at the 5% level or better between the 1956 and 1957 studies in the proportions of favorable vs. unfavorable respondents using the Critical Ratio method.

#This symbol has been placed between those favorable and unfavorable proportions between which there is a significant difference at the 5% level of confidence or better using Chi-Square.

In the statistical examination of the above comparative data we are
primarily interested in the extent to which the changes in attitudes indicated are statistically significant. We have chosen to use a parametric statistic thereby making the assumption that the distribution of scores in a given category are normally distributed. The technique consisted of testing the significance of the difference between proportions using the formula for the standard error of the difference between proportions.

Applying this test to the changes in proportions between samples, significant differences were found in four categories, all of which were at the 5% level or better. These were Advancement, Recognition, Working Conditions and Company Allegiance. In each of these categories there has been a significant shift from a less favorable to a more favorable pattern.

In addition to these, other changes occurred. In the Communications category, the 1956 study findings indicated a significant difference between favorable and unfavorable proportions with the majority of the respondents unfavorable. It will be seen from the above table that, by the end of 1957, the group represented had shifted to a more neutral position in that there was no difference found between the proportions of favorable as compared with unfavorable respondents. In regard to Company Publications, the Suggestion System and the Benefit Program the group shifted from a neutral position in each case to one in which the majority were favorable.

Thus, in eight of the thirteen categories, there had been significant improvements in attitudes in the period between the studies.

The only categories in which improvements were not found were; Job, Pay, Supervision, Fellow Employees and Discrimination. Of these, three had
elicited substantially favorable attitudes at the outset. Only in regard to Pay had the attitudes been relatively poor and remained that way.

It is clear from the data how this softening of attitudes had affected the company allegiance of this group. The proportion of respondents favorable to the Company as a place to work had changed from twenty-five to forty-two per cent. Thus, while the majority of the unionized engineers represented were still not favorable, there are indications that the attitudinal climate had vastly improved over 1956.

One of the strongest indicators of this is the increase in the proportion of engineers indicating neutral attitudes toward the Company Allegiance category. We see that this proportion has more than doubled in the interim between the two studies. Thus, while only forty-two per cent of the respondents possessed company allegiance at the end of 1957, thirty-eight per cent more were maintaining a neutral attitude. As the reader will note in regard to this category, the proportion of respondents definitely unfavorable toward the company had dropped thirty-seven percentage points, from fifty-seven per cent to twenty per cent.

In trying to explain this amelioration of the attitudinal climate several possibilities suggest themselves. As has been pointed out at various places in this study, the Company had been engaged in an earnest attempt to gain the loyalties of these workers. We shall reiterate what this attempt has consisted of. Many engineers have been relocated from the antiquated quarters at the Hawthorne plant in Cicero to modern offices in the Loop. These changes resulted in great improvements in the physical working conditions. In addition,
a graduate training program was put into effect. Also, a professional classification plan was instituted. This plan consists of three levels: engineer associate (for the sub-professional), engineer (for the fully qualified professional), and engineering consultant (for the most outstanding non-supervisory engineering employees). These levels have certain status symbols attached which intensify the professional nature of the group. The inauguration of the *Western Electric Engineer* magazine was probably designed to serve this same end.

By these moves the Company has succeeded in improving the engineers' attitudes toward Advancement, Recognition, and Working Conditions, and toward some of the other facets of the work situation. In the process, also, a sizable proportion of these workers have changed in their attitudes toward the Company itself. Unfortunately, by the end of 1957, the Company had still a long way to go in winning the majority of these workers over to a position of complete favorableness.

**The Council Leaders' Attitudes**

In this section we shall look briefly at a comparison between the attitudinal pattern of the Council members included in the national study of 1957 with that of the Council leadership. The sample of twenty-one leaders comprises about fifty per cent of the total Council leadership. Consequently, although the sample size is small, the standard error of the proportions to be reported are small also since the sample, in this instance, constitutes a very large proportion of the universe.

The following data summarizes the statistics to be compared:
**TABLE XII**

**ATTITUDES OF COUNCIL LEADERS AND MEMBERS COMPARED**

**NATIONAL STUDY, NOV. 1957**

**COMPANY-RELATED ATTITUDES**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>MEMBERS' ATTITUDES (N=195)</th>
<th>LEADERS' ATTITUDES (N=21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job</td>
<td>72</td>
<td>16</td>
</tr>
<tr>
<td>Pay</td>
<td>* 22</td>
<td>62</td>
</tr>
<tr>
<td>Advancement</td>
<td>32</td>
<td>39</td>
</tr>
<tr>
<td>Recognition</td>
<td>* 14</td>
<td>58</td>
</tr>
<tr>
<td>Supervision</td>
<td>37</td>
<td>32</td>
</tr>
<tr>
<td>Communications</td>
<td>31</td>
<td>39</td>
</tr>
<tr>
<td>Work. Conditions</td>
<td>74</td>
<td>18</td>
</tr>
<tr>
<td>Co. Publications</td>
<td>* 56</td>
<td>20</td>
</tr>
<tr>
<td>Suggestion Sys.</td>
<td>33</td>
<td>47</td>
</tr>
<tr>
<td>Fellow Employees</td>
<td>92</td>
<td>2</td>
</tr>
<tr>
<td>Benefit Program</td>
<td>56</td>
<td>15</td>
</tr>
<tr>
<td>Discrimination</td>
<td>* 78</td>
<td>7</td>
</tr>
<tr>
<td>Company Allegiance</td>
<td>47</td>
<td>17</td>
</tr>
</tbody>
</table>

*The asterisk has been used here to indicate the categories within which there are significant differences in attitudes at the 5% level or better between the members and leaders using the Critical Ratio method.

Of the thirteen categories compared, only in four were there significant differences between the attitudes of the members with those of the leaders. These are Pay, Recognition, Company Publications, and Discrimination. In each of these the Council leaders were more critical of the Company than the rank-and-file membership. The sharpest differences were in Pay and Recognition.
It is interesting to note that there was no significant difference in the proportions of members and leaders favorable toward the Company Allegiance category. However, upon closer examination, the reader will note that among the respondents of each group who did not possess Company Allegiance there were sharp differences. For example, the proportion of members indicating neutral attitudes toward Company Allegiance is three times that of the Leaders. At the same time the proportion of members actually unfavorable is less than half that of the leaders. Thus, while at first glance the Company Allegiance response patterns of the members and leaders appear similar, a more careful scrutiny reveals the leaders to be less positive in their orientation, more actively unfavorable toward Western Electric as a place to work.

In looking at the actual differences which were found between these groups, we gain a little insight into the problems peculiar to the Council leadership.

We must preface this by mentioning that the people who assume leadership roles in the Council are all Western Electric engineers who have been selected for leadership because of their loyalty to the Council and their willingness to give much of their time and efforts to Council activities. In addition, of course, leaders are selected also in proportion to the contribution they can make toward furthering the cause of their organization. Thus, engineers with college training in the social sciences and with knowledge of labor law and industrial relations would naturally be earmarked for early advancement in the Council. We might add that all leadership activities are conducted on
a part-time voluntary basis. Only the national chairman and vice-chairman are full time salaried union workers.

In regard to the differences in attitudes noted above the leaders are more critical than the members concerning their pay. There are probably two reasons for this. First, the Council Leadership has been actively indicating to the members that their salary level was low as compared with other engineering groups, and unfair when compared to other positions within the Company. Being, therefore, very familiar with the salary comparisons which are used by the Council in its arguments, these workers are more apt to be critical in this area.

But this is not the only reason. Since Council activities quite often interfere with engineering duties, many of these leaders cannot make the full contribution of which they are capable on the job. This sometimes results in their supervision holding them longer at a given salary level, not directly because of their Council activities but because of their relatively poor performance. A similar mechanism works in regard to Recognition as a professional. It is probably much more difficult for supervision to accord these employees full professional status when a great part of the time they are engaged in activities which to many management people are not compatible with professionalism. Also insofar as actual contribution on the job is concerned, interference of Council duties tends to diminish for some of these leaders the professional orientation they formerly possessed toward their work. These factors result in their professional contribution being less and their professional treatment
by supervision becoming correspondingly less enthusiastic.

The attitudes of these workers toward Discrimination, of course, ties into these related areas. Held at lower salary levels in some cases because of the interference of Council activities, treated at times in a less professional way by supervisors who may be antagonistic toward the purposes of the Council, these employees sense that the Company has actively been discriminating against them because they hold positions of Council leadership. Here we see an illustration of the principle of selective perception at work.

* * * * * * * * *

In the next chapter we shall look at the union-related attitudinal patterns of the unionized Western Electric Engineers.
CHAPTER IX

THE NATIONAL STUDY - NOVEMBER, 1957
UNION-RELATED ATTITUDES

The format for this chapter will follow that used in our discussion of the Company-related attitudes in the previous chapter. The attitudes of the respondents toward the various union-related aspects of the industrial milieu will be explored. A comparison will be made between the findings of the national study and those of the pilot study. In addition, we shall discuss briefly the attitudes of the Council leaders toward the organization which they head. Whereas, in the previous chapter we attempt to indicate what effects the various Company stratagems have had upon the attitudes of the rank-and-file Council member toward the Company as an institution, in this chapter we shall attempt to discover if these same techniques have had any appreciable effect upon the members' attitudes toward their union.

The attitudinal data for all regions and for all engineering specialties are summarized in Table XIII on the following page. The reader will note, when studying these data, that the categories once again break down into three divisions according to the degree of favorableness. Insofar as these union-related attitudes are concerned, however, the general level of favorableness, with one or two exceptions, is much higher than was true of the Company-related attitudes.
### TABLE XIII

**ATTITUINAL PATTERN, WESTERN ELECTRIC UNIONIZED ENGINEERS**  
**NATIONAL SAMPLE, NOVEMBER, 1957**  
**UNION-RELATED ATTITUDES**  
(N=195)

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>TOTAL SAMPLE</th>
<th>Engineering Specialty</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(79)</td>
<td>Fav. Unf. %</td>
<td>Fav. Unf. %</td>
</tr>
<tr>
<td>Union Policy</td>
<td>(98)</td>
<td>77 * 11</td>
<td>76 13</td>
</tr>
<tr>
<td>Council Leadership</td>
<td>(18)</td>
<td>83 4</td>
<td>85 5</td>
</tr>
<tr>
<td>Union Finance</td>
<td>(91)</td>
<td>75 5</td>
<td>71 9</td>
</tr>
<tr>
<td>Union Publications</td>
<td>(61)</td>
<td>76 9</td>
<td>76 9</td>
</tr>
<tr>
<td>Strikes</td>
<td>(43)</td>
<td>14 60</td>
<td>14 65</td>
</tr>
<tr>
<td>CIO/AFL Affiliation</td>
<td>(44)</td>
<td>90 4</td>
<td>85 8</td>
</tr>
<tr>
<td>ESA</td>
<td>(100)</td>
<td>63 14</td>
<td>55 20</td>
</tr>
<tr>
<td>Grievance Machinery</td>
<td>(72)</td>
<td>69 4</td>
<td>70 6</td>
</tr>
<tr>
<td>Union Meetings</td>
<td>(66)</td>
<td>65 11</td>
<td>65 15</td>
</tr>
<tr>
<td>Discrimination</td>
<td>(66)</td>
<td>98 1</td>
<td>95 3</td>
</tr>
<tr>
<td>Minimum Prof. Stds.</td>
<td>(66)</td>
<td>63 7</td>
<td>61 10</td>
</tr>
<tr>
<td>Union Allegiance</td>
<td>(66)</td>
<td>81 10</td>
<td>84 9</td>
</tr>
</tbody>
</table>

*The significance of the difference between proportions has been tested for all of the cells in the table. The differences in all instances have been found to be significant at the 1% level using Chi-Square.*
The categories may be divided as follows:

Category Eliciting Unfavorable Response: Strikes

Categories Eliciting A Moderately Favorable Response: The Engineers and Scientists of America, Grievance Machinery, Union Meetings and Minimum Professional Standards.


The One Category Eliciting An Unfavorable Response

Strikes

The unionized engineers as a group are against the use of the strike as a collective bargaining weapon in the present conflict. Only 14 per cent of the sample was in favor of going on strike to break the deadlock which was in existence at the end of 1957.

An analysis of the items included in this category indicates some of the reasons for this position. Forty-nine per cent of the sample indicated that it was beneath the dignity of the professional to strike. Forty-five per cent were of the opinion that in this industrial situation the use of the strike would not effect a solution to the problem. Only twenty-seven per cent of the respondents were convinced that a strike would produce a basic change in the Company's position.

It is interesting to examine the perceptions these workers have of their fellow engineering unionists in regard to this question. Only thirty-three per cent of the sample thought that the other Council members would walk out if asked to do so. At the same time, when asked if they themselves would
stay out a week or more if necessary, over fifty per cent of the sample replied in the affirmative.

The attitudes toward the strike were much more favorable in the East, most negative in the South and especially among the Industrial Engineers as a group.

It is rather difficult, as a result of this kind of response pattern, to predict exactly what would happen if the Council leaders asked the membership to strike. The opinions expressed in this category, however, gives us some grounds for supposing that in such an event, probably less than half of the membership would respond. Fearing just such an eventuality, the Council leaders have wisely refrained from using this weapon. An unsuccessful strike is one of the fastest roads to ruin for a labor union.

Categories Eliciting a Moderately Favorable Response

The Engineers And Scientists of America

Sixty-three per cent of the respondents were in favor of the Council's affiliation with the E.S.A. at the end of 1957. About twenty per cent were neutral in their attitudes toward this affiliation and another fourteen per cent were unfavorable.

In regard to this affiliation, and by way of explaining their reasons for the favorable attitudes indicated, seventy-five per cent were of the opinion that the E.S.A. helped the Council maintain its professional status. Approximately this same percentage indicated, in addition, that this organization provided an effective avenue of communication for professional units similar to
the Council. This same proportion of the sample expressed the opinion that the E.S.A. was the most effective way of organizing other professional groups similar to the Council. Approximately fifty-nine per cent of the respondents felt that the E.S.A. was a powerful force in the engineering profession's struggle for status, dignity, and recognition.

The Engineers of Manufacture, in all three locations, were more often favorable toward this affiliation than their fellow unionists in the other engineering specialties. This group, which is recognized as being of higher professional status than the other two segments of technical work force, apparently recognize in the E.S.A. a safeguard to the professional status they have earned by virtue of their training, experience, and contributions.

A small group of the respondents, fourteen per cent of the sample, were unfavorable toward this affiliation. The reasons advanced for this position were chiefly these: (1) The annual dues paid this organization was an unnecessary drain on the financial resources of the Council, especially during the present conflict with the Company, (2) The separation of the sub-professional units from the E.S.A. was not a necessary step and only resulted in a weaker organization and (3) The relationship with this federation has not helped the Council materially in its present struggle with the Company over professional integrity.

Grievance Machinery

While seventy per cent of the respondents indicated general satisfaction with the grievance program, there were some indications that these engineers would like to see some improvements made in its operation. For one thing,
and this point was noted in the pilot study also, a large percentage of the members did not feel that the activities of the Grievance Committees were sufficiently publicized. Actually half of the respondents indicated that they had not as yet heard of one grievance case tried by the Council.

A second possible area of weakness was related to the selection and training of Grievance representatives. Less than half of the sample appeared satisfied with the way the present Grievance Committee personnel had been chosen.

Another area of concern with this program dealt with the lack of authority at the lower supervisory level. About twenty per cent of the sample were of the opinion that a grievance involving a more serious problem could not be settled at the local level because top management had not delegated sufficient authority to the plant level to deal effectively with any but minor matters. This feeling was reflected in the respondents' attitudes toward higher management discussed in the previous chapter.

The general satisfaction with this program was found in all areas and in all engineering specialties. The Industrial Engineers, however, were significantly more critical of the method used in selecting and training the Grievance representatives.

Union Meetings

The majority of the members included in the survey, (65%), approved of the way the Council conducted its monthly membership meetings. Eighty-seven per cent were satisfied with the frequency of these meetings and over ninety
per cent felt that more members should be present. Sixty per cent of the respondents appeared pleased with the program scheduled for these meetings.

In regard to the actual participation of these workers, however, the pattern was not quite so favorable. Only half the sample indicated frequent attendance at these meetings and over sixty per cent indicated that they were reluctant to make their opinions known when they did attend.

As a result of observations made by the writer before and during the course of the present research, he has come to the conclusion that the active participation of these engineers in union activities is restricted primarily because of certain of their personality tendencies. Introvertive to a great degree and more accustomed to working with ideas and things rather than with people, a good percentage of the professionals being studied may feel uncomfortable in this type group activity. While earnestly supporting their union in a financial way, they lack the socially oriented capacity for outwardly displaying enthusiasm and emotional involvement in a cause. This is one area of psychological research which should prove rewarding to the social scientist.

Minimum Professional Standards

It is by now clear to the reader that the question of professional qualifications is an important one to these workers. This is the basis for the dispute between the Company and the Council. Shall the company remain free to hire into engineering jobs people who are not qualified to fill them, or shall it be required to abide by the letter of the Taft-Hartley Law, Article 2(12)? The Council has thus far been unsuccessful in winning this dispute on legal
grounds. It has, however, been able to say whom it will represent, basing its argument upon this same section of the law. It has achieved this by refusing to admit to Council Membership employees who do not qualify as professional under the Act. It has implemented this strategy by setting up Minimum Professional Standards Committees at each works location. All employees hired or transferred into jobs represented by the Council, and prior to their being accepted for membership, are evaluated by one of these committees. If they satisfy certain criteria of training and experience they are accepted as members.

Sixty-three per cent of the respondents were favorable toward the policies and administration of this program. About eighty-three per cent felt that the M.P.S. Committees were necessary to preserve the professional integrity of the unit. Only twenty per cent were of the opinion that the criteria used were too restrictive. In fact sixty per cent of the respondents felt that the screening methods used were, if anything, too lenient.

In regard to the activities of this Committee, sixty per cent of the sample felt that the decision reached was fair. Only five per cent could recall any cases of erroneous rejections. Once again, however, a sizable proportion of the membership surveyed indicated that the Council should more adequately publicize the activities of this Committee. A second weakness brought out by the respondents dealt with the absence of any clear cut avenue of appeal open to the rejected applicants. Approximately sixty per cent of the sample did not feel that such an applicant had the right of appeal. This constituted the most serious drawback of the program from the viewpoint of the respondents. Apparently, while these workers feel the need to set up methods of protecting their profes-
sional status, they prefer that sufficient safeguards be established to guard against injustices or misinterpretations.

Categories Eliciting A Very Favorable Response

Union Policy

In this section of the questionnaire the respondents were given the opportunity to indicate their attitudes toward the major policies under which the Council was operating. Included were items concerning minimum professional standards, (73% favorable), a professional classification system which the Council has been advocating for years, (83% favorable), an improvement of the Pension System, (73% favorable), a performance evaluation program to be tied to the merit raise, (87% favorable) and the decision of the Council to seek a re-certification election, (80% favorable).

Toward only one practice of the Council were the respondents slightly less favorable. Thirty per cent of the sample did not feel that the Council's periodic demands for general wage increases were necessary to the welfare of its members. In fact forty per cent of the respondents felt that this practice worked an actual disservice upon the outstanding engineers.

Estimating their attitudes toward these policies as a whole seventy-seven per cent of the sample reacted favorably. The engineers comprising the eastern segment of the sample were by far the most favorable, the western area engineers slightly less so. There were no important differences by engineering specialty.
Council Leadership

In regard to both national and area officers, the attitudes were favorable. Eighty-three per cent of the respondents agreed with the practice of obtaining leadership material from within the engineering rank. Eighty-six per cent felt that, once elected to Council Leadership positions, these employees conducted themselves unselfishly and efficiently for the best interests of the Council. In sum, eighty-three per cent indicated that the Council was ably represented at all levels and in all areas.

Union Finance

In this category the respondents were asked to indicate their appraisals of the financial program of the Council. Six items were included in this section only one of which received a favorable reaction from less than seventy-five per cent of the sample. The great majority of the members indicated their confidence in the honesty of the leaders. Eighty-one per cent were favorable toward the dues level. Only in regard to the payments made the E.S.A. was the pattern less favorable and this only slightly so. In this regard thirty-five per cent of the respondents felt that the deductions made for the E.S.A. were excessive. In general three-quarters of the engineers surveyed felt that the Council leaders were adequately handling the financial affairs of the membership.

Union Publications

The two Council periodicals studied were the Council Compass, a monthly magazine issued by national headquarters, and the local mimeographed sheet
put out by each section. On the whole the respondents were strong in their approval of these publications.

These organs had been ceaseless in their criticism of the Company's treatment of the engineering work force. Outspoken and sometimes vulgar, hard-hitting and almost blatant, they have come to be looked upon by these workers as symbols of the will to succeed which they see in the leadership.

Several of the more conservative members had, from time to time, urged that a more moderate, middle-of-the-road approach be used in these periodicals. The fear was voiced that the style of journalism used would cause the Council to lose friends and dignity. Apparently the majority of the members do not share this view. Seventy per cent of the respondents did not feel that the Council Compass was harmful to the dignity and professional status of the organization. Sixty-five per cent did not think that the treatment employed endangered the friendships which the Council had built up over the years.

The Council has used the Council Compass as a propaganda weapon in its fight with the Company for professional status. For example, it has been sending this publication to various engineering fraternities throughout the country. The intent of this stratagem was to embarrass the Company into improving the professional lot of its engineers. The Company has reacted angrily to this technique and many Council members have questioned the wisdom of this approach.

To determine whether the Council membership as a group supported or repudiated this procedure this item was added in the Union Publications cate-
I think that the **COUNCIL COMPASS** is dignified and objective enough to re-
represent the Council when sent to colleges and labor organizations." In response
to this item seventy-two per cent of the respondents were favorable. Apparently
the rank-and-file member does not feel that the content of this magazine is in-
jurious to the professional status of the engineers in this Company.

In regard to the local periodicals, the members were also favorable. The majority approved of the format and content of these releases and did not feel that the approach was too argumentative.

In appraising these Council publications as a group, their editorial policy, their cartoons, their features and their timeliness, seventy-six per cent of the sample responded favorably.

The western area members were slightly less favorable toward these publications, notably the **Council Compass**. There were no important differences by engineering classification.

**CIO/AFL Affiliation**

Ninety per cent of the member respondents were against any type of affiliation with a trade union organization. Three-quarters of the respondents felt that an independent professional union could be strong enough in itself to gain its objectives. About this same proportion indicated that such an affili-
ation would damage the professional prestige of the unit. In addition this same percentage of the sample was of the opinion that such an affiliation would increase the likelihood of long and frequent strikes. Two-thirds of the respond-
ents were fearful that an affiliation with a trade union would destroy any
chances this unit had of creating an atmosphere of mutual trust and understand-
ing with the Company.

Looking more closely at the basis for this repudiation of the trade
union affiliation we find that seventy-seven per cent of the members surveyed
feared that such a move would place the Council leadership in the hands of non-
professionals who would be unable to satisfactorily administer the affairs of a
fully professional unit. In addition about eighty per cent felt that in such
a situation the members would not have a strong veto power in such matters as
policy, dues increases, strikes etc. Finally, seventy-three per cent of the
sample did not feel that a CIO/AFL organization was primarily interested in
furthering the cause of professional unionism.

We see in this definitive response pattern an enthusiastic support of
the Council's position in regard to trade unionism for professionalism. The
unfavorable attitude toward such an affiliation was found in all locations among
all engineering groups.

However, when these workers were asked if they would rather have no
union than engage in a trade union affiliation, thirty-five per cent replied in
the negative. This would indicate that, for many of the unionized professionals
in the sample, some kind of collective bargaining representation was necessary
even if this was at the sacrifice of certain professional principles.

Discrimination

The respondents were practically unanimous in their opinion that the
Council had never discriminated against an engineer because of race, religion,
political affiliation, fraternal group membership, or nationality. In response to the items covering these areas never less than ninety-six per cent of the engineers surveyed responded favorably.

**Union Allegiance**

Having reviewed in detail the attitudes of these workers toward the more important facets of the union operation what are we able to say regarding the union allegiance of this group?

The first group of items in this category dealt with the principle of professional unionism independent of affiliation. Ninety-three per cent of the sample indicated that there was a definite need for a collective bargaining unit of some kind among the Western Electric professional employees. Only seven per cent felt that these workers were forfeiting their status and dignity by joining a union. Approximately eighty-three per cent blamed this need on the pressures of modern industry in which fair treatment for the professional worker is not always fully assured.

In regard to the Council's effectiveness in filling this need a large majority of the respondents were favorable. Seventy-three per cent felt that the Company's attitude would gradually change because of the relentless pressure of the Council. In giving this organization in effect a vote of confidence eighty-six per cent of the respondents indicated that they would still vote for the Council if they had to do again. This same proportion felt that they would vote against a decertification of the Council if they were forced to do so. Eighty-two per cent indicated that they would choose the Council over another union organization if a choice had to be made.
Summing it up eighty-one per cent of the sample replied favorably to the item: "In general I am well satisfied with the Council as the organization representing Western Electric Company professional employees."

There were no significant differences in this pattern of strong union allegiance among the various locations or engineering classifications.

In the following section we shall determine whether there have been any significant changes between April, 1956 and November, 1957 in the Western segments of the sample.

**Shifts in Union-related Attitudes, 1956 vs. 1957, Western Area**

Let us now compare the union-related attitudinal patterns of the April, 1956 study and the national study of November, 1957, to determine if the pressures and tensions of the Company-Council conflict had resulted in any significant changes. The following table summarizes these data:
### TABLE XIV

**ATTITUINAL PATTERN OF 1956 AND 1957 COMPARED, WESTERN AREA UNION-RELATED ATTITUDES**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>April, 1956 Study (N=49)</th>
<th>Nov. 1957 Study (N=91)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fav. %  Unf. %  Neu. %</td>
<td>Fav. %  Unf. %  Neu. %</td>
</tr>
<tr>
<td>Union Policy</td>
<td>* 88  4  6</td>
<td>* 70  16  15</td>
</tr>
<tr>
<td>Council Leadership</td>
<td>86  4  6</td>
<td>84  7  6</td>
</tr>
<tr>
<td>Union Finance</td>
<td>76  2  6</td>
<td>68  10  12</td>
</tr>
<tr>
<td>Union Publications</td>
<td>* 96  4  0</td>
<td>* 68  17  13</td>
</tr>
<tr>
<td>Strikes</td>
<td>* 35  # 49  16</td>
<td>* 15  60  21</td>
</tr>
<tr>
<td>CIO/AFL Affiliation</td>
<td>76  14  8</td>
<td>89  5  5</td>
</tr>
<tr>
<td>ESA</td>
<td>* 86  2  12</td>
<td>* 61  15  20</td>
</tr>
<tr>
<td>Grievance Machinery</td>
<td>78  0  14</td>
<td>67  8  14</td>
</tr>
<tr>
<td>Union Meetings</td>
<td>76  10  4</td>
<td>66  17  10</td>
</tr>
<tr>
<td>Discrimination</td>
<td>90  0  2</td>
<td>95  3  0</td>
</tr>
<tr>
<td>Minimum Prof. Stds.</td>
<td>76  8  6</td>
<td>64  11  18</td>
</tr>
<tr>
<td>Union Allegiance</td>
<td>80  16  4</td>
<td>78  12  10</td>
</tr>
</tbody>
</table>

* Used here to indicate the categories concerning which there are significant differences at the 5% level of confidence or better between 1956 and 1957 in the proportion of favorable vs. unfavorable respondents using the Critical Ratio method.

# This symbol was placed between those favorable and unfavorable proportions between which there is no significant difference using the Chi-Square. Between all other favorable and unfavorable pairs there is a significant difference at the 1% level.

We note from the above statistical comparison that in a number of categories downward revisions of the attitudinal pattern have taken place. Looking at the comparison as a whole and forgetting for a moment the significance of the differences by category we find that in all categories save two there
have been declines in the level of favorableness. Using the McNemar Test for the Significance of Changes we find that the chances of ten negative changes taking place by chance in a group of twelve changes are 1 in 1000.

Thus we find significant changes not only in the differences over time within categories but within the pattern of responses as a whole.

The major changes have been in four areas; Union Policy, Union Publications, Strikes and the ESA. There was no significant difference in the Union Allegiance category as such.

In analyzing the union-related attitudes, category by category, and item by item, we find that in many categories there have been significant changes toward a less favorable position. Let us look at some of these:

In the area of Union Policy there were decreases in favorableness toward the Council's annual general wage demands. A larger percentage in 1957 felt that this practice worked a disservice on the outstanding worker. Also a larger per cent of the sample were critical of the Council's continuing demand for a more liberal pension system.

Regarding Council leadership, the proportion of respondents favorable toward the national Council officers has declined while the attitudes toward local leadership has remained the same.

In the area of Union Finances the only significant change dealt with

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the dues paid the E.S.A., in regard to which a larger percentage of the sample was unfavorable.

Concerning Union Publications a greater proportion indicated dissatisfaction with the tone of the Council Compass. A larger share of the sample felt that the Compass was assuming too bitter and extreme a tone. There was a greater fear that the publication might be placing the Council in an indefensible position.

In regard to the Strike category there was a general downward revision of the favorable attitudes. The per cent of respondents who indicated they would strike if called upon to do so dropped from forty per cent in April, 1956 to twenty-five per cent in November, 1957. In addition, the feeling was more frequently encountered that the strike would not alter the Company's position toward the Council's demands. The membership had staged numerous one day walkouts and other collective demonstrations. Apparently the inflexible position of the Company in the face of these activities had a sobering effect on certain of the rank-and-file membership.

The member-respondents were much more critical of the E.S.A. which had not done much to help the Council in its present difficulties. Consequently a larger proportion of the sample were critical of money paid it annually. This is a more severe problem during the present labor-relations impasse since there has been a steady decline in membership and consequently in the Council's operating revenue. The greatest decrease in the E.S.A. category was in regard to the item "The ESA is a powerful force in the present struggle of the engineering profession for status, dignity and recognition."
In regard to grievances the feeling was in evidence that, without a contract, the Council's grievance program had no legal basis. This has some point in view of the fact that the Company, by the end of 1957, had refused to recognize this organization as the legal representatives of the engineers. While grievances have been processed subsequent to the last contract the attitude of supervision toward reaching a settlement has altered gradually in the face of the Council's inability to win a new agreement.

In the area of Minimum Professional Standards a number of weaknesses have shown up also. A greater percentage of the respondents did not feel that the various MPS committees were adequately performing their screening duties. A larger proportion were uncertain whether the decisions of these committees have been consistently fair. A larger percentage have indicated a desire to review the activities of these groups.

In the Union Allegiance category, with one exception, there were no significant changes in the attitudes of the respondents. The one item concerning which there was a decided decrease in the proportion of favorable responses was; "The Council is adequately meeting the collective bargaining needs of these employees." The per cent of the respondents favorable toward this item decreased from eighty per cent to sixty-one per cent.

Thus we see that the Company's activities in improving the physical and psychological environment of these workers has caused some weaknesses to appear in the strongly favorable union-related attitudinal pattern of the membership. While these incipient doubts and areas of concern had not had a significantly depressive effect upon the union allegiance of this group by the end
of 1957, it is not possible to say what the effect has been since that time. It should be pointed out that between November, 1957 and the present the Company has been continuously at work to strengthen the loyalties and professional status of this segment of the work force. At the same time the Council has been unable to operate on a normal basis because of the absence of a contract.

The Council Leaders' Attitudes

To round out our examination of the union-related attitudes of the respondents in the November, 1957 survey, let us look briefly at a comparison between the attitudinal patterns of the rank-and-file membership and the Council leadership as summarized in the following table:
TABLE XV

ATTITUDES OF THE COUNCIL LEADERS AND MEMBERS COMPARED
NATIONAL STUDY, NOVEMBER, 1957
UNION-RELATED ATTITUDES

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>Members' Attitudes (N=195)</th>
<th>Leaders' Attitudes (N=21)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Union Policy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Council Leadership</td>
<td>84</td>
<td>7</td>
</tr>
<tr>
<td>Union Finance</td>
<td>* 68</td>
<td>10</td>
</tr>
<tr>
<td>Union Publications</td>
<td>* 68</td>
<td>17</td>
</tr>
<tr>
<td>Strikes</td>
<td>* 15</td>
<td>60</td>
</tr>
<tr>
<td>CIO/AFL Affiliation</td>
<td>89</td>
<td>5</td>
</tr>
<tr>
<td>ESA</td>
<td>61</td>
<td>15</td>
</tr>
<tr>
<td>Grievance Machinery</td>
<td>67</td>
<td>8</td>
</tr>
<tr>
<td>Union Meetings</td>
<td>* 66</td>
<td>17</td>
</tr>
<tr>
<td>Discrimination</td>
<td>95</td>
<td>3</td>
</tr>
<tr>
<td>Minimum Prof. Stds.</td>
<td>* 64</td>
<td>11</td>
</tr>
<tr>
<td>Union Allegiance</td>
<td>* 78</td>
<td>12</td>
</tr>
</tbody>
</table>

* The asterisk has been used here to indicate the categories within which there are significant differences in attitudes at the 5% level or better between the members and leaders using the Critical Ratio method.

The sample of Council leaders included in this study and referred to in this section was randomly selected. It consists of all levels of leadership from area officials to national officers. The proportion the national officials constitute of the total sample of leaders is relatively small. The bulk of the group is made up of lower level leaders drawn from all areas. We may feel fairly certain that the sample is representative. This is an important consideration to keep in mind when evaluating the attitudinal pattern summarized in the above table.
The differences in attitudes we note in the above comparison are all in the direction we would expect from a leadership group. These differences tell us that the hard core of Council leadership has remained firmly loyal to the Council, its principles, its policies and its top leadership even as the members' attitudes have suffered some attrition under the ameliorating activities of the Company. While we have no "before and after" comparison to make in the case of the Leaders' attitudes, the extremely favorable nature of these attitudes indicates that very little change could have taken place during the eighteen month period between studies. Thus we may logically conclude that whatever attitudinal changes have taken place in the unionized engineering segment of the work force most probably have been confined to the rank-and-file membership.

This finding has important implications insofar as the activities of these leaders are concerned. Since the members feel more favorable toward the Company and less favorable toward the Union their position on some of the key issues may have weakened. For example, the average member may feel less intense about the threat to his professional status. Consequently he may now feel that the Council need not remain implacable on this issue. The Leaders, on the other hand, (95% of whom were unfavorable toward "Recognition" in Nov. 1957), may not have shifted at all in regard to this basic issue. Staunchly loyal to the Council and its principles, unfavorable as ever toward the Company, these key people could very possibly maintain as inflexible a position as they occupied in 1955. The result of all this, (and the writer admits the conject-
tural nature of this line of reasoning), could be a widening in the ideological gap separating the members from the leadership. Depending, of course, on the efficiency of the Council's communication system and on the sincerity of its leaders, this imperfection in the architecture of member-leader relationships could conceivably result in a downward spiralling of membership allegiances at an ever accelerating pace. If such a succession of events has actually taken place the results will be apparent in the forthcoming recertification election. We can only wait and see.

* * * * * * * * * * *

In the next chapter we turn our attention to the basic hypothesis of this research and determine whether this hypothesis has been borne out by the findings.
CHAPTER X

DUAL ALLEGIANCE

In this chapter we shall examine the patterns of allegiance we have found in an attempt to test the underlying hypothesis of the study. It will be recalled that this hypothesis was stated as follows:

The industrial condition herein defined as Dual Allegiance will be found to exist among a randomly selected sample of Western Electric unionized engineers.

Dual Allegiance will be said to exist if a significant majority of the sampled engineers respond favorably to these two items. (The summing items in the Company and Union Allegiance categories.)

If Dual Allegiance is not found to exist and the stated hypothesis is not verified, we will test the extent to which the level of Company Allegiance significantly differs from that of Union Allegiance in order to discover which institution has been more successful in retaining the favorable attitudes of the workers.

The incidence of Dual Allegiance in the sample was established by means of a comparison of the engineer's score toward the summing item in the Company Allegiance category with his score toward the summing item in the Union Allegiance category. We repeat these items here for the sake of clarity:

**Company Allegiance:**

Everything considered, Western Electric is a fine place to work.

**Union Allegiance:**

In general I am well satisfied with the Council as the organization
representing Western Electric Company professional employees.

If an engineer responded favorably toward both these items he was classified as having Dual Allegiance. It will be recalled that we do not mean that there is one discrete attitude toward both institutions present but simply that he has favorable attitudes toward both institutions, the Company and the Council. If he responded favorably toward the Company-related item and unfavorably toward the other he was classified as having Company Allegiance but not Union Allegiance, (Unilateral Company Allegiance). If, on the other hand, he was favorable toward the Union-related item and unfavorable toward the other he was classified as having Union Allegiance but not Company Allegiance, (Unilateral Union Allegiance). In addition, an engineer could be classified as having no allegiances if he reacted to the unfavorable, or neutral or "D.K." scores or a combination of these toward both institutions.

The following table summarizes these data and contains the basic data which will be used to test the hypothesis:
TABLE XVI
DUAL ALLEGIANCES AMONG THE WESTERN ELECTRIC UNIONIZED ENGINEERS, NATIONAL STUDY, Nov. 1957

<table>
<thead>
<tr>
<th>ALLEGIANCES PATTERNS (Respondents)</th>
<th>Tot.</th>
<th>SPECIALTY</th>
<th>REGION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>195</td>
<td>EE (79)</td>
<td>WM (91)</td>
</tr>
<tr>
<td>Dual Allegiance (Fav. to C.&amp;U.)</td>
<td>38%</td>
<td>37%</td>
<td>43%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48%</td>
<td>37%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26%</td>
<td>44%</td>
</tr>
<tr>
<td>Unilateral Company Allegiance</td>
<td>9%</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>(Fav. to C., Unf., Neu., ? to U.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unilateral Union Allegiance</td>
<td>43%</td>
<td>47%</td>
<td>30%</td>
</tr>
<tr>
<td>(Fav. to U., Unf., Neu., ? to Co.)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. Allegiances</td>
<td>10%</td>
<td>12%</td>
<td>16%</td>
</tr>
<tr>
<td>(Unf., Neu., ? to both Co. &amp; U.)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# Differences between Co. and Union Allegiance proportions statistically significant beyond 1% for all Specialty and Region cells using Chi-Square.

These data included in the above table provides sufficient foundation for our concluding that the hypothesis underlying this study has been disproved. This conclusion immediately follows from the following considerations:

1. Less than half the respondents included in the national study of November, 1957 fall into the Dual Allegiance classification.

2. This finding is repeated in all areas and in engineering classifications.

3. In all engineering specialties and in all areas studied the differences between the proportions favorable to the Company and the proportions favorable to the Council are statistically significant well beyond the one per cent level of confidence. These differences were always in favor of the Council.

4. It is clear from the evidence that the Council has been successful in retaining the allegiance of a majority of these workers.
5. It is likewise unmistakable that the Company has failed in this regard.

These conclusions and their supporting data allows us to state that the condition referred to as Dual Allegiance has not been found to exist in a majority of the unionized engineers studied at the time of the 1957 survey. The existence of the industrial conflict at that time and its accompanying abnormal system of pressures and imbalances has very likely resulted in the incidence of this phenomenon. We cannot safely state this supposition to be grounded in fact for we have no quantitative data taken from the period immediately preceding the inception of this conflict. Goldstein's research within this group in 1954 is suggestive that prior to the conflict Dual Allegiance did exist.¹ As in the case of our own pilot study, however, that study was largely confined to the western area of the Company.

Concerning this western area we do have some comparative data concerning the phenomenon of Dual Allegiance taken from our pilot study of April, 1956. That study, it will be remembered, was made six months after the Company had refused to agree to a contract. Thus, while we have no comparative data from before the present disagreement, we do have data taken at its inception.

Shifts for Dual Allegiance Pattern - 1956 vs. 1957, Western Area

Let us compare this pilot study data with the Dual Allegiance findings summarized above in an attempt to discover the direction of the trends indirect-

¹ Refer to page 55 of this dissertation.
ly suggested by the November, 1957 study.

TABLE XVII

DUAL ALLEGIANCE PATTERNS COMPADED
APRIL, 1956 vs. NOV. 1957, WESTERN AREA

<table>
<thead>
<tr>
<th>Allegiance Patterns</th>
<th>April 1956 (N=49)</th>
<th>Nov. 1957 (N=91)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Allegiance</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>* 23</td>
<td>* 37</td>
</tr>
<tr>
<td>Unilateral Co. Allegiance</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Unilateral Union Allegiance</td>
<td>* 61</td>
<td>* 41</td>
</tr>
<tr>
<td>No Allegiances</td>
<td>14</td>
<td>17</td>
</tr>
</tbody>
</table>

* Sign. different at 5% level of confidence using the Critical Ratio method.

It might be well, at this point, to discuss briefly the concept of Unilateral Allegiance brought out in this discussion in comparison with the Allegiance concepts used previously in this study. The Company Allegiance proportions reported in the chapters dealing with the engineers' attitudes toward the Company, and the Council were indicative of two groups of respondents; the engineers who were favorable to both the Company and the Union (Dual Allegiance) and the engineers favorable to only one of these institutions. For example, the Company Allegiance proportion reported in Table X was made up of those respondents who were favorable toward both institutions, and those only favorable to-
ward the Company. Likewise the Union Allegiance proportion reported in Table XIII was indicative of those respondents with Dual Allegiance and those only favorable toward the Council.

In order for us to determine what proportions of the respondents were favorable toward only one of these institutions, it is necessary to remove from the allegiance proportions those workers having Dual Allegiance. In Table XVI we have done that and consequently have a clear picture of the proportions of respondents possessing unilateral allegiances in November, 1957. In Table XVII we have compared the Allegiance pattern of 1956 with that of 1957 for the western area and consequently have been able to determine what shifts have taken place in the proportions of the workers possessing unilateral allegiance toward each of the two institutions.

What shifts have taken place? The comparative data contained in Table XVII reveals that two significant changes in the allegiance pattern of these workers took place between the two studies. The proportion of respondents classifiable in the Dual Allegiance category increased significantly and the proportion of respondents possessing Unilateral Union Allegiance decreased significantly. These findings indicate that while there has been a significant shift to a more favorable attitude toward the Company, this shift has not resulted in any substantial weakening of the Union Allegiances of these workers. If we had found that the Dual Allegiance proportion had remained the same and the Unilateral Company Allegiance proportion had increased, then we could conclude that the shift toward the Company had been at the expense of the Council. This, of course, was not the case.
We see from this discussion that the Dual Allegiance measurement allows us to more sharply delineate and more fully explain the changes which had taken place in the attitudes of workers toward their Company and their Union.

Dual Allegiance and the Council Leaders

Let us now look briefly at the allegiance pattern of the Council leadership and compare this with that of the rank-and-file membership.

<table>
<thead>
<tr>
<th>Allegiance Patterns</th>
<th>Leaders' Allegiances (N=21)</th>
<th>Members' Allegiances (N=195)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Allegiance</td>
<td>* 24</td>
<td>* 38</td>
</tr>
<tr>
<td>Unilateral Co. Alleg.</td>
<td>* 0</td>
<td>* 9</td>
</tr>
<tr>
<td>Unilateral Union Alleg.</td>
<td>* 72</td>
<td>* 43</td>
</tr>
<tr>
<td>No Allegiances</td>
<td>4</td>
<td>10</td>
</tr>
</tbody>
</table>

* Sign. diff. at 1% using the Critical Ratio method.

The differences noted in the above table are in the expected direction. The majority of the leaders have a unilateral Union Allegiance. A significantly smaller proportion of these leaders were classifiable under the Dual Allegiance category. Thus, as we have indicated previously, the Council Leadership has apparently been less influenced by the changes instituted to improve the industrial environment of these workers.
PART IV — SUMMARY

CHAPTER XI

SUMMARY AND IMPLICATIONS

Summary

The present research was designed to study the attitudinal pattern of a randomly selected group of unionized Western Electric engineers. The specific purpose was to determine whether the industrial phenomenon referred to as Dual Allegiance would be found to exist.

This question was raised because the group to be studied had formed a union, a move not generally associated with the highly skilled white-collar segments of the work force.

Before entering upon a discussion of the research, therefore, an attempt was made to describe the conditions which led up to this decision on the part of these workers. A short descriptive essay was devoted to a description of the Western Electric Company, its operation, and its collective bargaining history and another to the Council of Western Electric Professional Employees, its origin and its present problems.

A detailed review of the extensive literature on the subject of worker allegiances and attitudes followed in the perusal of which it became evident that the concept of Dual Allegiance had been studied rather frequently and found to exist in the majority of the industrial environments studied. In only
one case was an instance of unilateral allegiance reported, this in a situation of industrial conflict.

The research discussion dealt with a detailed analysis of the findings of two distinct studies; a small pilot study made among forty-nine western area engineers in April, 1956 and a larger, national study made eighteen months later among 195 randomly selected engineers, and twenty-one Council Leaders.

The specific hypothesis explored may be stated as follows: "The industrial condition referred to as Dual Allegiance will be found to exist among a majority of the unionized Western Electric engineers."

This hypothesis was not borne out by the findings which indicated that forty-three per cent of the engineers in the sample had Union Allegiance but no Company Allegiance while less than ten per cent had Company Allegiance but no Union Allegiance. Only thirty-eight per cent were classifiable under the Dual Allegiance category. The balance of the engineers surveyed had allegiances to neither institutions.

An interesting aspect of the study was the comparison of the findings of the two studies. Certain trends were noted in the direction of a less critical general attitude toward the Company. Reasons for this were posited, the major one of which was the Company's activities in improving the professional status of these workers.

**Implications Relevant to the Personnel Administration of Professionals**

We have noted during the progress of this research that the professional worker has certain needs and goals clearly different from those of the
blue-collar employee. Among these are the desire for professional recognition and status, freedom to manage his work, an opportunity to publish technical papers, an opportunity to grow professionally, income commensurate with his contribution, and adequate protection against unnecessary restrictions, impediments and disturbances in his work life. The identification of these needs, suggested by Riegel and Danielson and partially verified in this research, is in itself a major contribution. But over and above this, the present study has spotlighted the important role of the supervisor in the administration of professional personnel. The maintenance of the proper permissive, encouraging, responsive atmosphere by the professional's supervisor was found to be an essential ingredient in the formation of a healthy professional morale.

Implications Related to the Concept of Dual Allegiance

In analyzing the changes in these workers' attitudes under the dynamic pressures of industrial conflict we have gotten greater insight into the various aspects of work-related allegiances. For example, we have determined that during a period of conflict imbalances occur in the distribution of these allegiances. Where before there might have been an equilibrium of favorable attitudes, the advent of conflict destroys this equilibrium and substitutes instead an unbalanced system. The examination of this system at any point of time during the conflict reveals the extent to which each institution has been successful in retaining the allegiances of the workers and in alienating the affections and attitudes of these workers in regard to the other institution.
An equally important implication of the present research concerns the effect on Union Allegiance of Company-bestowed improvements. We have found that an increase in the level of Company Allegiance does not automatically result in a weakening of the workers' Union Allegiance. This finding suggests, for one thing, that the worker will easily recognize the purpose behind the improvements made by a Company during a period of conflict. While the worker may feel more warmly toward the Company as a result of these improvements he will at the same time feel grateful toward the Union for its role in bringing these about.

In addition, the present research illustrates a method by which management may keep itself informed concerning the attitudinal climate of the industrial community. The measurement of allegiances constitutes a sensitive barometer of the plant environment. It objectively and scientifically pinpoints weak spots in the organizational structure and operational policies of the company and at the same time suggests corrective measures. In addition, it indicates whether the company's communications are gaining or losing in the contest for the allegiance of the worker.

Thus while we were not able to prove the universality of the Dual Allegiance concept, we were able to indicate the extent to which variations in the allegiance pattern provide us with valuable clues in our efforts at understanding the worker.

Implications for Future Research

As in the case with most human relations research, this study has
possibly raised more questions than it answered. One becomes intrigued, for
example, concerning the fact that only about half the unionized Western Elec-
tric engineers joined the Council. To say that some of these workers joined
the union because they believe in unionism is merely begging the question.
Specifically we should determine what essential characteristics distinguish
those professionals who have remained aloof from unionism at Western.

Another area which must be studied relates to empirically validating
the dual allegiance measurement. This study has approached the problem but has
not come to grips with it. Dual allegiance would make an even greater contri-
bution to our knowledge of industrial and employee relations if it could pre-
dict future specific behavior of the group. While an understanding of present
attitudes does help immeasurably in improving the industrial climate this is
not always enough. Managers need predictive tools in modern industry. Econo-
mist forecasts future business trends, sociologists predict population changes,
commercial research forecasts product performance. Human engineers even pre-
dict the precise limits of human endurance in space.

In human affairs the same kinds of questions arise. In the present
study, for example, we might easily have asked - "Will the respondents with
union allegiance vote in favor of the Council in the forthcoming elections?"
Management might have asked, "What changes in the allegiances of these workers
will take place if we institute the professional improvement program?" An
interested observer may ask "What effect will the present conflict have upon
the allegiance pattern of the work force as a whole?"
In all of these questions the problem of validity may be discerned. Unless we can establish that Dual Allegiance measurements are describing enduring attitudes, our predictions may be extremely hazardous.

Another promising area concerns the statistical definition of the allegiance concept. An attempt has already been made to determine the primary factors underlying the various facets of the workers' attitudinal continuum. The University of Chicago's Industrial Relations Center in its research on S.R. A. Employee Inventory, revealed the existence of seven factors under which all the company-related attitudes may be subsumed.¹ This research, however, failed to analyze specifically the anatomy of company allegiance. In addition, this research ignored completely the union aspects of the work environment.

The author believes that a factor analysis of the data obtained in the present research would reveal the following factorial framework:

1. A primary factor indicative of Company Allegiance.
2. A group of secondary, specific factors related to the remaining company-directed attitudes.
3. A primary factor indicative of union allegiance.
4. A group of secondary, specific factors related to the remaining union-related attitudes.

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APPENDIX I

THE WESTERN ELECTRIC - CWETE-N
ATTITUDE AND ALLEGIANCE INVENTORY

NOVEMBER, 1957
DIRECTIONS FOR COMPLETING QUESTIONNAIRE

1. Read these directions carefully before you attempt to complete this questionnaire.

2. On the separate answer sheet circle response which most closely indicates your reaction to the statement. These reactions are numbered from 1 to 3. If you circle the 1 you will be indicating agreement with the statement. The 2 indicates that you cannot make up your mind about the statement, even though you know something about the topic. A circled 3 indicates disagreement with the statement. A circled (?) indicates that you know nothing about the subject. The following examples will help to clarify this scoring system:

EXAMPLE 1: This employee disagrees with the statement. I THINK MY SUPERVISOR IS FAIR. 1 2 (3) ?

EXAMPLE 2: This employee agrees with this statement. I AM SATISFIED WITH THE OPERATION OF THE CREDIT UNION. (1) 2 3 ?

EXAMPLE 3: This employee is undecided about the statement. I THINK THAT THE COUNCIL IS BETTER THAN THE CIO/AFL. 1 (2) 3 ?

EXAMPLE 4: This employee knows nothing about the subject. THE NEGOTIATING COMMITTEE IS DOING A FINE JOB. 1 2 3 (?)

3. At the end of each major portion of the questionnaire you are asked to arrange the various subjects covered in the order of DECREASING importance—as they appear to you. If you think that your PAY is the most important thing about your associations with Western Electric list this first and so on.

4. When you have completed all parts of the questionnaire and have filled out the sheet covering your personal background, etc., place the questionnaire and answer sheet in the self-addressed envelope and return promptly. The University would like to have your completed forms not later than one week from receipt.
INVENTORY ANSWERING SHEET #1

CIRCLE NUMBER INDICATING YOUR REACTION TO ITEM.

STUDY SCORING KEY AT RIGHT BEFORE STARTING.

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(SPECIMEN ANSWER SHEET)
ATTITUDES TOWARD THE COMPANY

1) JOB

1. I am proud of the work I do.
2. I feel that I am performing a worthwhile service in my work.
3. There is not an unusual amount of pressure or tension in my work.
4. There are not too many monotonous duties connected with my job.
5. Not everyone can master the duties of my job.
6. I am given a definite amount of responsibility in regard to my work.
7. Serious errors on my part can be very costly.
8. I have received a sufficient amount of training for my job.
9. The skills I have developed in my job are rather difficult to learn.
10. I feel a sense of personal satisfaction in performing my work.
11. If I had it to do over again, I would still choose this type of work.
12. On the whole I am pretty well satisfied with my job.

2) SALARY

1. There are adequate salary differences separating the short, middle and long service engineer.
2. I'm pretty sure I will receive a salary increase when I merit one.
3. I do not need overtime compensation to comfortably support my family.
4. I am able to save a moderate portion of my income.
5. Advancement to higher positions is usually accompanied by salary increases.
6. I feel that the Company's salary scales compare quite favorably with those of other companies.
SAIARY - continued

7. I feel that I am well paid in comparison with other employees in this Company.

8. The Company's method of payment for overtime is satisfactory.

9. I think I am receiving a just salary.

10. The salaries received by the long service engineers constitute a strong incentive for my remaining with the Company.

11. I think the Company pays its engineers much better than it does the non-professional, clerical employees.

12. The salaries of the engineers in this Company are as good as those paid technical employees elsewhere.

13. In general I am well satisfied with my salary.

3) ADVANCEMENT

1. The Company recognizes competence by timely promotions.

2. Advancement in this Company is usually based on performance rather than on politics or length of service.

3. Many of the men I have grown to respect for their technical skill have been promoted to positions of greater responsibility.

4. I do not think the Company is unfair in its advancement policies.

5. I feel that my chances of advancement are good enough to warrant continued effort on my part.

6. I feel that ultimately the Company will call upon my real skills and abilities.

7. There will ultimately be positions open to me which will provide real opportunity for personal growth, achievement, and lasting satisfaction.

8. There are plenty of advancement opportunities in this Company for outstanding engineers.
4) RECOGNITION

1. The discovery of a new technique or a more effective method is promptly rewarded by formal recognition.

2. There are progressive, non-supervisory levels of responsibility and financial reward which are obtainable through outstanding performance.

3. Greater personal freedom and increased privileges are awarded for long continued excellence of performance.

4. The outstanding employee who for some reason is not supervisory material is nevertheless adequately rewarded.

5. The more outstanding engineers are usually paid higher salaries.

6. There are established methods of honoring outstanding achievement.

7. This Company recognizes the professional status of its engineers and scientists.

5) SUPERVISION

1. Our supervisors usually know their jobs, and ours.

2. My supervisor honestly attempts to reward his outstanding worker with raises, promotions, and recognition.

3. My supervisor listens to my problems and tries to understand them.

4. My supervisor absorbs much of the pressure brought to bear on our group.

5. My supervisor doesn't drive his men.


7. My supervisor is fair.

8. My supervisor usually issues simple, clear instructions.

9. I know where I stand with my boss.

10. My supervisor is seriously interested in the adequate training of his men.
SUPERVISION - continued

11. In making decisions, my supervisor is prudent, level-headed, and courageous.

12. The door is always open up the line if I have a real problem.

13. Higher supervision is sincerely interested in my welfare.

14. Local supervision is given sufficient authority from higher headquarters to effectively administer local problems.

15. My supervisor is well able to explain company practices to me when the occasion arises.

16. My immediate supervisor is a good organizer.

17. All things considered, the supervision in engineering is fair, efficient, and humane.

6) COMMUNICATIONS

1. I am usually informed of any changes involving my organization previous to their execution.

2. Management periodically informs the engineers of new developments, future plans, and proposed personnel changes.

3. Management is usually able to issue directives to the employees without distortion or confusion.

4. I have very seldom if ever observed cases of serious misunderstanding in regard to Company directives.

5. I know where to look for information regarding Company policies.

6. Management is well aware of the various problems of the engineer.

7. Management is well aware of the attitudes of the engineers.

8. Our wishes, needs and requests are promptly transmitted to higher supervision.

9. Higher supervision makes periodic attempts to learn about the problems of the engineers.
10. In general, the Company's methods of communication are effective.

7) WORKING CONDITIONS

1. I have no serious complaints concerning housekeeping practices in my area.
2. Rest room facilities are adequate, sanitary, and pleasant.
3. There are definite practices in force regarding rest periods.
4. Locker space, desk area, and filing facilities are adequate for my purposes.
5. The heating system in my area is efficient and comfortable.
6. The lighting fixtures provide ample illumination and do not cause appreciable eye-strain.
7. Fire exits and fire apparatus appear adequate.
8. In case of fire I know exactly what to do.
9. There does not seem to be an excessive amount of noise in my area.
10. There are not too many people in my building.
11. Working conditions, on the whole, are satisfactory.

8) COMPANY PUBLICATIONS

1. "WE" usually contains articles about people and places with whom I am acquainted.
2. The "Western Electric Engineer" magazine serves a worthwhile function for the engineers.
3. "WE" has a good editorial policy.
4. The local plant periodical (Microphone, Kearnygram, etc.) is as good an industrial paper as you'll find.
COMPANY PUBLICATIONS - continued

5. I approve of the format of the local plant periodical.

6. I do not notice any unbalance in the selection of items for the Company publications.

7. I do not think that the Company talks about itself too much in its periodicals and releases.

8. I occasionally read about my type of work in one or another of the Company publications.

9. In general, I am well satisfied with the Company releases and publications.

9) THE SUGGESTION SYSTEM

1. I feel that it is part of my job to turn in suggestions.

2. I do not believe that the Company should pay engineers for adopted suggestions.

3. I think the suggestion system is honestly administered.

4. The Company is sincerely grateful when one of my suggestions is adopted.

5. The suggestion system is necessary.

6. The Company gives serious consideration to every suggestion.

7. I do not know of any case in which the Company used a suggestion without giving proper credit.

8. I am generally satisfied with the suggestion system.

10) FELLOW EMPLOYEES

1. I do not notice much friction in my department among the engineers.

2. I would not say that there was an unusual number of nervous people around me.
3. Our group works well together.
4. I think most of the other engineers are as socially acceptable as I am.
5. I think that regular social functions for our group would be beneficial.
6. I have several close friends among my engineering associates.
7. I think that the men I work with are as technically competent as any in the division.
8. I do not mind helping another engineer who runs into trouble in his work.
9. I think that the morale of the men in my department is high.
10. I do not notice an unusual amount of dissatisfaction around me.
11. Most of the engineers with whom I work are content with their jobs.
12. On the whole, I work with a fine bunch of fellows.

**EMPLOYEE BENEFIT PROGRAM**

1. I think that the Employee Stock Plan is a sound way to invest my savings.
2. I feel that the sickness benefits given to the employees are generous.
3. I think that the vacation policies followed by Western are as liberal as those in other companies.
4. I approve of the Company's practice of observing a standard vacation period each year.
5. The pension program currently being followed provides an adequate income for the retired employee.
6. I think the death benefits paid the families of deceased employees are quite liberal.
7. I approve of the benefits given in case of accidental injury arising out of and in the course of employment.
EMPLOYEE BENEFIT PROGRAM – continued

8. I do not favor the substitution of a contributory pension plan to replace the present one.

9. Western Electric takes care of its longer service employees.

10. I am well satisfied with the Company's present plan of Employee Group Insurance.

11. On the whole I am well satisfied with the Company's Employee Benefit Program.

12) DISCRIMINATION

1. The Company has never to my knowledge discriminated against an employee because of race.

2. The Company has never to my knowledge discriminated against an employee because of nationality.

3. The Company has never to my knowledge discriminated against an employee because of political leanings.

4. The Company has never to my knowledge discriminated against an employee because of his religious beliefs.

5. The Company has never to my knowledge discriminated against an employee because of the part of the country from which he came.

6. Membership in a national fraternal organization such as the Knights of Columbus, The Elks, The Moose, The Shrine, etc., has never to my knowledge been a hindrance to an employee in this Company.

7. The Company has never to my knowledge discriminated against an employee because of membership in a Labor Union.

8. The Council leaders are generally respected by Western Electric Management.

9. On the whole, I do not think that there are any formal discriminatory practices followed by this Company.
13) COMPANY ALLEGIANCE

1. If I had it to do over again I would still come to work for Western Electric.

2. If I were laid off due to a decrease in work load I would probably return when called.

3. If I had the choice I would want my children to work at Western Electric.

4. I would recommend Western Electric to my friends as a good place to work should the occasion arise.

5. I am proud of the fact that I work at Western Electric.

6. I would probably not leave Western Electric even if I had a more lucrative offer.

7. All things considered Western Electric is an outstanding example of good business.

8. I think this Company is continuously attempting to build good Employee Relations.

9. I feel that my future with this Company is secure.

10. I think that this Company puts the welfare of its employees first and foremost.

11. As an institution, Western Electric is very likely the leader in its field.

12. Everything considered Western Electric is a fine place to work.

Please list in the spaces provided below the following major aspects of your associations with Western Electric in a DECREASING order of importance:

ADVANCEMENT, COMMUNICATIONS, COMPANY PUBLICATIONS, DISCRIMINATION, FELLOW EMPLOYEES, EMPLOYEE BENEFITS, JOB, PAY, RECOGNITION, SUPERVISION, THE SUGGESTION SYSTEM, WORKING CONDITIONS.
ATTITUDES TOWARD THE UNION

1) UNION POLICY

1. The attainment of minimum professional standards is essential to the continued welfare of the Council.

2. The use of vertical levels would be an effective means of providing status and recognition to the non-supervisory engineer.

3. The Council should continue to demand greater financial recognition for the engineers.

4. I do not think that the Council's objectives in negotiations are impractical.

5. The Council's determination to preserve the integrity of Articles 1 and 26 of the expired agreement is essential to the welfare of the professional at Western.

6. The Council's annual demand for a general wage increase is necessary.

7. The "general increase" approach is not unfair to the outstanding engineer.

8. The Council should continue to demand a satisfactory Performance Rating Plan.

9. The Council should continue to demand that sub-professional duties be delegated to technical assistants.

10. The Council's demands for an improvement of the Bell System Pension Plan are fully justified.

11. The Council should continue to tell its story to the colleges through the Council Publications.
UNION POLICY - continued

12. I approve of the Council's decision to seek a 9(b)(1) election to clarify its status.

13. I approve of the Council's affiliation with E.S.A.

14. In general I enthusiastically support the major policies and objectives of the Council.

2) COUNCIL LEADERSHIP

1. Our National Chairman is doing a good job.

2. Our National Vice-Chairman is filling an important function in our organization.

3. I have no serious quarrel with the Council's selection of its National Negotiators.

4. The Council Board in my area and its officers are seriously attempting to administer area affairs intelligently and reasonably.

5. I do not think that the Council Leaders are primarily interested in furthering selfish ambitions in their dealings with Management.

6. I do not think that we could get better Council Leaders from outside the Company.

7. The Council Leaders are generally respected by the engineers around me.

8. For the most part our Council is ably represented by its leaders.

3) UNION FINANCE

1. I do not think that the Council dues are excessive.

2. I am generally aware of the financial needs of the Council.

3. I do not think that these financial needs are unusual for an organization of this kind.

4. The financial affairs of the Council are being honestly administered.
UNION FINANCE - continued

5. I do not think that the money sent to E.S.A. is excessive.

6. The Council Leaders are adequately handling the financial problems which arise.

4) UNION PUBLICATIONS

1. The "COUNCIL COMPASS" has been honestly reporting the facts.

2. The "COUNCIL COMPASS" has a good editorial policy.

3. I approve of the format of the "COUNCIL COMPASS".

4. I approve of the cartoons in the "COUNCIL COMPASS".

5. I think that the "COUNCIL COMPASS" is dignified and objective enough to represent the Council when it is sent to colleges and labor organizations.

6. I do not think the "COUNCIL COMPASS" has been too bitter in its remarks about Western Electric Company policies.

7. I do not think that the "COUNCIL COMPASS" has done any injury to the dignity of the Council in its type of journalism.

8. I do not think that the "COUNCIL COMPASS" should adopt a more objective, polite, middle-of-the-road approach to union reporting.

9. I do not think that the Council Publications have lost the Council any friends.

10. The local Council releases successfully report items of a timely, pertinent nature.

11. I do not think that local releases are too outspoken and argumentative.

12. On the whole Council publicity is performing a worthwhile function and doing an outstanding job.
5) **STRIKES**

1. It is not beneath the dignity of a professional union to strike.

2. A strike is often the only effective method of collective action.

3. I would vote in favor of a strike if the occasion arose.

4. If our Council went out on strike I would be willing to stay off the job for one week or more if necessary.

5. I do not think we can have a really strong union unless the members are willing to strike if called upon.

6. I think a strike would produce a marked change in the Company's attitude toward the Council's proposals.

7. I think most of the Council members would walk out if asked to.

8. I am not too "poor" to strike.

9. I would rather go on strike than have the Council accept a worthless contract.

10. In general I favor the "Strike" as an effective method in collective bargaining at Western Electric.

6) **CIO/AFL AFFILIATION**

1. I think that an independent union such as ours is strong enough to gain its objectives.

2. I think that affiliation with the CIO/AFL would seriously damage our professional prestige.

3. Affiliation with the CIO/AFL would increase the likelihood of long and frequent strikes.

4. Such an affiliation would destroy any chances we may have of creating an atmosphere of mutual trust and understanding with the Company.

5. I would rather have no union at all than vote for a merger with the CIO/AFL.

6. Affiliation of this kind would probably place the leadership of our
CIO/AFL AFFILIATION - continued

unit in the hands of non-professionals.

7. I do not think that the CIO/AFL would be technically able to administer the affairs of a fully professional union.

8. The CIO/AFL organization is not primarily interested in furthering the cause of professional unionism.

9. The members would not have as strong a veto power in matters of major policy such as dues increases, strikes, etc., in CIO/AFL organization.

10. I am not in favor of seeking an affiliation with the CIO/AFL.

7) THE ENGINEERS AND SCIENTISTS OF AMERICA (ESA)

1. Affiliation with the ESA helps to maintain the professional dignity of the Council.

2. The ESA does not interfere with the internal operation of the Council.

3. The financial support given the ESA by the Council ($6 per year per individual member) is not excessive considering the services provided by this organization.

4. The ESA is intelligently and effectively representing the engineering profession before governmental bodies and the public.

5. The ESA is the most reasonable way to encourage the organization of other engineering councils similar to our own.

6. The ESA is a powerful force in the present struggle of the engineering profession for status, dignity, and recognition.

7. If I had it to do again I would still vote for affiliation with ESA.

8. The ESA is an effective lobbyist for the professional in Washington.

9. The ESA is an effective avenue of communication for professional unions in America.

10. Separation of sub-professional units from ESA was necessary in order to insure professional integrity.
11. I am in complete agreement with the Council's enthusiastic support of the ESA.

8) GRIEVANCE MACHINERY

1. The Grievance Committee is a vigorous defender of the rights of the engineer.

2. The average supervisor is more cautious in his dealings with his men since the Council's grievance program was instituted.

3. I know of at least one grievance in which the engineer's rights were safeguarded.

4. The grievance is the best way for an individual Council member to retaliate against unfair, unfeeling, illegal, or bigoted supervisory practices.

5. The Grievance Committee is carefully chosen and expertly directed.

6. In general I am well satisfied with the policies and procedures followed by the Grievance Committee.

9) UNION MEETINGS

1. The programs scheduled for these meetings have in the past been stimulating and informative.

2. I frequently make my opinions known at these meetings.

3. I do not think that these meetings are held too frequently.

4. I think that more of the Council members should attend the meetings.

5. The meeting hall is accessible and adequate for the purpose.

6. I frequently attend the Council's Membership Meetings.

7. I approve of the manner in which Council membership meetings are conducted.

10) DISCRIMINATION

1. The Council has never to my knowledge discriminated against an engineer because of race.
DISCRIMINATION - continued

2. The Council has never to my knowledge discriminated against an engineer because of nationality.

3. The Council has never to my knowledge discriminated against an engineer because of political leanings.

4. The Council has never to my knowledge discriminated against an engineer because of religion.

5. The Council has never to my knowledge discriminated against an engineer because of the section of the country from which he came.

6. Membership in a national fraternal organization such as the K of C, the Moose, the Elks, etc., has never to my knowledge been a hindrance to an engineer in his relations with the Council.

7. On the whole I do not think there are any formal discriminatory practices followed by the Council.

11) MINIMUM PROFESSIONAL STANDARDS PROGRAM

1. Sub-professional employees should not be admitted into the Council.

2. The definition of "professional employee" used by the Council (based upon Article 2(12) of the Taft-Hartley Law) is not too restrictive.

3. The barriers erected to screen out sub-professional applicants are necessary to preserve the professional integrity of the Council.

4. The Minimum Professional Standards Committee (The MPS Committee) is adequately performing its duties in judging membership qualifications.

5. The decisions of this Committee are fair.

6. I do not know of any engineers whose applications for membership have been erroneously rejected by the MPS Committee.

7. The activities of this Committee are usually made known to the union membership.

8. A rejected applicant may appeal for a review of his case by the Area Council Board.
MINIMUM PROFESSIONAL STANDARDS PROGRAM - continued

9. The MPS Committee is not too lenient in its decision.

10. I am generally in favor of the policies and administration of the MPS Program.

12) UNION ALLEGIANCE

1. There is a definite need for a bargaining unit of some kind among the Western Electric professional employees.

2. The Council is adequately meeting the collective bargaining needs of these employees.

3. A professional employee does not forfeit his status and dignity by joining a collective bargaining unit.

4. A professional employee in modern industry needs a skilled spokesman to speak up for him.

5. The engineer at Western needs a labor organization to insure fair treatment.

6. The attitude of the Company toward the professional employees will slowly change for the better due to the relentless pressure of the Council.

7. The Council will become increasingly effective in gaining its goals as it grows in strength and experience.

8. If I had it to do again I would still vote for the Council as my collective bargaining organization.

9. If I were asked to vote for the de-certification of the Council I would not do so.

10. If I were asked to choose between the Council and some other bargaining unit I would choose the Council.

11. The Council has elevated my occupation from a job to a profession.

12. In general I am well satisfied with the Council as the organization representing Western Electric Company professional employees.
Please list in the spaces provided below the following aspects of your relations with the Council in a DECREASING ORDER OF IMPORTANCE:


1. ____________________________ (Most Important)  7. ____________________________
2. ____________________________  8. ____________________________
3. ____________________________  9. ____________________________
4. ____________________________ 10. ____________________________
5. ____________________________ 11. ____________________________
6. ____________________________ 12. ____________________________ (Least Important)
The dissertation submitted by Francis Xavier Paone has been read and approved by five members of the Department of Psychology.

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the dissertation is now given final approval with reference to content, form, and mechanical accuracy.

The dissertation is therefore accepted in partial fulfillment of the requirements for the Degree of Doctor of Philosophy.

May 29, 1960
Date

Signature of Adviser