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PAGE 233
MEMBERSHIP RELATIONSHIP PROBLEMS IN THE
ANNOUNCED-PURPOSE CENTERED AGGREGATION

by

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A.B., Union College (1942)

M.S., Massachusetts Institute of Technology (1948)

SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF
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at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY
(1951)

Signature of Author: ____________________________
Department of Economics and Social Science, May 11, 1951

Certified by: __________________________________
Thesis Supervisor

Chairman, Departmental Committee on Graduate Students
Professor Joseph C. Newell,  
Secretary of the Faculty,  
Massachusetts Institute of Technology,  
Cambridge 39, Massachusetts.  

Dear Sir:  

In accordance with the requirements for graduation, I herewith submit a thesis entitled "Membership Relationship Problems in the Announced-Purpose Centered Aggregation."

I would like to take this opportunity to express my deep appreciation to Professor Douglas V. Brown, without whose stimulation and guidance the thesis could never have been written.

Sincerely yours,  

Armand Wallin Feigenbaum
testing what are meaningful policies.

Hitting at these interactions in terms that are as completely work-oriented as possible, it is necessary to develop and use such abstractions as that of the concept of "task-oriented membership relationships." These relationships are held to represent the interactions among individuals that are invoked by forces generated through tendencies toward purpose achievement of the institution. Formal organization-chart relationships, and hence of the real organization are seen only as particular aspects of these task-oriented relationship analysis of the social network of this relationship structure, in real world terms, shows that they can be classified under the popular concept of "organization" only in the special case.

Her abstraction, that of the "announced-purpose centered aggregation", is the general case to which this structure may be classified. The aggregative concept represents the coming together of individuals for interactions where the "all better off" operational relationship is either necessary nor fundamental. Functional relationships between goal realization and role achievement are seen to be far more complex than simple linear direct correlations. To give of the wattage (volt-amperes by electrical analogy) for this aggregative network is the abstraction of "power". Used in direct correspondence with its sense in much of literature, power is seen essentially as the effective ability to foster or impede goal purpose achievement.

The resulting framework of analysis is employed for intensive exploration of such issues as leadership, "managerial prerogatives", and "line and staff" for the many-member institution. Framework conceives of the institution as a small element in a larger social, political, economic continuum. From deductive and empirical analysis it is, however, possible to identify the relatively few variables that may be "significant" determinants of particular task oriented membership relationship structures. This complex of variables is then integrated into the building of a model of the many-member institution, for use in analysis and forecasting of the extensive aspects of the institution as work machine.

These investigations, it is noted that analysis of the many-member institution, both for itself in terms of purpose achievement and for such issues as "staff expendability", "hostility", "cooperation", may fruitfully be pursued through its acceptance as a political agency in a social environment that may be largely political, economic, social. The many-saver business, for example, is finally seen as a political agency in an economic environment just as the union has been similarly viewed earlier; the differences are in degree rather than in kind. Government bureau may be seen as a political agency in a political environment, the welfare agency as a political agency in a social environment. Individual institution members-whether "saint", "director", "business agent", "foreman", "employee" - may be analyzed essentially as political operators in a political model.

Returning to policy, it is seen that useful formulation of policies is based upon understanding the limitations placed upon membership relationships by the economic, political, social forces that are basic to them. "Full" purpose realization for the institution, and "full" realization for the individual cannot be thought of in absolute terms; there are fundamental limiting relationships which make it impossible to avoid questions of choice when making decisions.

These limits are a function of the value placed by the culture upon the institution's announced-purpose and upon the degree of realization expected for this announced-purpose, the not be viewed as merely static with no possibilities for interdependent "secular trend." The past and can in the future make adjustments in the interrelationships that exist between effectiveness and efficiency; such adjustments are matters of the longer-term, however, and our major attention has been to many-member institutions as they are to be in the contemporary world.

There are present-day limitations upon the effectiveness of the institution and upon the efficiency of individual members. These limitations, however, do not, however, at all suggest that these limits are surely closely approached in particular real-world institutions. Understanding and education may have many contributions to make in improving the prospects for goal and purpose realization. There has been more to be done - up to the limits established by the culture as mental for the institution as work machine.
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PART ONE

INTRODUCTION TO

THE

INQUIRY
INTRODUCTION

One of the implicit major premises of the "good life" in the Western world is that it permit satisfaction in his work to the individual. The concept of work satisfaction is, of course, one of formidable complexity and of many dimensions; yet it is unquestioned that one of these dimensions—of remarkable complexity in itself—is that of the inter-individual relationships which are formally called for in furtherance of the announced-purpose of the aggregation for which the individual works.

1.

Many observers have carried this "good life" premise much farther. They have believed that there is some direct correlation between the "maximization of work satisfaction by the individual"—including satisfaction from relationships—and the extent to which the aggregation of which he is a member is, in fact, enabled to achieve its announced-purpose. (1) Indeed, this article of faith for which we have all too little evidence either pro or con, has taken on the aspect of a fact of science in much of the formal discussion about the membership role in the purpose-centered aggregation. (2), (3)

(1) - Some experienced observers at least make explicit statement of this belief in their discussions. Thus: "... Our underlying assumption is that goal realization promotes, and goal frustration retards, productive and efficient teamwork within an organization." See: 'Bonds of Organization'; E. Wight Bakke; Harper & Bros.; 1950; page 238. It is, however, unfortunate that Professor Bakke places this extremely critical assumption within a paragraph on the next to last page of the last Appendix of his study.
INTRODUCTION

All of this assumes that the modern individual is, indeed, likely to perform his work as member of a purpose-centered aggregation (business firm, trade union, social agency, government bureau) — an assumption for whose reality we need only to look around us even apart from the support of the data that will follow in the main argument. And it further assumes that these work relationships will differ in some fashion from those which would exist at least in the short run were the same individuals to come together apart from the work situation. (4) This latter assumption relates, in some sense, no matter how distorted, to the concept of the existence of a formal organization structure which finds vogue in the business, trade union, social work, and public administration literature.

An example of much more obscure and murky representation of this assumption is shown in the following, which is one of the foundations for a long-term study of leadership: "These studies have proceeded upon the hypothesis that leadership is a process based upon the inter-relationships of individuals in a group which is working toward a goal that has been accepted as desirable." See: Methods For Determining Patterns of Leadership Behavior in Relation to Organization Structure and Objectives; R. M. Stogdill and C. L. Shartle; Journal of Applied Psychology; 1943; 32; pages 286-291

It may be noted, as an aside, that here again conclusions are built into the assumption in an obtuse, none the less discernible tautology.

(2) — Implicit or explicit acceptance of this "fact of science" seems to impose a curious kind of looseness in the argument of even careful students. Thus, Mr. Chester I. Barnard, and, after him, Professor Bakke build upon this fact of science two "tests of organization": effectiveness, which is held to be related to the achievement of the purpose of the organization; and efficiency, which is held to be related to the work satisfaction of its individual members. Yet it is implied in Mr. Barnard's Functions of the Executive (Harvard; 1938) that, at the limit, one of these tests
Findings during the introductory stage of this inquiry indicated that there is much evidence to suggest that individuals are not finding satisfaction in these task oriented relationships. Conclusions by other investigators of work satisfaction, while they have recognized this relationship dimension only implicitly, may be interpreted to support these findings.

This inquiry labels the questions that must be asked to gain insight into the issues of why and why not satisfaction may be drawn from work-initiated relationships as "Membership Relationship Problems in the Announced-Purpose Centered Aggregation."

may approach 100% realization or satisfaction, while the other approaches 0%. But if, by basic assumption, there is direct correlation between "efficiency" and "effectiveness", how can test results be thus implied to have typically opposing tendencies in the real world. And, from a methodological viewpoint, how can there be established 2 tests of presumably independent variables when mathematico-logic would suggest a place for only one independent test?

(3) - It must be noted that several observers quarrel with the suggestion of "maximizing behavior" as related to work satisfaction. The Von Neuman-Morgenstern hypotheses may be placed in this category, since their maximizing notions are quite different from the traditional concept. This observer has his own quarrel with the concept of "maximizing behavior", but for different reasons which will be essayed later.

(4) - This assumption, while on the surface scarcely worthy of comment, is another which may have deep implications for membership issues in the purpose-centered aggregation. One example exists in the Personnel Administration area where there has developed a considerable vogue for the development of "personality communalities" of "successful" workers, leaders or executives.

For a leading statement of the point of view here see "The Business Executive - A Study in the Psychodynamics of a Social Roles";
The questions that must be asked in regard to these membership problems may be posed at any of several levels of abstraction, and in the specialized terms of any of several disciplines. For one such level - Why the disparity between the theory of the "goodness" of work satisfaction, and the actual practice of "badness" of satisfaction in the real world. Is it because there is something evil or stupid about the purpose-centered aggregation in the real world? Or is it because the theory is not one for our modern real world at all; that there is a basic conflict between the pursuit of the goal of the purpose-centered aggregation and the pursuit of individual work satisfaction? Certainly the Continental view that "work must be suffered so that the rest of life may be enjoyed" may be suggested in a somewhat tongue-in-cheek fashion as a different concept of work satisfaction.

One level removed from this degree of abstraction, such questions may be posed as - What are the connections among work-satisfaction, the purpose-centered aggregation, and the concept of "teamwork?" What has "communications" - which, for Elton Mayo, was the key to this area - to do with all of this? What does "administration" mean as related to work satisfaction both of the administrator and those being directed?

W. E. Henry; American Journal of Sociology; 1948. But can a member-centered selection procedure meaningfully develop "company-wide", "industry-wide", or "bureau-wide" communalities if varying work relationships are a major variable superimposed upon "success" which relates to work satisfaction by the observer's definition?
At a level more closely tied to the way in which the aggregation members perceive their problems, what about the issue of staff expendability in the trade union? Can the foreman really find membership in the management group? What is a "hot team" and how can it be made and kept that way? Does "politics" really play a part in the internal operations of purpose-centered aggregation?

Such questions at these several levels of abstraction are important elements in our social science efforts better to understand and deal with social forces in the modern "laboristic world" - to adapt Professor Slichter's phrase - in which we live. They are related in some sense to several of the basic disciplines such as Social Anthropology in particular, as well as to Sociology, Political Science, Social Psychology, Economic Theory. These membership problems are especially pertinent to such essentially applied areas as Labor Relations, Personnel Administration, Organization Planning, Industrial Economics, Administrative Practices.

But these problems are sometimes not explicitly recognized nor analyzed for themselves in these applications areas which has raised several analytic issues. Some viewpoints toward modern Personnel Administration have been perhaps quite unfairly criticized for "promoting the old, old story of the missionaries trying to democratize the heathen tribes - but without any clear understanding of the tribal mores and history, nor of the factors which have influenced
these conditions of life to arise." (5) Organization Planning theory has increasingly been charged with being an architectural, statical, structural concept which tries to explain an organic process whose characteristics are largely unknown to the architects and entirely foreign to the conceptual scheme employed. And Industrial Economics students have for some time been raising their voices for the development of evidence on decision-making relationships within the business aggregation. (6)

It is the purpose of this inquiry to introduce explicit explorations of some of the key questions associated with these "Membership Relationship Problems in the Announced-Purpose Centered Aggregation". (7) Every effort will be made to focus the discussion - at least in respect to its beginning and ending - in terms of questions at the level at which members of the aggregations typically perceive their problems: such as, the "hot team", the "expendable staff man", the "behind the eight-ball foreman." The Social Relations and Economics disciplines will be used as extensively as possible to deepen the inquiry; questions will, however, be tied back to the applied areas such as Labor Relations and Personnel Administration.

(5) - Statement of staff officer of a business firm, interviewed early in this inquiry.
(6) - In view of the criticism that it is fashionable to direct toward the economist to suggest his complete forgoing of examining questions of this sort, it is interesting to suggest that economists have, indeed, made some excellent beginnings in this area. See: *The Structure of Competitive Industry*; E. A. G. Robinson; Pitman; 1931, and *Business Leadership in the Large Corporation*; R. A. Gordon.
In a sense, therefore, this inquiry is concerned with an area which is macroscopics as compared with the microscopics of some the excellent small-group model studies that have developed in recent years. Both approaches are generally interested in the center column of the same mountain, but they have begun to drive their tentative tunnel shafts from different sides of that mountain.

(7) - No definitions of these terms, nor amplification of their associated concepts has been essayed in this Introduction, but will be for-gone until the main body of the argument. It is felt that the semantics of these terms are sufficiently suggestive to permit their use in their undefined form in this Introduction.
PART TWO

DO AGGREGATION MEMBERS EVER REALLY KNOW WHAT HITS THEM?
CHAPTER I

THE PROBLEM AND ITS SETTING

The self-employed and the firm with fewer than five employees dominated the American business scene of a century ago. Indeed, estimates have placed the self-employed as 75% of the total work force of 1850.

The employee — and an employee who works in a company of 100 or more members — is more nearly the 1951 prototype. Only 20% of adult Americans are self-employed; fully 10% of the work force is concentrated in enterprises with 10,000 or more employees.

This trend toward ever larger numbers has not been confined to the business area alone. Big labor unions, big fraternal orders, big government bureaus, big armies, big educational institutions — groups that are large numerically have become one of the characteristics of the modern American scene.

So the typical American adult of today is one who must live and work as a member of a large group, or a large "organization" — as it is more popularly termed. He must gain his job satisfaction, make his success, and adjust his pattern of work in accordance with the ways of life called for by large group participation.

As employee — operator of a machine, secretary to an official, driver of a vehicle — this relationship to and dependence upon the "organization" requires little amplification. While less apparent, however, size of organization also has a major effect upon the life
and customs of the American adult, who is classified as "employer."

Unlike his nineteenth century counterpart, the present-day employer cannot know well nor work intimately with a few employees who comprise the total work force of the firm. His direction of the modern enterprise must be exercised through the efforts of hundreds and even thousands of men and women who must somehow, in his language, be "welded into a team"; and whom, try as he may, he simply cannot come to know as individuals. Indeed, as "president", or "chairman", or "manager", he may be employer of others but may also be himself the employee of the voters in the state or of the stockholders of the enterprise, who themselves comprise a large "organization."

One does not need to extend his research effort beyond the daily press to identify a host of problems which have developed upon the American landscape in parallel with the growth of large organizations. The economic arena, for example, has resounded with fulminations pro and con the effect of bigness on the national welfare. Students of political science have been concerned as to whether this bigness of firms, — and, more particularly, of governmental units — has invoked a trend toward the gradual reduction of American political liberty as it is now understood. The international relations forums have been flooded by those who view with alarm the inability of big nations to live together within the confines of a structure like the United Nations.

These concerns have, if anything, been amplified on the relatively more modest debating platforms of American industry. Modern industrial organization structures have been, for example, criticized as having
strong tendencies toward enervating the spirit of independent judgment by individuals. Students of industry have aimed broadsides at the personnel problems that modern organization is supposed to engender, at the community issues that have sometimes generated from organizational difficulties, and at the inflexibility and rigidities that are alleged to be unsatisfactory part and parcel of modern industrial organization.

Extremely interesting in this connection is the fashion in which individuals in industry express their reactions to participation in large organizations. It can come as no great surprise that interview results with these American adults indicates that they perceive these task-oriented relationships from specific personal points of view. They see them in terms of the satisfactions, restrictions or conflicts drawn from their day-by-day contacts with other individuals and groups in the "organization":

- The "Employee" feels "clamped down" by the "company"; he complains that the setup hinders him from doing his job instead of helping him; he believes he can't really have confidence in his boss, because his boss never is able to give him a straightforward answer on the genuinely important questions; he worries as to where he should leave off with his boss and where he should start with his union.

- The "Manager" complains privately that he has responsibility for his plant but that his authority is strictly limited. He resents the staff men who come to "advise" him from the central office; he is bitter about the budgets that he must meet, since he does not believe they really cover his needs; he sees himself "in the middle" between
the wage scales that are needed for his unit, and those standards that are handed down from above. He fears that the "higherups" will consider him a poor employee relations man if he "gives" to the union at the plant-level bargaining table; he fears that they will consider him a poor employee relations man if he does not "give" and has labor disputes on his hands. Since labor relations policy is set at the top of the company, he privately is disturbed about his regular need to sell and enforce policies and programs which the union fights bitterly in his plant, and which he himself recognizes as being against the best interests of his particular responsibility.

- The "Labor Leader" looks enviously at the plant manager as "one with real authority". He recognizes himself as surrounded by pressures from the international union, whose support he sees essential; and that of his local membership which keeps him in office and whose plant needs may conflict with that of international strategy. He feels keenly his need to remain on top of his local politically, yet also recognizes the desirability from the long run point of view of his membership to build stable relations with the management which do not have the flavor of militancy.

- The "Government Official" looks enviously at the "manager" and the labor leader as men with real authority and sees himself living and working on a foundation which may be undermined tomorrow by political attack. He sees the need for building his group and for developing personnel, but he also feels the pressure of placing men whose connections are "right".

(1) - Kurt Lewin continually emphasized that the critical element here is what the individual perceives, rather than the objective fact that he is viewing. For what the individual perceives becomes the objective fact, so far as he is concerned. See, for example, "Resolving Social Conflicts: Kurt Lewin; John Wiley; 1947."
These individuals have reacted in a multitude of ways to these task-oriented relationship problems as they have perceived them. The popular literature abounds with numerous crystallizations of these reactions: such advice to young technicians as "Unwritten Laws of Engineering", and "The Civil Service Worker"; to young workers as "How to Play on the Team", "Tested Ways to Get Along with the Boss", and "Being a Good Union Man"; to new supervisors as "The 12 Principles of Good Supervision" and "Successful Leadership". (2) The quest of many individuals for methods to lead them out of their relationship problems has found plenty of other individuals ready and willing to provide such guidance "based upon their experience."

Many of the individuals interviewed during this inquiry have, however, been quite bearish both about the state of their personal art in dealing with task-oriented relationship problems and about the state of the guidance that is available to them in the literature or elsewhere.

The highly respected production vice-president of a metal trades corporation was quite frank in interview about this dilemma:

"I have been for almost fifty years engaged upon manufacturing projects involving large numbers of people, and varying from the highly successful to the extremely unsuccessful. I have found that many of the successful projects were accomplished when the people working on them constituted what my Air Force grandson would call a "hot team."

"Yet I have still not answered fully to my own satisfaction — and, therefore, certainly cannot answer to anyone else's — just what makes for a hot factory team, now why such a team becomes hot, nor how it remains that way. And there have been a few highly successful projects for which the team began and remained, as cold as an iceberg throughout the project's duration."

(2) - Actual titles are quoted here.
A long-service brazing specialist, who had always worked as an employee and not as a supervisor, naturally expressed his interpretation of this dilemma in individual rather than group terms.

"I've never been able to figure out how you push the right buttons in this outfit. I've gotten my throat cut twice in shakeups — not because the bosses were mad at me or my work, but because the guy I worked for got moved and the new foreman wanted to make a showing. If I had played it smart — and I've seen too much of this outfit to think it can't be done — I would have survived a lot better.

"....But it's hard to know just how to play the game. If you play footsie with the boys and scratch their back, some new boss will catch up with you because you're not showing drive; if you're a you-know-what, your buddies will get you sooner or later. So you've got to be smart — know how to push the right buttons — but I've always had gears in my head and not politics so I don't know how I'm just not a 'good operator' like some."

A financial staff man put the problem in still a different set of personal terms:

"There is somehow a curse of expendability upon a staff man in this organization — especially a financial staff man. And it's a funny thing because at the start of a staff assignment you're always a top dog — which, at that, may be why so many of the boys get clipped after a few years.

"But the president of the firm — who usually doesn't double-talk on matters of this sort — has publicly mentioned several times that the best men should be on the staff. And one of the things I learned years ago in the Business School, that I still believe, is the importance of having both a strong staff and a strong line — I would certainly want both if I were running this show.

"Yet we certainly still have an expendable staff here, and it is so deeply ingrained in the company that you'd have to burn down the plant and start over again to change it."

These interview statements identify in popular terms the broad area with which this inquiry is concerned; brief analyses of the statements also offer preliminary surface suggestions of methodological problems that are accompaniments to any such inquiry.
CHAPTER I

What, for example, is a "hot team"? Or, more fundamentally, what is a "team"? And what is the meaning of the "successful" label hung by the production vice-president upon projects with which "hot teams" are associated? What are differences between "hot teams" and those which are "cold as an iceberg?"

And, when the brazing specialist talked about pushing the "right buttons" was he merely creating mystical obsessive illusions growing out of his own frustrations? Or was he referring, in a somewhat quaint personal language, to quite an objective fact of life in the relation of an individual to his particular organization? What is a "good operator"? Was there any relationship between the organization, qua organization, and the two incidents wherein the specialist felt that his "throat was cut?" Would the brazing specialist have been "better off" had he had "politics" in his head rather than gears?

Is "Staff expendability" a phenomenon that is unique in the company cited in the interview? And what is meant by the term, expendability, in the eyes of organization members? How about the traditional line - staff concept and its relation to expendability?

As the inquiry proceeds we shall give more precision to these questions, and shall endeavor to specify their several dimensions. But we shall be in no great hurry to develop this more precise approach complete with specialized terms, neat definitions, and presumed semantic consistency.

"Teamwork," "button pushing," "throat-cutting," "expendability," the "good operator" and "politics" are examples of the point of view
through which their relationships are seen by organization members. Initially taking these points of view at their face value is certainly a pardonable procedure.

It will become more than pardonable, indeed it will be recognized as essential if it helps us escape arguments of classification and of purely deductive model building. Such arguments have made much of modern organization thinking a sterile desert of terminological discussions which have pursued an organization logic rather than an organization theory.
CHAPTER II

"DO THEY EVER KNOW WHAT HITS THEM?" A PLAY IN TWO ACTS—
ACT I — THE BILL FOSTER STORY

We have seen that notions like "teamwork" and "politics" and "expendability" and "the good operator" have meaning for members of our present-day organizations. But just what is the nature of this meaning? Rather crudely to approach this question: Do these terms have connotations which tend in the same direction as did the meaning of "thunder", the "rising of the tides", the "total eclipse" and the "medicine man" to the ancients—somehow associated with a system of taboos, mysterious natural forces, elements that have negative valences in the Lewinian sense? Or do these terms have connotations comparable to the meaning of "friction" to the physicist, "metabolism" to the biologist, "hysteresis" to the electrical scientist—still murky but nonetheless related to a reasonably rational universe?

Obviously the answer, in degree, will depend upon the individual for whom the term has a meaning, the situation in which he perceives the term, and the philosophic concept of rationality that one wishes to or can place upon the "universe" in question. The question need not, however, be begged to quite this extent; a review of real world situations may indeed show a tendency in kind.

To what genre of real world situations shall we look for such a review? The answer is readily apparent: just as economists may choose to look upon
value and price as a focal point of economic review, so too we may
view "success in the organization by the individual" as the initial focal
point for our own review. Since we are not yet ready to embark upon
analysis in this inquiry, we may merely use a rough-and-ready con-
ccept of success: recognition by the individual's organizational
superior that the individual is "doing a good job." We are further
inclined toward this rough and ready focus, since our interviews
show that it is in these terms that organization members perceive
accomplishment in terms of task-oriented relationships.

We shall make this review in terms of two case situations; one,
that of Bill Foster, to be discussed in this chapter. The second
case will be reviewed in Chapter III. In reviewing these cases, it
is suggested that attention be focused by the reader in two areas:
the protagonist in the case, whom we shall soon be calling the
"operator" (1) and the superior or superiors who must judge his
success. In the case to follow, Bill Foster is the "operator", of
course, while the "Factory Superintendent" and the "Supervisor of
Planning and Methods- Mr. Boyd" are the superiors.

THE BILL FOSTER STORY (2)

In the days directly following the Second World War, business

(1) - The term is used here as it relates to the concept of the
protagonist in model building and analysis. In the popular version
of the term, however, some might say that Bill Foster's troubles
stemmed from the fact that he was "not an operator."

(2) - We are reporting here data from one of the actual case studies
conducted during the course of this inquiry. Fictitious names, dates,
and product designations are used because the participants in this
and most of the other cases are still most active.
in the small, magnetic die-casting industry became much more competitive than it had been before the war. Several new companies had been induced to enter the industry during the war and remained in it during the post-war period; companies that had long been in the industry had considerably expanded their plants and facilities during the war and were making desperate efforts to maintain a post-war volume which kept these facilities occupied at the handsome profit which the industry enjoyed at high volume.

The branch factory of one of the long-established companies had been assigned several of the technically more complex castings as "volume-builders". Pricing on cost was a typical practice in this industry, and "cost reduction and quality improvement" were the slogans of the central office. But as competition became more and more severe in 1948, the branch factory found that it was being penalized by extremely high and costly rejects because of the poor magnetic quality of its castings at the final, pre-shipment electrical test. Considerable pressure was placed, therefore, upon the branch plant Factory Superintendent.

The superintendent was convinced that the cause of the rejects was the inadequate control possessed by the factory over its mechanical facilities. As the basis for this belief, he could point to the frequent breakdowns of the factory furnaces, and to the high costs for replacing broken machine tools, jigs, and fixtures.

The superintendent tried several alternative approaches to solve the problem. He assigned one of his best foremen to the tool and gage

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(3) - The orientation through which this and other cases is reported may be explicitly noted: The eyes through which we see are those of another aggregation member – perhaps slightly more sophisticated by virtue of his "looking from the chandelier" perch. Our eyes are not those of a particular discipline; we are schizophrenic only to the extent that we are aware of the procedures of inductive and deductive logic.
department, with the task of improving the handling and design of these fixtures. When this move had shown no results, he hired an inspection specialist to set up controls over the output of the factory processes so that those which were not satisfactory might be quickly located. This step was even less successful in reducing rejects than the one previous to it.

The Planning and Methods supervisor in the factory then suggested to the superintendent that a program of preventive maintenance of the factory facilities be established. He explained to the superintendent that this type of program had worked very satisfactorily in other factories, that it involved checking the operability of production facilities before they could wear out based upon some regular schedule of checks, and that preventive maintenance would be the logical solution for the factory's reject difficulties.

The superintendent immediately fell in with the plan. To supervise the new preventive maintenance program, he assigned a veteran factory mechanical supervisor, who had achieved an excellent reputation in other plants of the same company as a man who "could get results with the tough ones." The superintendent placed this man under the supervisor of Planning and Methods.

The superintendent felt that this organizational position for the preventive maintenance supervisor was completely logical for several reasons: the Planning and Methods function should include all programs for control of processing facilities; the regular fore-
man of maintenance was a valuable mechanical expert but he did not have the imagination to develop an original program of broad scope; and the Planning and Methods supervisor had suggested the program and so, presumably, was owed an obligation.

The prestige of the Planning and Methods supervisor was considerably enhanced by this move. The prestige of the regular maintenance foreman suffered somewhat, but the factory superintendent made it clear to him in a personal interview that his responsibilities were completely unchanged, that he was still responsible for "fixing them up when they broke down," and that this new preventive maintenance program would "only help us all and even make the maintenance job easier."

To introduce the preventive maintenance program to all his supervisors and staff, the factory superintendent called a special meeting, at which the substance of his remarks was, as follows:

"Mr. Boyd, our Planning Supervisor, has proposed a plan that is going to lick this problem of magnetic rejects. It's called preventive maintenance which is a fancy sounding title that floored me until Boyd explained that it simply means that we fix up the machines before they fix us up.

"Bill Foster here, whom you boys all know, is coming into our shop to work for Boyd to mastermind this plan. When you boys get in trouble with your machines and electrical rejects, Foster is the man to take it out on...."

Foster was slapped on the back by the superintendent as the meeting broke up, and the other factory supervisors clustered around
Bill Foster plunged happily and wholeheartedly into the preventive maintenance job. His first major project was that of establishing a program for the Type E casting, on which the highest percentage of magnetic rejects - 50% to 75% - were being experienced. He discovered that the process for manufacturing this casting had five major steps:

1. Material Mixing - involving the bringing together of the necessary raw materials - aluminum, cobalt, nickel, barium, and others - in the correct proportions.

2. Pressing - involving pressing the mix into the desired casting shape and impregnating it with certain hydrocarbons.

3. Sintering - involving subjection of the pressed mix to a temperature and an atmosphere in which the mix fused in a furnace.

4. Grinding - involving polishing down the rough spots on the casting.

5. Inspection and Test - involving the 100% mechanical check of the castings to assure their having the proper physical dimensions; and the 100% electrical check to assure their magnetic quality.

Foster found that only in Step 3, Sintering, was any large processing equipment used. He decided, therefore, that this furnace was the only item in Type E manufacture for which he had to set up a preventive maintenance program. He secured the temperature control specifications for the furnace from the factory's "Standing Instruc-
tions", and decided that the furnace should be checked every three days to assure that this temperature would be maintained.

Foster did not feel that it was logical for this temperature check to be made by him - he saw himself in the role of a hired supervisor who was supposed to devote his time to organizing the program, not carrying out its details. Nor did he feel that it would be wise for the factory foreman on Type E manufacture to make this temperature check, or for any of the foreman's men to be so engaged. As a result, Foster asked Mr. Mason, the regular maintenance foreman, if he would assign one of his maintenance employees to make the check.

Mr. Mason told Foster that he would like to make such an assignment, but that he was already overloaded with repair work with a budget that had been cut to the bone. He suggested that perhaps Foster might make the check himself until the results of the preventive maintenance program had been such that the load on Mr. Mason's force of men had slacked off sufficiently so that a man could be assigned to the job.

Bill Foster returned to Mr. Boyd and told him of the problem of getting someone to make the temperature check. "Well, if you haven't been able to sell Mason, then I better see what the superintendent wants to do," Boyd told Foster. An hour after Foster left Mr. Boyd's office, Mr. Mason telephoned him and told him that he would be glad "to lend him that man" for making the temperature check.
Foster then left the Type E casting job and began to analyze other items of manufacture with the objective of developing an overall plan of preventive maintenance for the factory. A week later, however, he was asked by Mr. Boyd if he would return to the Type E casting job "because those magnetic rejects are still 50% to 75%.

Foster's first step on the Type E job was to determine whether or not the three day temperature checks had been made. He found that they had been made. The maintenance man, who had been making the checks, suggested that the Standing Instructions for the furnace had not been revised in several years. He indicated that perhaps the value of temperature used for the check was an incorrect value, under present conditions. Also, wondered the maintenance man, was it possible that the piecework operators, who were operating the furnace, might be changing the temperature between checks so as to increase furnace output, even though rejects might be increasing at the same time?

Foster found, therefore, that in the final analysis there were at least six groups whose actions he had to examine for their impact upon preventive maintenance of the single sintering furnace:

1. **The manufacturing personnel** - from the standpoint of operator care and skill, proper instruction, adequate care of and attention to the furnace, and non-interference with its controls.

2. **The planning and methods group** - in the original selection of the furnace process, and the design of jigs and fixtures used in connection with it.
3. The designing engineers - from the viewpoint of the original casting design, the selection of tolerances and operating characteristics, and the selection of materials.

4. The laboratory engineers - in the standards they had set for the materials, and the furnace atmosphere they had recommended.

5. The mechanical inspection and electrical test division - from the standpoint of the reliability of their checks on incoming materials, and final quality of the castings.

6. The materials ordering section - in the quality of material they had received from vendors.

In several instances, Foster felt that his studies indicated ways in which each of these six groups might improve the operation of the sintering furnace, and in which they might adjust the temperature values used in the preventive maintenance program. But his suggestions met with indifference from all groups except Mr. Boyd's Planning and Methods group. The reaction from Inspection was typical: "these suggestions will cost money and our budget is already cut to the bone; nor are we certain that they will help out the reject problem."

It was definitely implied in many of Foster's contacts with these specialized groups that they considered him an intruder poaching upon their ground: after all, what right did a preventive maintenance supervisor have to "stick his head" in the business of designing engineers, or of material ordering personnel. Mr. Boyd's reaction when questioned by Foster on this problem was "sell yourself and your ideas, Foster; a real good selling job will do the trick without any pressure from me."
After two additional weeks had passed, Foster had been able to bring about some changes in the sintering furnace operation; and had established a new value for its temperature control. He was very pleased to find that magnetic rejects dropped to a negligible 5% to 6%.

Both the factory superintendent and Mr. Boyd praised Foster for this job. The superintendent made a point of mentioning "Foster's fine work on the Type E job" in a supervisor's meeting. This remark impelled the factory foreman on the Type E job to conclude his thanks to Foster for his help with the remark, uttered in a playful tone: "But I'll sure have to watch you in the future, Bill, or else the superintendent will fire me and give you my job as a spare-time filler." The supervisors of the specialized groups—engineering, inspection, and production control—who had taken some action on the sintering furnace in line with Foster's suggestions also remarked to him in a bantering tone: "This really makes you a future executive, Bill; we do all the work and you get the credit."

Foster returned to the development of his overall, broad program for preventive maintenance for the entire factory. He had scarcely resumed this job when magnetic rejects on the Type E castings had again soared to 75%. Foster hurried to the Type E manufacturing section, and found that the preventive maintenance program he had established was being followed to the letter. He discovered, however, that the materials being placed in the furnace were more variable than
their quality checks had originally given him reason to expect. He was forced to make some changes in his temperature values, and also to suggest to engineering, inspection, and supervision that they also make some changes. It was even more difficult than it had been previously for Foster to obtain action from these groups.

This time the Type E rejects were not reduced. As a result, Foster spent a great deal of his time in the next three months on an analysis of the problem of these rejects. This problem disappeared, however, only when the dissatisfied customer cancelled the order for these castings, which cut a sizeable portion of the factory's business activity.

The necessity for spending so much time on the Type E Job prevented Foster from carrying through his plan for establishing an overall program of preventive maintenance for the factory. He did install a few individual projects, which he found more and more difficult to sell. The blight cast upon Foster's program by the failure of the Type E casting analysis made the superintendent somewhat receptive to the comments about Foster that began to be made privately by supervisors.

The labor relations staff supervisor told the superintendent that Foster's program was only making the labor relations job harder. He said that it might be a good idea during peacetime to have a Program which resulted in periodic breakups of the private "tricks" of the older machine operators, but that during labor shortage as then existed it merely decreased productivity by angering these older
CHAPTER II

employees and making them fractious.

The supervisor of design engineering told the superintendent that Foster was insisting upon questioning the wisdom of some of the Standing Instructions for machine operations, that the engineering department had established. The superintendent told the designer that the Standing Instructions were, of course, the prerogative of design engineers, but that Foster was only trying to make helpful suggestions. "Well, tell him to keep them only suggestions," was the veteran designer's answer.

Six months after his original entry into the factory, Foster was called to Mr. Boyd's office. He was told that the employee suggestion system was in a terrible state of affairs, that wartime pressure was making this suggestion system of greater importance than it had been, and that Boyd had thus far been unable to secure a man sufficiently competent to handle it. Mr. Boyd asked Foster if he would, therefore, temporarily spend half-time reviewing these suggestions. Boyd emphasized that he wanted Foster to continue with his "important preventive maintenance work." A few weeks later Boyd asked Foster if he might also fill in on a few, routine planning jobs.

Two months later Foster asked for an interview with Mr. Boyd. He told of his troubles in obtaining co-operation in development of his preventive maintenance program, and he asked if there would be some way of his getting more power to enforce his suggestions. Boyd told Foster that he (Boyd) had been very much satisfied with the progress of the preventive maintenance program, and that he wanted it kept up.
So far as Foster's complaint about being forced to spend two-thirds of his time on matters unrelated to preventive maintenance, he could be assured that the Planning and Methods department was desperately trying to secure additional personnel.

Three months later, frustrated and worried about the results on his reputation of the lack of success of the preventive maintenance program, Bill Foster went over Boyd's head and talked with the factory superintendent. He presented to the superintendent his analysis for the problems thus far encountered in the preventive maintenance program, and suggested as his solution that he be removed from Mr. Boyd's supervision and be made directly responsible for the program to the factory superintendent.

Foster said that such a move would considerably increase his prestige in the eyes of the factory supervisors, and would give him needed authority to develop the preventive maintenance program. The superintendent told Foster that he appreciated his suggestions, and that the superintendent would notify him of new developments.

About fourteen months after he had been hired by the factory superintendent, Bill Foster was quietly transferred back to the plant at which he had originally worked. Both the factory superintendent and Mr. Boyd praised him highly for his work, and told him that the preventive maintenance program that Foster had started would be continued and expanded.

A few months later, Foster, who had apparently lost most of his
spirit and drive in behalf of that particular company, quit after fourteen years of service and joined a company on the West Coast. By that time, no trace of his preventive maintenance program remained in the magnetic casting factory, and his job there was never filled.

The factory superintendent had told Mr. Boyd that "it is too bad that a good scheme like this preventive maintenance had to be muddled up by a lemon like Foster, but we're so tight on men that we can't afford to put another engineer on it now. Maybe we had better withhold action on the program until things return to normal."

Mr. Boyd agreed wholeheartedly with his superintendent.

CURTAIN ON BILL FOSTER

Against the backdrop of our rough-and-ready concept of "success", as discussed earlier in this chapter, Bill Foster was unsuccessful. His organizational superior, the Factory Superintendent, had not recognized that Foster had done a good job.

Both Bill Foster and the Factory Superintendent were interviewed following the branch factory phase of this case. Foster initially blamed his "lack of results" upon "bad breaks in the sintering room." Later he suggested that part of the problem was that the branch factory was "a closed corporation" with "lots of politics" and "against outsiders." He blamed Mr. Boyd the Planning Supervisor for some of his problems, and charged that Mr. Boyd was "a boss who wouldn't back up his men but would turn them in." Were he to "have to do it over again", Foster would have "spent more time in the Type E sintering room
making additional temperature checks" and "wouldn't have been such a
nice guy to carry the load myself but would have dumped it by turning
in some of the s.o.b.'s"

The Factory Superintendent briefly summed up Foster's "flop" by
the explanation that "Foster couldn't sell himself", that Foster "had
the bad quality of antagonizing the men in the shop", and that he
"wasn't as hot a technical man as he had made himself out to be." Had
he felt that there still was a need for a preventive maintenance pro-
gram in the factory, the superintendent, in "doing it over again",
would have "bought a better man than Foster."

Did Bill Foster ever really know "what hit him?" Had he known
anything about the "hits" on the way, could he have done anything
about them? And did the Factory Superintendent, in his turn, really
understand the cause of Foster's failure? For interview purposes,
both Foster and the Factory Superintendent both felt that they did,
indeed, "know what the story was about."

Some observers, both with and without social relations orientations,
were given the facts on this case and were asked for their "common
sense" answers to these questions. Many of them believed that Foster
did not, indeed, have much insight into what had hit him. They
equally believed that the Factory Superintendent conception of the
problem was far from sufficiently adequate. One of these observers
expressed the view that Foster was "on his way out as he came into the
factory for the first time."

Several of these observers agreed that Foster's failure could
have been fairly readily predicted. They also suggested some of the reasons for this, inevitably related to their own interests. One observer with organizational planning background pointed to several difficulties with the organization structure into which Foster was placed; an observer with Personnel Administration interests noted inadequacies with the initial orientation of Foster to the plant, etc. Some of the observers felt that part of Foster's failure was due to his being a "poor operator" and because the Superintendent had "no insight into the way an organization really operates."

It is quite exciting to speculate upon the implications of the possibly "common sense" suggestions of some of these observers. To the extent their understanding of the Bill Foster story was genuinely deeper than that of the actual participants instead of being merely a more sophisticated version of similar medicine man taboos, to the extent that the observers could, indeed, predict failure for Foster through an identifiable operational theory, then significant insights would be available for approaching the kinds of membership relationship problems with which this inquiry is concerned. (4)

The same observers were, however, asked to furnish similar "common sense" answers to the case study - General Foreman Jim Atchison- as described in Chapter III. A discussion of these answers is included in the latter sections of Chapter III.

(4. - It must be noted that predictions are being made every day in the organizations of the world. Present-day organization chart theory, for one example, is nothing if not a formalized way of making such predictions. See, for example, Organization of Industry; Alvin Brown; Prentice-Hall; 1947.)
CHAPTER III

"DO THEY EVER KNOW WHAT HITS THEM?" A PLAY IN TWO ACTS-
ACT II - GENERAL FOREMAN JIM ATCHISON

To gain further insight to the meaning to organization members of such terms as "teamwork" and "politics", we have set up exploration of real world case situations through the focus of "success in the organization by the individual." The rough-and-ready, organization member-accepted version of success we have been using simmers down to this: recognition by the individual's organizational superior that the individual is "doing a good job."

The major protagonist in the second case, to be discussed in this chapter, is General Foreman Jim Atchison. The superior in this case is merely referred to as "top management", in order to reduce the irrelevant complexity that would otherwise be introduced into the case. A secondary protagonist, of only incidental interest, is referred to as the "special assistant."

GENERAL FOREMAN JIM ATCHISON'S STORY (1)

An Eastern manufacturer of industrial devices operates a single large plant with a number of semi-independent, geographically separated production sections. One such production section, the small device assembly, had operated with a fair degree of success for a number of years. Early in 1949, however, problems which had gradually been developing there finally came to the attention of plant management.

(2) - We are reporting here data from one of the actual case studies conducted during the course of this inquiry. Fictitious names, dates and product designations are used.
Production quantities were below requirements, costs were far above standards, labor relations were in a state of continual friction, employee morale was at low ebb. Bitter personal feelings characterized the relationships among supervisors on the line and staff levels, and coordination among the various factory functions was ineffective.

The device in question was an electrical controller whose assembly included 25 component parts. Some of these parts were manufactured in other areas of the plant, some parts were purchased from outside vendors. About 50 female employees worked in the area on a one-shift basis operation. A single foreman supervised their activities.

There were many approaches to the solution of this problem that were open to top management. It might have begun on the problem by an analysis of the Production Control scheduling and dispatching routines, which were hopelessly bogged down. It might have sent in a labor relations expert to improve the highly unsatisfactory union-management relations situation. It might have assigned a crack mechanic to improve processes so as to permit greater production.

Several of these specialized attacks had been attempted earlier, however, with little result. Suggested improvements in paperwork had been developed only to meet with bitter criticism from Cost and Accounting, whose control records required retention of the various forms. Attempts at product simplification by Design Engineering had generated an outcry from Sales which indicated that a standardized product would simply have no market appeal. All attempts to improve employee morale resulted in the creation of a frustrated personnel specialist who railed.
bitterly against "manufacturing inefficiency" and "production bottle-
necks" which would have to be eliminated before he could make any
progress.

Top management had been rather proud of the "up-to-date" organization
chart it had developed for the small-device area. The chart showed
specialists for each activity, it was developed around the most modern
control routines with the latest versions of paperwork systems. Manage-
ment finally decided that the only overall approach to its problem that
was sound was one aimed at the organization as it had been developed.
Top management felt that what it had here was an "organizational
problem", and that what was needed was some form of "reorganization."
While this notion that faulty organization relationships might rest at
the core of the small-device confusion had probably existed at the sub-
conscious level of management's thinking, it was not until the individual
technical approaches had been tried that this organizational attack was
decided upon.

A special assistant reporting directly to top management was assigned
to examine the problem from this point of view. He found a multitude of
facts at his disposal. Some committees functioned well and others seemed
merely to drag on endlessly, responsibilities seemed well defined for
certain groups but were vague for others, real conflicts of interest
could be determined in several instances. In essence, there was a wide
variety of material on the "what" of the situation.

But before the special assistant could devise a plan of action he
had to go behind these facts to find the reasons for the conflicts, the
lack of coordination and the confusions. On this subject of the "why" of the situation, the matter was far from clear-cut. The special assistant found that the comments he received were almost always flavored by the personal interests of the men making them. Thus, Inspection blamed poor quality upon the "lack of quality-mindedness" on the part of the production employees; in his turn, the factory foreman blamed poor quality upon "poor Design Engineering and bad blueprints" and on the "over-fussiness of Inspection." Production Control blamed the confusion in its paperwork upon the lack of attention paid by the foreman to its routine, while Planning and Methods characterized the paperwork confusion as "the result of the lack of training of the Production Control clerks." The foreman blamed high costs upon the lack of facilities provided him by Planning and Methods, while the Planning and Methods supervisor stated that the foreman "simply didn't understand the problem" and that he had been given everything that was required to perform the job at low cost.

As an aid to plowing through this confused verbiage, the special assistant referred to the plant's "Guide to Sound Organization." He read there a series of suggestions for factory routines, and he found that several of the small-device assembly routines corresponded quite closely to these general routines. He saw a number of suggested organization charts and relationships, and, upon comparing the small-device assembly organization chart with these found that the heavy black "line" and the dotted black "staff" lines on the small-device chart corresponded favorably with the chart in the book. Staff
groups were shown as simply advisory to the main trunk of command, as was suggested in the manual, while the factory foreman was shown as the major line representative.

When the special assistant questioned the several staff groups as to how closely they considered their responsibilities to correspond to this principle, all-Production Control, Planning and Methods, Quality Control-firmly agreed that theirs was only a staff advisory duty and that it was the foreman's responsibility to operate his area.

The special assistant also noted in the manual a series of "organization principles", many of which seemed to be followed in the formal organization pattern for the small-device area. Certainly the "principle of Specialization" was being observed, certainly the principle of staff advice for line men was being followed out, certainly responsibility for results was confined in the hands of one man - the factory foreman.

So far as authority with responsibility was concerned, most of the individuals interviewed had stated that there was no question in their minds that the foreman had this authority; indeed, the only person who questioned this fact was the factory foreman, and his point of view might very well have been colored by his "lack of weight" and as a justification for his poor record. Certainly the organization chart showed the factory foreman in the position of authority.

The special assistant decided that the major canon for successful organization that was being violated was the lack of clear definitions of responsibility for each member of the small-device area organization.
He began the task of writing "charters" and "job tickets" for the various parties.

The production performance of the section was steadily growing worse during the special assistant's analyses. Before he was well embarked upon his difficult task of writing "charters", he was recalled to the central office for re-assignment. The extremely poor production performance of the section caused management to assign one of its veteran trouble-shooters, Jim Atchison, to the area.

Jim Atchison, a tall greying man of 55 years - 35 of them in the company's service, had spent the two years previous to his new assignment in the central office of the plant letting sub-contracts. He had been president of the plant Foremen's Association, was extremely active in community and fraternal associations, and was a director of the plant's Apprentice School, from which he had been graduated many years previous.

When Atchison was talking to top management concerning his new job, he requested "some specific authority". He was informed by management that his "experience gave him all the authority he needed to clean this one up" and that he could count on "full support from the front office." Atchison was, however, permitted to re-assume the title of General Foreman which he had earned in the shop before his assignment to the central office. It was understood, however, that this title did not indicate that any of the foremen or specialist group supervisors would thereby report to Atchison; the title would, however, "keep up his prestige."

After his first day on the new assignment, Atchison returned to his former desk in the central office to pick up those of his belongings which
he wished to transfer to his new location. While there he told a good friend that "the place down there is in a mess and is loaded with politics." But, Atchison told the friend, "What this crowd needs is to get some teamwork by having a few heads knocked together to push some of those prima donnas in line. And I can do it with that gang of wet-eared kids."

On the next day, Atchison sat down with the beleaguered factory foreman, whom he knew well as a younger man and an Apprentice graduate. The substance of his conversation with the foreman went, as follows:

"You're in a jam with the big boys and it's just a question of time before they nail you. Now what I want you to do is this: I want to get you and the production supervisor together every morning and talk what we're going to put labor in for that day as well as what material we've got. That way there won't be any buck-passing about him saying he has more material on your floor than you say you have.

"You're a nice young fellow and I want to help you. But, on the other hand, I sure don't think you ought to go into a meeting like this unless you think it's the right thing to do."

The foreman agreed that it was the right thing to do. The conversation then progressed to other changes that the foreman should make in his operation for during the conversation Jim Atchison had become a line General Foreman.

Later in the day, Atchison went to talk to the production supervisor who was the only man in the section whose age and company service approximated Atchison's. The production supervisor had never worked in any other section than small device, and had, indeed, been in the central offices only two or three times in his entire career. Atchison reports that his conversation with the production supervisor followed this trend:

"The boys in the central office have assigned me down here to help you boys out of this one. And one of the things they don't like— and neither do I— is that you and the foreman can never agree on the amount of material
he has on his floor. The day before yesterday, for example, with a 4000 device schedule he built only 880. But he says that he had material for only that many, while you say he had enough material on his floor to build 20,000 devices.

"Now I'm going to tell him to do one of two things. Either make up a shortage sheet every morning showing the material you don't have to him - and I personally will ride the hell out of the sheet upstairs - or sit down with you every morning and work out the day's schedule on something other than a baloney basis."

The production supervisor agreed to such a meeting. As chairman of the meeting, Atchison had added a production supervisor to his staff.

In a period of three months Atchison had the small device area operating in a fashion whereby production output was satisfactory to management, costs were dropping fast, and complaints about paperwork were largely eliminated. Management had long since forgotten the distinction it had made about Atchison's acting with "experience as his own authority" and now considered him line head of the small device section. It was further happy that the formal filing of grievances, which had been a particular sore spot in the small device area, had tapered off to a normal figure.

CURTAIN ON JIM ATCHISON'S STORY

In an interview concerning reasons for his success, Atchison simply stated that "the trouble before was that the boys never had anyone to tell them what to do." Interviews with appropriate members of top management showed that they attributed Atchison's success to his being "a good, experienced operator" - "a good mechanic whom his people like," and a man who can build teamwork." The special assistant was reassigned to the small device area and quickly completed the task of writing "charters" and
"job tickets." He commented that:

"Now we've got a good, tight organization structure in small device which is very sound and with Jim Atchison to make sure that the boys work that way, we'll really have an organization plan that facilitates teamwork and inspires cooperation."

In conversations with plant top management Jim Atchison referred to the manual which included these charters and job tickets as the "small device compass - really guides us." And the annual review of accomplishment by the company several months later, presented to all supervisors in the plant, used Jim Atchison's section as a case study in "successful organization planning."

Those observers mentioned in the previous chapter, who had judged the Bill Foster "failure" and had felt that they understood it in terms of operational criteria, honestly confessed that these criteria did not provide equal guidance for explaining Jim Atchison's "success" in the same terms. Some of these observers then discarded these criteria in favor of the notion that "organization is folks"; Bill Foster and Jim Atchison are different individuals in particular groups - to make any operational predictions about their "success" and "failure" apart from people-centered thinking is not possible. "Teamwork", "politics", "expendability" must be thought of in purely situational terms with emphasis upon the personalities involved.

These observers thereby espoused the "cherchez l'homme" doctrine that has always enjoyed wide vogue in this area. If there is "failure" in an operation, then the guides are "find the man and identify him" if you are an observer, and "find the man and replace him with a better one" if you are the situational superior - that is all the theory that
is needed or all which can be developed apart from irrelevant abstractions.

There is unquestionably virtue in this "cherchez l'homme" concept and its associated institutional tactic - get rid of Foster and praise Atchison. As some psychologists have suggested, the real stuff of the operation that is "failing" is the behavior of its human participants, especially those who are, in our terms, the operators in the situation. If Foster's behavior is distorting or unbalancing the system, then, the argument goes, it is sensible either to get rid of him or to understand him and try to "straighten him out" - depending upon which choice is the more desirable. (2)

But other observers who had studied the Bill Foster case were not satisfied with this institutional, anti-theoretical find the man notion. "Cherchez le systeme" was their plea; it was the systems into which Foster and Atchison had entered that "failed" or "succeeded" them - not primarily the men themselves. So let us analyze and understand the system, find out its success and failure oriented elements, and report or replace them, depending upon our interest in the case. Maybe organization planning did have an effect in solidifying Jim Atchison's success; maybe informal organization did have a major effect in crushing Foster.

And, again, there is virtue in this "formal-informal organization" - if one is sociological in his tastes - or "government by laws rather than men" - if one is political science oriented - point of view which has become so popular in the last few decades. Replacing Bill Foster and praising Jim Atchison is not the answer except in extreme limiting

(2) - Professor Bakke makes an effective development of this theory and tactic of organization in his Telephone Company study. See: "Bonds of Organization," E. Wight Bakke; Harper; pp. 201-202. Bakke also points to the inherent theoretical contradictions of this concept.
CHAPTER III

situations. Their behavior, as the argument goes, is not merely a function of impulses arising from peculiar characteristics rooted in their unknown, hidden, innate qualities. What such a man is, as a source of what he does, will have been determined to a large degree by the crisis situation which he has made part of his own behavior tendencies and personality structure.

Still other students were dissatisfied with both these approaches. One favored a combined "cherchez l'homme, cherchez le systeme approach"; one suggested analysis in purely industrial management, organization planning terms. Another observer commented, however, in a fashion that may be appropriate for mention at the conclusion of this chapter:

"So we are agreed that some of these problems with which we are concerned - teamwork, button pushing - originate and exist in a context which appears as a muddy sludge to our eyes. And it can scarcely be other than a sludge from this empirical point of view, since one can scarcely assimilate or reproduce all the data in a case even if one lives through it as a presumably totally objective observer on a chandelier; the best he can do is somehow represent it so as to suggest, from some sort of focus, the significance of the behavior and attitudes of the operators and a gage of their effect on the people concerned.

"So also this world in which teamwork is held to originate is a complex and devious one of interrelationships. And we are further agreed that the common sense interpretations of situations which arise in this world - the interpretations that we might well use as a successful tactical basis were we one of the operators - are somehow disturbingly ambiguous, vague and unsatisfactory when they are examined in terms of a general framework of analysis. Yet can we expect any more? Do we simply leave the problem here, and go to our own separate, hopefully successful organizational ways?"

Professor Percy Bridgman echoed part of this note some years ago on a more sophisticated level of analysis: (3)

(3) - "The Intelligent Individual and Society"; P. W. Bridgman; The Macmillan Co; 1938; p. 10.
"The totality of situations with which we are confronted, including society in its economic, political, esthetic, and religious aspects, is enormously more complex than the situations presented by any well defined scientific activity such as physics or chemistry."

Mr. Chester Barnard suggested a similar point, with relevance to the type of institution with which this inquiry is primarily concerned: (4)

"...It seems to me quite in order to cease encouraging the expectation that human behavior in society can be anything less than the most complex study to which our minds may be applied. However desirable clarity and simplicity of statement, it is not desirable to underestimate either the difficulties of observation and experiment or those of constructing hypotheses that may prove helpful. Nor should we be misled, as I think nearly all of us are, by the relative ease with which most of us manage to adjust ourselves to our worlds. We have less understanding of what we do, and why we do it, than does the pitcher of a baseball - and for his case in the whole world there is not as yet the anatomical, physiological, neurological, and psychological knowledge - and perhaps not the mathematical technique - necessary to explain what he does in seconds without ever having heard these names."

Mr. Barnard's psychology and somewhat Virgilian mode of expression in this quotation happen to be somewhat out of fashion at the moment, yet the sense of his remarks may be worthy of real consideration for us. For the questions facing us like teamwork and expendability and politics (5) in certain types of institutions may not cover the great

(4) - "Functions of the Executive"; C. I. Barnard; Harvard; 1938; 2, xvi.
(5) - We could, of course, be possibly more precise by introducing relevant social science concepts and terms at this and several other points of this chapter. We might have noted, for example, in terms of the "morass of sludge" remark that reactions to a "fact" or "constellation of facts" - as teamwork or politics may very well be - and behavior in their response is a response to those "facts" as they have been personally understood and experienced. And the institutions with which we are concerned are, if nothing else, scarcely noteworthy for similarities in these understandings and experiences. But we are not yet ready to apply analytical apparatus of any particular discipline nor to charm with professional language. The eyes with which we are viewing this area are still much more closely, by our initial agreement, the eyes of the aggregation member than they are the eyes of the professional observer, complete with specialized language and conceptual apparatus. We are, again by agreement, schizophrenic only to this extent: we retain the eyes of the logician in viewing our problems.
dark miasma of the social world of which he and Professor Bridgman are writing, but they are citizens of that world.

Granted, then, that we must be cautious of the gadget-centered analysis or answer in our inquiry; granted also that humility before our questions is urged upon us by great men in the field. Yet the issues in which we are interested in our macroscopic, open system, non-model world are being faced every day by practitioners who are striving to understand them as best they can. How can we approach their study so as to strive for improvement of our own understanding?

The next chapter will essay the first step in the required methodological development.
PART THREE

CAN WE FIND OUT WHAT HITS AGGREGATION MEMBERS?
CHAPTER IV

APPROACH TO THE STUDY

If the cases discussed in the previous two chapters may be considered "representative" of an important range of aggregation situations - and we shall have more to say later about the "representativeness" of such case studies in inquiries of this sort - then they may be useful in pointing up certain notions developed from broader explorations made during the course of this inquiry. These notions, in essence, simmer down to the hypothesis that aggregation members do not, in general "know what hits them"; that the world of relationships in which they live during their work merges into an amorphous mass when effort is made to describe its issues and characteristics.

The very fact that there may exist tacticians like Jim Atchison (1) - the Machiavellians might term him a "fox" (2) - tends only to point up still further the amorphous nature of this world. For both our inductive experience and our deductive mathematico-logic (3) suggest that the pure move-to-move tactician—which is what we often mean when we use the popular term, "operator" - has when surrounded by strategists poor prospects of long run "success", especially in the rough and ready definition of the term we developed in an earlier chapter. It is this which so keen an observer as Professor Pjors is telling us when he pleads for "policy-centered thinking" in the purpose-centered aggregation. (4).

(1) We use tactician here in the sense of the move-to-move adjustment to immediate situations apart from any long-run strategy. See also Note (3)
But one can become a strategist in this dynamic aggregation world chiefly to the extent that there is some predictable understanding of the forces which are at play in that world and their cause and effect relationship to the world's institutions and the characteristics of these institutions. Such an understanding of the aggregation world by its "representative" members has scarcely been suggested by the explorations of this study.

Then what does so able a man as Mr. Barnard mean when he writes regarding one particular type of aggregation member - the "executive" - that "Many times I have noted that executives are able to understand each other with very few words when discussing essential problems of organization, provided that the questions are stated without dependence upon the technologies of their respective fields." (5).

(2) - Terms like "fox" and "lion", etc. are descriptive labels developed by a school of thought labelled by James Burnham, "The Machiavellians", as in his well known book. Claiming spiritual descent from Nicolai Machiavelli ("The Prince") and studded with such names as Talleyrand and Michel, this school discusses techniques of terror and violence as well as stealth and treachery against the backdrop of gaining objectives in societies. While these societies were primarily those of political government, since it was here that Machiavellians were primarily interested, many of their concepts and terms provide an interesting though controversial relevance in terms of the aggregations which we discuss. For further discussion of the Machiavellians, viz: the discussion on History of Organization Thought below.

(3) - In their "Theory of Games and Economic Behavior", John Von Neumann and Oskar Morgenstern note that strategy involves what, in our terms, would be a set of policies to guide every move-to-move tactic. They further note that the "game" to which the strategy must apply
And Mr. Barnard concludes: (6)

"To me, it has long seemed probable that there are universal characteristics of organization that are active understandings, evaluations, concepts, of men skilled in organizing not only in the present but in past generations, which have also been perceived by careful and astute observers and students.

"But nothing of which I knew treated of organization in a way which seemed to me to correspond to my experience or to the understanding implicit in the conduct of those recognized to be adept in executive practice or in the leadership of organizations...........

"At least this I can assert: though I early found out how to behave effectively in organizations... not until... much later... did I begin to understand organizations of human beings....The tangible result of this experience and these beliefs is this book."

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is the "totality of its rules." Thus, a pure move-to-move tactician can become a strategist only when he understands the "totality of the rules"; the odds on the success of the pure move-to-move tactician as compared with the strategist in any game are quite small, if there is sufficient time allowed to elapse even in the absence of a stochastic process.

Mathematically, most of the cases discussed by the authors are indeterminate and scarcely of concern to us here. But their conceptual apparatus quite definitely is relevant to the discussion above.

(4) - This point of view is developed by Pigors in a series of articles in "Personnel". See, for example: "Who Should Make Personnel Policies?" Paul and Faith Pigors; Vol. 27, Number 3; November 1950. Pages 176-189.

(5) - "Functions of the Executive"; Chester I. Barnard; Harvard; 1938; P. VII
What Mr. Barnard is telling us simmers down to this: The very fact that most aggregation members do not "know what hits them" points up all the more sharply that there seem to be and always to have been a few individuals who have possessed successful intuitive insight into what Von Neumann and Morgenstern term the "totality of the rules of the game." (7) - "So, he implies, the "proper study of organization is to find out from these individuals just what is their art and somehow to construct from it the "universal characteristics of organization" whose existence is inferred from these intuitions."

It is just this which Mr. Barnard has done with himself as the "artist" and the "scientist" wrapped in one. Having been a possessor of successful intuitive insight himself, he applies himself into the role of scientist to analyze these insights. His "Functions of the Executive" is not, therefore, a discussion of the "art of organization" in the sense of the unsophisticated concentration upon personal languages, and mystical concepts that had characterized the modern literature of "organization thought" up to 1938. Mr. Barnard indeed suggested that such works of "art", dealing in personalized languages and implicitly applying to specific aggregation situations which are never explicitly identified have and can make little contribution to the development of "organization theory".

(6) - Barnard; Op. Cit.

(7) - Quarrel with this point is many generations old and runs through an important sector of the philosophical and political
Mr. Barnard's belief is that, in contrast, his book is directed toward a "science of organization". To be sure, by virtue of its source, the book is flavored by highly personalized empiricism; but it is empiricism in scientific terms.

It is this book which is acknowledged by many observers as representing the most successful approach to the study of questions that earlier chapters have posed for us: such as, "teamwork", "politics", "the right button to push". Assuming we accept its premise that its orientation is toward a "science" rather than an "art" of organization - without being overly concerned immediately with defining either term - how successful has Mr. Barnard's approach been toward structuring "scientific" beginnings toward answers that we seek?

There are many ways in which such a question can be answered. Certainly, most observers who have read Mr. Barnard are agreed that their own insight into "organization" has been deepened by this reading. Certainly, also, many observers have felt that Mr. Barnard has clearly identified many of the issues which are paramount to the study of organization.

Yet it must be noted. That today, almost 15 years after his material first appeared, there has been no major follow-up on Mr. Barnard's discussion of the "science of organization". No major experiments have been performed to test whatever hypotheses may have

science literature under the general heading of "government by law or by man." But such a methodological quarrel is unimportant to the
been developed in his volume. No major text has appeared further to refine and develop his concepts. No major quarrel exists relative to his basic structuring of the problems he investigated.

Clearly this is not because "all was answered" when "Functions of the Executive" appeared. Clearly, also, there seems some striking sort of parallel - and both are close in terms of inspiration and chronology - to the great yet also "one experiment studies" which were described in "Management and the Worker." with relation to the Hawthorne Studies.

Part of the lack of follow-through on Mr. Barnard's work may readily be suggested: While "Functions of the Executive" is far more sophisticated a volume than the books on the "art" of organization which Barnard felt were "non-communicable", in terms of net effect is it possible that it is spiritually akin to these volumes? Entirely apart from the problem that Functions is an empiricism whose data are drawn from the experiences of one particular kind of aggregation member - the "executive" (8) - is it possible that its approach is still that of "art" - albeit brilliant and competent art?

main stream of our argument and we shall not explicitly consider it.

(8) - Why Mr. Barnard does this is probably explained by his introductory quotation from the "Metaphysics" of Aristotle: "For the efficiency of an army consists partly in the order and partly in the general; but chiefly in the latter, because he does not depend upon the order, but the order depends upon him." We will take issue with the aggregation implications of this below.
It must be emphasized for Mr. Barnard that this possible failure to develop the seeds for an introductory "science of organization" is most certainly not a result of the perhaps rather shallow analytical considerations that existed with relation to the other works he has criticized. Mr. Barnard's work becomes art rather than science not because he does not understand what a science is nor what are characteristics of the world which he is trying to describe in scientific terms, but because he succumbed to the great difficulty we have, because of the Western culture in which we have been bred, to be genuinely "scientific" rather than "moralistic" about matters of organization:

One of the requirements most often cited for the "scientific method" is that investigators approach problems with a minimum of preconception; yet it is for the very fact that they may have preconceptions either by virtue of "successful experience" or value judgments - that organizations may be made "more democratic" or that the democratic organization may be shown to be the most effective organization form - that students may become interested in the organization field in the Western world. That there should be this block is only to be expected; our review of the literature in this area will show, in a later chapter, that concepts of organization historically have been strongly conditioned by the concept of the age as to what the world was and what was the socially acceptable political climate.

In our own era, any organization theorist or analyst finds
many conflicting cultural forces pulling at him. There is the Hope for Political Democracy, which makes democracy the socially acceptable form for all institutional life; there is the Reality of Economic Self Interest, which may be polar to democracy in the industrial institution; there is the Hope for the Happy Firm, which reflects that Western man enjoys living cooperatively and in a friendly atmosphere in any of his institutions; there is the Reality of Organization Operations, which may mean that the "laws" of pure organization theory may show grave disparities between the "economically efficient" organization and the "democratically happy" organization."

The wide differences in concepts of organization, as expressed in the totalitarian world - of which the Mussolinis, Hitlers, and Stalins are 20th century counterparts - and the democratic world are unquestionably a reflection of differences in the resolution of these forces. And the research differences between the authoritarian conclusions of the East and the democratic conclusions of the West may be more a question of bad politics than they are one of bad research.

For it is entirely possible that in the field of organization of large numbers, policy questions may face the same "can't have cake and eat it too" reality of choice that is faced in other social studies fields. Perhaps we cannot "maximize" both industrial democracy and industrial effectiveness; perhaps conflict rather than cooperation is the inherent function of large number organizations;
perhaps participation is "bad" rather than "good" in this context; perhaps striving for the achievement of power is fundamental to membership life in the purpose-center aggregation.

Men like Mr. Barnard will have none of this; they are value judgment oriented first and research analysis oriented second. And so their "science" starts with the implicit premise that that which the larger culture in which the "science" is to operate considers as "good", as perceived by the analyst, must become automatically either an implicit assumption of or an indispensable conclusion from the conceptual framework on which the "science" is based. Thus Mr. Barnard tells us that ... organization is that kind of cooperation among men that is conscious, deliberate, purposeful. Such cooperation is omnipresent and inescapable nowadays...."

In effect, therefore, the concepts that have surrounded our preconceptions of political democracy have, by a large, prevented even so able an observer as Mr. Barnard to face up to the possibility of choice - "maybe we can't assume cooperation" - which may well be crucial to the seeds for a science of organization. So what research we have had - and even the best of the current theory - has usually had, as its implicit objective, not the understanding of the relationship world of aggregations but instead the proof that a democratic organization is, indeed, economically the most efficient. And, unfortunately, we have all too little empirical evidence to accept this as a given in the development of a theory for understanding the world of aggregations.
4.3

If the best accepted work of the present day is thus perhaps not entirely successful in its approach to the problems that interest us here, where may we turn for suggestions as to the approach we may use? Unfortunately, as we shall see from its review in a later chapter, the review of the literature precedent to Mr. Barnard's work has little in its turn to offer methodologically that we can too seriously accept.

We are, thus, thrown back upon our own devices for the development of such a methodology. It is probably just as well, and certainly most honest that we are forced to accept such a state. For, entirely apart from the experience of Mr. Barnard and many other students, many frank observers of the present social studies scene feel that methodological choice for analyzing the kinds of questions with which we are concerned come down at base to matters of taste and of faith.

There are to be sure many technical suggestions for approaching the study of so amorphous a set of issues as the "hot team", the "right button to push", and the "expendability of staff". And there are many technical questions that may be raised about the possibility of approaching such questions at all, without becoming overwhelmed by what is essentially the whole mysterious universe. Why, for example, lump together for analysis in one area such issues as "teams" and "button pushing" and "the staff"? And it is not somehow unscientific to approach a group of issues which are so obviously painted on an extremely broad canvas; is it not even unfashionable to
consider such a microscopic constellation of issues in this era of microscopic analysis?

If one wishes, he may answer technical questions of this sort by summoning impressive technical evidence in many directions in the form of tomes on methodology and pronouncements upon the scientific method both within and without the social disciplines. This observer shall not summon such evidence even though he has reviewed it; the approach outlined below is, in essence, based upon his taste and faith in its value based upon preliminary explorations in this area:

(9).

First of all, it has become increasingly obvious as the discussion has proceeded that issues like "the hot team", "politics", success are particular parts of a broader question: "How can we understand and predict the task-oriented interactions of individuals who work as members of such particular institutions as the firm, the union, the church, the government bureau, the social agency." It is this question which is pivotal to our inquiry.

Secondly, since this inquiry must therefore involve the actions of men, it will follow conceptually the ancient suggestion of the French mathematician, Pascal: "Studies of man must follow the laws of probability, not the mathematical laws of certainty." We shall, therefore, always be thinking in terms of the two parameters of simple statistical theory: the mean, and the dispersion. Our particular

(9) — See: "An Approach to the Study of some of the Behavior Patterns
studies will be built around these concepts. While our conclusions may not always specifically identify "means" and "dispersions", their statistical concept will always be implicit.

Thirdly, our methodology will follow in kind, if not in degree, Mr. Barnard's suggestion for "scientific" rather than "artistic" analysis. We shall be using the inductive - deductive approach, shuttling back between empirical evidence and the hypotheses that we may deduce from this evidence. But we shall have at least three benefits not possessed by Mr. Barnard. First of all, we shall have available to us fifteen years of advancement in the literature of such areas as social psychology, social anthropology, etc. which have much insight to shed upon the direction of our inquiry. Secondly, we have the benefit of learning from some of the methodological problems that later students have found in Mr. Barnard's work. Thirdly, we have the benefit of acting largely in the role of the scientific investigator, rather than rolling ourselves into both artist and scientist as did Mr. Barnard. This permits us to use not only the art of Mr. Barnard, as well as that of more recent works such as those of Marshall Dimmock (The Executive in Action), but also to make use of artistic insights from the literature of collective bargaining, union politics, industrial management.

There will, therefore, be no more a spiritual bond between our methodology and that of Mr. Barnard than there will be between ours and that of certain social observers such as McGregor and Knickerbocker of Industrial Organization. AV Feigenbaum, Master's Thesis; MIT Libr-
(10) Kurt Lewin, Ronald Lippitt, and others.

Our study will, in balance therefore, involve the following elements:

1. A series of interviews and empirical studies of task-oriented interactions in real-world situations. Some of these have been briefly reported in this and earlier chapters.

2. A search throughout the relevant literature to simmer out its contributions to the construction of hypotheses.

3. An exploration in empirical terms of the growth patterns of the type of institutions with which we are concerned.

4. The construction of initial hypotheses based upon this empirical evidence and contributions of the literature.

5. Empirical testing of these hypotheses and their further refinement or rejection.

6. Applications of some of these hypotheses to situations of interest.

7. Conclusions concerning work-oriented interactions of individuals in certain types of institutional situations.

8. Suggested questions which remain to be answered, and which may be explored by a later student.

The remaining material in Part Three involves the critical search through the relevant literature, while Part Four will begin to introduce the hypotheses which will be major to the inquiry as it proceeds.

- See, for example: "Union Management Cooperation: A Psychological Analysis;" Irving Kriekibecker and Douglas McGregor; Personnel; Volume 19; Number 3;
CHAPTER V

A CRITICAL REVIEW OF THOUGHT ON MEMBERSHIP RELATIONSHIP ISSUES - THE POLITICAL THINKERS

Active attention to problems of task-oriented relationships (1) in such institutions as the government bureau and the social agency has existed for many centuries as part of the broader considerations of social participation, administration, and organization. Indeed, Professor Lepawsky's compendium of thought in this area (2) contains impressive Egyptian and Assyrian excerpts which substantially antedate the Greeks.

The first major study for the Western world is 2500 years old; it is Aristotle's great work, the "Politics". With Plato's "Republic" and the later Roman contributions of such men as Julius Caesar and Marcus Aurelius, the "Politics" exists as an initial milestone in an historical parade of thought on social administration, which stretches from that time to the present. The spectrum of these works ranges from the Greek analyses of rationality in social participation through the tactics of sophisticated treachery which mark much of the contribution of the medieval Italians (3) to the heavy-handed authoritarian dogmas of the seventeenth and eighteenth century Prussians and the strategic subtleties of the eighteenth and nineteenth century French.

(1) - Particular definitions of these terms will not be offered until later in the inquiry, when a conceptual framework is developed which requires such definitions.
(2) - "Administration - The Art and Science of Organization and Management"; Albert Lepawsky; Knopf; 1949.
(3) - Machiavelli's "Prince", which keynotes this era, has been recognized as fully as much a classic in its own right as has Aristotle's "Politics".
With all their vagueness of boundary, fluctuations in emphasis, and cycles of ethics, these works have quite properly been considered by many observers to constitute a literature of their own; in essence, they have interested themselves in exploration of that which has to do with the relations of human beings to each other in the institutions which humans develop. They have attempted to express concepts on understanding, theorizing upon, and/or from some point of view optimizing the results of these relationships - whatever they might be. To Machiavelli, the relationships were those between the prince and his rivals, to Aristotle they were between free man and the state, to Jean Jacques Rousseau they were between free man and free man.

The concepts of these men were offered according to personal terms; against the backdrop of the concept of the universe prevailing in their day; with relation to the values, taboos, and creeds of the culture then extant. Most of the works fall into the classification of what, in Chapter IV, was noted as the "art" of relationships rather than its science. Those works which have endeavored to be at all theoretical in terms of abstracting from reality may, in some cases, be analyzed so as to precipitate out models which are usually implicit to the discussion rather than explicitly formulated. Since the complex of variables around which these models was built was developed so largely with relation to the prevailing dogma and institutions of their day, the significance of specific variables remains chiefly for the value of the institutional historian.

It is interesting to note, however, from the point of view of the
general pattern of its methodology, that this complex could usually be divided into two major classifications - those variables "external" to what might today be termed the social system of the institution; and those variables "internal" to it. The most typical "external" variable, which appeared under varying terms depending upon the sophistication of the age, was usually "magic", or "nature" or "primeval force" or "economic force". The most typical internal variable was the control of membership relationships in which the leader - e.g. the "Prince" - was often pre-eminent.

Where, for one instance, the institution under consideration was the kingdom, and where "divine right of kingship" was a value of the culture, then the external-internal complex entered into an independent-dependent status in the model. Where, for example, "divine right" was denied by the culture, the "external" and "internal" variables became independent in the model. But, typically, we may leap ahead for an instant in the argument by noting that the models were not usually closed systems to the extent that the internal variables were held to be purely endogenous explanations of results of membership relationships, as is characteristic of some schools of present-day "organization thought" to be reviewed below.

In the Aristotelian tradition, much of the 2500 years of attention in this field has been devoted to the study of the relationships of human beings to each other and to the state in the institutional context of some sort of governing body. This study has been variously termed that of "politics", "government", or, most ambitiously, "political
science". (4) Yet the possible value of this literature to us in our inquiry into institutions different from the state is quite obvious and cannot be overlooked. This value exists both in terms of providing a treasure trove of methodological attempts, if only implicit, to approach relationship problems, and also as a means of providing possible substantive insights to those relationship problems with which we are concerned - in our own cultural setting, against the backdrop of the concept of the universe now prevailing.

It is true that, for relationships in several of the institutions with which we are concerned in this inquiry - the business firm and the trade union in particular, one can find little explicit attention in this literature. These institutions were largely neglected until the latter portion of the nineteenth century when a formidable literature of "organization thought" of its own began to grow for these institutions.

Yet there seems little doubt that these institutions would, to a contemporary Nicolai Machiavelli or Jean Jacques Rousseau, have been merely a special type of those with which they were concerned. And there seems still less doubt that the sense of the genre of issues which we have posed for ourselves - the "hot team", the "expendability of union

(4) - The contemporary twentieth-century literature in this field appears to this observer to consist of (1) - philosophic discussions and refinements of the concepts of the earlier works we have noted; (2) - applications of these concepts to present political institutions; (3) - applications of contemporary "organization chart" concepts to these political institutions, which concepts will also be reviewed in this chapter. The brief analysis of thought as essayed in this Chapter will not, therefore, make explicit reference to these contemporary works.
staff" indeed, the "politics of industrial organization" - would have found no great surprise among these men. For many of these problems have been studied in various fashions in the literature for centuries. Such problems, for example, as those which modern organization members have stated with respect to the "hot team" were classified by the eighteenth and nineteenth century French under the heading of "l'esprit de corps", had similarly appropriate lingual classifications for the Prussians and the medieval Italians, and were classified as the area of the "summun bonum" by the Romans.

In spite of its value it will, however, be quite obviously impossible to attempt any extensive fundamental analysis of this literature within the bounds of this chapter - even were the investigator competent to undertake so awesome a task of generalization - beyond suggestions of the significance of some of its central concepts and general classifications as has already been essayed above. Probably this is all that will be of immediate value to our inquiry, anyway, with the addition of introducing what is perhaps the focal concept of this literature: the "political man".

To Aristotle as well as his spiritual successors, man no matter how located in governing institutions, was "political man" - striving for his own survival and success through utilization of whatever means he felt were open to him. This concept of "political man" is one whose original meanings have been eroded and distorted by commentary almost as badly as has "economic man", its brother whipping boy. Yet this erosion has not destroyed for us what was its central methodological
concept, that of viewing institutional man through the "totality of his relationships" - which had a variety of substantive meanings for a variety of observers but was generally viewed in terms of a model with a complex of internal and external variables which were held to influence these relationships.

It is these relationships with other men and with groups through which institutional man, the "political animal", strives to gain and use the "power" necessary for him, as the "operator" in the model, to maintain or improve his lot in the institution. So, believed the great men of this literature, the "proper study of man in his institutions is the study of inter-individual and individual-group relationships."

The backdrop against which these relationships were to be viewed was one in which there were several major, but usually implicit, central assumptions. For one, the state or similar institution was held to have a natural history, and part of its meaning must be sought in its development. For a second, the state has a natural basis in both economics and small group structure (usually the family), and a natural purpose in ethics. Third, there are basic forms into which all institutions fall, and the art of institutional development ("organization", in modern terms) lies in the choice among these forms and combinations.

Fourth, there are, at all times, a host of forces at play within and without the institution - closely connected with the "external" and "internal" forces of the idealized model. The individual's art of optimizing his satisfaction from relationships in these institutions is one of finding a proper equilibrium among those forces which impinge
upon him. This equilibrium thinking to most political scientists in the
Aristotelian tradition sees, in individual ethics of task-oriented
relationships, the good life in the mean; in the ethics of the institution,
it sees an equilibrium between power and some constellation of individual
needs - usually labelled as "liberty", or alternatively an equilibrium
between authority and its checks.

The last key assumption, and one that is probably even more tenuous
than the others, is the recognition of a connection between the "image
stamped upon the individual by the institution and the relative growths"
of the individual and the institution. The detail of this particular
assumption usually ranges from the typical extreme of "government of
men" at one pole, and "government of laws" at the other pole.

5.1

The substantive answers that this literature derived from its studies
of relationships were many and varied; the art they recommended, which may
be of interest beyond mere relevance to the institutions of its day, will
not be explicitly reviewed at this point of the inquiry. But we will
contrast in this chapter the flavor and implicit methodology of these
answers with those of the present-day literature which, as noted above,
is particularly devoted to the institutions with which we are concerned -
a literature whose works are variously termed "organization thought",
"management", "industrial administration", "organization planning",
"scientific management", or the "organization chart." (5)

(5) - Individual citations of work in this field will be made wherever
possible. Since the literature furnishes a continuum to a large extent,
however, and Appendix at the end of Chapter VII will list the volumes
included in this review, whether or not they have been individually cited
during the chapter itself.
It is this literature, little of which is more than 50 years old, that has been given the greatest attention by modern students who also have been interested in and have written about the sorts of problems with which we are concerned in this inquiry. Because of this contemporary attention, the bulk of the following chapter is concerned with a review of this newer literature. This review, except for initial contrasts made in the present chapter between the "organization chart" literature and that of "Aristotelian politics" will continue the previous practice of this inquiry by attempting to analyze the former on its own terms. Our eyes will be no more or no less sophisticated than those of the great men of this literature, and our personality will be schizophrenic only to the extent of awareness of the procedures of inductive and deductive logic. No particular non-organization chart discipline will be used as the pivot for this review.

If any generalizations may be made about "concepts of the universe" which are implicit to the organization chart literature, they may be made in this direction: This literature seems to be founded upon implicit premises which relate to Puritanical notions of human behavior - that men "should" act in this way or in that. Certainly many observers have pointed to the role of Calvinistic philosophy in the growth of what they have called our "business culture". In contrast, Aristotelian politics has a somewhat more tolerant, less expectant, indeed, in modern terms, a less "ethical" view of man as he exists in his institutions.

The models implicit to the organization chart literature are systems that are far more closed than were the traditional political models.
Modern organization chart models cannot be divided into a complex of both external and internal variables; it is the internal variable which is held almost purely endogenously to influence relationships. Thus, for example, the literature indicates that "authority uniquely reflects responsibility within business organization structure" (6) against the context of a completely closed system. To the Aristotelian and Machiavellian observers, such internalized notions of responsibility and authority would not have meaning in either static or dynamic terms.

The concept of man implicit to the organization chart literature is a kind of "institutional man" who would approach "economic" rather than "political" man, were one to establish a degree scale on which the three were placed. But he is a rather obtuse form of economic man, who, as he usually develops in the model, seeks his self interest only as he may be permitted.

The institutional reality to which the model relates is a better ordered system, as seen by the organization chart theorist, than were the institutions seen by the traditional political thinkers. From review of both literatures, one is led to conclude that this greater order is largely a matter of differences in perceptive orientations. The perception of the organization chart theorists has very probably been largely influenced by the early developments of classification in the field such as the "line" and the "staff". (7)

(6) - See Organization of Industry; Alvin Brown; Prentice-Hall; 1947.
(7) - The historical development of some of these concepts will be analyzed below.
As the years have gone on, these classifications have themselves become institutionalized to the extent that they have become virtually objective facts to the view of the chart theorists. The increasingly primary nature of these concepts—with line and staff again the example—makes permissive the view of certain objective facts of the institutional system as a neatly ordered dichotomy—the "line facts" and the "staff facts". Even Aristotle himself, with his almost fanatical zeal for classification, did not impose this amount of circularity upon his argument by going so far in his compartmentalization of "basic institutional forms."

In a fashion quite similar to some of the classical economists in their own field, early organization chart theorists like Ure and Babbage and, after them, Taylor and Barth clearly perceived an institutional world that consisted of a jungle of relationship patterns. But this was a world that could not, for them, be analyzed in so "disordered" a fashion. They reverted, therefore, to the idealized notion of task-oriented relationships that were purely internally motivated within an institution and which could be viewed entirely through the eyes of the chief or chiefs of the institution. The simple organization chart was held completely to describe these relationships within the institution, and the economic and sociological summation of these relationships was held to be a mass reflection of the chiefs.

This concept of a universe of relationships was far simpler than that of many of the traditional political thinkers, and was a perhaps inevitable reflection of an age that was beginning to grow awed by the "engineering approach" of which the organization chart was a most useful instance. The concept made possible the development of a body of organization logic, just
As simple, statical assumptions by classical economists had nurtured a body of economic logic. This concept of a simple organization model is at the foundation of the body of organization thought to be discussed in Chapter VI. Analogy is again striking to portions of the economic literature where pure competition has so often been an implicit foundation for generalizations concerning imperfect markets.
While modern organization chart theory is scarcely 50 years old, some of its origins may be traced back two centuries. Apparently the Prussian militarists under Frederick the Great were the first to treat membership relationships from this point of view. German military literature from that era through Clausewitz and down through the present, is characterized by considerable attention to the field of the organization chart. (1)

In the German approach, the organization chart was held to be representative of an institution with authoritarian bases. Power was shown to generate in an authoritarian fashion from the marshal down through his aides and finally down to the platoon levels. Small box diagrams, later classified as organization charts, showed these relationships quite clearly.

The military literature dwelt extensively upon the responsibilities of those who occupied the several boxes in the organization charts. Majors had a certain degree of authority and possessed responsibilities greater than those of captains; the foot soldier had certain duties that were carefully detailed. Many military manuals purported to cover all

(1) - The Psychology of Military Leadership; L. A. Pennington, et. al.; Prentice-Hall; 1943.
- Makers of Modern Strategy (Military Thought from Machiavelli to Hitler); Edward Meade Earle ed.; Princeton; 1943.
CHAPTER VI

phases of military conduct, minimizing the judicial role that had to be played by any member of the organization. The British soldiers' manual in the first World War illustrates the detail of these provisions. It included, as one of the duties of the soldier, the responsibility "to keep from being killed or wounded by the enemy." (2)

The authoritarian philosophy of the early Prussian military manuals was reflected, in varying degrees, by the military machines of all major nations. The soldier was regarded as one of the cogs in the military engine, just as the gun, the caisson, and the transport vehicles. The soldiers attitudes and reactions were taken as "givens". Any departure from the standards of conduct upon which the manuals were developed was considered as a cause for authoritarian action against the soldier.

Terminology used in military organization gradually became distinctive. Terms like "departments", "groups", "squads", "platoons", and "companies" became standard and commonplace. Each of these terms became surrounded by a tradition and by certain characteristics: a division had fifteen thousand men and was commanded by a major-general; a regiment contained a given number of battalions and was commanded by an officer of given rank.

While there was no industrial parallel until the twentieth century in the United States for this widespread military attention to organization, it is interesting to note that British attention to the problem dates back

(2) - "Putnam's Reference"; G. P. Putnam; about 1925.
to the early nineteenth century. Rumor has it that the first recorded use of the word "organization" in the English language was by Edmund Burke in a speech before Parliament in the late eighteenth century. (3) By 1835 several pamphlets and at least two books dealing with industrial organization had appeared in England. (4) The British have since maintained this lead in and attention to problems of organization chart theory. (5)

The fact of the relatively late American attention to this topic may furnish some insight into the forces which generate interest in organization. British industries were characterized by large bodies of men and women, which had previously been a situation unique to military organization. American companies, on the other hand, were still almost uniformly small. American attention to industrial organization seems historically to correlate with the development of large-scale industrial enterprise in this country, and it may well be that this latter factor is of major causative importance.

While some American authors, of whom Frederick W. Taylor was the most notable, wrote about industrial organization at the turn of the twentieth century, it was not until the decade of the nineteen twenties that American industrialists themselves began to pay much attention to the topic. The participation of many industrial executives in the

(3) - "Speech on the American Colonies"; Edmund Burke.
(4) - "The Philosophy of Manufacture"; Dr. Alexander Ure; Charles Knight; London; 1835.
(5) - "The Economy of Manufacturers"; Charles Babbage; Charles Knight; 1832.
American military during World War I has been forwarded as a much more important reason for the surge of interest in organization than were the writings of Taylor and his associates. (6) It has been claimed that the close attention paid by the military to its organization charts and systems of written responsibilities stimulated industrial administrators to similar practices upon return to their businesses.

No matter what the causation, there seems little question but that the approach to industrial organization in the era beginning with the 1920's was profoundly influenced by the military writings. This circumstance was particularly apparent in the terminology used. It is interesting to examine the origins of certain of the words which authors in the industrial field began to use with great precision during the decade of the 20's as descriptions of industrial organization. "Line" and "staff" are two terms whose beginnings may be particularly interesting.

The term, "line organization", was first used in connection with military organization. (7) In the military strategy before the day of Frederick the Great, an army would prepare for battle by establishing its troops in a "line". While this technique became outmoded and was gradually forgotten, the term was retained to designate the combatant arm of the military. Still later it came to distinguish the "fighters" and "doers" in an army as opposed to the "planners" and "advisers." It

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(6) - "Shop Management"; Frederick W. Taylor; Trans. ASME; vol. 22, p. 1337; 1903, and "The Principles of Scientific Management"; Frederick W. Taylor; distributed to members of ASME; 1911.

(7) - For much supporting data in this discussion, the writer is indebted to some unpublished research material to Mr. Alvin Brown, Johns-Manville Corp., New York City, N.Y.
was in this rather loose sense of "the doers" that organization chart theorists appropriated the term, "line".

The phrase, "staff organization," was also first used in military parlance. Originally the "staff" referred to the baton carried by a marshal as a symbol of his authority. Later the term came to refer to the headquarters of the marshal - both the physical quarters and his human aides. After many years had passed, "staff" came to denote in military organization the "planners" and the "advisers." It is in this sense of the word that organization theorists have taken it for their use.

It is a simple matter to point to the outstanding leaders of organization thought in the United States. Frederick Taylor, called the "father of scientific management", is both the earliest and most widely recognized authority in the field. His works appeared from the period of the turn of the century to about 1915. (8) Authorities of the Taylor school, whose fame rests partly in their development of individual elements of the master's overall philosophy, were Carl G. Barth and Gantt. The work of these men was concluded about a decade after that of Taylor. (9)

The period of the twenties was characterized mainly by men who synthesized and edited the approaches of authorities of the earlier era,

(8) - Opera cit. Also, - "On the Art of Cutting Metals; Frederick W. Taylor; (Presidential address, 1906); Trans. ASME; vol. 28; p. 31; 1907.

(9) - Viz. "Miscellaneous Papers" by Carl G. Barth; Trans. ASME.
Rather than making contributions of their own. The many books of Dexter
Kimball are in this category, as are works by Bertrand Thompson, Dutton
and others. (10)

In the late thirties and early forties, another group of creative
authors appeared. These men continued, however, to build upon what was
essentially the philosophy of Taylor. Luther Gulick, Alvin Brown, and
certain English authors fall into this group. Outstanding among the
Englishmen were Urwick and Sheldon. (11)

Central assumptions of these men have been noted in Chapter V.

It will be of value in this chapter to enquire into some of the detailed
ramifications of these assumptions.

The general philosophy of the majority of organization literature
bears, as we have seen, some interesting similarities to that of military
organization. The basic assumption is that the habitual and natural
characteristics of the behavior of people and groups in industrial
organization are "knowns" and that, therefore, organization behavior is
a known quantity. Most authors are agreed that there are universally
applicable "principles of organization". While there is some disagree-
ment as to what some of these principles are, there is universal approval
of a few such as "unity of command" and "specialization."

(10) - Organization, a Formulation of Principle; Alvin Brown; Hibbert.
Scientific Management; C. Bertrand Thompson; Houghton, Mifflin; 1917.
Principles of Organization; Dutton; McGraw-Hill; 1931.

(11) - Papers on the Science of Administration; Gulick and Urwick; Columbia
University Press; 1937.
The Philosophy of Management; Oliver Sheldon; Pitman; London.
This formal approach to organization regards the organization organism as a whole and ignores its components. The "Gestalt" may be most simply described by suggesting the analogy of the physician who prescribes for an ear ailment by treating the symptoms, a procedure that is satisfactory if it is based upon a theory of the habitual functioning of the ear and upon the facts behind the symptom. The organization approach assumes that data about the habitual functioning of organization have been known for some time; that this aspect of the problem is considered unimportant may be illustrated by the fact that it is usually passed over lightly in most of the literature.

The resulting attitude toward organization has often been described as an "architectural" or "engineering" point of view of the organizational process. The good organization is considered one which is "well-balanced" with "proper spans of control." Organization charts are essential elements in this technique. All symptoms of "organization problems" are considered to be most effectively treated by structural changes in this organization chart and plan.

As a Gestalt, explicit factors that may be internal to an industrial organization - human relationships, plant economics, and similar factors which might conceivably affect the form of the organization - are ignored since they are all held to be a reflection of the chief of the enterprise. The implicit assumption throughout the literature is that these factors are either unimportant, or that they are "knowns." Negligible attention is similarly paid to factors that may be external to the organization - the community folkways, industry-wide practices, and the trend of technological change.
Organization, in this view, is taken as a process that must be examined on a logical basis. The best form of organization, the most effective solution to organizational problems is that of deduction. As one author has put it: "Organization, as a body of knowledge, is a science and a deductive one. It is simply not possible to apply inductive methods to it."

In recent decades, it has become unfashionable to admit that any philosophy is basically authoritarian in its premises. For this reason, if for no other, organization theory has had a tendency to bury this aspect of its assumptions. The assumptions themselves, however, have not been changed over the years. "Organizing", in the literature, is held universally to proceed from the "top on down."

It is further assumed that this "from the top down" type of organizational process will completely determine the activities and relationships of the members of the organization. Thus, the principle of Unity of Command may be said to exist if a chief executive holds a plant manager responsible for the personnel function, and if he shows this responsibility on the plant organization charts and in written job instructions. It is considered unimportant to take into account how the staff personnel man feels and must operate in reporting both to the plant manager and to a staff personnel executive in the home office. Just as in traditional military organization, the staff personnel man is considered to be a "box in an organization diagram", whose reactions must correspond to those upon which the organization theory has been
established. If his reactions do not correspond in an appropriate fashion, then the staff personnel man is at fault and may be disciplined in some fashion since he has not adapted himself "properly."

A quite frequent attitude in the formal approach to organization theory is the notion that organization is a "state" and a static condition. It has been claimed that the organizational process may be carried on and an organization created in a form that will remain "best" for a considerable period of time. Some organization theorists express this attitude in another form when they ask that an "ideal organization chart" be established for a particular company as an objective that may be worked toward over a number of years.

Generating directly from this notion is the corollary idea that an organization may be created only by those men at the top who carry on the formal organizational process. Neglected and considered unimportant is the possibility that organizational processes may be inevitable whenever men come together. It is natural to reason from this attitude to one which minimizes and even condemns the importance in the organizational process of participation by the individuals being organized. It is assumed instead that the "best" organization may be developed by those on top, since they have under their control all the variables necessary.

The formal approach to organization is characterized by a considerable body of detail on the techniques that are most useful in implementing the basic philosophy. "Staff advisory groups", "management control procedures," and "administrative policy committees" are just a few examples of the very considerable procedural background to this formal
Turning to a more formalized analysis of organization theory, perhaps the first comment may be made on its semantics. Many of the terms used in the organization literature have been handed down through the generations without any recorded investigation of their present-day adequacy or validity.

For one instance, the terms, "line" and "staff", have come to have a particularly "fuzzy" meaning. The original distinction between the two was, as has been noted above, that a line man was a "doer", while a staff man was a "planner." It is unlikely that this classification has a clear-cut effect any longer. Present-day line men must "plan" as well as "do". Staff men must "do" as well as "plan." A more recent simplification of the two terms has been to write that the line man determines the "what" of an action, while the staff man determines the "how."

But such distinctions are clearly oversimplifications of the present activities of line and staff personnel. A staff control man, for example, has a great deal of responsibility for actual operations - the "line" foreman cannot set production schedules, nor establish wage rates, nor determine cost standards in many shops. The "staff adviser", however, can perform many of these functions. Is the ancient and time-honored distinction between the groups of much use or validity any longer?

Another term that has come down through the years is "specialization." In formal organization theory, specialization has the connotation of a
"good idea" just as it has had since the days of Adam Smith. But what does specialization really mean at the present time? Should every man in an industrial organization be some sort of specialist? Should there be a few specialists, who practice certain skills? Should these specialists continue to work at their activity on a full-time basis? Who should decide when the specialist has come to the end of his usefulness on a particular project? Certainly a major industrial problem today is the tendency of specialists to try to perpetuate themselves. Is that a problem with which organization theory should be concerned?

Questions such as these have been hedged in the literature, and will have to be faced before the formal approach can claim to correspond to the realities of modern organization.

Another major criticism of the formal theory is the source of the data upon which its bases its conclusions that modern organization behavior is a "known" element. Actually, there have been few recorded studies of the general behavior of industrial organizations with more than 100 to 200 members. There has obviously been, therefore, no means to make inductive checks upon the validity of the organization principles suggested in the literature.

On the assumption of the desirability of this inductive approach, it is reasonable to question the reliability of the present conclusions about organization behavior when they have been based upon data that really amounts to proverb and myth. There is equal reason to question the "organization principles" upon which so much of the formal theory is based; and even to question whether or not, without demonstration, we can
conclude that there are such principles. The cases that have been thus far examined in this inquiry could be analyzed in the light of almost diametrically opposed interpretations of these principles.

An extremely striking example of this situation is to be found in the area of wage incentives, which have been one of the organizational elements upon which the foundations of the formal theory have grown. In line with the notion that behavior of groups and individuals in organization are "knowns", these incentives have been based upon the assumption that men will work harder and will produce more under the pure stimulus of the opportunity to earn more, In line with the authoritarian concept of organization, it has been assumed that they will not at all be concerned about the manner in which the incentive standards have been established. It has been assumed that they will unquestioningly accept them "from above."

Practical industrial results seem to question the soundness of both these assumptions. Several studies have furnished evidence that the effect of incentives is questionable and that workers simply "peg" their output in combination, rather than behave as the theory claims that they "should." There is much data to lead to the conclusion that an important source of industrial unrest is the desire of workers to take part in determination of the standards to and under which they will work.

This observation leads directly to the even more basic criticism both of the necessary assumption of authoritarianism and of its implicit corollary that such authoritarian organization results in the most desirable organization form. Studies that have been thus far conducted
lead to the conclusion that participation at the grass-roots of an endeavor is an extremely effective aid to the success of that endeavor. (12) They have demonstrated that even where participation is not carried on, it exists in negative form wherever individuals do not enter as fully as possibly into striving for the success of the endeavor. They have shown that it may, in some instances, result in attempts to sabotage the success of that endeavor.

Again, there is some evidence that individuals at all stages of industrial organization themselves organize consciously or unconsciously either to implement or to restrain the objectives of the enterprise. An Inspection supervisor may be assigned as a control over the quality of work produced by a factory foreman. The authorities at the top of the organization may feel content that this aspect of their operations will be protected. It is perfectly reasonable and possible, however, that the Inspection supervisor may not wish for the strife and conflict that attends his role. He may wish to take the "easy way out" by entering into some degree of collusion with the factory foreman.

On balance, therefore, there seems good reason for questioning the assumption of the theorists that complete control of all the variables for determining the form of an organization rests in the hands of those at the top. Action in determining the form of the organization may, in fact, be distributed far more widely than this.

(12) - See, for example, the NEW YORK TIMES for February 16, 1948, Second Section. A full report, under the headline "Improved Human Relations Increase Sales 300%", is given of the participation experiments of the Harwood Mills, which were conducted by Drs. J. R. P. French and Alex Bavelas of the Massachusetts Institute of Technology.
The notion that it may be important to regard organization theory from the standpoint of those who are being organized leads directly into a series of additional questions regarding the validity of the theoretical aspects of formal organizational attitudes. From the point of view of the "individuals-eye aspect", many of the so-called organization principles become, in fact, contradictions in terms.

Thus, Specialization and Unity of Command become opposing points of view in terms of the organizational process. The farther specialization proceeds, the more difficult it becomes to enforce the concepts of unity of command. In the industrial organization which has become atomized into a large number of specialized compartments dealing with activities such as Personnel, Cost Accounting, and Design Engineering the concept of unity of command may have little meaning for those imbedded deep in the organization structure.

The most vivid example of this circumstance is the situation of many shop foremen today. Top management has continued to call him "manager of his area" and "director of all his personnel problems." So far as the foreman is concerned, he may often be manager of nothing at all. The only direction he may be able to give to many of the functional activities in his section may be simply at the express permission of staff specialists. Several authorities have seen this circumstance as one of the cores of the trend toward foreman unionization.

Similarly, to shop superintendents and other executives, who have supervisors under their direction but who may be well down the ranks of middle management, the principles of coordination and specialization are
contradictory. To place control of a given authority in the hands of a specialist and to multiply this action manyfold makes coordination among these specialists by the superintendents more and more difficult. A striking example of this situation is to be found in the fact that "difficulty of coordinating our operations" is the major problem cited by middle management supervisors in several studies that have been conducted. It is significant to note that specialization has usually proceeded apace in the organizations examined.

Again, the notions of "adequate span of control" and "minimum layers of management" seem to tend in opposite directions. The smaller the span of control, the larger the number of layers of management may be also.

The problem here is even more difficult than those mentioned above. What is meant by an "adequate span of control?" May a man supervise only five others, as some studies have indicated, or may he supervise 100 others, as is the case in much industrial practice? Does adequate span of control depend upon what is being controlled, or is the only variable the human factor? If so, the literature gives no indication of that fact. And what are "minimum layers of management?" Should there be five "layers", ten "layers", or only one "layer." What actually is a "layer" of management? How does this relate to the problem of industrial organization? May the point of view taken toward organization layers be the same in an old enterprise as in a new one?

Even less reasonable, from the point of view of the members of the organization, is the organization principle that there must be "no by-passing". Such an attitude is completely out-of-step with the realities
of modern industrial organization. By-passing may well be inevitable to an effective organization, unless that organization be so completely bureaucratic that action is taken only by the passage of pieces of paper from desk to desk. In industrial organization the necessity of by-passing is clear-cut in such circumstances as an emergency, in cases of safety, and in the human relations activities of top management with its employees.

May the president of a company not talk to one of his shop employees without clearing with all the supervisors on the successive levels down? Certainly no organization theorist would go this far. Perhaps "no by-passing" is not the objective, therefore, but rather certain types of by-passing are to be condoned. If so, what are these types of by-passing? What are some techniques to implement "good" by-passing? On these questions the formal theory has nothing to say.

Even examined on a purely deductive basis, as many of the theorists would have it, the so-called purest and most basic definitions for these organization principles are open to grave theoretical criticism. On this "back-to-the-wall" basis many of these principles seem merely to be descriptions of idealized forms of human endeavor, rather than guides to patterns of organization behavior.

Specialization, for example, means in this sense the notion of men dividing their tasks according to their abilities. But this is descriptive of almost any type of modern group situation. Unity of command is taken in the sense of man obeying a single command. It is a physical impossibility, however, for a man or men to obey two contradictory statements at the same time. (13)

(13) - Administrative Behavior; H. A. Simon; MacMillan; New York; 1947 - This book gives another point of view in the criticism of organization principles.
Certainly, few would criticize the soundness of the substantive nature of these definitions, taken in this pure sense. The criticism must be rather taken from the point of view that they furnish no insight to the problems of the organizational process or of membership relationships in the real world. In this sense, what do the principles of specialization or by-passing or unity of command mean to an analysis of the problems faced by the staff man in the branch plant, who must report on his activities to two men - his factory manager and the appropriate staff man at company headquarters? Yet the principles are what much of the formal organization theory uses as the basis for its analysis.
The citations for books reviewed in this chapter are, as follows:

- The Principles of Scientific Management; Frederick W. Taylor; Harpers; New York; 1915.
- Introduction to Industrial Management; Franklin E. Fols; McGraw-Hill; New York; 1938.
- Organization of Industry; Alvin Brown; Prentice-Hall; 1947.
- Organization and Management; William B. Cornell; Ronald; New York; 1928.
- Principles of Industrial Organization; Dexter S. Kimball; McGraw-Hill; New York; 1933.
- Industrial Management; Anderson et al.; Ronald; New York; 1928.
- Industrial Management; Richard H. Lansburgh; John Wiley; New York; 1928.
- Factory Organization and Administration; Hugo Diemer; McGraw-Hill; New York; 1935.
- Shop Management and Systems; F. D. Jones and E. K. Hammond; The Industrial Press; London; 1918.
- Industrial Organization and Management; Ralph C. Davis; Harpers; New York; 1928.
- Principles of Modern Industrial Organization; Walter Rautenstrauch; Pitman; New York; 1943.
- Principles of Industrial Management; E. A. Allcut; Pitman; London; 1932.
- Industrial Management in Transition; George Filipetti; Richard D. Irwin; Chicago; 1946.
- Company Organization Charts; Studies in Personnel Policy, #64; National Industrial Conference Board; 1944.
- *Primer of Scientific Management*; Van Nordstrand; New York; 1912.
- *Scientific Production Management*; Anderson and Schwenning; John Wiley; New York; 1938.
- *The Theory and Practice of Scientific Management*; S. Bertrand Thompson; Houghton, Mifflin; Boston; 1917.
- *Papers on the Science of Administration*; Luther Gulick and L. Urwick; Columbia University; New York; 1937.
CHAPTER VII
A CRITICAL ANALYSIS OF ORGANIZATION THOUGHT-
HAS IT REALLY FACED UP TO MEMBERSHIP RELATIONSHIP ISSUES?

Some of the readers, who followed the inquiry through its introduction of the "hot team" and "staff expendability" issues and who worried with Bill Foster and Jim Atchison through their problems, may have been struck with a point of view while they passed through Chapters V and VI which may be paraphrased, as follows:

The review of traditional political science and organization-chart theory seems to place us in the path of many interesting considerations, but the relationships of the Bill Fosters and the Jim Atchisons do not seem to be one of these considerations. Traditional political science appears quite sophisticatedly to describe certain of the areas with which we seem to be concerned. It does so, however, on a perhaps overly broad philosophic, highly dialectic basis; one reviewing the literature seems indeed to be moving in the right direction through the desert, but he never seems really to be shortening the distance between himself and the mirage of better understanding of task-oriented membership relationships.

With organization-chart theory, one does not even seem to be moving on the right desert. Dealing with this theory on its own terms seems to force one out of the world to which he has been introduced early in the inquiry, and into a world which seems a highly idealized abstraction of a small part of that world.

Such a comment would perhaps be an extreme one in kind; as we shall soon see, some of the political science and organization-chart thought may indeed be quite relevant as the inquiry proceeds on the problems of interest to us. But, in degree, our own analytical conclusions would be hard pressed not to conflict with the sense of the comment. As Mr. Barnard put it in 1936, with particular reference to the organization-chart literature: "...nothing of which I knew treated of organization
CHAPTER VII

in a way which seemed to me to correspond either to my experience or to the understanding implicit in the conduct of those recognized to be adept in organizations." (1)

Some of the limitations of both literatures, which would lead to such conclusions, have already been suggested. It has been noted that the thought throughout the literature is strongly flavored by the concept of the universe that happened to prevail at the particular time in which the theory was developed. It was particularly emphasized that this same flavoring runs strongly through the organization-chart theory, in spite of the tendency of some of its proponents to consider this theory to be based upon "immutable facts of science."

Sociologists like Max Weber and Richard Tawney (2) have shown quite clearly that such a "fact of science" concept may scarcely be taken seriously by sober students. Extrapolating the conclusions of their works directly (3) to the organization-chart theory, it becomes quite evident that this theory has a Puritanical concept of the individuals with whose relationships it is concerned - Weber termed this notion "ethos." (2) These men behave as "rational men should." Does the twentieth century institution member conform to this prototype? Organization-chart theorists have made no effort either to find out or even explicitly to recognize their assumption of this certain kind of "institutional man".

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(1) - Functions of the Executive; Chester I. Barnard; Harvard; Cambridge; 1938; p. viii.
(2) - See particularly Max Weber's The Protestant Ethic and the Spirit of Capitalism (English translation by Talcott Parsons), and R. H. Tawney's Religion and the Rise of Capitalism. The controversy between the two sociologists in these works is extraneous to the point that is made in this chapter, and will not be noted.
(3) - We now remove the blinders which caused us to view organization-chart theory on its own terms, consistent only with the procedures of deductive and inductive logic.
Certainly the Bill Fosters and the Jim Atchisons of our examples did not behave like this concept of man in any immediately obvious fashion.

It will be of advantage to our discussion if we review one further key limitation of this organization-chart theory. We have earlier referred to it as the "mechanistic determinism of engineering logic", which has been implicit to the reasoning of Taylor and the chart theorists. These men, and Taylor in particular, saw the organization-chart as a reflection, rather than a partial determinant of such institutional "raisons d'etre" as mechanical processes of production. These, Taylor believed, could be investigated experimentally; theories and operating principles could thereby be determined.

These theories were to be used to predict the more efficient design of such processes. The overall concern in developing these theories was that the individual process was within the physiological capabilities of the worker for efficient production - an implicit assumption that geared in directly with the implicit assumption of Puritanical, institutional man. And the Taylorian, organization-chart theories were developed around these capabilities, whereby the administrative and disciplinary functions of management were supplemented by a soundly designed process over which it had complete control. The organization theory then meant, in part, that if each operating process were studied and designed for optimum mechanical and physiological efficiency, the organization of human relationships would thereby operate at maximum efficiency.

This is the organization-chart theorists' concept of "teamwork" and the "hot team". The institution could, indeed, be composed of members
whose inter-relationships could be described as "teamwork" with its usual Western implications. To the extent that the mechanical processes are indeed well designed, this teamwork will become that of a "hot team". For the hot team is a function of mechanical and physiological factors which uniquely determine the relationships among the members of the team, which really are not too important anyway as determinants of "hotness". The team, itself, has no meaning beyond the individual physiologies of each team member and the mechanical nature of the process itself. A "hot team" is, of course, a "given", so long as these particular factors have been properly designed - presumably by the chief of the enterprise or his technical expert or "functional foreman". (4) This key element of individualism in organization - chart theory has been neatly contrasted with the traditional political theorists' concepts by Roscoe Pound, writing in another connection:

"It was as hard for the last century to think of a group or an association, as it was for antiquity to think of a single individual." (5)

It is this criticism of chart theory which is perhaps the central focus of the attack on it and upon "scientific management", that has developed in the past two decades through the growth of what has come to be called "human relations in industry." Different from the traditional political thinkers more in degree than in kind, this new literature regards the institutions, with which we have been concerned, as essentially social systems. As Burleigh Gardner put it: (6)

"...we see a social organization in miniature, a small segment of the total society, operating within the environment of the society and often reflecting within itself the stresses

(4) - This is the term used by Taylor in his famous work, Scientific Management; F. W. Taylor; Harper; New York; 1911.
(5) - Social Control and the Law; Roscoe Pound; Yale; New Haven; 1942; p. 12
(6) - Human Relations in Industry; Burleigh Gardner; Irwin; Chicago; 1945.
and conflicts that exist in the larger world....There is an intricate pattern of relationships (italics ours) among people that links them all together. Each has a place and function in this pattern, and is tied up with the whole so that changes in any part of the organization may affect him and his job in often unexpected ways.

"...in this social system we find a great deal of interest...in knowing just where people fit in....As a result, we find considerable anxiety concerning the relationship with the boss, to a surprising extent people...have their attention focussed on their superior. They are constantly concerned with the questions of 'How does he judge me?' 'How am I doing?' 'What does he want?' They are alert to anticipate his wishes, to avoid his censure, and to gain his praise."

Here is a literature which regards relationships, not as incidentals, but rather as a focal point of interest. Quite obviously, it is a literature which much more closely represents the world of relationships, as we have seen it through the eyes of the Bill Posters and the Jim Atchisons, than does any of the literatures we reviewed earlier. And we become further interested when we explore this literature even more closely and encounter the work of Fritz Roethlisberger (7) and Elton Mayo, (8) as well as that of Douglas MacGregor (9) and fellow social psychologists (10). We also discover the studies of social anthropologists who view society through its functions, as in the work of W. Lloyd Warner who made the following comment in his Yankee City study: (11)

"The American social system has been drastically changed by the development of our industrial institutions. On the other hand, our industrial organization has become what it is by virtue of being part of the larger American social system. The two are interdependent and mutually influence each other....It seems to us that the secrets of industrial strife...lie beyond the words and deeds of (an incident of strife)...They can only be found in the whole life of the community in which the workers and the owners are only a part....If social science is to be of any worth to us, it must be capable of adding significance

(7) - For example, see Management and the Worker; Harvard; Cambridge; 1939 and Management and Morale; Harvard; Cambridge; 1946.

(8) - For example, see The Social Problems of an Industrial Civilization, and The Political Problems of an Industrial Civilization; Harvard; Cambridge.
and meaning to human behavior that will give deeper insight into human life and explain more fully than common sense knowledge why human beings act the way they do."

To us, whose inquiry began with jungles of words about "hot teams" and "politics" and "staff expendability", and whose common sense was unable to provide much operational knowledge as to why one man "succeeded" in a situation while another man "failed", these concepts are hopeful indeed. And to those first introduced to "human relations in industry", these concepts would become exciting indeed when reviewed against the backdrop of the forecast by one of the leading men of this literature. Burleigh Gardner predicts that these concepts will provide great insight into the very problems with which we are concerned:

"As we apply this system of analysis to various work situations, we find that it is a powerful tool for the understanding of conflicts and a guide to corrective measures. If any case of friction or lack of cooperation, or any instance of successful operation, is looked on as an expression of individual personalities, it is impossible to predict behavior or to anticipate trouble except on the basis of detailed knowledge of every individual involved. However, by analyzing such phenomena in terms of the structure of relationships involved, it is possible to see conditions that will give rise to disturbances and even to predict the particular groups or even individuals who will be affected. Through following such an approach, it is possible to build a science of human relations." (12)

Exciting as the promise was, it has not yet been achieved even in the sense of genuinely hopeful empirical evidence. True, the field of human relations is young as go the ages of the bodies of thought which we

(9) - For example, see "The Conditions of Effective Leadership in the Industrial Organization."; Advanced Management; March; 1944.

(10) - For a compilation of some of the most interesting suggestions of this discipline, see Readings in Social Psychology; ed. T. M. Newcomb and E. L. Hartley; Henry Holt; New York; 1947.


have been considering. Yet here, as with Barnard's *Functions*, it may not be totally without meaning to note that, while the works in this field seem to provide brilliantly fruitful individual insights, they have had almost no follow-through. "Management and the Worker", "Human Relations in Industry", etc. are at the center of little really warm methodological controversy, they have not been widely plumbed for hypotheses which were then subjected to empirical test, there is a large body of worshipful "popularizing literature" but little sober work which refines and advances the concepts originally developed.

This literature is quite well known to present-day readers and the space of this inquiry does not permit any further direct attention to it. We shall return to this literature at various points of the inquiry, however, to extract from it concepts and methodological suggestions which will be useful for us. While it does not provide us with specific answers for the problems with which we are concerned, it certainly is most helpful in suggesting insights for approaching these problems. And it has apparently been most helpful, on the "art" side of investigations, in assisting observers to bring insight into areas of "hot teams" and "politics". Whether this "art" can be attributed largely to the insight provided by "human relations in industry" thought to the observer, or whether it can be largely attributed to his own skills, no matter how developed, is certainly a most difficult question. This difficulty is illustrated, for example, in such a case as that where an individual whose "art" in such situations is widely respected, attributes his skills to training in the organization-chart theory whose foundations gave us little satisfaction:
"Organization is the arrangement of men's activities in the performance of work, co-ordinated for harmonious attainment of a predetermined objective. It is a relationship between cooperating units. In a machine, it is the linkage by which power is transferred. In personnel, it is likewise the mechanism for applying power, to accomplish a definite objective in the business."

"Every business, through design or by trial and error, has developed a form of organization which performs more or less satisfactorily. The perfect man-made organization does not and probably never will exist. Therefore, any existing organization, theoretically is subject to improvement. Repeated experience has demonstrated that a careful examination by a trained observer will reveal faults of form, personnel or direction." (13)

Thus, once again we are hurled into a jungle of words as in earlier chapters, when we try to approach the artistic aspects of this problem. Perhaps human relations has provided insight into problems which develop the observer's skill, perhaps it is chiefly the mere practice of considering a certain set of problems. We do not know, and it is likely that we will not soon find out.

7.1

A number of other individuals and groups, generally contemporary in their work, have also been represented by specific elements of their thought in this area. Such classifications may be suggested as the neo-organization-chart theorists (Fayol, Mooney and Reilley, Simon, Hopf), the biological organizers (Neyl, Lienau, Lotka, and Zipf), the game theorists (Churchman, Von Neumann and Morgenstern), cybernetics (Wiener particularly), the dynamic psychologists (Lewin, Bavelas), the survey research analysts (Likert and Katz), the pragmatists (Dewey), the small group social psychologists (Arensberg, McGregor, Lazarusfield, Horsfall,

(13) - Managerial Control of Business; G. T. Trundle; John Wiley; New York; 1943; p. 51.
Bales), the Bakke theorists, the art of leadership school (Shartle, Kenan). Because of limitations of space, only brief references to these works may be made.

The neo-organization-chart theorists are a somewhat less rigid group than the earlier Taylorites in the sense that they allow for some relaxation in the tight mechanical system usually required by chart theory. With them, the simple hierarchal representation of organization structure is supplemented by some sort of attempt to insert the dimension of the dynamics of actual operational situations. Henri Fayol felt (14) that "social order" was necessary for satisfactory administration of the "body corporate", and that this demanded precise knowledge of the human requirements and resources involved, and a constant balance between these requirements and resources. To Harry Hopf (15) organization structure was a constant, but the human factor was variable; he never quite came to grips, however, with rationalizing this position. Simon took this attitude a step further in writing: "In the study of organization, the operative employee must be at the focus of attention, for the success of the structure will be judged by his performance within it. Insight into the structure and function of an organization can best be gained by analyzing the manner in which the decisions and behavior of such employees are influenced within and by the organization." (16)

(14) - General and Industrial Management; Henri Fayol; translated from the French by C. Storrs; Pitman; New York; 1925.

(15) - "Evolution in Organization during the Past Decade"; Advanced Management; 1947; 12; 103.

(16) - Administrative Behavior; H. A. Simon; Macmillan; New York; 1947; P. 3.
Where the neo-chart theorists may err in failing to abstract at all, the biological organizers have abstracted from reality to such an extent that their work is difficult to follow. Yet it is worth attention, although its stage of development is indicated by Weyl's statement:

"Every atom is already a whole of quite definite structure; its organization is the foundation for possible organizations and structures of the utmost complexity.... There is no reason to see why the theoretical symbolic construction should come to a halt before the facts of life and of psyche. It may well be that the sciences concerned have not yet come to the required level. But that this limitation is neither fundamental nor permanent is shown by psychoanalysis, in my opinion. The fact that in nature 'all is woven into one whole', that space, matter, gravitation, the forces arising from the electro-magnetic field, the animate and inanimate are all indissolubly connected, strongly supports the belief in the unity of scientific method. There are no reasons to distrust it." (17)

Lotka's work in establishing general characteristics of the behavior schedule of an individual who is a member of an organization, followed the methodological suggestions of Weyl, and has been made more specific by Zipf. (18) The individual member of the abstract biological organization model, to Zipf, works on the "principle of probable least effort." This principle which is held to explain human behavior in an organization states that in all his activity an individual will do those things which will reduce his estimated future expenditure of effort to a minimum. In a sense, it suggests that that objective of an individual in an organization is to "maximize need satisfaction while minimizing conflicts", to use the language of another discipline.

(17) - Philosophy of Mathematics and Natural Science; H. Weyl; Princeton; 1949; p. 214

(18) - Human Behavior; G. K. Zipf; Addison-Wesley; Cambridge; 1949.
Churchman explores the role of the individual in the organization through the analysis of chess as a model of the "battlefield of life" - presumably of organization life. (19) A more generalized approach of the game theorists to problems of membership relationships is that of Von Neumann and Morgenstern. (20) They develop a concept of maximizing behavior, in models that may be considered as economic, which is quite different from the maximizing of traditional theory. They concern themselves with probability structure of membership relationships in situations involving risk or gain. Their conceptualization of their problems, with distinction made between strategy and tactics, is distinctly relevant to our own inquiry and has already been used for this purpose. Direct relevance of the substance of their argument to understanding of membership relationships in institutions remains, however, to be seen; at present, this relevance is quite remote.

Norbert Wiener's great works in the field of cybernetics have invoked much attention in recent years. (21) Professor Wiener is concerned with the "feedback principle" which, in its simplest terms, means that "behavior is scanned for its result, and that the success or failure of this result modifies future behavior." The implications of this essentially servomechanism notion for communications studies in closed systems is, of course,

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(19) - Theory of Experimental Inference; C. W. Churchman; Macmillan; New York; 1948.


(21) - Cybernetics; Norbert Wiener; John Wiley; New York; 1948, and The Human Use of Human Beings; Norbert Wiener; Houghton Miffling; Boston; 1950.
quite exciting, and several studies are currently underway in these areas. While we must wait for the results of these studies, before useful comment may be made, it may be that the major initial contribution of cybernetics will be to the small-group microscopic theories rather than to the macroscopics with which we are concerned. For the ideal, "no-power", communication model which may be analyzed as a closed system in the Wiener cases may have no immediately apparent interstitial connections with the open systems with which we are concerned in this inquiry. But the insight of these closed system analyses for certain aspects of membership relationships themselves where the closed system analogy is relevant may be very fruitful in the macroscopic as well as in the microscopic cases.

Kurt Lewin's concepts of "dynamic" or "topological" psychology have been most valuable to studies of small-number groups in particular. Lewin conceives of a "phase space", which is: "...a system of coordinates, each corresponding to different amounts of intensities of one 'property.' The phase space does not intend to represent the layout of a field composed of groups, individuals, and the ecological setting, but concentrates upon one or a few factors." (22) His theory proceeds to establish a general treatment of quasi-stationary social processes and describes types of force fields tending toward quasi-equilibrium through the operation of forces acting upon a specific attitude of the group. These forces, with "negative" and "positive" valences tend both to reduce and increase the intensity of this attitude. Lewin also considers locomotion of entities and concepts through social channels, and thence social feedback processes and social management.

(22) - "Frontiers in Group Dynamics"; Kurt Lewin; Human Relations; 1947; 1; 5-41; pp. 143-153.
The research which has developed around these concepts has shown great power in diagnosing conflict situations and in predicting behavior in localized situations. On a kind of model basis, with a relatively small number of variables, it has served as a basis for measuring the results of organizational patterns. (23) But much more research and logical integration is required before the full fruits of these concepts may most effectively be evaluated in relation to a general organic theory of organization. Work, which may ultimately provide insight to this integration, is presently underway with some of Lewin's disciples at the Research Center for Group Dynamics at the University of Michigan. (24)

Bavelas today represents interests which have some relation to Wiener's cybernetics, but he comes to these interests with an orientation developed as one of Lewin's most brilliant followers. (25) His present work is concerned with analysis of organization in communication terms. (26) For effort Bavelas "...it may be argued that the principal of organizational activities is the making of favorable conditions for the achievement of certain goals... all these (organizational) processes have one organizationally legitimate purpose: to increase the chances of organizational success. Upon this point

(23) - "Overcoming Resistance to Change"; L. Coeh and J. P. R. French, Jr.; Human Relations; 1948; 1: 577.


(26) - For a brief, popular report on this work see "An Experimental Approach to Organizational Communications"; Alex Bavelas and Dermot Barrett; Personnel; March, 1951; pp. 366-371.
rest almost all the notions by which we are accustomed to evaluate organizations - in part or as a whole.

"An organization is, in short, a social invention - a kind of 'machine'...

It is entirely possible to view an organization as an elaborate system for gathering, evaluating, recombining, and disseminating information. It is not surprising, in these terms, that the effectiveness of an organization with respect to the achievement of its goals should be so closely related to its effectiveness in handling information....

"This line of reasoning leads us to the belief that communication is not a secondary or derived aspect of organization - a 'helper' of the other and presumably more basic functions. Rather it is the essence of organized activity and is the basic process out of which all other functions derive. The goals an organization selects, the methods it applies, the effectiveness with which it improves its own procedures - all of these hinge upon the quality and availability of the information in the system."

Bavelas has thus initiated a series of studies whose purpose is to isolate and study general properties of information handling systems. His begun nonetheless work, while really scarcely provides great promise for providing insight into certain phases of membership relationships.

Rensis Likert and his colleague, Katz, have undertaken a major program of research in group organization and group functioning at the Survey Research Center at the University of Michigan. The objectives of the Survey Research Center are interesting for themselves:

"1. The determination of the causal conditions which make for a high level of group performance - that is, what are the principles and practices of leadership, what are the principles of organization structure, what are the characteristics of an
organization which contribute to a high level of group functioning.

"2. What are the conditions which make for high morale and for the maximum individual satisfaction to group members." (27)

In their initial formulation of objectives, developed after considerable analysis, the Survey Research Center makes explicit the separation between the performance of the "group" and the satisfaction of its individual "members," a point that most of the competent modern students have come to agree upon. Barnard, and, after him, Bakke, agree to this separation when they use two tests of "organization": effectiveness, which is related to the group goals; and efficiency, which is related to individual goals. It has been noted in an earlier chapter that this distinction introduces a curious circularity in Barnard's argument, because his implicit assumption is that there is direct correlation between individual goal realization and group goal realization, so that two separate independent tests are curious indeed.

Katz has published the results of his first major study, that in the Prudential Life Insurance Company,(28) but it is still too early to determine his answers to the crucial question of the interrelations between group and individual goals. Is it, indeed, useful to assume, with Bakke, that individual goal realization promotes, and goal frustration retards, productive and efficient teamwork within an organization? Or is this a kind of statement of

(27) - "A Long Range Program for the Study of Group Motivation, Group Morale, and Group Performance"; Daniel Katz and Rensis Likert; mimeographed paper; distributed by Survey Research Center, University of Michigan; circa 1948.

(28) - "Productivity, Supervision and Morale in an Office Situation - Part I": Daniel Katz, Nathan MacCoby, Nancy C. Morse; Institute for Social Research publications; University of Michigan; Ann Arbor; December, 1950.
organization logic which directs attention away from such perhaps more primary questions as - how productive and efficient does teamwork have to be to meet the group goal? It is to be hoped that the Likert-Katz studies will provide empirical information on such a question as they proceed during the next several years on their 10-year Navy grant. Do the two objectives of the Survey Research Center merely mean that they involve different aspects of exploring what will one day be shown to be the same thing? Or are the two objectives representative of what is, indeed, a quite discontinuous matter?

Philosophers, and the pragmatists in particular, have interested themselves in organization, particularly from the point of view of distinguishing between the association - a term whose flavor corresponds to that of "teamwork" in popular parlance - and the aggregation - a term whose flavor suggests non-homogeneity and intra-group and inter-individual conflicts. As John Dewey points out: (29)

"Associated activity needs no explanation; things are made that way. But no amount of aggregated collective action of itself constitutes a community....Interactions, transactions, occur de facto and the results of interdependence follow. But participation in activities and sharing in results are additive concerns. They demand communication as a prerequisite....(Communication makes possible) recollection and foresight; the new medium facilitates calculation, planning, and a new kind of action which intervenes in what happens to direct its course in the interest of what is foreseen and desired."

Dewey continues from what constitutes an interesting kind of endorsement of cybernetic and modern communication suggestions, to suggest some basic problems which, in his judgment, must be considered in the development of an adequate theory:

"Under exactly what conditions does organization occur, and what are its various modes and their consequences? We may not be able to answer these questions satisfactorily; but the difficulties are not those of a philosophical mystery, but such as attend any inquiry into highly complex affairs. Organization is an empirical trait of some events, no matter how speculative and dubious theories about it may be...Organization is so characteristic of the nature of some events in their sequential linkages that no theory about it can be as speculative or absurd as those which ignore or deny its genuine existence." (30)

Dr. Dewey's syllogistic reasoning thus gives support to a basic premise of the organization-chart theorists that "associated activity" in Dr. Dewey's language is, indeed, an inherent characteristic of individuals coming together. Perhaps so, but in empirical terms, it is this question which remains a fundamental one to be explained by organization theory. And empirical evidence in support of the inherent necessity for associated activities in all institutions - particularly those particular ones with which we are concerned here - is by no means in clear support of Dr. Dewey's deduction.

Interesting work has been published by the social psychologists and the social anthropologists, both with respect to studies of small groups and to studies of particular firms and unions. Much of this work has already been referred to earlier in this chapter under the general heading of "human relations in industry". It is useful here only to add to the work of such men as Burleigh Gardner, Fritz Roethlisberger, Douglas McGregor, and Lloyd Warner, that of Conrad Arensberg, Eliot Chaple, as well as men like Lazarsfield, Horsfall, Bales. (31)

(30) - Experience and Nature; John Dewey; Open Court; Chicago; 1925; pp. 252-261.

(31) - See, for example: "Determination of Morale in an Industrial Company"; C. M. Arensberg and Douglas McGregor; Applied Anthropology; 1942; 1; pp. 12-34
- Interaction Group Analyses; R. F. Bales; Addison-Wesley; Cambridge; 1949
- "Measuring Human Relations"; Eliot D. Chaple; Genetic Psychology Monograph; 1940; 22.
The orientation of these individuals is generally similar to that already
referred to in connection with "human relations"; differences exist only in
terms of the individual interests of the investigators. Chapple was inter-
ested primarily in "contentless" interactions within institutions, which
later led to his development of the "Interaction Chronograph". Bales has
been interested in evolving methods for determining descriptive indices of
the structure and functioning of small groups.

The Yale Labor and Management Center, under the direction of E. Wight
Bakke whose work has been referred to earlier in this inquiry, has been
concerned with investigations of the dynamics of membership relationships.
Neil Chamberlain, C. R. Walker and F. L. Richardson, Joseph Shister are
some of Bakke's associates in this work. (32) Their investigations are
based upon studies of motivation and behavior of people working in organi-
izations. Their interests, as compared with the small group observers, are
both macroscopic and qualitative rather than microscopic and quantitative.
Bakke's "Theory of Adaptive Human Behavior" provides the basic orientation
of this work, but Bakke insists that this theory is really a set of fluid
hypotheses:

"...When we undertake our next investigation, the results of this
one...will give us a better idea of what to look for, a better
understanding of what questions it is significant to ask, and a
greater skill in.... the experienced facts of organizational life...
As soon as we have modified and corrected our framework, our terms,
and our hypotheses by subjecting them to evidence gathered in
this study... we shall turn to the next study... profit by its
findings... move to the next... and so on... (33)

(32) - See, for example: "Adaptive Human Behavior—the Structure of Living";
E. W. Bakke; Yale Labor and Management Center; New Haven; Reprint No. 4.
- "Frontiers of Industrial Research"; E. W. Bakke; Yale Labor and Manage-
ment Center; New Haven; Reprint No. 13
- "Work Flow and Human Relations"; C. R. Walker and F. L. Richardson; Yale
Labor and Management Center; New Haven; Reprint No. 15

The Bakke theorists attempt to distinguish between tactics and systematics, and feel that tactical research can adequately be done by others but that they, by not identifying themselves with any rigid preconceptions can with their reference to their systematic framework of a structure of living observe, classify and analyze human behavior in the field. This work, it is hoped, will be of assistance ultimately to state problems and furnish their descriptive analyses.

The first major macroscopic exploration of organization by the Bakke theorists has been their study of the Southern New England Telephone Company and its union, the Connecticut Union of Telephone Workers. Parts of this research have thus far been published by Bakke (34) and Chamberlain (35) in descriptive terms; their analyses will follow in later volumes. It is of interest, however, to reproduce in detail Professor Bakke's Appendix C (36), titled "Framework of Analysis" for the Telephone study:

1. The company or a union is a small society. That is to say, it is composed of individual people who are related to and work with each other, materials, and ideas within a framework of certain organizational devices or systems toward an organizational objective.

2. These systems through which people (and the materials and ideas with which they work) are bound together into a functioning whole may be classified as the following bonds, or devices of organization. ....

3. The significance and effectiveness of each aspect, part, or technique in the organization (for example, house organ, union paper, incentive plan, wage rates, seniority agreement, pension plan, organizational charts, etc.) are determined not only in terms of what it is in itself, but in terms of its relationship to one of these systems or bonds of organization.

(34) - Bakke; op. cit.

(35) - Management in Motion; Neil W. Chamberlain; Labor and Management Center: Yale; New Haven; 1950.

(36) - Bakke; op. cit. pp. 234-235.
"4. The test of effectiveness of these systems, or bonds of organization, is their degree of positive contribution to the operations and objectives of the organization as a whole, and to the strength of the other bonds.

5. The test of efficiency of these systems or bonds of organization is their degree of positive contribution to the goal realization of the participants in the organization.

6. The chief goals held by the participants in an organization are, as follows:

   a. The desire for
      1. Security in
      2. Progress toward
      3. Justice with respect to

   b. The following achievements are considered to be standards of successful living in terms of the participants' own environment and experience:
      1. Respect of one's fellows
      2. Creature comforts
      3. Control of own affairs
      4. Understanding
      5. Capacity performance
      6. Integration or wholeness within oneself and in relation to the world of things and people about one.

7. Each bond of organization can be tested for efficiency therefore by ascertaining the degree to which it contributes to the realization of each of these goals on the part of individuals or groups of participants. The judgment can be made more pointed by considering, in testing the efficiency of each bond, the degree of realization of only those goals most relevant to it.

8. In addition to the people, materials, and ideas, and to the bonds of organization, which weld them together, and to the goals toward which they are striving, the structure of living of the participants in any society includes human and natural resources, and the reinforcements (folklore, symbols, slogans, etc.) for socially desirable behavior. This structure of living is then a framework for classifying the major determinants of behavior.

9. When this structure of living is in disequilibrium - that is, when it provides inadequate resources for goal achievements, when its parts lack consistency, contain rigidities or are subject to threats - the members of the society experience tensions and anxieties which stimulate them to adaptive behavior.
The quarrels that many observers have taken with Professor Bakke's underlying "Adaptive Human Behavior - Structure of Living" analysis are too well known to be labored here, nor are they directly within the province of our discussion. Many criticisms may, entirely apart from the Structure of Living controversy, be directed at his specific framework of organization analysis. Perhaps a key criticism has been earlier suggested: Professor Bakke makes an assumption, explicitly stated very late in his inquiry, which defines away much that is genuinely interesting in the problem he is investigating: (37)

"Our underlying assumption is that goal realization promotes, and goal frustration retards, productive and efficient teamwork within an organization."

The ambiguity of such an assumption against the context of the institutions which we explore has been suggested at various points in this inquiry. In Professor Bakke's studies, it introduces tautological elements into his analysis. For, with this assumption, we may be returning in a sense to the same automaticity of association implicitly assumed by the organization - chart theorists in relation to physiological and mechanical factors, and explicitly developed syllogistically by Dr. Dewey. In a pioneering empirical study such as that of the Telephone Company, Professor Bakke should not be making such an assumption - that which he assumes represents the very area to which much of his empirical analyses should be directed to determine just what are appropriate hypotheses and assumptions.

(37) - Bakke; op. cit.; p. 238.
The art of leadership school has reached perhaps its highest point in the Personnel Research Board of Ohio State University under the direction of Professor Shartle, whose work has also been noted earlier in this inquiry. Inevitably, as may be noted from the label that has been applied to it, such a school is interested in the content and technique of membership relationships more from a tactical point of view than it is from the point of view of systematics. This school has, also, made simplifying assumptions similar to that criticized above in respect to Professor Bakke's work, as may be noted from the implications of the questions it has posed for itself: (38)

"1. Who is the leader?  
2. What is defined as leader behavior?  
3. How is leader behavior to be described and analyzed?  
4. What group and individual factors are significant for leader behavior?  
5. Why does the leader behave as he does?  
6. What kinds of phenomena are concomitant with given kinds of leader behavior?  
7. What are the results of leader behavior?  
8. What factors serve as conditioners? (38)"

These questions have been tentatively answered by a series of hypotheses that Carroll Shartle reported recently and whose content tell much about this school of inquiry: (39)

(38) - "The Problem of Leadership: An Interdisciplinary Approach"; mimeographed publication: Ohio State Leadership Studies.  

(39) - Reported to the American Management Association in paper by Professor Shartle; June, 1949.
CHAPTER VII

1. Organizations in which the roles of members are specifically indicated are likely to be rated higher in goal achievement than organizations with distinctly less specified roles.

2. In a formal organization, the informal organization within it deviates from the formal structure in greater degree when formal communications diminish.

3. In a formal organization, overlapping role patterns or missing role patterns decrease goal achievement and create less favorable attitudes by members toward the leadership of the organization.

4. When goals are specific and when high goal achievement is necessary over a short period of time, dominant leadership produces higher goal achievement than does leadership with low dominance.

5. When goals are in general terms and require long periods for achievement, the attitude of members toward the less dominant leadership is more favorable.

6. When an organization's survival is threatened, the attitude of members toward its leadership is generally more favorable where roles are indicated in specific terms.

7. An organization in which the leader is more dominant and in which communications from followers to leader are suppressed or ignored by the leader are more apt to produce informal organization whose goal is in conflict with that of the formal organization.

8. The more accurate instrument a group has for measuring achievement, the clearer its goals will be.

9. Stratification is positively correlated with size and age of organization.

10. Elected leaders are more accurate in estimating their own rating by the group than those appointed to positions of leadership.

11. There is an inhibiting effect upon free and strong self-expression of the leader and members in a group where there is an elected leader with a short term and free rotation.

12. When an executive rated high in leadership by his followers is replaced by an executive with a similar pattern of activity, the followers are more likely to rate him high than they would a leader having a distinctly different role pattern.

13. When an organization is threatened by an outside force, there will be less deviation between the formal and the informal structures.
14. A person in a high status position in an organization tends to maintain his performance patterns when he moves to another high status position.

It is, again, difficult to come to grips with such verbalisms which derive from tactical inquiries of this sort, in institutions which are never explicitly identified. In terms of a more systematic understanding of membership relationship issues, it is, at present, difficult to see the long range, systematic value of Professor Shartle's material in providing insight to the problems with which we are concerned.

7.2

It is hardly fruitful to conclude an examination of so widely a distributed a group of literatures as those we have reviewed in the past three chapters by attempting to create the foundations for still another literature by essaying a statistical classification of "common threads of thought" among them. Suffice it to say, that these are literatures with varying degrees of richness from the point of view of our tastes, faith, and the world as we have come to see it through our empirical studies. Let us analyze them for themselves, as we have done throughout these chapters rather than attempt any cross-classification which can be of little value to our particular purpose in this inquiry apart from its interest as to those points of view for which a majority of thinkers vote.

We have noted much that will be of value and relevance to us in our inquiry, from this critical review of organization thought. As was suggested in Chapter IV, however, the present state of the field reduces, at base, an investigator's choice of methodology and conceptual apparatus
to matters of taste and faith which are reinforced by his empirical evidence.

In Chapter VIII, we shall undertake the development of the apparatus which will serve such a purpose in this inquiry.
PART FOUR

WHAT IS THE WORLD OF TASK-ORIENTED RELATIONSHIPS

IN WHICH AGGREGATION MEMBERS INTERACT?
CHAPTER VIII
A CONCEPT OF THE MANY-MEMBER INSTITUTION -
THE "ANNOUNCED - PURPOSE CENTERED AGGREGATION"

We have seen that the literatures of organization thought, which we have reviewed in Part Three, have had at least this in common: their concern has been almost uniformly with the many-member institution. Since our interest is with similar institutions - the business firm, the trade union, the government bureau, the social agency - we may suggest that these literatures have had at least this degree of relevance to our inquiry.

Beyond this, as we have also seen, the literatures are not characterized by any notable uniformity in matters of purpose, methodology, ethics, policy, or substantive material generally. The traditional political thinkers are difficult to classify on any reasonably common basis other than their concept of "political man" as the pivot of membership interactions in many-member institutions. The organization model thinkers - whether in communications, social psychology, or game theory - are concerned with still highly tentative, closed system membership interactions, whose relevance to real world many-member institutions can be determined only as these models are further developed.

Some uniformity of view may, however, be discerned within the two major contemporary schools of thought - the chart theorists and the human relations observers. The organization-chart thinkers have been concerned with theories of membership relationships which "should
hold" for accomplishment of members' tasks if men know and follow their own - presumably economic - best interests. (1) It is currently fashionable to label these relationships as representing the "formal organization structure" of the many member institution.

The human relations thinkers have been concerned with membership relationships which, they argue, "really do hold" in many-member institutions. These relationships are usually termed the "informal organization structure" of these institutions. They may be oriented chiefly toward members' job tasks, or chiefly toward such activities as the noon-hour pinochle game.

It is interesting to note that these concepts of "formal" and "informal" organization structure have been allowed to remain separate and distinct in the literature in a sense that is almost comparable with that in which "mind" and "body" were kept separate in the classical notions of psychology. Separation of an institution's "formal" and "informal" organization is, of course, fully as artificial and no more valid than is this cultural mind-body distinction.

It is indeed possible that the formal-informal conceptual separation has provided the triggering device for flashes of illumination about institutions for those observers who have been brought up almost

(1) - It would be interesting to see a rigorous defense of the organization chart theory in these terms. It might be comparable to the highly sophisticated defense of Marshallian economics by such keen observers as Professor Frank Knight and Dr. Milton Friedman, where they do indeed note that the relevance of this economics is to men who do, indeed, follow their best interests. The seeds for organization-chart theory were sown in an era contemporary with that in which atomistically competitive economics was being structured, and the interested student
exclusively on the organization-chart or in the human-relations theories. But, in terms of theoretical development as we shall discuss in further detail below, there are several questions that this separation raises: For example, is it possible that the separation of the two concepts has assisted in making their respective literatures as relatively close ended as our review has found them to be in terms of analysis of membership relationships? Is it possible that at least those of the relationships which are oriented toward the job tasks of the members, as assigned by the institution, may be fruitfully analyzed by an interstitial joining of the two concepts into a point of view in which the resulting notion of organization structure becomes that which "really does hold... for accomplishment of the members' tasks?"

By way of definition, we shall term such job relationships as task-oriented membership relationships - those which exist only because of the carrying out of their work assignments by institution members, and which quite definitely may involve some degree of mutual interdependence with the culture of the institution and that of the total relationship structure itself. The concept of the organization structure resulting from these task-oriented relationships will be a narrower and more abstract one than that which we have earlier seen to exist in the concept of the human relations thinkers, yet a broader
and more realistic structure than that which exists in the literature of the organization-chart theorists.

Before exploring the questions posed above in connection with this as-yet-unlabelled organization structure of task-oriented membership relationships, it may be well to explore the separate formal and informal organization concepts one step further. What is their notion of the "organization" which is represented as being either "informal" or "formal"?

8.1

In one sense, the term "organization" has had many interpretations in its usage in these literatures and has had almost as many particular definitions as there have been writers in the field. The term has been used to represent an entity of sorts composed of physical facilities, human members, and intangible characteristics like "good will". This usage is implied when it has been suggested that "X Company's organization is a mighty good outfit."

The term, organization, has also been used to denote a group of individuals, as is implied in the statement that "Jones has built up a good organization around him." And the term has been used to denote a continuing process of bringing together individuals, as is implied in the statement that "the C.I.O. is continuing its organization of the town's largest factory."

(2) - Professor Bakke makes this point perhaps too strongly: ".... in a very real sense, the behavior tendencies of individuals... absorbed influences from the social systems of the company and union... this social system... is an active factor in its own right and can usefully be discussed and analyzed as such." See his Bonds of Organization; op. cit; p. 201.
"Organization" has had, in these usages, a flavor of some sort of homogeneity of membership and of membership structure. It almost as often invokes the pictures of an hierarchal structure which conforms to Max Weber's concept of "bureaucracy" as noted in an earlier chapter.

It is remarkable, however, that the term and its related concept have enjoyed, by way of fundamental definition, a remarkable degree of uniformity as between the organization-chart and the human-relations literatures. In both literatures, the concept of organization is one which usually encompasses the institution being described: that is, the "organization structure" is the membership relationship structure - no matter how conceived - of the entire trade union, the entire business firm, the entire government bureau.

Most crucially - again, no matter how worked out in terms of detail - the concept of "organization" has had a direct connection with the concept of an "association" which, as we have seen in an earlier chapter, was the way which Dr. John Dewey conceived as the normal fashion in which men grouped themselves. In this concept, the "organization" involves some sharing of common purposes by its members. Or, in perhaps more sophisticated language, an organization is an association of members whose sharing together of common purposes of the institution in which membership is held increases the probability of goal realization for the members and purpose realization for the institution. And, within this concept, task-oriented membership relationships become those in which institution members directly interact in furtherance of the purposes of the institution and, therefore, in furtherance of their
own goals.

Both organization-chart and human relations theorists would agree in principle upon this concept - with their differences chiefly matters of detail in the substance of the task-oriented relationships, or the resulting organization structure, or the notions of the type of "institutional man" who populates this structure. But, within the limitations of these differences, "teamwork" for both literatures becomes a clearly understandable phenomenon and one, which, in a fashion which would be approved by Dr. Dewey, is the normal way in which institution members interact who are themselves normal men whose normality enables them to know and follow their own interests.

The human relations thinkers recognize, of course, that in the sense that "organization" is held to encompass the entire institution - whether business firm or trade union - all real world institutions will not possess membership relationship structures which conform to this concept of organization. There will be particular institutions where perhaps the institution leadership is unduly paternalistic or unduly authoritarian, where perhaps the cultural history in which the institution has developed has generated forces which currently militate against teamwork.

But, with proper understanding, patience, and good will, the argument goes that these institutions can indeed one day become teams whose "organization structure" will conform with the sense of the definition. "Staff expendability" and "politics" may be real world phenomena, but they exist only as a result of institutional aberrations
which are correctible. And, even in such aberrant institutions, there may be found several "organizations" - each of whose membership totals is much less than that of the entire institution.

The connection between the purpose of the particular institution and that of its individual members is such that "cooperation" will, in the long run, make both better off. The concept is the construction of a sort of organizational parallel for the economic concept of free trade - both the institution and the individual may be made better off by cooperation and thus go to higher "indifference curves." There is no "lump of goal achievement" so that the purpose of the institution is served only at the expense of individual members; there is no "Law of Conservation of Work Satisfaction" wherein realization of the goal of the individual is obtained only to the loss of the institution of which he is a part.

Such a concept of the world of task-oriented membership relationships in many-member institutions is highly satisfying morally to Western man for it fits in with his Hope for Political Democracy in institutions no matter where they may be found; it enables him to view these institutions with hope for improvements in the membership frustrations which he currently sees - improvements which will assist all those involved who are either men or institutions of good will. As contrasted with the conflict between individual purposes and those of institutions, as exemplified for example in the industrial setting of the late nineteenth century, it shows that a "progressive or statesmanlike" institution
member - whether top leader, minor leader, or institution member - will indeed gain merit from his progressivism as a modern democrat - 1951 style.

Such a concept of organization for the totality of the many-member institution makes it possible to accept the unquestioned reality of a modern world peopled by many-member institutions which have produced hosts of membership frustrations at the same time that they have produced hosts of economic and social benefits. Such acceptance may be coupled with the expectation that, with proper "understanding", or "education", the undesirable results like membership frustrations may be reduced. One does not need to face up to the possibility of choice-high physical production or high degree of membership satisfaction; he may get both through assisting the institution: in its telelogical pursuit to "become" an organization in the human relations concept.

This is a philosophy of hope, in an era where hopeful concepts are often welcomed with great eagerness. But more than that, it involves a definition of organization, in terms of the sharing of common purposes, which is implicitly so well accepted in the literature that its rejection would smack of pedantry. We shall therefore adopt this concept of the definition for organization in this inquiry; with this term, also, we shall again reduce the area of our looseness of language in earlier chapters by abandoning the practice of using "organization" interchangeably with "institution" or "group". We shall consider an organization to be, as noted above: an association of members whose sharing together
of common purposes of the institution, in which membership is held, increases the probability of goal realization for the members and purpose realization for the institution. (3)

The human relations theorists quite naturally viewed institutional organizations as small "societies", mutually interdependent with the larger society of the culture of which they were a part. And men with as widely divergent backgrounds and points of view as Frederick Taylor, Chester Barnard, and Herbert Simon could indeed agree with Professor Bakke when he wrote in connection with his study of Telephone Company organization that he and his colleagues assumed that "goal realization (of members) promotes, and goal frustration retards, productive and efficient teamwork within an organization." (4)

8.2

A commonly accepted definition for "organization" may, therefore, be distilled from the major contemporary literatures of the field. Does acceptance of this definition make it possible for us now to use such a concept for exploration of the questions we have posed earlier in this chapter in terms of a combined informal-formal structure of task-oriented membership relationships?

It is morally quite persuasive for us to use such a concept; for the very reason of its moral force, however, memory of our review of the

(3) - This is actually a definition which has the benefit of some of the newer researches in the area, which were not available to the earlier organization-chart and human relations theorists. The addition is largely in making the definition of goal and purpose achievement relativistic by the use of the probability concept of achievement which has been introduced by Bavelas and other careful observers. But this does not change the substance of the definition and might never be noticed by the chart theorists or the human-relations thinkers.

(4) - Bonds of Organization; E. Wight Bakke; Harpers; New York; 1950; p. 238.
history of organization thought should make us cautious. In this review of thought, our analyses showed up traps into which theorists had fallen because they had begun their studies with policy preconceptions which made their studies strongly flavored by efforts to determine ways and means in which their theories and findings could support their preconceptions. We are further cautioned by the suggestion that, in the social sciences, policy - or morality - is not necessarily the same as analysis; and that in most social science areas analysis must often be precedent to prime development of policy, if such policy is to be meaningfully related to the situation for which it is being developed - and, of course, if it is to effectively support the moral judgments upon which the policy is based.

Our earlier review of organization thought impels us, therefore, to raise additional questions with the definition of organization we have accepted, before proceeding with our specific questions on task-oriented relationships. We may raise such "organization" centered questions as:

1. Is this definition one which is relevant to the culture in which the institutions generate with which we are concerned?

2. Is this definition and concept of organization one which has relevance to the totality of task-oriented membership relationships as they are found in real-world institutions?

3. What does the definition mean operationally in its statement that "sharing together of common purposes increases the probability of goal....and purpose realization?"

4. In the real-world institutions with which we are concerned, is it true that fostering the goal
achievement of members does, indeed, increase the probability of purpose achievement by the institution? Is the reverse also true?

5. Is there any concept other than "organization", as it has been defined, which more closely conforms to the reality of the total institution?

Some answers for the first question have already been implicitly suggested earlier in this chapter. The definition of "common purpose organization" is so highly relevant to some of the central ethics of our Western culture, that the fear of circularity developed in us by review of such works as that of Max Weber and Richard Tawney, makes us particularly wary of such nice parallelism. Is the definition too pat? The justification for such cautions may be determined only through review of the other questions.

With these questions, determination of the relevance of the definition through answers that are statistically verifiable presents an awesome problem. In question 4, for example, what variables would we wish to identify and measure in a quantitative analysis? Should we try to identify and measure goal achievement for individuals in cardinal terms? This would obviously be desirable if it were possible, but how would we approach the development of a map of cardinal satisfactions for an individual?

How about purpose achievement for the institution? Does a 25% return on investment represent 100% purpose achievement for a particular firm? Does the winning of a 10 cent wage increase rather than the 25 cent increase demanded by the trade union represent 40% purpose achievement? Does the retention of a 1000 man force through periods of varying
Congressional temper represent 100% purpose achievement for the government bureau? How many months per week must the social agency feed to gain 50% purpose achievement?

Apart from such problems of cardinal numbers, discussion of these issues on an ordinal basis presents additional problems. In questions 2 and 3, for example, does the definition require exploration of goal realization on the part of all members of the organization, or only a few? E. A. G. Robinson tells us (5) that a business firm may be viewed in several dimensions; as a "marketing unit", as a "technical unit".

For a particular firm in a particular industry, the importance of one dimension may be substantially greater than another.

In terms of our definition, then, are the purposes of the chemical company best achieved by goal realization on the part of all members, or would they be almost equally realized by goal realization on the part of the relatively small technical staff of the company? Are the purposes of the soap company almost equally achieved by goal realization on the part of the 3% of its membership concentrated in marketing, as they would be by realization by of the totality of membership itself? In other words, does the sense of the definition imply a kind of linear homogeneity of individual goal realization in relation to purpose achievement by the institution? Is this realistic - does the company which is making 25% on investment and fears anti-trust action if it changes its price to a more favorable one really concerned with increasing the goal realization of all its members and thus improve its own purpose achievement?
And, apart from problems of cardinal and ordinal numbers, the methodology of exploring these questions becomes a critical problem. Assuming that one eliminates to his satisfaction such difficulties as we have suggested above, how do we obtain the required data - through interviews, through questionnaire? The problems of interviewing and of questionnaire technique, as used by most users of these tools, are too well known to require elaboration here. And the paucity of trained observers is equally well recognized. Must we then turn to the Survey Research Center at the University of Michigan for studies which we would accept as competent? Would the cost of such studies be prohibitive?

And what, in the seclusion of the world of non-empirical abstraction, can we forecast about the determinacy of conclusions from such studies? For such forecasts, as investigators trying to adjust their bias toward the pole of science rather than that of art, we must turn to whatever mathematic-logic is at all relevant. Although the relevance is still disturbingly remote, our review in an earlier chapter of the Von Neumann-Morgenstern game theory suggests that this mathematics is sufficiently relevant to our problem to suggest some tendencies in kind.

For Von Neumann-Morgenstern, we find that the only really determinate membership relationship situation is their so-called "zero" or "constant" sum game - where there is indeed a Law of Conservation of Work Satisfaction, and where indeed one participant becomes better off only at the expense of others. And such determinacy comes to Von

(5) *The Structure of Competitive Industry;* E. A. G. Robinson; Pitman; London; 1931.
Neumann and Morgenstern under a highly special set of assumptions, which are not of particular importance here.

Yet our definition of organization requires that cooperation make all better off, and that there be no Law of Conservation of Work Satisfaction. For Von Neumann and Morgenstern, such a game in which the participants are sufficiently normal so that their normality directs them toward some degree of self interest, remains as indeterminate as did the somewhat comparable earlier economic analyses of sophisticated bilateral monopoly or duopoly. (6)

To the extent that we can believe that Von Neumann-Morgenstern analysis - and they are highly competent students- the questions we are asking may be essentially indeterminate. So perhaps, even apart from the problems of cardinal and ordinal numbers as well as that of methodology, we cannot expect too much from statistical studies in this area with the present state of our knowledge.

We are, therefore, almost inevitably forced back to a clinical approach in terms of particular situations - the well known case study approach as we have seen it in Chapters II and III. The value of such studies in scientific investigation is well known; they may, for example, deepen already well established hypotheses - this is what the physical scientist may mean by many of his laboratory experiments.

Yet their limitations for other types of investigation are equally well recognized.

(6) - Professor Herbert Simon suggests, however, that the indeterminacy of game theory in these situations is by no means the last word. He feels that further study may indeed result in determinate solutions. See "Modern Organization Theories"; Herbert A. Simon; Advanced Management; October, 1950; Volume XV, No. 10; pp. 2-4. This investigator is not so bullish on such a hope, as is Professor Simon.
As a device for the development of primary hypotheses which are suggested possible answers to the questions we have posed about the definition we have accepted for organization, the limitations of case studies are particularly pronounced. For only one example of these limitations, our culture is such and our individual social science disciplines are so relatively well Balkanized that the "case analysis" of an individual institution from almost any focus may very possibly abstract from reality to such an extent that important factors may be obscured. And the hypotheses which are developed from such a study may be so close-ended, that their verification becomes almost built into the hypotheses in such a fashion that analysis of further case studies permits similar abstraction from truly relevant elements.

There are many other problems with the use of case studies in this context, several of which have been suggested earlier and scarcely require amplification here. It is essentially these limitations of the case study approach that created for Mr. Barnard many of the artistic as opposed to scientific problems that our analysis uncovered in his great work.

Yet what are we to use in this area, if it is not a case study approach? Such a question carries its own answer. And perhaps, at base, the only "scientific" use of case studies in this context involves continual recognition that the study is simply what it is - a case - no more no less. Perhaps so long as one remains quite cautious about hypotheses developed from case studies, perhaps so long as he retains great humility about the scientific value of such studies, then some
degree of progress may be made in the absence of more satisfactory analytical approaches.

This inquiry has developed case study analyses of several institutional situations to provide insight into the questions posed for us at the beginning of this section. The selection of these cases was made by balancing such criteria as the following: (a) coverage of as many different institutions as possible; (b) availability of a maximum amount of data that was available to the investigator; (c) coverage of as wide a range of institutional results as possible. Explicit discussion of these case studies for themselves will not be, however, introduced at this point in the inquiry both for reasons of limitations of space and because of the lack of fruitfulness, for the reasons cited above, of the presentation of the presumable relevancies of case study data. At this point in the inquiry, the focus of the analysis of these cases was based upon no particular discipline. As discussed in Chapter IV during the development of the methodology for the inquiry, analysis was in terms of the way of thought based upon the tastes and faith of the investigator after review of the pertinent literatures and upon the development of an earlier set of hypotheses published by him in the thesis study cited earlier.

Because of the limitations of the approach, questions posed for these case studies were relatively more modest than the 5 open ended problems developed at the start of this section. Questions asked for these case studies were:

1. Does the totality of the real world institution investigated correspond to our definition of
organization: that is, is the entire business firm, or trade union, or social agency an organization in our terms?

2. If the institution does not correspond to this definition, how wide a divergence is there between its reality and that of our definition?

3. Are there any indications in these institutions that purpose sharing does, indeed, improve the goal realization of both members and the institution itself; that is, is the institution trying teleologically to "become an organization". Are divergences from this common purpose seemingly abnormal aberrations which some form of therapy - education, for example - could reduce?

The tendencies of the study results of these questions showed essentially this picture: the real world institution of many members is typically not an organization in the sense of our definition - common purposes are not shared, there is little discernible "togetherness feeling". The divergences between the real world institution and our organization definition are so great that a definition for the membership relationships within the institution would be merely - to use Professor Dewey's antonym for "association" - : an aggregation of individuals together. Nor are there many indications that the institutions studied were teleologically striving to become organizations; instead, the striving seemed in the direction of remain or "aggregation."

Many organizations were found within these institutions themselves. These organizations seemed essentially to have the member-number dimension of those who could work together in a face to face fashion - the work group at the rubber vat in the chemical plant, the sizing crew in the carpet factory, the machine maintenance gang in the processing shop.
Professor Pigors' suggestion was strongly indicated that, in an hierarchal sense, such organizations on "teams" are possible only horizontally (7), rather than vertically and horizontally as is typically developed in the organization hypothesis.

Professor Bakke has made findings in his Telephone study which are relevant to our studies. In his work, he uses the concept of a "bond" of organization in varying fashions, yet in the material quoted below, his use of "bond" is comparable to our use of "task-oriented relationship" - although, it must be noted, not membership relationship.

Professor Bakke writes: (8)

"Since the reaction of different people to the bond and their behavior in its presence is a response to the bond as they understand and experience it, (italics Bakke's), their responses will vary accordingly....Though the actual bonds vary in content for each individual, the variation is greater as between certain groups of individuals than as between individuals within these groups.... the (content of) experience reported by management and employees, or by union leaders and members.... reveals that they face a bond which in substance is not the same for all of them.... the content varies as between departmental representatives of all of the groups mentioned. What is equally important is that the content varies as between first-line, middle, and top management and leadership."

And Bakke continues:

"Not only is it clear from our observations that the social system.... supposedly the same for all participants, is given varying content by experience, and that the system experienced (italics Bakke's) by individuals is the real and actual one affecting their behavior, but that the system contains elements for some which others have no opportunity to experience at all. In other words, the actual.... relationships which constitute the substance of any experienced bond are characterized by their relevance to the scope of the society or subdivision of it, whose function is promoted.... there is....a system serving as a framework for the functioning of each specific-task and

(7) - Pigors makes this point in a volume now in process of re-publication: Personnel Administration (Revised Edition); Paul Pigors and C. A. Myers; McGraw-Hill; New York; probably 1951.

(8) - Bonds of Organization; E. Wight Bakke; Harpers; New York; 1950; pp. 204-207.
activity-area team, which in structure and operation take their content from behavior and relationships essential to the functioning of that (italics Bakke's) team. One who is not a member of a particular team, and has no part in its function, does not experience these bonds as a part of the social system within which he lives and works....

"At...(the)...general management level, there are also such bonds which form a part of the social system which the department managers alone experience as they perform the task, assigned to their team...Those bonds, very real to them, are not a part of the social system experienced by the employees in their department."

So, concludes Bakke, task-oriented relationships in the many-member institution are:

"Relations between people whose behavior tendencies and personality structures are responses to experiences with particular social systems the content of which is not the same."

He adds parenthetically:

"Different worlds produce different suggestions, and their reconciliation in an appropriate arrangement is frequently difficult."

Thus, Bakke's findings seem to lend further support to the hypotheses that the many-member institution, as an entity, tends to be an aggregation much more closely than it is an association - to use John Dewey's language. The many-member institution does not tend to be an "organization" in the sense of our definition. Why this should be so, we have scarcely discussed; that it may be so, however, is suggested by what evidence we have.

How about our other questions: Is there a tendency for the many-member institution to "try to become" an organization? Does the sharing of common purposes indeed make individual members and the institution better off? Evidence here, from our own case studies as well as those cited in the literature, is by no means clear. The case study approach
is particularly unsatisfactory for questions such as these, when it is
unaccompanied by previously established hypotheses, since case conclusions
identifying "cooperation" or "conflict" may and have been frequently cited
as generalizations without providing any insight as to what is the broader
framework - if any - in which cooperation and conflict develop. Such
studies have, therefore, provided us with no great satisfaction as to the
light that they cast upon our questions.

Turning to our logic, certainly it is by no means clear from review of
real world institutions that either the telelogical or the "better off"
concepts may be accepted. Our deductive reasoning and our inductive
experiences, against the backdrop of the mathematico-logic suggestion
that we are working with theoretical indeterminacy here, suggest that
real world institutions may fall into a very spectrum of patterns of
which our concept of organization is only one.

Quite clearly we are dealing here with an extremely complicated
issue; a useful, though somewhat metaphorical analogy is that toward
"maturity of the individual", as suggested by Douglas McGregor and Irving
Knickerbocker in a brilliant analysis of "cooperation" from the point of
view of the social psychology discipline. (9) McGregor and Knickerbocker
develop the point that, just as the culture establishes a certain concept
of "maturity" toward which adults develop through various stages, so too
"cooperation" or "teamwork" in institutions must also develop through a

(9) - "Union Management Cooperation - A Psychological Analysis"; Irving
Knickerbocker and Douglas McGregor; Personnel; October, 1942.
variety of stages. Just as many adults never pass through the required stages to attain this norm of maturity because of hosts of forces which play upon the individual, so too many institutional situations may never develop toward the norm of cooperation.

Cooperation, teamwork, even "organization" in our sense become, therefore, a function of delicate equilibria in the world of psychological models. Cast into the framework of many-member institutional reality, many additional forces - economic, political, technological - come to play to influence movement toward this equilibrium. These real world institutions are subject to ever changing forces which play upon their purpose achievement and call upon them for frequent adjustments, their membership may be subject to considerable turnover, they may dwell in a culture which is itself experiencing profound tremors.

3.3

We thus emerge from our discussion of the relevance of our concept of organization to real world institutions with several questions remaining in our mind. We have seen that our conception of organization - and that of the literature - is, in a rough and ready sort of way, generally equivalent to the popular interpretation of a "team" or of "teamwork". We have seen that real-world institutions, as entities, do not tend to be organizations in this sense, although they may have many small-number teams within the institution. We have seen that it is by no means clear that the sharing of common purposes, even if it existed in real-world institutions, would make members and the institutions "better off" in the
real world. (10)

"Organization" emerges, therefore, as a policy rather than a concept which is related to a necessarily acceptable theory of membership relationships in many-member institutions. It is a policy which seems to be based more upon faith and Western morality, than it is upon factual evidence. It is a policy which does not require the difficult choice - as between purpose achievement for the institution and goal realization for all members; and therefore a policy about whose genuine relevance to the real world we must presently be agnostic, and about whose real operational meaning we cannot today be very certain.

The early organization chart theorists were not unaware of the implications of the suggestions made here. Because of their own moral judgments, because of their essentially engineering desire for order, because of their genuine fear of the jungle of behavior patterns of an institutional world in which horizontal and vertical teamwork could not be assumed, they turned their backs on these problems. They abstracted from those that were most vexing, and created a science of organization in which all relationships could be seen through the eyes of the organization leaders - a much more manageable series of hypotheses than those to which they might have been forced by a lesser degree of abstraction.

(10) - In an interview with a very frank industrialist in a metal trades plant, the discussion turned to his lack of modern Personnel programs and policies, except for those developed through union discussion at the bargaining table. "We don't have such programs because we don't need them," stated the industrialist. "We don't do much fighting with our union on wage increase matters, but pay them off on this basis. And in spite of what in-plant friction we may have, it apparently hasn't affected our profit picture over the years. Frankly, I'd be a little concerned about the influx of cut-throat competition if the enterprise were more profitable. Which is really hard on those of us who are stockholders, and who deserve as much return on investment as is fair and honest."
The human relations theorists were profoundly aware of the implications of the suggestions made here. But their approach was to establish another kind of abstraction of their own - the informal organization, wherein the individual members of the institution could be viewed in terms of "lives of their own." As implied earlier in this chapter, however, this also generally abstracted from the problem of purpose achievement by the institution. The task-oriented membership relationships, centered upon assignments which were made by the institution, was only incidentally connected with the informal organization of the human relations theorists. Yet it is these relationships which may be most crucial in the production of conflicts between the purpose of the institution and the goals of the individual members - the problem generally recognized as pivotal in this area.

Did the human relations theorists introduce a useful concept when they suggested that these many-member institutions could be viewed as "small societies?" In the sense of deepening their own provision of insight that there was an informal organization, the suggestion was undoubtedly a most useful one. But the concept of a society connotes some degree of homogeneity, some elements of a closed system, some important degree of commonly accepted cultural values. Is the many-member institution as we have seen it in the real world - the "social invention" in the brilliant phrase of Professor Bavelas, - fruitfully viewed as a society? It is hard to say, and no doubt depends upon tastes; it is by no means certain, however, that the traditional sociological view of and apparatus for analyzing societies are neces-
sarily relevant here.

3.4

For us, therefore, the many-member institutions with which we are concerned may most fruitfully be viewed as "aggregations." Morally, we are fully prepared to accept the notion that we would wish these institutions to be "organizations"; policy-wise, we are not yet ready to accept such a view because we must analyze the operational meanings of "organization" much further before we can be prepared to accept the relevance of the "organization" concept as a workable policy for the real-world.

If we are to use the term, aggregation, we must eliminate the looseness with which we have used the term up to now. For a crowd in a football stadium is composed of "individuals together", the passengers on the subway car are "individuals together." In contrast, the trade union, the business firm, the social agency, the government bureau, are purposive in a long-run, institutional sense. As a device for classifying these particular institutions, we shall make use of the notion that they and their membership themselves announce a classification for the institution - it has been and will serve as a "business firm - the X Company;" or as "a trade union - Local 201, IUE-CIO;" or as "a government bureau - the Internal Revenue Bureau of the Treasury Department."

For us, therefore, these institutions will be termed as having an "announced-purpose"; the aggregation that corresponds to them as an entity will, therefore, be labelled as an "announced-purpose centered
aggregation". The announced-purpose is accomplished through "task-oriented membership relationships", which are themselves a critical dimension for "work satisfaction" for the institution members - whether president, or business agent, or foreman, or supervisor, or sweeper, or machine operator, or clerk.

"Organization", as it has been defined earlier, becomes, therefore, a special case of an aggregation. It is possible that an institution may be viewed as an organization, it is possible that it may merely be viewed as an aggregation; these are questions of empirical fact rather than of theoretical assumption. And our comparable definition for an announced-purose aggregation is, therefore: members together to increase the probability of their own goal realization in an institution which strives to maintain or increase the probability of its purpose achievement.

There may very well be a "Law of the Conservation of Work Satisfaction" in such an aggregation; all may not be "better off" by working together. The institution may not be striving to increase its purpose achievement; it may be entirely satisfied merely to maintain its current achievement and may be disinterested in hopes to improve this achievement by increasing the goal realization of particular members of its members.

There is, it may be noted as an aside, certainly a great difference between keeping a group or society of individuals from "revolution" by permitting more than minimal goal realization, from making them fully satisfied by increasing this realization toward some sort of maximum.

(11) There is, it may be noted as an aside, certainly a great difference between keeping a group or society of individuals from "revolution" by permitting more than minimal goal realization, from making them fully satisfied by increasing this realization toward some sort of maximum.

(11) - It is not entirely irrelevant to suggest here Professor J. R. Hicks point that perhaps the chief monopoly profit is "a quiet life."
We do not, of course, focus upon an "informal organization structure" or upon a "formal organization structure" in this concept - for we see an organization as a particular phenomenon of the announced-purpose aggregation and we view "formal" and "informal" structures chiefly as interesting abstractions whose operational value is questionable. Our concern is with the task-oriented membership relationship aggregation structure - a phrase whose extremely unfortunate length and particular semantics is forced upon us by the need to draw precise distinctions between that to which we refer and that with which the earlier literatures have been preoccupied.

This relationship structure is not one where all are assumed to be "better off" by cooperation, and where the sharing of common purposes is the focus both of analysis and of the construction of hypothetical relationship structures. Instead, this structure is one which is a task-oriented function of inter-dependent balances among goal realization strivings of individual member and individual member; of individual member and within-the-aggregation group (which may be an organization or an aggregation in its own right); of group and group; of group and the total institution; and so forth. The channels of this structure may have some correspondence to the "communication network", which, for modern communications theorists, is the concept of the aggregation structure; the differences that exist are probably ones of degree rather than of kind, and of definition rather than of substance.

There is nothing fixed or permanent about this structure; it is continually in process of change. This change is caused by the interplay of forces both internal to the institution - those generated within the
relationship structure itself as well as those generated by the physical and technological conditions within the institution — and external to the institution — such as economic fluctuations, community folkways, and legal restrictions. This concept of forces will be discussed for itself in a later chapter when the development of the relationship structural concept is itself further tested and developed.

Since the task-oriented relationship structure pivots around its members and its substance is created by the behavior of all the members, the structure can be discerned only by observing the actions of these members and the products of their behavior. The structure is not "real" independently of the members which make it up, nor of their behavior and interactions. By their actions, these members participate in the construction of a structure which has a reality greater than the sum of its individual relationships at a particular time. So far as the members themselves are concerned, their behavior reveals patterns and the fact that these patterns are known to characterize life in the task-oriented structure exerts a compulsion on the future behavior of its members. Every member, even though he is aware that his behavior and that of his fellow-members is the "reality" of the structure, knows that his behavior, whether similar or dissimilar to that of his fellow-members, has to be integrated with a pattern of customary practice which existed before he entered the relationship structure. He is equally aware that any pattern, now experienced, will be a real factor to which a new member in the structure will have to adjust and to which this member will have to add
any modification inherent in his own behavior. (12)

If the structure happens to be in equilibrium at a particular time, the equilibrium is likely to be a dynamic and not a static one. It is not, therefore, possible to visualize in this concept the "ideal long-run structure" usually called for by the organization-chart theorists - we do not know what is meant by such a phrase. There can be no understanding under this concept of "unalienable management prerogatives" in the institutional business firm structure - there may only exist certain "management functions" existing at a particular time, for a particular situation, and in a particular task-oriented membership relationship structure. For members in the institutions thus conceived, there is no such thing as the Alvin Brown notion of authority being "inherent in an equal to responsibility"; such purely logical, purely internalized concepts become nothing other than interesting abstractions. "Teamwork" and "teams" may be understood and recognized under this concept but they are recognized to be extremely delicate equilibria which are probably localized to a small number of institutional members. "Staff expendability", in terms of lack of goal realization for particular institution members, can be understood in particular situations; it is recognized that specific attention to the goal realization of such "staff" members in a variety of institutions may, indeed, show some correspondences for the differences in probabilities of goal realization for members with one type of task-orientation, as compared with probabilities of goal realization for members

(12) - Professor Bakke gives explicit recognition to this point in his Telephone Study. See Bonds of Organization; op. cit; p. 200.
with other types of task-orientation. "Leadership" in its popular sense of resting wholly on personality cannot be understood in this concept - the leader is seen to be not a leader of men alone but also, as Mary Parker Follett suggested many years ago, as leader of the "total situation."

But such statements as these serve only to provide some interim substance for the concept and hypothesis of the "announced-purpose centered aggregation" being constructed in this chapter. The use and tests and development of the concept will be essayed in a later chapter on the "Politics of the Announced-Purpose Centered Aggregation."

8.5

We have already noted that the task-oriented membership relationship structure is felt not to exist for itself or of itself in particular many-member institutions; instead it is recognized to have interdependent connections with the institution viewed as history and culture in itself, as well as with the history and culture of the world in which the institution was "invented" and in which it "lives". Here the traditional political thinkers, the social anthropologists, and the sociologists have much to say that we may readily accept.

The particular institutions with which we are concerned have a natural history of their own, and part of the meaning of each institution is to be sought in its development. This, in turn, relates to the nature of the economic, social, and political environment in which the institution took root and grew. Many of the characteristics of the institution, viewed
contemporaneously, may be viewed as crystallizations of earlier environmental forces experienced by the institution.

A highly competent practical businessman, Reginald E. Gillmor, writing in this connection about the business firm as an institution—against, of course, the backdrop of his own point of view as a management leader had this to say: (13)

"...it is a living organism which must be continuously adapted to the changes in environment which it will inevitably encounter—changes in customer ideas and demands, changes in political climate, changes imposed by competition, changes in technology, facilities, and other unpredictable factors. In its need for adaptability, the business...is like all the living organisms whose survival and progress have always been dependent upon ability to adapt to environment."

These institutions have a distinctive "growth biology", whose stages may vary from institution to institution. In a normative sense, however, the representative institution goes through a series of stages which have a tendency from growth toward maturity toward ultimate decay. Particular sectors within the institution may be in varying stages of growth, and we may well experience the phenomenon that, at the limit, all that remains of the organized institution is its announced-purpose; its original sectors have gone through growth, maturity, and decay and have long since been replaced with new sectors. (14)

At each stage of its development, the institution has a particular biology of its own. Nor is there any teleological necessity, as was

(13) - A Practical Manual of Organization; Reginald E. Gillmor; Funk & Wagnalls; New York; 1948; p. 2.
(14) - In the institution of the business firm, for example, the Du Pont Chemical Corporation has within its "structure" in 1951 none of the individual business sectors which comprised its structure in 1920; or, as the Corporation itself puts it, "Du Pont today manufactures only negligible quantities of the products which constituted its total business in 1920." Yet viewed from this long range, historical institutional view, Du Pont still may be fruitfully examined over the range of its entire history.
discussed above in terms of the McGregor - Knickerbocker "individual maturity" analogy, for a particular institution to grow beyond a particular stage. What these stages are, how we are to view them, how the institutional growth is to be analyzed, is a function of values with spring purely from the surrounding culture - there is no "physical science" in this area.

As Aristotle with his zeal for classification made distinctions between various "types of institutions" - chiefly in terms of the stage of the growth in which they were to be found, observers for the past 2500 years have been similarly classifying the institutions with which they have been concerned. This inquiry, as noted in its early chapters, is not especially concerned with such classifications either in general terms nor in this particular instance; as noted earlier, such classifications in this area in the present state of its understanding seem to promise few results other than those of generating arguments as to the proper labels for the classifications. Nor is there much hope that such classification can provide any particular insight for the problems with which we are concerned.

We know that these particular institutions have become what they are by virtue of being a part of the larger American and/or Western social system and culture; and, on the other hand, that this larger social system has been drastically changed by the development of these many-member institutions. But we know little more than what has been suggested above in terms of the institutions themselves and their interdependence with and mutual influence upon the larger culture. Beyond this,
as Professor Warner has noted, "we know almost nothing about the nature of the relations that exist between the two." (15) To classify in this area may have logical persuasion, but from the practical point of view of this inquiry it may thus be seen to have little real meaning.

Our concept of the many-member institution is, therefore, that of the "announced-purpose aggregation", part of whose meaning must be sought in its history as well as that of the culture in which it was invented. The announced-purpose is sought through the membership interactions in the "task-oriented membership relationship aggregation structure", through which work satisfaction or "goal realization" of individual members is itself sought. As with the aggregation to which it relates, this task-oriented structure is itself interdependent with external economic, political, and social forces of the larger society of which the institution is a part.

We thus emerge with a concept and a hypothesis which, subject to further test and examination, may have relevance to the real world institutions with which we are concerned. But why should it have this possible relevance? Why does the real world institution seem to tend toward the aggregation rather than the organization pole? The next chapter will explore parts of this question.

CHAPTER IX

WHY DOES THE MANY-MEMBER INSTITUTION TEND TO ACT AS AN "AGGREGATION" RATHER THAN AS AN "ORGANIZATION?"

In Chapter VIII we established the hypothesis that the many-member institutions with which we were concerned may most realistically be viewed, as particular entities, in the sense of "announced-purpose centered aggregations." Such institutions, it was found, may be viewed as "teams" only in special cases; a whole spectrum of membership relationship interaction situations could be identified, the resultant of only a relatively small constellation of which could be described as "teamwork" or as "organized effort" in the sense in which such concepts as "organization" are usually understood in the literature. Depending upon our semantic tastes, we might identify these interaction situations as ranging through "conflict" to "cooperation", with "cooperation" as usually understood in the literature implying a sort of free trading environment in which the "comparative advantage" of each member of the relationship structure is such as to make cooperation by the other members a means of making "all better off."

If it were granted that the many-member institution may be considered an aggregation for our purposes, based upon these findings, we have still not fully explained to our satisfaction as to why it "should be" an aggregation. We have, in a sense, taken a still picture of the many-member institutional world at a particular time and found it to be composed of "aggregations" in the main. What, however, is the teleology of this world? Why should the many-member institution be an aggregation
in one of its dimensions? Is it "trying to become" something different?

To be sure, a few suggestions both implicit and explicit were noted concerning these questions in an earlier chapter. Professor Bakke's comments represented one set of these notions, essentially simmering down to the suggestion that the probability of the viewing of "mutually perceived" facts is inversely correlated with the number of members in the institution - therefore, the probability of the growth of the aggregation in many-member institutions. The views of anthropologists like Professor W. Lloyd Warner represented another series of these notions; their view of the class and status stratification that is felt coexistent with Western society and its institutions is certainly relevant to one of the aspects of the non-homogeneity of aggregations as we have seen them.

Many other authoritative views, many of them conflicting, might also be entered into the inquiry, as we begin to recognize that the question of why a many-member institution should be an "aggregation" rather than an "organization" is indeed a most complex one. In a very real sense, it is a question that could be conceived as a minuscule version of the larger question of why the larger society itself stratifies as it does and why the larger society should be subject to forces of change, of conflict, of internal non-homogeneity, even of revolt. The entire question of economic vs. social or cultural determinism, for example, develops here. And generations of knowledge-sociologists have devoted explicit attention to issues of this sort - men like Pareto, Sorokin, and Merton. If we wished to make our analysis in terms of a particular
concept, therefore, there are many from which we could choose. Not at all irrelevant is the currently fashionable concept of Professor Talcott Parsons, who conceives a majuscule version of the aggregation vs. organization problem in terms of "occupational strains", which may interplay with "conflict" situations as we have described them. Or, if we wished to be perhaps somewhat more mystical, we might approach the problem from the view of Professor Pitirim Sorokin, who conceives the problem in "cultural" terms - that is, those which are social but essentially non-institutional; his notion is that "super" sensory elements must be viewed in the total culture to explain growth and decay - elements that are non-rational from the typically logical point of view.

Our inquiry has hewed to the practice of remaining problem-centered, with a corresponding recourse to many disciplines rather than to only one; the necessity for such an approach is particularly to be emphasized, in terms of our objectives, in the particular area with which we are currently concerned in this chapter. Problems of cultural growth, decay, instability, stratification - when considered from an explicit purely disciplinary point of view - involve one of the most open-ended of all matters of interest to the social scientist. And, from the point of view of our purposes in terms of the many-member institution, observers in this area would themselves be the first to note that a review of the possibly pertinent disciplines would probably provide us with little relevant insight at the level of abstraction at which we are operating in this study.

For us, therefore, forces of the larger culture and larger society,
from both an historical and an institutional point of view, will be seen as highly contingent to the form taken by the contemporary many-member institutions; we shall accept these forces for what they are, in general terms however, without inquiring into their growth patterns, teleology, or "occupational strains." We shall recognize, of course, that these forces which are "external" to particular many-member institutions are mutually interdependent with those generated by a particular institution itself, as well as interdependent among all other similar many-member institutions. For example, what is often termed the forces of the Industrial Revolution are conceived by us to be both cause and effect to the form taken by the task-oriented activity of the many-member institution. (1) We thus recognize what, for the psychologist, might be termed an "ongoing process": that which is termed "cause" and that which is termed "effect" are seen both to be parts of a larger continuum; distinction between the two may be largely a question of definition or of classification. Many anthropologists, for example, might view the "announced-purpose centered aggregation structure" as merely a small

(1) - It is not irrelevant to point to the so-called Whyte-Dunlop controversy on methodology in social science research, developing from a conference sponsored by the Social Science Research Council. See Charles A. Myers and John G. Turnbull; "Research on Labor Management Relations: Report of a Conference Held on February 24-25, 1949, at the Industrial Relations Section; Princeton University; Princeton, N.J;" (New York; Social Science Research Council, 1949) pp. 10-17. Mr. Whyte espoused the methodological approach that personalities and networks "internal to the institution" need to be emphasized in research; Mr. Dunlop held the view that the environment - economic, social, technological - must be emphasized. Their discussion is re-printed in "Industrial and Labor Relations Review"; Cornell; Ithaca; pp. 383-412. It is quite clear, from their discussion however, that Mr. Whyte and Mr. Dunlop are simply pointing to different elements of a continuum; for effective research, both internal institutional and external environmental elements must be considered.
element in the development, growth, or decay of the larger society — and an element that could scarcely be objectively and analytically viewed for itself.

Much of our explicit attention in this chapter as to why the aggregation "is that way", will nonetheless be devoted to forces considered as "internal" to the aggregation itself; we shall, however, certainly give implicit recognition to the notion that those elements considered as "internal" to the aggregation may merely be photographs of one point in a continuum of relationships that is much broader than the particular institution itself.

9.1

What elements "external" to the many-member institution may be identified as contributory to the aggregative nature of the institution's work-centered structure? Observers like Professor Elton Mayo (2) have devoted a major portion of their attention to questions of this sort. For Professor Mayo, the relatively stable, community-centered absorption of Western man was abruptly shattered during the late nineteenth and early twentieth centuries by large scale industrial growth. Co-existent was a decrease in the importance of the craft skills, which had been marks of status stability in the community, for those individuals who had earlier held membership in the industrial institutions. The resulting, inter-related culture, or "industrial civilization" to Professor Mayo is one that is chaotic as compared with the standard of the early nineteenth

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(2) — See, for example, Social Problems of an Industrial Civilization; Elton Mayo; Harvard; Cambridge; 1946.
century. This chaos reflects itself in the particular many-member institution's work-oriented structure itself which, far from being ordered, is itself relatively chaotic. That there may be a placidity and slowness of work movement of many-member institutions by no means is in contradiction to their pathological nature; as with the comparable compulsive personality of individual psychology, the surface remains calm only because of the interplay of great internal conflicts which spew forth to the surface itself when the larger environment generates particular types of crisis situations.

Individual institution members themselves may reflect this chaos of the culture, as the argument goes. The ground on which they formerly stood was their community; with the community snatched from under them, the individual faces insecurity which is translated into aggressive behavior in his task-oriented activity. This behavior is inconsistent with the "all better off" society which, by definition, is required for "organization" rather than "aggregation".

This argument has appeared in many forms. Perhaps its most fashionable expression is that in terms of the "dynamic world" in which modern Western individuals and many-member institutions are held to dwell. These dynamics may be expressed in terms of technological change, to which certain individuals may be traditionally opposed and other individuals traditionally favorable - depending upon their particular institutional roles. They may be expressed in terms of social change. They may be expressed in terms of political change, at state and federal
Many of the fears and phobias of aggregation members may reflect these dynamic elements of the larger culture. Turning toward symptoms which may be labelled as "internal", it may be noted that a great deal of evidence of explicit recognition of these dynamic elements exists in the literatures of the "art" of the membership relationships in particular many-member institutions - in the literature of trade unions especially. The head of a large industrial enterprise, producing an annual output well over one hundred million dollars, expressed his perception in this way:

"One of my big jobs is getting my people set up to accept change as a regular part of the daily game.... If we don't continually keep changing our office methods and improving and replacing our products, we would be out of this business mighty fast. Why... only 20% of our annual volume is represented by products we sold as short a time as 8 years ago....

"...It is a tough part of the job, though.... most of our folks still like to hold on to what they have.... Frankly, it keeps parts of our shop in a continual turmoil - our engineers and accountants pushing changes, and too many of our other folks kind of bucking them....

"... I would say that it is this continuing change which keeps our organization from real stability and the teamwork that I would like to see.... But, hell, we can't have everything in this game and maybe a little competition in the outfit's a healthy thing... Get us teamwork in the sense that some of these dead-in-the-wood outfits talk, and we'd be out of business in a hurry. It's new products and new methods that pay off in this industry - not hearts and flowers..." (4)

Is this somewhat pathological comment a reflection that fast-moving technology causes aggregative institutions and possibly a

(3) - Again, the anthropologist and, possibly, the social psychologist, might question whether such dynamics as those of technology are cause or effect. For example, why is the twentieth century a "Century of Scientific Progress" when other centuries had different emphases?

(4) - Interview conducted with industrialist during course of this inquiry. The individual is not identified for obvious reasons; it is, however, possible to note that the industry to which he refers is aviation.
chaotic culture? Or is it the chaotic culture that causes the fast-moving technology and the individual pathologies? Again, the question of the continuum faces us, along with the desirability and even necessity of our viewing only symptoms in this area.

Another symptom in terms of individual aggregation members is to be found in the studies made by Professor William Henry on almost 500 leaders in many-member institutions. Professor Henry's findings, based upon use of projective techniques emphasizing chiefly the Thematic Apperception Test, reports on the "personality communalities of... successful business executives." (5) These communalities, to the extent that Henry's findings are significant, reflects great compulsiveness in the personality structures of these executives. Professor Henry puts it this way:

"The successful executive represents a crystallization of many of the attitudes and values generally accepted by... American society. ....Uncertainty, constant activity, the continual fear of losing ground, the inability to be introspectively leisurely, the ever present fear of failure... the artificial limitations put upon their emotionalized interpersonal relations - this is the (executive) role." (6)

Again, is the compulsive leader a cause of aggregative rather than associative activity in many-member institutions? Or is he merely an effect of this aggregative activity? We do now know; we see this as merely another symptom in the area with which we are concerned.


(6) - Henry; op. cit.; p. 3.
May all "internal" elements be so readily dismissed as merely symptomatic, however? Are we overlooking fruitful sources of insight into aggregative growth by such emphasis upon continua which interact with external influences? Recognizing the full importance of environmental forces upon the many-member institution, are there some internal forces unique to particular institutions which, of themselves, help to make the institution an aggregation? (7) That there may be such forces has certainly been suggested by our review of the literature of the political thinkers. For these men represented the thought and empirics of societies quite different from our own; they were subjected to cultural forces which, while possibly continuous with ours and similar to them in kind in a highly abstract sense, were certainly very different in degree. Yet to these thinkers - to Aristotle, to Caesar, to Machiavelli, to Talleyrand - many-member institutions could also be classified as aggregations. Even Henri Fayol found a number of Western European many-member institutions which, in our language, might be labelled as aggregations. (8)

(7) - The statisticians also see the universe as peopled with hosts of inter-related variables. But, at particular times in particular situations, certain of these variables may have "significant" causation effects, while all other variables may be ignored. It is this question of significance that we are essentially asking when we inquire about "unique internal forces."
   - See, for example, The Design of Experiments; R. A. Fischer; Oliver and Boyd; Edinburgh and London; 1942.

(8) - General and Industrial Management; Henri Fayol; translated from the French by C. Storrs; Pitman; New York; 1925.
What are some of the possible elements internal to many-member institutions which might endogenously make a unique contribution to the aggregative nature of the institutions? Certainly technology, in terms of internally generated new methods and procedures, is often suggested as one of these forces. Certainly also, the notion of division of labor or specialization, mentioned centuries ago by Adam Smith, had no built in structural homogeneity in its early conception. It was only in the commentary of the organization-chart thinkers that assumptions about this structural homogeneity began implicitly to appear. Let us, therefore, examine both technology and specialization—in inverse order.

It is perhaps easiest to select the business firm form of the many-member institution as the focus for the review of specialization. For we have a good deal of information on specialization in this area; much explicit attention to types of specialization in the firm exists in the scientific management literature. Indeed, it would be possible to label this literature as one on the "art of labor specialization." Has specialization in the business firm contributed to aggregative or associative task-oriented structure?

In the nineteenth century the business firm in what we would today term the industrial area usually saw its activities generated by an owner or innovator termed "entrepreneur." Sometimes this entrepreneur himself acted as manager or as "foreman"; often he hired an individual to act as "foreman". The work of the firm—whether its "announced-purpose" was production for profit of wooden blocks, of cloth bolts, of pine tars—was carried on essentially by the foreman and by the individuals whom he hired as his employees. The allocation of work
assignments, the planning of work, the design of the types of wooden blocks or of cloth bolts that would be manufactured - these decisions were made by the foreman who might or might not consult with his employees. (9)

The employees worked in what was essentially individual "jobbing" fashion, whether they were skilled craftsmen or unskilled labor. Eli Whitney had, at the turn of the century, introduced the concept of interchangeable manufacture into armament production; little attention was paid to this innovation by most firms, however. Product distribution was an equally simple matter; localized markets made it possible for the entrepreneur or, indeed, the foreman to act in a marketing capacity.

Practical men whose counterparts were Michael Faraday and Joseph Henry were, however, experimenting with saleable applications of some of the new theories of mechanics and electricity that had only recently been developed. Business firms found that they were able to sell some of these product applications; those men who showed talent for making such technical applications were permitted to specialize more and more in such work and to spend less and less of their time as "foremen" or as "craftsmen." Because the entrepreneur came to recognize that much of his profit came from these technicians, he began to consult with them directly, and gradually their independence of the foreman became an accomplished fact. In 1840, Rensselaer Polytechnic Institute introduced professional college level training of such individuals in the practical

(9) - While there is a great deal of data on the development of specialization in the business firm during the nineteenth and twentieth century, there has been little attempt to correlate this development in an historical sense. See "Design for Interchangeability"; A. V. Feigenbaum; Paper No. 6; Industrial College of the Armed Forces; January, 1951.
technical arts, and the status distinction of "engineer" from "foreman" had left the embryo state.

Because of the independence of the foreman and the engineer, the precise scheduling of the details of each's work became a more and more important area of the foreman's activity. The foreman would frequently assign one of his employees to concentrate upon such scheduling activities; this man turned ultimately into a specialist in what today we would term production control. The need for similar scheduling of the engineer's work into a "joint" schedule made contact between the production control man and the engineer more and more frequent. Gradually the production control man also became independent of the foreman; he emphasized building of the scheduling activity for itself, particularly as it became profitable to replace jobbing with interchangeable manufacture. The increasingly technical nature of the product "designed" by the engineer made it more and more difficult for the foreman and his employees to "make up" the jigs and fixtures required to manufacture this product, simply as a part of their work assignments. Certain employees who showed great aptitude in this field gradually specialized in such work with the label of "planners" or, as we term them today, "methods engineers." Again, the trade schools and later, the universities followed up this activity by offering training in what is today termed "industrial engineering", increasingly to formalize the particular status of these individuals.

The developing complexity of the products thus manufactured caused the entrepreneur more and more concern about the performance of the
product when it reached the hands of his customers. More and concerned about preserving the long run stability of his enterprise, he began to realize that it might be risky to depend for quality protection merely upon the now-not-technical foreman and the now-not-so-skilled craftsman. An inspector, working for the entrepreneur, then entered the firm picture - an individual independent of the foreman. Later the entrepreneur faced the need for the specialization of his marketing activities, and named a Sales Manager. By this time, of course, the entrepreneur, as we knew him originally, no longer in the main kept personal touch with each of these individuals. The hierarchal horizontal growth of the firm due to specialization was complemented by a vertical growth primarily caused by the increase in the number of members of the firm - a trend noted quantitatively in an earlier chapter. A "superintendent" - later a manager, or general manager, or president - came to be interposed between the entrepreneur and the individuals employed by him presumably to further the announced-purpose of the enterprise.

The later development of such individual specialties as "time study", "work simplification" and "motion analysis" - with the various growth problems associated with them - are too well known to require further amplification here. In the present-day business firm dozens of these individual specialties may be identified.

But long before this, it is clear to an observer of the firm that this growth by specialization was anything but an ordered process. Growth was not conceived according to an overall strategy, as those glancing at the "formal organization charts" of modern firms are sometimes apt to
suppose; instead, each stage in growth represented an individual tactical response chiefly to immediate needs. There was no omniscient, omnipotent "organizer" who "brought in" engineering, production control, inspection, wage administration to join the original foreman-workman group in a fashion that would foster associative activity.

Was there, however, a teleology whereby these specialized groups, no matter what their origin, had to "become" associative in the firm? Even superficial analysis shows that such is hardly the case. The fashion in which the individual specialties were introduced to the firm tended, indeed, to provide a propensity toward aggregative activity. And this propensity was strengthened, rather than weakened, as a function of the length of time the specialist remained a part of the firm. Each specialized activity was charged with a particular "announced-purpose" of its own - whether production control or engineering; it was on the basis of this announced-purpose that the activity was judged for success or failure, just as the enterprise itself was judged on a larger canvas for its success or failure in achieving its announced-purpose of the production of goods and services at a profit. In the perception of the entrepreneur, these individual "announced-purposes" for the specialists would, indeed, further, the larger "announced-purpose" for the firm; so far as the individual specialists were concerned, however, it was quite natural for them to perceive as their objective chiefly their specialist-centered announced-purpose. And, as we shall see in a moment, the teleology of this situation, was such as to further and strengthen these narrower perceptions.
Were the individual purposes of the production control, engineering, wage administration, and inspection specialties amenable to the growth of cooperative behavior - were they all, in spite of this argument of individualized, narrow perceptions - still "really pointed to the same objective" as it has always been fashionable for the scientific management literature to insist? As we have already noted at other points in the inquiry, it is entirely possible that this particular scientific management view may be supported, if we take the viewpoint of the achievement of the announced-purpose of the enterprise. From the point of view of the specialist activities, however, such a notion is platitudinous and meaningless. The narrow, specialized announced-purposes may clearly be in conflict in multitudes of situations - the production control man who emphasizes scheduling as a means in itself, the foreman who emphasizes production, the engineer who emphasizes product performance, the inspector who emphasizes quality. (10) Could there be cooperation among them to achieve portions of the objectives of each specialization? Not in the sense of "all better off" cooperation as we have understood it in the literature; the function of leadership in the business firm, indeed, may be to prevent such "collusive" action - "cooperative" though it may seem to our eyes. The function of leadership may be to promote emphasis upon the individual objectives of each specialized group since it is through the resultant of such conflict or "healthy competition" (11) that the institution might best pursue its announced-purpose. The

(10) - That this is so has been suggested to analytical observers who have viewed industrial situations even superficially, apart from formal research analyses. And that it is so, was suggested time and time again to this investigator in his empirical explorations for this inquiry.

(11) - This seems to be the way many industrial leaders seem to perceive this conflict. The term "healthy competition" cropped up again and again in our interviews.
goal realization of the institution is again clearly seen as possible separate and independent from that of the specialized groups, as we have noted at other points in the inquiry.

There is, in the sense of a certain philosophic symmetry, some similarity between this concept of the best interests of the institution being served by conflict, and the concept of the political thinkers where the best interests of the "electorate" was held to be served by checks-and-balances in government. (12) But much more important, a key assumption here is not only that specialization exists in terms of division of labor, but also that is exists in terms of compartmentalization of knowledge - especially technical knowledge - that serves in achieving the announced-purpose of the firm. Communications theorists have suggested that, the more the inflexibilities of communication channels in an institution, the less the likelihood of what we would term associative behavior. To the extent that these communications observers are right, it is quite clear that the growth of the business firm has conformed to a type of specialization which emphasized the Balkanization of communication channels, fundamentally built into the structure as a means to further the firm's announced-purpose, and emphasized, consequently, further tendencies toward aggregative behavior.

It was thus possible for Professor Bakke many years after these forces had originally come into play in the "industrial civilization" to study the long-established Southern New England Telephone Company and

(12) - Juran, who has analyzed what, for him, is both business and government "bureaucracy" makes the point of this symmetry the core of his entire analysis. He does not, however, carry his analysis to the point of its explicit moral rationale; although in this sense, he is no different from observers in much of the rest of the literature. See: Bureaucracy, a Challenge to Better Management; J. M. Juran; Harpers; New York; 1944.
to conclude, in the semantics of sociology, that task-oriented relationships were, indeed, "relationships between people whose behavior tendencies and personality structures are responses to experiences with particular social systems the content of which is not the same." (13) It is equally possible to view these same elements as making an unlikely occurrence of the "maturity", which Professors McGregor and Knickerbocker viewed as an essential dimension of the development of the growth of cooperation. And it is possible to confirm in the aggregative behavior of the business firms the mild chaos seen by Professor Elton Mayo in the development of the "industrial civilization."

It may be noted, parenthetically, that the moralistic proponents of the "all better off" philosophy through "education and understanding" may almost automatically find themselves facing grave problems in terms of fostering "cooperation" in task-oriented membership relationship structures which have developed as have those for the business firm. It was probably to an intuitive recognition of these problems to which we can ascribe the comment, noted in the Introduction to the inquiry, by the industrialist concerning the evangelistic approaches toward personnel administration: "...it (personnel administration) is the old, old story of the missionaries trying to democratize the heathen tribes - but without any clear understanding of the tribal mores and history, nor of the factors which have influenced these conditions of life to arise." Even though a firm-wide "Esperanto" were devised to improve the communications among specialists, there would still remain for the

(13) - Bonds of Organization; op. cit; p. 207.
"better off through understanding" approach, for the problem of the built-in non homogeneity of the work-relationships of these specialists, as well as difficulties of the built-in rigidities of the overall structure itself.

So, on balance, we may suggest at the very least that there seems no teleology toward associative behavior in terms of work specialization in the business firm; and that "what these relationships are trying to become" seems to strengthen rather than oppose the forces toward aggregative behavior which the original introduction of these specialties seemed to foster.

It was at the beginning of the twentieth century, when these aggregative tendencies of the business firm had already been founded in the history and development of the business firm, that the scientific management theorists really began the explicit formulation of the organization-chart theories. Against the backdrop of their preconception of order, logic, and the Puritanical model of man, these theorists were forced to rationalize the specialized growth of the dis-ordered universe they viewed. They borrowed the dichotomy of the line and staff from the military literature, as we have seen; as we have also seen, their application of this principle was such as to label as "line" groups those with staff responsibilities as well, and to label as "staff" groups those with line responsibilities as well. As we can now understand, the chart theorists had no other choice when forced to make a two-way split in a world that was not all black or all white. But the neat order of the organization chart with its well labelled boxes and hierarchal levels,
contributed further to this rationalization.

Many later observers accepted these neat rationalizations for the substantive facts of the work-relationships of the business firm; they came to believe that the "formal organization" of a business firm was, indeed a neatly ordered hierarchal structure. Among these observers were many human relations theorists whom, as we have noted, partially as a counterpoise for the "order" of formal organization created an independent rationalization of their own - the "informal organization".

We have come to see, however, that the "formal organization" of a business firm, in the sense of actual institution-assigned responsibilities is not a well ordered universe in the real world once we remove the abstract blinders of the organization chart rationalizations from our eyes. Indeed, this formal organization is a force tending toward aggregative behavior of the many-member institution just as may be the so-called "informal organization" of abstraction - the differences are in degree not in kind.

Moving back, now, from the business firm to many-member institutions in general, it is probably no mere coincidence that even those of the institutions that were identified centuries ago by the political thinkers seemed also to tend toward aggregative behavior. It may be hypothesized that formal specialization, far from fostering linear increases in purpose-achievement as is often assumed, and far from promoting orderly structural growth of institutions in a fashion tending toward associative behavior, has just the opposite tendency. The farther specialization proceeds in the many-member institution, the greater the tendency for
this institution to behave aggregatively in its work-oriented activities. This hypothesis, of course, is quite contradictory to the typical presumptions of the "all better off through understanding" beliefs that are typically found in modern Western literature in the thought of "organization."

9.3

Let us turn briefly now to examination of technology as a possible unique internal influence causing many-member institutions to act as aggregations rather than as organizations. And, again, because of the availability of data for it, let us use the business firm for our example of the many-member institution. It may be noted, as a forecast of the results of this examination, that we shall come to see technology as a sort of friction whose effect may, indeed, impel task-oriented member-ship relationships toward aggregative rather than associative behavior.

It was noted in connection with our discussion of specialization that increasing technological complexity and product precision have paralleled the growth of the business firm in the West. It has been profitable for these business enterprises to enter into production of articles whose technology has not been fully developed. As a matter of fact, there are few important industries in the West for which some major "mysteries" do not remain for the technology both of design engineering and of manufacturing production.

What can be the effect of this technology in many-member institutions? A simple case may be reviewed to keynote our exploration in this area: (14)

(14) - We are reporting here data from one of the actual case studies conducted during the course of this inquiry. Fictitious names, dates, and product designations are used.
The adjustment of the tension of a copper spring was the critical final operation in the production of a small electrical switch in one section of a plant in the electrical industry. This section was headed by a foreman whose relationships were most favorable with the skilled employee whose occupation it was to make the setting of spring tension. The relationships of both foreman and skilled employee were also favorable with the section inspector, whose occupation it was to inspect each switch for its performance before it was permitted to leave the section. The section inspector also had an incoming inspection responsibility; he pre-examined each of the copper springs that were installed in the electrical switch preparatory to tension adjustment. This section inspector reported to a chief inspector in the plant central office; he was, therefore, officially independent of the section foreman.

The foreman, the skilled employee, and the section inspector were hunting and fishing enthusiasts, and frequently went out as a threesome on field and stream weekends. Occasionally they would visit each others' homes, when the men and the women would join in a game of pinochle and the men would enjoy beer while the wives prepared sandwiches. The men had worked together for several years when, at the time our case begins, a new design of the electrical switch was placed into production in their section as a replacement for the old product which had been manufactured for some years. All three recognized that the new switch, which would be manufactured with the same methods and fixtures as the old switch, would still retain its most critical operation in the final adjustment of spring tension. To assure a product whose performance was as good as that of
the old switch, the foreman, the skilled employee, and the section inspector worked out the following program among them for the spring tension adjustment:

- the skilled employee would not only adjust the tension of all electrical switches, but would also, until more experience had been obtained with the new product, recheck the tension of 10% of all the electrical switches passing over his bench. If a single switch were found in the recheck whose tension were unsatisfactory, the skilled employee would recheck all switches in the lot being checked. Each of these lots contained about 50 to 60 switches.

- the foreman would provide the skilled employee with a suitable set of fixtures to make such re-checks. Since the employee was on an hourly, day-rate wage payment system, the foreman would merely request him to make these checks as part of his regular job and would "balance out" the drop in production at the skilled employee's bench by suitable changes in other parts of the foreman's section.

- the section inspector would continue his practice of 100% checking all switches after they were completed, and before they were shipped from the section. Since this was a new switch, he would begin a temporary record on which he would list any quality problems that he found at this inspection.

All three men were agreed on this program, and the foreman assured his superintendent that there was little to fear from the performance of the new switch. Similar assurance was given to the section inspector to his chief. Both the foreman and the section inspector felt that so large a re-check as 10% of all articles by the skilled employee would certainly eliminate quality problems before they were even seen by the inspector. This 10% check would, in the foreman's words, provide all with "additional insurance."

It was a matter of small concern to the section inspector, therefore, when he began to find unsatisfactory products in the lots of new switches submitted to him for final inspection. He simply attributed this situation
to the starting problems initially encountered on any new line of product; he so noted on the record sheet that he provided to the foreman, the skilled employee, and his own chief.

As the days ran into weeks, however, and the percentage of defective product he found at inspection increased rather than decreased, the section inspector became somewhat disturbed. So one morning he strolled to the bench of the skilled employee, who was adjusting spring tensions, and chided him good-naturedly in a sense similar to the following:

Are you trying to make more work for you and me, Charley? Can't you check them better than that? Golly, I'm running several percent rejects on switches every day - after you're supposed to make a 10% recheck.

And the skilled workman replied with equal good nature:

Hell, I'm doing just what we agreed to. I check 10% a day - and more. What you're doing, Adolf, is just trying to show us up and look good so you can get an in on your boss' job when he retires. Stop looking for more than the engineers ask you to look for.

The skilled workman returned to his re-checking with increased care, however, and actually began to check up to 20% of output, a procedure which slowed down his total production. Because of this slowdown, and because of the smaller number of switches shipped due to rejections, the factory foreman soon thereafter talked with the skilled employee at noon-hour:

"What's the matter with this new job, Charley, with us getting better than 5% rejects a day at Adolf's bench? I figured that with your 10% re-check we'd be having no trouble on this job at all. But we're actually underproducing, and the superintendent is going to be on my back one of these fine days.

The skilled employee, Charley, disclaimed any responsibility for the rejections. He was checking more than 10% of the switches, he told
his foreman, and the foreman could see for himself by just watching for a while. And Charley continued to the foreman:

I don't know what's the matter, Al. All I can figure is that Adolf is going too tight on us in his check.

Al, the foreman, went to talk to Adolf, the section inspector, later in the day. Adolf disclaimed any tightening of inspection standards over those which had originally been agreed on. And, Adolf continued:

To make you fellows look better, I've actually gotten my tools and fixed up some of the defective switches rather than sending them back to you for repair. And you know what my boss would say if he knew that.

Al then called a session among himself, the skilled employee and the section inspector to review their program to determine what improvements could be made in it. Some minor suggestions were made and after further statements of good will among all three, the men returned to their separate occupations. But the final inspection rejections did not substantially alter, and production remained below standard.

The plant chief inspector, after several additional days' review of the section inspector's reports of the steady rejection rate, finally visited the switch section himself and talked with Adolf, the inspector and Al, the foreman. After looking over the job, his reaction as expressed to the foreman, could be paraphrased as follows:

You've got a good plan there, but it just isn't working. If I were you, I'd get in a methods engineer from the office to look over the whole setup. Maybe some of the tools and fixtures just don't suit the new switch as well as they suited the old.

Because of the closeness of the chief inspector to the shop superintendent, Al the shop foreman reluctantly followed his suggestion.
Some days later, Art Kozak, one of the older methods engineers on the plant staff appeared in the section and, with the foreman, began to analyze the production process. It took Kozak only two hours to agree with the foreman that the critical portion of the production process was centered in the adjustment of spring tension. A clever mechanic, Kozak borrowed the checking fixture used by Charley, the skilled employee and Adolf, the section inspector on the same day, following the end of their shift. By the time both men and their foremen reported to work the next morning, Kozak had re-installed both fixtures. He reported to all three men, as follows:

It's the old story, boys. You guys were checking the same product with two fixtures that were different. Charley's fixture had an out-of-round shaft, which gave a 14 mil variation from Adolf's. So I think that's the story.

Al the foreman thanked Art Kozak rather stiffly, but both Charley and Adolf were genuinely happy about the result. Blame had been centered upon a technical detail rather than upon each other.

But rejections dropped only slightly. Only three days later, the factory superintendent and the chief inspector visited the section. After hearing of the re-checking program from the foreman and about the improvement in the fixtures, and after a brief survey of the operation, the superintendent drew the foreman aside and made the following suggestion:

Why don't you move Charley to another job, temporarily, Al? He's been on that job a long time and maybe he's going stale. Put another fellow on the checking job — that ought to be all it takes. Charley ought to be good for the assembly beginning at the start of the bench — and it pays as well as the check job.

The foreman protested, but it was finally agreed that the move would be made on a temporary basis. Later in the day, Al had a long talk
with Charley who accepted the decision quietly. Charley filed no grievance with the union; simply took up his new assignment. With the new man assigned to the check job, rejections doubled, and the foreman soon transferred Charley back to his old job. Charley accepted the transfer as quietly as he had accepted his removal.

Al, Charley, and Adolf no longer joined each other for field and stream week-ends, however. And the work relationships, while largely characterized by the same surface banters, no longer reflected the personal interplay that had earlier been the case.

Several weeks later, a complete technological analysis of the process was made by engineers from the central office. These engineers found that the copper material used for the springs had a peculiar technical property known as "aging" which actually caused shifts in spring tension from check to check, and thus made it entirely possible for a switch checked by Charley to become defective by the time it was checked by Adolf. Adolf's only means for identifying good copper springs at incoming inspection had been that they be "reddish brown and shiny", in his words. This method could not separate "aging" springs from those which were not "aging." Insofar as was concerned the 10% check, which had been considered "insurance" by Adolf, Al and Charley, a mechanical engineering member of the investigating team pointed out that it was deceptive insurance, indeed. The mechanical engineer noted that, no matter how conscientiously such a check was made, it was still possible for several percent of defective work to pass through Charley to
Appropriate changes in the process were thereupon made. A new type of copper spring was put into the switches, and Adolf was provided with a technical method for discerning whether or not the springs were satisfactory at incoming inspection. Charley's recheck schedule was changed from one that was 10% to one that was worked out by him and the mechanical engineer jointly to provide "real insurance." Rejects at Adolf's final inspection dropped to a negligible percentage and remained there. When attention to this case was ended by this inquiry some weeks after the elimination of the rejections, the friendly relationships among Adolf, Al and Charley had not, however, been restored.

Interviewed at this time, Charley, the skilled employee, expressed the following reaction:

I do what I'm told to around here and now, instead of checking 10% I'm checking on a different setup. And they tell me that we've got some big changes in our spring. But it still seems kind of funny to me. All this fuss - just to get us back to where we were on the old switch which wasn't as good as this one.

Inspection was supposed to check all the springs, wasn't it? Then why did they let bad ones through in the first place then turn around and accuse us of not doing a good checking job? No sir, I just do what I'm told around here and let the smart ones figure out what I'm supposed to do - seems that when you try to go out of your way a little and do something extra, you get clipped for it.

Adolf's reaction was not too much different as expressed in interview:

(15) - It can be shown mathematically and statistically that the 10% check established by Al, Adolf, and Charley, while quite reliable at first glance, is really extremely ineffective. A high percentage of rejects are most likely to pass through a check of this sort. See, for example; Introduction to Mathematical Statistics; Paul Hoel; John Wiley; New York; pp. 220-225.

It is only in recent years that industrial statisticians, themselves, have understood this phenomenon very clearly. How many misunderstandings have been created in industry because of the ineffectiveness of the "spot check" philosophy can only be imagined.
Inspection is better off in this shop to stick to its own job without trying to do things for the manufacturing shop. My boss sure tore off my ear when he learned about my repairing defective switches so that the production rate of the boys could look better on the report sheet. And, sure as hell, the boys didn't give me any thanks for it; practically accused me of letting bad springs go through incoming inspection. And it still seems to me that a 10% check ought to have been good enough to have stopped most of the rejects from coming through.

Al, the foreman, made only a brief reaction:

Well, these are all growing pains we have to expect on a new job. And we can't have any of our fellows getting to be prima donnas over some little problems we get into because of these growing pains. We're still in business after all.

Several other industrial situations reviewed during this inquiry similarly suggested technology as a possible friction for task-oriented membership relationships. The veteran foreman of a metal trades shop put it this way:

"One of the big troubles around here that keeps things up in the air is that the wrong people are always being blamed for technical mistakes. They don't pay much attention to the technical blobs ahead of time; they wait until everybody is all excited like, for instance, when a batch of bad parts is winged at final inspection or in the field. They all start blaming the workingman for a poor machining job or the foreman for poor instruction, when maybe it was because of a buildup of mistakes by the engineers, the production men, the purchasing people, the planners, and the inspectors." (16)

To what extent is this technological friction represented in business firms other than those in manufacturing industries, or in many-member institutions other than the business firm? Again, with the case study approach for our analysis, we cannot say with empirical certainty. But it is persuasive deductively to suggest that a frictional tendency in kind is almost inevitable for a many-member institution in which specialization has.

(16) – Statement of a shop supervisor in a long established plant, which concentrates upon manufacture of precision tools, dies, and component parts.
proceeded to any large extent. For there are, of course, many types of technology over and beyond those of a mechanical nature about which we are most accustomed to think. There are clerical technologies, social work technologies, biological technologies, etc.

And it is with this concept of technology as a possible frictional tendency impelling task-oriented membership relationship structures toward increased aggregative behavior that we emerge from our brief discussion on this second of the possibly unique factors "internal" to the many-member institution.

9.4

We thus conclude our brief exploration of possible reasons for the many-member institution to act as "aggregation" rather than as "organization", by recognizing that there are several important tendencies which may explicitly be identified as possibly causative of aggregative rather than associative behavior. We have seen that these tendencies may broadly be classified under two headings: those which are "external" to the many-member institution and may be considered as functions of the larger environment; and those which are "internal" to such institutions.

We have seen that there are strong reasons for believing that, at base, these two sets of tendencies, far from being separate and distinct compartments, are mutually interdependent portions of a larger continuum which sees the many-member institution as merely a small element of larger social, political, and economic patterns. We have also agreed that, allied with our acceptance of this Gestalt, it is nonetheless extremely useful, for the understanding of task-oriented behavior of many-member institutions, specifically to identify - as with the true Gestalt theorist - those
elements of the continuum which may be key "significant" variables for determining the general form of aggregative or associative behavior of many-member institutions, as well as for determining many of the detailed structural aspects of particular task-oriented membership relationships.

We have seen from the analysis of this chapter and the previous one that such "external" forces as those generated by the economic and social environment, as well as cultural beliefs and values, may be crucial as "significant" variables. We have also seen that such possibly "unique" internal forces as those generated by personal membership relationships, "formal" structures of "organization" (we shall begin to call these "control systems" in the next chapter), and technological frictions may be equally crucial. We shall be exploring such variables as these in more detail as the inquiry proceeds; it is well, however, to keep our present findings in mind in terms of broad outlines of the kinds of variables we are coming to identify as important. They may well be extremely valuable to us as we later try directly to specify the critical variables that must be taken into account for the construction of a "model" of real-world many-member institutions through whose use it is possible effectively to analyze many of the problems posed for us at the start of this inquiry.

Our inquiry up to now has, however, concentrated largely upon analysis of the structural, chiefly statical aspects of the many-member institution as a work machine. What, however, are the dynamics of this institution? What causes task-oriented aggregation structures to grow and decay? How may we identify the energy flow which keeps the structure alive and growing? How, indeed, may we construct a "model" of the many-member...
institution which is analytically useful? And what is the nature of the many-member institutions with which we are concerned, so far as their function as work machines are concerned? May the business firm be fruitfully viewed as an economic agency in an economic environment, as has been the long tradition for analysis? May the social agency best be viewed as a social institution in a social environment? What is the core for the analysis of the trade union? How about the government bureau?

Part Five, Is the Code of the Aggregation Structure: "Do Not in the Short Run Only that Which Will Boomerang in the Long Run," addresses itself to these problems. Chapter X, The Politics of the Announced-Purpose Centered Aggregation, will carry the bulk of the required analysis.
IS THE CODE OF THE AGGREGATION STRUCTURE:

"DO NOT IN THE SHORT RUN ONLY THAT WHICH WILL

BOOMERANG IN THE LONG RUN?"
We have seen that, as an essential dimension of the many-member institution, we may conceive of a task-oriented membership relationship structure. Through this structure is accomplished the "work" or "job" or "purpose" of many-member institutions such as the business firm, the trade union, the social agency, and the government bureau. This "work" is labelled and defined as it is literally viewed by the society of which the institution is a part. The "work" may be the production of goods and services for a profit, the representation of the interests of trade union members, the administration of a federal law. What this label is depends upon its particular acceptance by the culture, perhaps under the formal legal code of the society. In the language of this inquiry, the "work" is termed the institution's "announced-purpose."

The task-oriented membership relationship structure for announced-purpose centered aggregations is essentially a social network. It has grown up for particular institutions through the interactions of the aggregation members, interdependently with the relationship structure as these members perceive it, as well as with the culture of the total society to which the institution belongs. In a broad sense, therefore, the configuration of this structure at a particular time may be considered as the resultant of a series of interdependent forces both internal and external to the aggregation - forces which may be labelled as economic, social, political. If this configuration chances to be an equilibrium, it is likely that this equilibrium will be a dynamic and not a static one;
it is extremely unlikely that the equilibrium will be a stable one in connection with the institutions with which we are concerned.

Conceptually, this structure is no more an abstraction than are the crystalline latices seen by the geologist or the molecular valences seen by the chemist. For those with engineering or technical zeal, it is perfectly possible quantitatively to represent this relationship structure, in the sense of graphically depicting its configuration contours at a particular time. The usefulness of such graphical representation is, however, highly questionable; all such configurations thus charted by this investigator for many-member institutions have been so highly complex that they have provided little utility for analytical purposes.

Mathematical representations of this configuration are of even greater complexity, as one might suspect from our review of the complexity that somewhat comparably existed even for the highly specialized, determinate, zero-sum, two-person Von Neumann-Morgenstern mathematical models for abstract games. Similar representation of the real-world many-member institution becomes difficult to an awesome degree with present mathematical technique. It may, of course, be noted as an aside that these mathematical difficulties may be purely ones which result from the infancy of this particular type of mathematical application; future investigators, who may become interested in mathematical representation of the many-member aggregation structure, may develop methods which provide useful beginnings for an appropriate mathematics. (1)

(1) - Progress in such fields as linear programming, game theory, and cybernetics may soon be such that relevant suggestions for relationship structure mathematics will be developed. Explicit analysis here may soon be a worthwhile venture; at the present time, however, the best we can see is a sort of functional mathematics which is of little value other than its use for short-hand notation.
Those with technical zeal may, however, from this point of view of representation of the task-oriented relationship structure, recognize that it has little graphical or mathematical parallelism with the organization-chart construction of the scientific management theorists. Yet they will also recognize that the task-oriented structure does bear a sort of purposive resemblance to the organization chart: both try to depict, within the framework of their own concept of the institutional world, the "channels of authority and responsibility through which work is performed in the institution."

We shall, however, here forego any explicit mathematical or graphical representation for the task-oriented structure. As has been noted, we do not have an adequate pattern either of graphics or of mathematics to make an adequate representation; even had we such a pattern, we should scarcely benefit a great deal from its use in an inquiry of this sort. Our concern is with tendencies in an area that we suspect to be theoretically indeterminate in terms of our present tools; charts, graphs, formulas unaccompanied by a determinate theory might bias us toward the discussion of a logic and a classification rather than toward the discussion of tendencies which the inquiry to date suggests to be a more meaningful focus. Our discussion will, therefore, proceed on a qualitative, rather than a quantitative, basis.

10.1

We have noted earlier that the task-oriented membership structure may fruitfully be termed a "social invention". An appropriate question may well be, then, to whom or to what should we grant the "patent" for
this social invention in a particular institution. The scientific management theorists would have us believe that such a patent should go in perpetuity to the "entrepreneur", the "organizer", the "president", or the "top management." Examination of our concept shows that, even in terms of the initial creation of an institution by an "organizer" - at which point the scientific management argument is strongest, the formal organization theorists are wrong.

Our concept is perfectly amenable to the suggestion of many anthropologists that institutions are not, in general, created by spontaneous mass movements; but that there must be a particular leader at a particular time to trigger them into existence. But even here, the leader is able merely to touch off the series of interactions which creates the first form of the task-oriented membership relationship structure for the institution. After the institution has been in existence for some time, of course, the scientific management argument becomes particularly weak; later leaders will find fewer interactions under their particular control than did their original predecessors. Even during periods of profound crisis in the affairs of the many-member institution - where the leader may regain greater control over forces and interactions - these leaders still may only trigger the totality of all interactions.

We may not, therefore, grant this patent for social invention to the top leaders in the aggregation, as the general case. Professor Bakke's findings in a business firm, added to our inductive material, provide additional empirical evidence that we can readily accept and understand in
terms of our theory: (2)

"...these conclusions point to a heavy and difficult task for management and leadership charged with responsibility for the rational development of... structure better to attain the aims of the (institution). If their modifications find their effective real level only after reconstruction at the hands of every participant concerned, it would appear that they can initiate but not make changes. (italics Bakke's). Once initiated, the change takes its course through the behavior of all affected, is modified by that behavior, and, as actually experienced, has become the creation of all of them.

"...It is scarcely conceivable that management and leadership do not recognize that such is the case....."

Quite obviously by extension, our patent cannot be granted, under this concept, to any particular individual or group of members in the institution. For there can be no individual patent system for social invention in our world of aggregations - all members of the aggregation have some responsibility for creation of the structure. Responsibility also inheres in the structure itself as a social system which has inertia, as well as in the larger culture as an even larger social system with even greater inertia. And, as Kurt Lewin pointed out, small changes in any part of the structure affects the behavior of all participants in the structure. (3)

(2) - Bonds of Organization; op. cit; p. 195. But we must be careful to recall that Professor Bakke is reporting upon the evidence from one business firm, and a firm (Southern New England Telephone) that has been long in existence with many long-service employees. His generalization that "they (top management) can initiate and not make changes" must be understood against this backdrop; as we shall see in the discussion of the physiology of the aggregation later in this chapter, such a generalization is appropriate as merely that for one situation in a whole spectrum of possible situations.

(3) - Resolving Social Conflicts; Kurt Lewin; John Wiley; New York; 1947.
So the concept of the task-oriented membership relationship structure is a notion that is contradictory to the concepts of the organization-chart proponents as well as to those of many human relations thinkers as well. But, in principle, refinements of the concept are in agreement with the concepts of several theorists who may not be readily classified under either of these labels. "Leadership" in the task-oriented structure, for example, may be conceived as arising out of and connected with the aggregation structure in whole or in part rather than necessarily with or out of a particular leadership personality, (4) physical trait, or technical skill - as has been pointed out by such able observers as Mary Parker Follett and Professor Irving Knickerbocker. (5)

The "work" of the many-member institution must be viewed as a "total situation", so far as the concept of the task-oriented structure is concerned - as has been pointed out by such competent students as

(4) - We noted at an earlier point in the inquiry that Chester I. Barnard's Functions of the Executive might be interpreted by its casual reader as suggesting that the proper study of the many-member institution is the study of its leaders, on the "horizontal" basis of their characteristics. The great respect of all for Mr. Barnard has caused some observers, therefore, to take a cue that he never intended, and we have had a spate of inquiries which have attempted to correlate the verbal views and historical careers of "leaders." Other sources independent of Mr. Barnard have added fuel to this flame, or built fires of their own - particularly the group referred to during our organization thought review as the "Art of Leadership School."

These studies have been singularly unfruitful to date. They have the quite natural tendency to become primarily studies of communalities of executive behavior. See, for example: "A Method of Investigating Executive Leadership"; doctoral dissertation; Thomas A. Kenan; Ohio State University Press; 1949. See, also, study reported in "Personnel" by Dr. Frederic Dersheimer of DuPont, which finally resolved into the conclusion that there seems only one communality among successful executives: They "all get the job done no matter what."

(5) - "Leadership: A conception and some implications"; Irving Knickerbocker; Journal of Social Issues; Vol. IV, No. 3; Summer, 1948.
Professors Paul Pigors and Charles A. Myers. (6) The "communication network" is a nerve system which has important highways throughout the relationship structure (7) - as has been noted by several observers.

At a level removed from these degrees of abstraction, our concept may be refined to agree with those observers who have insisted that management complaints about foreman inadequacies is, at least in part, a reflection of the inadequacies of management itself as well as that of the institution which is managed. Under our concept in relation to the business firm, a foreman's behavior in the task-oriented structure is, indeed, determined by what he is when he enters the structure; but it is also determined by "what he is", acting in conjunction with and reacting from the "environment" of the task-oriented structure in which he finds himself - a point noted by Kurt Lewin years ago in terms of the essentials of his topological theory.

10.2

This summary of our concept of the announced-purpose aggregation structure, as it has been developed thus far in the inquiry, has been almost entirely anatomical in viewpoint. We have not discussed what is

(6) - They term their method of analysis under this concept, "situational analysis." See Personnel Administration: A Point of View and a Method; Paul Pigors and Charles A. Myers; McGraw-Hill; New York; 1947.

(7) - While we may agree with the insight provided by this concept, we do not necessarily agree with the related techniques of analysis for the network. Those communications theorists for whom the pivot of analysis of the many-member institution is "knowledge is power", pure and simple, have to demonstrate that this kind of abstraction is relevant in the real world relationship structure when, for example, the president who owns the company may be compared with the foreman who is an insecure employee. The communications theorists who have held this extreme view have not yet made such a demonstration; we believe that they can, only in the sense that they follow the practice of electronic theorists who assume, as models of communications networks, those for which no power is drawn from sources external to the network. This is quite obviously an abstraction whose assumptions must be considerably relaxed when they are being related to the real world.
a "good" task-oriented structure, or a "bad" one; thus far in the development of the concept, these terms have had no meaning for us. We have not discussed classifications of various patterns of structural anatomy - the "X" pattern, or the "Y" pattern, or the "Z" pattern.

Ethics have been kept out of the discussion for several obvious reasons. For one, our review of organization thought in earlier chapters noted the fashion whereby many observers started with an implicit ethic or policy before their analysis had well begun, and then built their analysis around proof of their ethic or their policy. Unlike Mr. Barnard or Professor Bakke, this investigation has not come to feel that the aggregation structure of the many-member institution has any ethic unique to it; under our concept it is neither moral or immoral - it is simply non-moral. We shall, of course, talk of policy at a later point in the inquiry; we shall, however, endeavor to make clear in such a discussion that this policy is one to which we would like the many-member institution to conform - not necessarily one to which it is "natural" for it to conform.

Reasons for our failure to introduce classificatory discussion have been advanced at several points earlier in the inquiry. For one, much of the discussion in this area has suffered because the bulk of its analysis in the past has consisted of pure and simple classification. Frequently, as we have discovered, these classifications have consisted of two compartments: "X" compartment consisted of cooperation, teamwork, all "better off" - such institutions were "organizations;" "B" compartment consisted of "everything but teamwork", and was usually implicitly built
around the notion that anything but teamwork showed "failures in organization".

It is the belief of this inquiry, based upon its findings, that there exists not one or a few compartments, but an entire spectrum of task-oriented membership relationship structures among many-member institutions. Classifications among such structures can provide little more insight than that in which it is, for example, suggested that: "Let us call everything from 0% to 25% as "red"; everything from 25% to 50% as "blue"; everything from 50% to 75% as "brown"; everything from 75% to 100% as "black". But what do we mean by "red", or "brown", or "black"? Why should we term 75% to 100% as "black"; why should it not be termed "red"? Is there a danger that labelling 0 to 25% as red will institutionalize red - begin to give it a meaning of its own?

In terms of our own inquiry, what should we call the 0% and the 100% points? Shall they be "conflict" and "cooperation"? As soon as we square up to such a decision, we immediately come face to face with an ethical question of the sort that we have wished to avoid. In our culture, "cooperation" is likely to be "good" and "conflict" is likely to be "bad". But which is the "good" end of the scale to choose for "cooperation" - is it 0% or 100%? And, if we choose a set of new terms so as to remove this value bias, do we contribute toward the analysis or merely further confuse it? Because of the unnecessary complications inherent in these problems, we shall carry on only a necessary minimum of discussion of classification throughout the rest of the inquiry.

10.3

Thus having discussed anatomy in some detail, and having briefly touched upon issues connected with the ethical and classification
questions in this area, we turn now to a point of view toward the relationship structure which is equally important as is its anatomy. Our discussion will center upon the physiology of this structure, a matter that we have considered only implicitly to date.

What causes change in the relationship structure and where may these changes be seen? Why should one portion of the structure atrophy while another portion grows? What is meant by the strength of an aggregation structure? These are appropriate questions for the physiology of the task-oriented membership relationship structure.

Let us be somewhat less abstract in asking questions of this sort. Looking at the relationship structure from the point of view of one of its members, perhaps we might ask the questions: "How does he cause change in the relationship structure?", "Indeed, can he cause change in this structure?" If we were to use the quaint, somewhat mystical, personal language of an aggregation member, possibly we might ask the question this way: "What buttons does he have to push to get something done?"

Or perhaps we might look at portions of the task-oriented relationship structure which some of the aggregation members may have labelled as being related to the "staff". Instead of being concerned with atrophy or growth, we might continue with our quaint language and ask the question: "Is there anything expendable about these staff 'portions'?" Or, thinking about the strength of aggregations and not being quite sure what we meant by such a notion in our personal language, we might ask: "What is a hot team, and how do you get and keep one hot?"

Through the physiology of aggregation structures, therefore, we
are back with the kinds of questions with which we started our inquiry originally: the "right button to push", the "expendability of staff", the "hot team." But we are not quite as confused as we were earlier when we faced such questions in particular institutional situations where there seemed no framework to which these questions related apart from the wide, mysterious universe. We now recognize that such questions, as stated by individual aggregation members, can never be understood with surety because of the semantic and mystical difficulties that the words of aggregation members typically give expression to in a world wherein they do not "know what hits them." But we also recognize the questions of this sort may have more reality than that of the mere tissue of obsessive perception in the eyes of aggregation members, we do recognize that objective analysis and synthesis may be possible here in place of mysticism. These questions relate to real problems that aggregation members encounter when trying to pursue their assigned tasks in the many-member institution. They are, in our own language, problems of the physiology of the aggregation structure; they are what we have termed: "Membership Relationship Problems in the Announced-Purpose Centered Aggregation."

The "failure" of a Bill Foster or the "success of a Jim Atchison do not confuse us as much as they did when we first studied their cases. We know now that we can never hope to understand the comparative records of these two men purely in terms of comparisons of their personalities, or purely in terms of which section had the better organization plan, or purely in terms of differences in the "informal organization" into which they
entered. We see that the questions related to these two men cannot be considered in terms of single, isolated, independent variables; rather, they may fruitfully be viewed as particular kinds of membership relationship problems in particular kinds of aggregations at particular periods of time in a particular kind of culture.

We are not, however, yet ready to return from our world of abstraction to the real world of the Bill Fosters and the Jim Atchisons. But we are able to see in our abstractions some relevance to what we know to be real problems; we are thereby able to draw confidence that our concept of the task-oriented structure is one that seems thus far to be developing in a potentially useful fashion.

10.4

Our starting point in our discussion of physiology is quite readily indicated; let us initially focus upon the factors that stimulate the energy flow which keeps the relationship structure "alive." We have seen earlier that this flow is maintained by a striving toward two different sets of goals: those for individual aggregation members—whether they be "director", or "manager" or "social worker" or "clerk" or "sweeper"; and those for the institution itself. For the institution itself, these goals may be wider than its culturally accepted announced-purpose would indicate. And for aggregation members, in general, their coming together with the aggregation was based on their expectation of increasing the probabilities of their goal realization.

We may now explicitly introduce a third set of goals which, for expositional purposes, have thus far been only implicit to the inquiry.
These are the goals for the "organization" or "teams" that may exist within the aggregation structure. The human relations theorists have typically termed these "organizations" as groups or sub-groups. The human-relations proponents have viewed these sub-groups as minuscule counterparts of the larger group - the total institution. For us, of course, these "organizations" may be quite different from the totality of the institution; this totality is likely to be an "aggregation", not an "organization".

The goal striving which maintains the energy flow within a particular task-oriented membership relationship structure is thus of three types:

- goals of individual members.
- goals of organizations.
- goals of the announced-purpose aggregation.

Only in the special case will the goals of the organizations conform with those of the aggregation. It is only in this special case that there may be the "free trading" connection between goal realization by individual members and goal or purpose achievement by the institution. But, as we have seen, there is no deductive necessity for the recognition of this special case in which the individuals and the institution will both be "better off" - the situation which is usually implicitly assumed as the general case and as the definition for "organization" in much of the literature. Nor, as we have seen inductively, is there any empirical reason to expect the existence of any preponderance of these cases in the real world. The individual's participation in the institution may decrease his goal realization at the same time his task-oriented activities
may increase the institution's purpose realization. Or the institution's purpose realization may be decreased by increases in the individual's goal realization.

We thus are in agreement with Mr. Barnard and with Professor Bakke when they draw a distinction between effectiveness as related to purpose achievement of the institution; and efficiency as related to goal achievement by members of the institution. (8) We are fully in agreement with Professor Bakke's independent empirical analysis of each, as separate and distinct variables in his Telephone study. But, as was noted in the Introduction to the inquiry, this empirical approach of Mr. Barnard and Professor Bakke is contradictory to their deductive theory; in a world of organizations where "all are better off by participation", efficiency and effectiveness are not independent variables as the Barnard-Bakke concept implies. But our concept is perfectly amenable to the efficiency, effectiveness separation both deductively and inductively for, to us, there is no necessary direct correlation between goal achievement by the individual and goal achievement by the institution.

It has been for this reason that we have been able to draw so much value, thus far in this inquiry, from data reported by Professor Bakke in such of his studies as Southern New England Telephone. Our empirics and those of Professor Bakke find little conflict in principle; our comment is, however, that Professor Bakke's "organization empirics" is somewhat more advanced than is his "organization theory" to which his empirical studies have been presumably related.

In a real sense, therefore, both the institution and its individual

(8) - Functions of the Executive; Chester I. Barnard; Harvard; Cambridge; 1938; pp. 56-57.
members come together with certain needs whose fulfillment they see as potentially improved through this connection. The goals of both institution and members, as we view these goals, are established in terms of hopes for satisfaction of the needs. It will be noted that these needs are quite different from those conceived under the broad needs concept of dynamic psychology; but, while our concept of needs and that of dynamic psychology are different content-wise, technically; and methodologically, they have a philosophic symmetry. To distinguish between the needs of dynamic psychology and those of the task-oriented structure, we shall term the latter as institution-centered needs. Unless otherwise specified from now on in this inquiry, our use of the term, needs, will have reference to the relatively narrow dimension of "institution-centered needs." (9) It may be re-emphasized as an aside that the only genuine relevance between this concept and that of the dynamic psychologist is that of its philosophic symmetry; there is no necessary relevance substantively. Our concept, for example, has also a comparable symmetry with a related concept of the great economic philosopher, Professor Frank Knight; paraphrasing Professor Knight's view in our terms, the

(9) - It may be worthwhile to re-emphasize at this point that our discussion is qualitative in nature. Again, quantitative problems of determining the "institution-centered needs", for whose satisfaction individuals come together with a particular aggregation, are formidable indeed. For their determination, we might have to turn to an expensive University of Michigan Survey Research Center project. But it must be noted, that such quantification is possible. We are not concerned here with the universal totality of problems into which the dynamic psychologists run when they attempt to quantify their needs notions; our institution-centered needs are a far narrower, more manageable concept. Thus, while such quantification is beyond the scope of this particular inquiry, it is distinctly within the span of the area with which this inquiry is concerned.
scarcity of resources to satisfy man's needs (read "economic needs"),
cause men to interact so as to strive for the gain of these resources
(read "take political action"). But again there is no necessary substantive
relevance between our concept and Professor Knight's.

"Means" to satisfy these needs may exist in the particular institution,
in its organisations, in its individual members, in its environment. This
complex may have means which, in the view of society, are "money", "prestige",
"companionship", "challenging work" - or it may not have such means.
Individuals attempt to establish relationships only when they appear to
promise means, and to maintain them only so long as they continue to do
so. Individuals attempt to establish those relationships which, in
their perceptual field, give the greatest promise of providing means.
Individuals will attempt to break off and avoid those relationships
which threaten to reduce their means, and, if they can not do so, tend
to react protectively and possibly aggressively.

This striving to procure the means for institution-centered needs
satisfaction is the bare essential of the schema for considering the
dynamic, physiological aspects of interactions in the task-oriented
membership relationship structure. These relationships are, of course,
very likely to be bi-lateral, tri-lateral, quadrilateral, or may have
almost any number of dimensions. Through them, particular portions of
the task-oriented relationship structure is made subject to forces which
act to develop, modify, adapt, and even to destroy the structure.

There are various ways of classifying such means in connection
with the many-member institution, and for such classifications we must
return to our review of the work of the political thinkers. It is chiefly in their work that explicit attention to such means in many-member institutions has been given.

First of the classifications of means by the political thinkers is that of "pure sovereign power" - that which inheres in possession of desired resources by a source independent of the institutional framework which strives for these resources. Power of this sort, for the task-oriented membership relationship structure, inheres in such elements as community folkways, economic fluctuations, climatic variations. "Pure power" of this sort does not, in general, inhere in the person of of an individual aggregation member, but relates more closely to the entity of the institution itself and to its economic, social, and political environment. "Economic" power, in this sense, may be illustrated by the means potentially inhering to a business enterprise by virtue of the property right of the jurisprudence code of its society, or by virtue of the patent right granted it by/larger political society of which it is a part. "Political" power may be illustrated by the regulatory right of a federal commission. (10) "Social" power may be illustrated by the preponderance of a particular ethnic group in the particular community

(10) - The political thinkers have usually labelled the topic under which these matters are considered as "questions of sovereignty." They have typically built this topic around such issues as: "from whence does power spring?" The political science niceties in this topic are, however, not particularly relevant to our inquiry. For us, "sovereignty" inheres in any agency independent of the particular many-member institution with which we are concerned. Thus, we may say that "pure power" for us inheres in the regulatory commission. The political science thinkers would not accept this as sufficiently fundamental; for them the "pure power" rests with the electorate and the regulatory commission merely "controls" this power.
in which the particular institution exists.

Another of the classifications of the political thinkers is that of "control" of power in this pure sense. The fact that the company president has received a license or a patent from the regulatory commission merely provides him with a "control", as the argument goes - it does not give him the power itself. (11)

As we shall see below, this distinction between "power" and its "control" - as drawn by the political thinkers - is a useful conceptual abstraction. But, in terms of the physiology of the task-oriented membership relationship structure, such a distinction as well as the other classifications of the political thinkers, are not practically valid. Our objective here is to identify and label that which is crucial for the satisfaction of needs, which, as we have seen, is the focus for our physiology of the aggregation structure. This needs satisfaction exists, of course, as aggregation members perceive it to exist. Control of "power" in the purely political sense indicates control of means, control of means indicates control of needs satisfaction, control of needs satisfaction is thus "power" so far as aggregation members are concerned.

(11) - This is one of the reasons given by some communication theorists for their opposition to the power concept in any form. They properly point out that, within an institution, a "small amount of control" may direct a "large amount of power". But this is merely one dimension of power; the communication theorists implicitly assume in this criticism that the model being reviewed is the communications abstraction in which, with the electronic theorists, any "power" external to the model is abstracted from. In such a model, power may not be a particularly fruitful notion. But such a model, as we have noted earlier in the inquiry, is quite different from the many-member institution in the real-world, as we have viewed it.
This notion of power includes elements which are non-homogeneous to the classification system of the political thinker, since it includes "pure sovereign power", as well as "control of power". But we are concerned only with needs satisfaction as aggregation members perceive it; we are not concerned with preservation of the symmetry of the traditional political concepts.

So, we shall term that which is crucial for the satisfaction of needs as power. For us, power is defined as the effective ability to satisfy institution-centered needs. (12) Clearly, just as there may exist a continuum of means to satisfy institution-centered needs, so there exists many kinds of "power" over and beyond those classified by the political thinkers. Power, in this sense, may inhere in an individual by virtue of "what he is", fully as much as it may inhere to him by possession of a patent right or a legal grant; the magnitude of this power may, of course, be quite different in the two instances.

But why use the term, power, to describe this key to the dynamics of the task-oriented membership relationship structure? We use the term because the concept which we wish to identify has been popularly, if implicitly, associated with the concept of power in the literatures. (13) As Professor Knickerbocker put the matter, writing in a somewhat broader although still highly relevant connection: (14)

(12) - Further to clarify this concept of power, an Appendix concerned with Mathematical and Graphical Notation on Power is included at the end of this chapter.

(13) - It will be recalled that our practice in this inquiry has been to use terms, insofar as possible, as they have been popularly defined. It was for this reason that we were forced to restrict our use of the term, "organization" and to use the label, "aggregation" to represent the many-member institution.

(14) - "Leadership: A Conception and some Implications"; Irving Knickerbocker; Journal of Social Issues; Vol. IV, No. 3; Summer, 1948; pp. 28-29.
"The control of means ('scarce means' the economists call them) which others desire for the satisfaction of needs constitutes what we ordinarily call power. The use of power (or "means control") to gain the means for need satisfaction from others appears to be the essential aspect of all human relationships."

We are not competent to judge whether or not Professor Knickerbocker is right so broadly to suggest that "power...is the essential aspect of all human relationships." But, in terms of the narrow bounds of our inquiry, we can paraphrase his statement to this extent: Power, in the sense that we have defined it, appears to be the essential aspect in the physiological exploration of the task-oriented membership relationship aggregation structure.

It is clear, of course, that we could eliminate from our paraphrase the qualification, "...in the physiological exploration..." For power is crucial to anatomy also. In a very real sense, the anatomy of the task-oriented structure at a specific instant involves a static picture of the crystallization of the effects of power in membership interactions. It must be emphasized, however, that power for us does not carry the exclusive connotation of "force" or "the big stick". So as to eliminate the problems of conceptual misunderstanding that might arise from such a narrow, emotion-flavored interpretation of the term, it may be in order once again to note the definition for power that is fundamental to this inquiry: the effective ability to satisfy institution-centered needs.

We can thus see now the truly open-system nature of the task-oriented structure, and why its typically closed-system conception in the literatures has been totally inadequate. For, example, let us
consider the concepts of "responsibility" and "authority", as they are expressed in the organization-chart literature, in terms of effecting change through or in the task-oriented membership relationship structure.

To us, the concept of "authority" has now become a particular kind of control or means - or, in our language, a particular kind or kinds of power. One who is "responsible" for the performance of an act which assists the purpose achievement of an institution, may "discharge" this responsibility to the extent that he possesses the requisite power. This power may be drawn from many sources and the top leadership of the institution is only one of them.

To the organization chart theorists, however, "responsibility assigned by top management of the company has an equal and opposite authority." This, of course, assumes many things, among which that management is able to delegate to subordinates, along with responsibility for effecting certain acts, the "effective ability to satisfy institution-centered needs" for the particular aggregation members in the particular situation. We have seen that this is true only in a special case. The charts of the scientific management theorists, and their system of delegation of authority, consist of what would represent a "control system" to the political thinkers. Management delegates only that power which it may possess. There is no necessity at all that authority, in this sense, be "equal and opposite" to the responsibility for the performance of institution purpose-centered acts, which top management also assigns.

This is what many writers in the industrial field have been groping
toward for many years when they have insisted that the chart theorists have been incorrect, and that there is not one, but "two" or "five" or "seven" types of authority. (15) Other than that delegated by top management. Can, in terms of one of our original questions connected with physiology, an aggregation member cause a change in or relative to the "work" of the task-oriented relationship structure? Yes, if he possesses the requisite power; no if he does not. Such logical, engineering notions of "authority equated with responsibility" can have no necessary meaning in answering such a question.

10.5

The dynamics of power are, therefore, the dynamics of the task-oriented membership relationship structure. The statics of power are, by the same token, the statics of this structure. Power is the focus through which the announced-purpose aggregation may be viewed. Goals for aggregation member, organization, or institution itself are achieved in correlation with possession of power.

Of all the literatures we considered in our review of organization thought, it is interesting to note, the works of the traditional political thinkers seem most relevant in principle to the concepts with which we are emerging. For the many-member institutions - which we have been considering - seem to precipitate out of our inquiry as political agencies, so far as their dimension of the announced-purpose aggregation structure is concerned. The task-oriented membership relationship structure seems to be most fruitfully viewed as a political structure. Membership

(15) - For one example, see: "Two Kinds of Authority"; Lawrence Appley; Management News; Vol. 23; No. 11; November 30, 1950; American Management Association; New York.
relationships in this structure are basically political relationships.

It must be emphasized, however, that the environments in which these institutions exist are not necessarily political. The business firm may dwell in an environment whose most critical dimension is the economic. The welfare agency may dwell in an environment which is predominantly social. The government bureau may dwell in an environment that is, itself, largely political.

In his highly competent work on wage policy, (16) Arthur M. Ross has noted that:

"The central proposition (of his work), then, is that a trade union is a political agency operating in an economic environment."

And Ross proceeded with an analysis in these terms that shed great light on the "purpose achievement" of "announced-purposes" of particular types of "many-member aggregation structures" - the trade union.

It is suggested by this inquiry that Ross' central proposition is a particular example of an even broader central proposition: all many-member institutions in our culture are political agencies operating in environments that may be predominantly economic, social or political themselves. (17) The differences among the business firm, the trade union, the social agency, the government bureau as political agencies are differences in degree, not in kind. The business firm leader may be viewed as political operator - in the model sense of the word - as well as may be the trade union leader; so may the government bureau chief and the social agency director. The business firm employee or subordinate may be perceived as political operator, just as may be the trade union leader.

(16) - Trade Union Wage Policy; Arthur M. Ross; University of California Press; Berkeley; 1948; p. 12.
member, the government employee, the welfare worker. In effect, membership relationship problems in the announced-purpose centered aggregation are political problems existing in an environment which may or may not be political. And the business firm, the social agency, the government bureau may be very fruitfully analyzed in their purposive aspects from the point of view of their nature as political agencies. Later investigators may find that such studies as that of Ross for the trade union are merely beginnings of a most useful area of investigation of the many-member institution from the point of view of its operation as a political entity.

10.6

Suggestions that it is fruitful to think of the "politics of the business firm" or the "politics of the social agency"; suggestions that power is an important consideration in the understanding and analysis of these particular institutions - suggestions such as these often meet with protest from many observers. These protests may be groups under several major classifications, three of which will be noted below:

1. **Semantics** - The terms, politics and politician, have for many observers an unsavory flavor when applied to non-government institutional situations. The comments of these observers have the inference that the institutional leader or member who is a "politician" is an individual whose activities are beyond the pale of contemporary ethics of our culture.

(17) - Key variable in Ross' political analysis was the trade union leader. Our own political model, to be discussed later, is somewhat different; it is built around the concept that explicit recognition of several other variables in addition to leadership are required for our institutional models.
2. **Utility** - Statements about institutional politics are, for other observers, mere labels or, in the more old-fashioned language of propaganda, "trigger-phrases" offered for the creation of short-range sensationalism. Beyond its value for developing a brief flurry of verbal controversy, institutional politics is, to these observers, a sterile concept which is of little value for the development of an ultimate framework for useful analysis of industrial situations. Our earlier suggestions in this inquiry indicate, however, that this concept may be anything but sterile.

3. **Errata** - Still other observers are not quite as sympathetic to the quality of suggestions about the politics of many-member institutions as are those students who complain about its semantics or about its lack of utility. This third group of observers, which includes several of the theorists on management organization, complain that those who write about "industrial politics" simply do not know the facts of life about management organization. These observers point out that there is "no room" for politics, as the term is generally understood, in "soundly developed management organization structures", and that the authoritarian implications of power in industrial politics has no basis of fact in modern management structures.

In terms of the analysis of this inquiry, these objections precipitate out as far more sentimental than they are realistic. Semantics questions - whether or not to use such terms as "power" and "politics" - are, of course, matters of taste at base; some observers may wish to invent new terms to label these concepts. But the substance of the concepts themselves are not matters of taste for those who wish to be objective about membership
relationship problems in large institutions; as, for example, Ross has shown in connection with the trade union, they are concepts which are essential for providing insight for many of these relationship issues.

That this is so in the "guard-down" view of that strata of management theorists who have been most vociferous against the political or power concepts, is suggested by some of the analyses recently published by some of these theorists in connection with the controversy about the appointment of key business executives to head the United States defense effort during the latter part of 1950. A typical point of view is, as follows, written of course in a quaint, specialized language:

"...when our government selects business executives of mature and proved honor, ability, and accomplishment, and assigns them jobs of coordinating the interests of customers, workers, savers, government, and public, our government is assigning them in Washington what are essentially duplicates of the jobs on which they have spent their careers.

"Also, these executives will have been long accustomed to going quietly and calmly about the routines of accomplishing things in the balanced best interests of all while under a more or less constant barrage of charges by competitors, union officials, and even government itself either in a sincere attempt at constructive regulation or in a less worthy effort to make a demagogic appeal to the less successful and the less fortunate."
(18)

In the language of this inquiry, such a comment, quaint as it is, could well be subsumed under the heading, "The Business Leader as Political Operator."

10.7

On what functional basis is power distributed within the political agency that we have come to recognize in the concept of the task-oriented

(18) - Quoted from a management news-letter, whose distribution is not on a public basis.
membership relationship structure? Into what kinds of patterns does this power distribution fall? And how much power will inhere in a particular segment, organization, or individual member of the task-oriented structure? Are there theoretically determinate answers to these questions?

In terms of a precise theory of the functional distribution of power, we are able to add little to what has already been suggested in this chapter in relation to the power concept. The theoretical indeterminacy that we have encountered in other portions of this inquiry again enters here. Our concept of the task-oriented membership relationship structure and its power dynamics are fruitful for suggesting tendencies in terms of the distribution of power in a particular social network. But it does not constitute a determinant theory for application to real world many-member institutions; as we have seen in terms of mathematico-logical discussions elsewhere in the inquiry, our present understanding in the field suggests that there is no determinacy of general theory.

To the extent that we might wish to abstract from the real world institution by the creation of a model with only a few variables, we would, of course, be able to establish such a determinacy. But in this inquiry we are still following a macroscopic view, which hews as closely as possible to the facts of the real world as it encounters them; the building of such a microscopic model we shall leave for other investigators who might become interested in it. In terms of this inquiry, we can see little value in creating a "marginal productivity theory of power distribution" based upon assumptions of homogeneity in terms of the aggregation structure. The real world is simply too far removed from the
assumptions that would be required for so abstract a model to make it relevant for our purposes.

The same comments apply in general terms to our other questions in relation to theoretical determinations of the patterns of power distribution, as well as to the quantification of the power of a single individual or organization. Yet here, also, our concepts as discussed earlier in the inquiry, furnish pertinent suggestions in terms of tendencies in these areas. Even with minimal attention to a particular conceptual framework, we are empirically able to conceive, visualize, and generally identify power - as we have defined it - in the real-world many-member institution.

What are some of these power tendencies in the real-world many-member institution? Perhaps the most important area to which to devote our attention in terms of these tendencies is that of the patterns of power distribution. Empirical suggestions, as well as the theoretical concept of the non-homogeneity of the announced-purpose aggregation structure, strongly indicate that these power patterns are themselves distinctly non-homogeneous in terms of such aggregation structures. If we conceive, for the moment, of the hierarchical bureaucratic notion that was Max Weber's for the many-member institution, it may suggested that the magnitude of power per institution-member or per institution-organization increases in direct correlation with the approach of the member or organization to the top of the hierarchy. The business firm president does have more power than the machinist; the government bureau chief does have more power than the file clerk; the foreman is likely to have more power than his sweeper.
Many observers other than Weber have noted this non-homogeneity of power, or "authoritarianism" in the types of many-member institutions with which we are concerned. In the general case, it is unlikely that the individual institution employee will possess the power so to interact with the task-oriented relationship structure that he is able to cause the firm to enter into a new collective wage agreement; it is likely that the president will possess such power. In the general case, it is possible that the aggregation member labelled a "staff man" will enter into a position in the task-oriented membership relationship structure such that the means control that he perceives as available to him is inadequate; it is possible that the protectivism and aggression thus resulting for "staff men" may create and foster the institutional shibboleth of "staff expendability." It is possible that the portions of the task-oriented structure labelled as "staff portions" may thereby periodically atrophy and thus give real substance to the "expendability" if that is the expression we wish to use of the "staff."

It is for this fact of the non-homogeneous distribution of power in particular many-member institutions that caution has been expressed in this inquiry about undue generalizations from such data as that of Professor Bakke's Telephone study, wherein Bakke suggests that top management "can initiate, not make changes." Such a conclusion is understandable to us as one particular pattern that may exist in a particular real world institution; it in no sense is necessarily the general pattern. Are the organization-chart theorists completely wrong in viewing their chart structure as a real network of power "delegation"? Certainly not; the
"power that is available to management for delegation" is a most real and most important element in the total situation. The foreman who is "delegated" the authority to hire and fire may be in a most different power configuration from the foreman who cannot act similarly. The position into which an individual is placed in a group may have an important connection with the power he is able to exercise in that group, as Bavelas has shown us.

The more power that inheres to the director of the government bureau, the more meaningful becomes the organization chart he develops, as an element to be considered in the totality of the power configurations in the particular bureau. The possession of large magnitudes of power by the chiefs of the many-member institution is fully as much a point on the full spectrum of the concept of power patterns in the task-oriented structure, as is the possession of small magnitudes of power by these chiefs. It is as unsound completely to reject this portion of organization-chart thought as it was, in terms of our earlier discussion, completely to accept it.

And it is in terms of this fact of non-homogeneous distribution of power that we can conceptualize, in terms of our framework, Robert Hoxie's suggestion of many years ago in terms of industrial democracy is best thought of in connection with effects resulting from the interplay of two many-member institutions - a particular business firm and a particular trade union - rather than in terms of one many-member institution - a particular business firm - and one of its individual members or employees. In terms of our understanding of power statics and
dynamics in the many-member institution, any individual member well down in the hierarchical structure can scarcely, in the general case, be expected to possess power sufficient to give him any appreciable "control over certain decisions affecting his goal realization in the institution" - the definition for industrial democracy that is implicit to our discussion here.

The individual's interactions in the task-oriented membership relationship structure of the trade union to which he belongs may, very possibly, present this individual with many of the same difficulties of inadequate power that he originally faced in his membership interactions in the task-oriented structure of the business firm. (19) "But the very existence of the trade union and the very fact of this being within its task-oriented structure may have provided him with a greater magnitude of power for his business firm interactions than he possessed before the fact of his relationships with the trade union. There are, of course, a host of such cross-relationships between institutions of this sort; the particular one suggested is but one of many. But it is important in situations of this sort to give explicit recognition to the individual's memberships in two institutions which, themselves, interact. Those observers who give recognition to only one of these memberships may readily suggest that "the individual's membership in the trade union has merely subjected him to the domination and authoritarianism of union bosses." But they may fail to recognize that mere membership in the task-

(19) - Or it may present him with a more favorable power configuration.
oriented structure of the trade union may have, indeed, considerably augmented the individual's power for satisfying his needs in the business institution.

Some observers have followed such observations as these in terms of the many-member institution called trade union and in terms of the institution called business firm by suggesting that the interactions of the two institutions might be such as to enable their being considered a "joint society" in particular situations. Professor Bakke puts it this way:

"...for purposes of accomplishing the functions assigned to the company and the union in their joint task (italics Bakke's), those involved become a unique society, that is, a group of people organized for a purpose. That both company and union participants are, for definite purposes, organized as distinct societies does not negate this fact. Representatives from each... are thrown together in the carrying out of their joint function. Through their behavior and relationship they develop a social system pertinent to the effective discharge of that joint function and providing a framework for their joint activities and thought..."

"...If anyone doubts the reality of this, he might contemplate the damage to the work-flow in collective bargaining if a lawyer or officer of the company or the union, or a government mediator, who was not acquainted with these... systems as developed by the group, were to step in and stubbornly or in ignorance act contrary to the behavior sanctioned by their social system..." (20)

May the trade union and business firm in a particular situation be thus conceived in terms of a "joint" task-oriented membership relationship structure? Professor Reinhard Bendix, the University of California sociologist is not impressed with the potential value of such an approach. For him, in this connection, "...the question arises whether the relation between worker and manager is the same as the relation between union member and union official..." (21) The question remains thus unresolved.

(20) - Bonds of Organization; op. cit; p. 207.
at the present time, and might be worthy of explicit analysis by an investigator who has some interest in such an issue. Based upon his tastes rather than any explicit analysis, this investigator's position is one of agnosticism toward Professor Bakke's joint society; for this investigator, the environmental and internal institutional forces playing upon business firm and trade union may be so dissimilar as to render any joint analysis of the two in task-oriented terms an interesting curiosity but perhaps not a fruitful concept to deepen our analysis of each as a particular institution.

10.8

We have thus come to see that the "work-centered" or "purpose-centered" aspects of the many-member institution may be viewed through the concept of its "announced-purpose centered aggregation." The anatomy of this aggregation may be perceived in terms of its "task-oriented membership relationship structure." The physiological dynamics of this structure is a dynamics of power. This power is not in the "big stick" context; rather it involves the "effective ability to satisfy institution-centered needs".

The many-member institution - whether business firm, trade union, or social agency, is, in its work-centered aspect, essentially a political agency in an environment that may be economic, political, or social. Individual members of the institution - whether "president", or "director" or "clerk" or "staff man" or "business agent" - are essentially political operators in terms of their task-oriented activity. And these many-member institutions may be quite fruitfully analyzed in terms of their nature as political agencies.
With our conceptual framework and apparatus thus formulated, we are now at a point in the inquiry where we may begin the return from the world of abstraction to the real world in which we began the inquiry. In this connection, we are now in a position to develop and postulate the "aggregation model" that devolves from our apparatus in terms of examination of real world institutional situations. This model will be, of course, essentially a political model.

Our conceptual apparatus and findings suggest that such a model, in context with the real-world many-member institution, should have two interdependent dimensions - one that is "internal" and one that is "external". In these terms, our total model is shown to be most fruitfully constructed as a complex of five interdependent variables, as will be shown below. If attention is centered upon an individual institution member in a particular situation, this individual may be viewed as a political "operator" in the model, perceived through a power dynamics. Similar construction would be possible were we to center attention upon an organization in the aggregation, or upon an aggregation itself. The problems posed for us at the beginning of this inquiry were, however, essentially problems in terms of the individual aggregation member: as we begin our return to the real world and turn from analysis to synthesis in our inquiry, we shall place the bulk of our focus upon the individual member in the model.

The interdependent variables conceived for this model are:

Those which may be conceived as "external":
- A set of institutional beliefs and values. These are values in terms of the culture or cultures of which the institution and its members are a part.
A set of changing external influences from the larger environment in which the institution exists, in the midst of which decisions in terms of the needs of members and the institution as well as the stability of the larger society must continually be sought. These influences may be economic, political, social, climatic, biological, technological.

Those which may be conceived as "internal":
- A control system of power, leadership, and representation.
- A series of personal relationships among the membership of the institution.
- A technological framework in terms of which the technical relationships in the institution are in play.

We may return for a moment in terms of this model to the Bill Foster Story of Chapter II and the case of General Foreman Jim Atchison in Chapter III. In the model sense, both Foster and Atchison become the "operators" in their respective systems.

In terms of what we have come to learn in this inquiry about such situations, and in connection with the model approach we have just constructed, our analytical approach toward these cases is now much different from that which we reported in the earlier chapters. We no longer expect to explain Bill Foster purely in terms of his personality interactions, nor Jim Atchison in terms of the system of control into which he entered. We no longer take as pure information the words of these men and their fellow participants; we accept these words as merely one piece of information about beliefs and attitudes but know that we require much more information. In this respect we have come to agree with Mr. Barnard when he states that:

"...statements of participants...are often interpretive of events much more than descriptions of events. They are notoriously unreliable, and can safely be used, like the patient's statement of symptoms, only by one... possessed of a thorough knowledge and experience." (22)

(22) - "Riot of the Unemployed at Trenton"; Chester I. Barnard; A Lecture at Harvard University 1938-1941, "Presenting a Case in Concrete Sociology"; Privately Printed.
To understand Bill Foster in the light of our present conceptual apparatus, we should first examine the beliefs and values of the particular membership relationship structure into which he has entered. We should pay particular attention to the external influences—social and political but especially economic since the business firm exists in a predominantly economic environment—impinging upon the structure. We should analyze the control system of power in the situation, as well as come to have some understanding of the personal relationships among those who will be Foster's fellow institution members. We should pay particular attention to the technological framework for the task-oriented membership structure. And if we were sufficiently competent in the use of our apparatus and sufficiently able in the gathering of pertinent data, we should come to have a deep understanding of Bill Foster, as a political operator in the political agency represented by political model of the magnetic casting factory. We would be able to follow a similar analytical procedure for Jim Atchison.

What happens to our analysis if "we" perceive "ourselves" no longer to be objective investigators viewing a political operator in an amoral political agency, but instead perceive ourselves in the role of "adviser" to Bill Foster, or perhaps as "central office management"? Quite obviously, we then turn from the road of the science of membership relationships to its art. Equally obviously, we shall be operating in terms of policy and an ethics that we would probably not bother explicitly to state.

The art of "administration", of "followership", of "supervision", 
of the "line role", of "staff work", of "leadership", of "collective bargaining" are obviously important areas for explicit attention of their own in terms of membership relationships. Hosts of literatures exist in this area, upon which we have already commented; much more work is required and will no doubt be forthcoming. Our purpose in this inquiry has not, of course, been attention to this art. In terms of "art" as applied to particular situations against the conceptual background developed in this inquiry, however, there has been some explicit attempt at attention in other places in particular institutional terms of supervisor training (23), organization planning (24), and controlling quality of products of business firms (25). No explicit attention will be given this "artistic" topic in this inquiry, however. Other investigators may, however, wish to relate certain elements of art to this conceptual framework in a form that is not related to particular institutions, and such an exploration might prove most interesting in reviewing the general utility of the artistic suggestions that are most popular in the literatures for various membership relationship roles.

(23) - "Management Apprenticeships"; A. V. Feigenbaum and H. W. Tulloch; Personnel; Vol. 24; October, 1948.


Our analysis in this inquiry has been accompanied by the perhaps unfortunate nonetheless necessary practice of identifying specific terms and phrases explicitly to identify the concepts being developed and worked with. In terms of the ambiguity of semantics in the literatures of membership relationship problems, no other choice was open to us in an objective investigation; wherever possible, of course, we used words and phrases in the sense of their popular use.

In addition, we have been drawing evidence from an extremely broad canvas, because of the conviction developed in the inquiry that an "open-system" framework is essential for insight into membership relationships. We have worked with variables that some observers would label as physiological, biological, social, economic, etc. We have not been restrained by the notation of any particular discipline, yet have tried to draw notions of value from many disciplines.

What happens to our conceptual apparatus if we were suddenly to drop its specialized language, its broad canvas of analysis, its reference to many disciplines rather than one? Would anything be left? Have we been working with concepts which may be useful in providing insights in terms of their newness in semantic terms, but which really, at base, represent the applying of new labels to the reshuffling of one or two tired, old concepts in one or two particular disciplines.

Rather than analyzing further in terms of our own specialized language and broad constellations of empirical variables, let us, instead attempt to find answers to these quite proper questions. Let us find out
by dropping almost completely, for the moment, our specialized language and inter-disciplinary "wide paintbrush". Let us explore relationship problems in a context wherein we may not have the fear that "things are all our way."

One such series of relationship problems may exist in terms of economic decisions in the business firm. Such an investigation could be cast in terms of the economic discipline, and could take the particular business firm investigated "for itself", rather than casting it into the channels of our model. Such an analysis might provide a quite real acid test of some of the concepts developed in this inquiry.

Part Five, A Special Case of Aggregation Politics - Economic Decision Making in the Business Firm, will essay such a discussion.
Power has been defined as the effective ability to satisfy institution-centered needs. These needs are neither absolute nor invariant. They may interact. They are power related to the extent that they exist in the perceptual field of an institution member or in its counterpart for an organization at a given point in time. Some of these institution-centered needs may be waxing, others may be waning. Some may remain relatively fixed over a period of time, but others may operate kaleidoscopically suggestive of the concept of noise in a communication system.

It is possible to express power and needs in a graphical representation and use the symbols of vector analysis following Lewin. To each influence in a perceptual field, a vector may be assigned in magnitude proportional to the strength of the influence and with valence positive or negative depending upon whether the influence represents a goal-striving or a threat-shrinking. In a simple relationship, the vector has a direction along the line connecting the individual or organization and the influence, but this simple situation may be modified and the direction of the vector deflected by obstacles. These obstacles may become negatively valent of themselves.

From this line of reasoning, it is possible to connect this vector system with one of power. Let us begin with the simple concept of power being merely conceived as the time rate of accomplishing a task. Task in turn, is defined as resource multiplied by displacement in the direction
of the resource. In vector notation, this task may be represented as

\[ T = \bar{R} \cdot \bar{D} \]

This equation is equivalent to and may be numerically evaluated by:

\[ T = |R| \times |D| \times \cos \theta \]

where the vertical lines indicate that we are now concerned with only the magnitude of the vectors and the term \( \cos \theta \) takes into account the possibility that \( \bar{R} \) and \( \bar{D} \) may not have the same direction. Diagrammatically this may be represented:

![Diagram of \( \bar{R} \) and \( \bar{D} \) vectors with angle \( \theta \)]

To introduce the aspect of time we need only substitute velocity (the time rate of displacement) for displacement. Thus:

\[ P = \bar{R} \cdot \bar{V} \text{ or } P = |R| \times |V| \times \cos \theta \]

in the diagram:

![Diagram of \( \bar{R} \) and \( \bar{V} \) vectors with angle \( \theta \)]

It is possible for the angle \( \theta \) to be greater than 90°:

![Diagram with \( \theta > 90° \)]

In this case \( \cos \theta \) has a negative value and the computed value of \( P \) must be negative, too.

In terms of the vector equations for power let us think of \( \bar{R} \) as representing the force associated with any influence within a perceptual field. The vector \( \bar{V} \) then can symbolize the action or behavioral change
(or rate of change when the time factor is introduced) induced by the resultant of all the forces acting at a given moment. Finally, \( \cos \theta \) is a measure of the interaction between \( \vec{R} \) and \( \vec{V} \).

The technically parallel equation for power requires that the power be zero when any of the three terms \(|R|, |V|, \text{ or } \cos \theta\) is zero. What does this imply with respect to power?

Obviously, if \( A \) exerts no force over \( B \), \( A \) is exerting no power over \( B \). \( A \) may be in a position to influence \( B \), but until pressure is applied this power is potential, only. It is also obvious that if \( B \) takes no action or makes no behavioral change even though \( A \) possesses a resource, then \( A \)'s power is nil. Finally, if \( B \) does act or change, but at "right angles" to \( A \)'s resource so that the analogue of \( \cos \theta \) becomes zero, \( B \) is moving neither toward nor away from the goal or threat represented by \( A \)'s resource and it is reasonable to interpret this situation as an absence of power of \( A \) over \( B \).

Let us now see what help this conceptual model can give us in the evaluation of a given power situation. For purpose of simplicity, we shall keep our instance in terms of a simple membership interaction.

Suppose that the institution-centered needs in \( M \)'s perceptual field may be represented by vectors \( \vec{R}_1, \vec{R}_2, \vec{R}_3, \ldots \vec{R}_n \). \( N \) thereupon injects a new vector \( \vec{R}_0 \) causing a change, \( \vec{V} \), in \( M \). \( N \) has, therefore, used power over \( M \); what more can be said about this power?

Referring again to the needs initially perceived by \( M \), we can write the summation:

\[
\sum_{1}^{n} \vec{R}_i \cdot \vec{V} \quad \text{or} \quad \sum_{1}^{n} \vec{R}_i \times \vec{V} \times \cos \theta_i
\]

Some of the terms of this summation will be positive and others negative, depending upon the values of the various \( R \)'s and \( Q \)'s. If the value of the summation is positive it can be said that \( M \) is moving toward satisfaction.
of his needs. This has a symmetry to what the dynamic psychologists might term an "augmentive" relationship of N with M. On the other hand, if the value of the summation is negative, it indicates that M is further from satisfying his needs. This has a symmetry with what the dynamic psychologists might term a "reductive" relationship of N with M.

The value of the term R₀V was not taken into account in the summation written above. Inasmuch as V is an outgrowth of R₀ it is more than likely that R₀V will be positive and of sufficient magnitude to cancel any negative value of the summation. It may be, however, that R₀ is "artificial", in the sense that N is but exploiting ascendancy over M. It may be, however, that this is not so; that R₀ may related to a genuine institution-centered need on the part of M. Then it is entirely appropriate to include the term R₀V in the summation. The power represented is "augmentive" in the fullest sense of the concept; it represents the move toward the satisfaction of a new institution-centered need. From the standpoint of those interested in the art of the use of power: persuasion vs. force, this concept may be interpreted in terms of a special meaning of persuasion.
PART SIX

A SPECIAL CASE OF AGGREGATION POLITICS –

ECONOMIC DECISION MAKING IN THE BUSINESS FIRM
INTRODUCTION
CHAPTER XI

ECONOMIC DECISION MAKING WITHIN THE BUSINESS AGGREGATION

The process of decision making within the purpose-centered aggregation is one of the membership relationship issues that has been raised at several points earlier in the discussion. It may be of some interest, therefore, temporarily to pause in developing the main argument to review briefly in this part a special case of this process: economic decision-making within the large business firm.

Unlike other Parts of this inquiry where focus was placed upon such applied areas as Labor Relations, Personnel Administration, and Administrative Practices, this Part will relate more particularly to Industrial Economics. Where other Parts looked most closely for insights to such Social Relations disciplines as Social Anthropology and Psychology, this Part is more particularly concerned with Economic Theory. Its objective is not that of a definitive study of economic decision-making; it is rather to broaden the discussion of this inquiry to suggest directional tendencies for another important membership-relationship area.
Much of the framework of traditional economic theory was developed with relation to a simple, static concept of the business firm. The firm was held to be possessed of perfect knowledge with respect to its costs, committed to the manufacture of a single product, effecting simultaneous use of all factors when purchased, and qualified by a variety of similar restrictions.

Because he had a host of variables with which to contend in his analysis of costs, production, and distribution, the traditional theorist realistically chose not to look very far behind this simple, profit-maximizing facade he had erected for the firm. Certainly his retention of such a level of abstraction was consistent with the levels of abstraction maintained throughout the rest of his economic analysis.

Quite obviously, however, the real-world business firm is very different from its simple version as portrayed in the static theory. Particularly in the area of empirical studies, qualified economists have had few illusions on this score: clearly, profit-maximizing in the uncertain world of reality is very different from maximizing behavior in the relatively certain world of abstraction. They have continually asked the question as to what, explicitly, are these differences: what changes must be introduced into the model of the theoretical firm to enable it to correspond more closely to reality?

These questions relative to the simple static theory have developed into inquiries ranging from the Von Neumann-Morgenstern
mathematical development of a different rationale for maximizing behavior, to the Boulding suggestion of a balance sheet concept of the firm. Several of the areas where students have raised issues with the traditional theory may be briefly summarized:

1. **Static vs. Dynamics** - In the static theory, the firm is held to decide its actions on current data rather than upon expectations. But, particularly when we depart from pure competition for areas where price policy involves repercussions on the future, the static theory comes into serious question.

2. **Partial vs. General Equilibrium** - Anglo-Saxon economics has traditionally analyzed the firm from a partial equilibrium point of view. But when one tries to view the behavior of modern industrial giants—steel, for example—the general economy may become a clearly relevant element to the inquiry.

3. **Knowledge** - The contradiction relative to maximizing behavior between the uncertain real world and the relatively certain abstract world has already been suggested.

4. **Simple Production Concept** - Distortion of reality has been effected by the concept of the simultaneous use of all factors when purchased. Real world production requires time and introduces such characteristics of the firm as the holding of inventories and the maintenance of a liquid cash position.

5. **Single Product** - The real world firm often manufactures several products, with all the related problems of cost allocations.

   Difficulties about the nature of demand for the firm, difficulties
with factor prices and selling costs, problems associated with product
differentiation and with the market in which the firm operates—these, too,
have been noted as issues with the simple static theory of the firm.

All of these issues clearly raise their most provocative challenges
when they compare the traditional concept of the firm with the real-
world modern corporation which enjoys some degree of control over its
exchange ratios.

And it is particularly when the corporation vs. theoretical firm
comparison is made that some students raise another issue with the
traditional theory. They explicitly challenge the often implicit assump-
tion that the internal personnel organization of the firm may be accepted
as a single-faced aggregate which behaves, for the purposes of analysis,
as a homogeneous lump.

In the real world corporation, these students insist, internal
personnel organization may, in fact, be many-faced. Conflicts of interest
among these several "faces" may, indeed have so appreciable an effect upon
the economic behavior of the firm that no economic model of the firm can
even begin to approach reality until the assumption of internal homogeneity
of organization is relaxed.

And, these students further point out, this internal homogeneity is
sometimes even carried into that sector of the present-day literature
which typically prides itself upon explicitly recognizing many of the other
areas of issue with the traditional theory of pure competition and its
model of the firm.
These challenges of assuming homogeneous internal organization, if taken at more than their attention-raising value, raise deep issues of their own. Those who initiate them may properly themselves be asked two basic questions:

1. How do you know that internal personnel organization is non-homogeneous to the degree of importance that is cited?

2. What of it—both in terms of the economic model of the firm as well as of broadening our descriptive insight into real-world corporate behavior?

These challenges may have many dimensions. They may really be another means of re-introducing the marginalism controversy and for challenging the profit-maximizing concept. They may be an oblique way of entering the multi-product issue into the argument. The challenges may even relate, at their core, to the Talcott Parsons kind of sociological criticism of economic theory.

This discussion is developed upon a far narrower and far less ambitious scale than is indicated by the broad sweep of issues suggested by such challenges as are noted above.

This discussion's purpose—largely on the side of the 2nd "What of it...." question cited above—is to examine through case studies a few of the economic decision-making membership relationship issues that may be critical to economic behavior of the firm. Attention to the 1st "How do you know..." question has, of course, been a major purpose of earlier sections of this inquiry.

While "economic behavior" of the firm will be considered as covering quite a broad range of issues throughout much of the discussion, the case
studies will be primarily concerned with its investment and cost side. The fields of these case studies are:

1. The process of investment decision making for a single, long-established product.

2. The reduction of manufacturing costs for a single product in both the short run (fixed plant) and the long run (variable plant) senses.

The case studies will employ the traditional static firm theory, not as a straw man, but as a useful point of departure for possible commentary upon the real-world firm.

CASE 1. INVESTMENT DECISION MAKING - LARGE TURBO-GENERATORS

The case study in decision making selected for this discussion covers large steam turbine generators—those which generate over 25,000 kilowatts of electric power and which have a complete production cycle that may cover three years from time of order placement to time of delivery to the purchaser.

The product itself consists of many tons of intricate electro-mechanical machinery which, in its basic technology, converts the burning of primary fuels into electrical energy. It may be priced at well over one million dollars.

It is not surprising that there is fewness of sellers in the steam turbine-generator market. A rough picture of their distribution may be gained by an historical summary: approximately two-thirds of all turbo-generators currently in operation in the United States have been manufactured by Company A; slightly less than one-third have been manufactured by Company B. (1)
The product has been marketed since its basic designs by Curtis and others about fifty years ago. Except for increases in size, the only really major technological change during the period has been the recent appearance of the gas turbine generator, of which less than five installations have been made throughout the nation. Both Company A and Company B enjoy leadership in the gas turbine field.

About five percent of total annual Company A volume is represented by its turbo-generator business, with a roughly similar proportion of sales existing for Company B. Customers for the product are to be found chiefly among the utilities, which have provided capacity volume for both manufacturers during the past five years.

Published reports of both companies in 1950 indicated a backlog of orders in excess of two years for steam turbine-generators, and implied profitability of the business during the post-war years. Indeed, electrical manufacturing's market analysts have made a pre-Korea estimate of an effective annual volume of about $200,000,000 for the 1950-1955 turbine-generator market.

In examining the appropriate membership-relationships for the two firms which enjoy pre-dominance in this large and important market, a pertinent starting point is the center of their economic decision-making responsibility for their turbo-generator businesses. There is a strong parallel between the two firms in this respect, since each has built its decision-making organization structure around decentralization

(1) Companies A and B are real-world firms whose names are withheld from these case studies. All data cited after verified figures made available by the two firms.
Figure I

Supervises about eighty product businesses such as jet engines, refrigerators, lamps, in addition to turbo-generators. Volume about $1,750,000,000 annually.

Supervises twenty product businesses such as motors, meters, and transformers. Volume about $950 million annually.

Supervises ten product businesses such as turbines, large motors, and locomotive equipment. Volume about $500 million annually.

Supervises one business - steam turbines. Volume about $100 million annually.
by product types. (2) Company B's reorganization to accomplish this objective took place about a decade ago, which Company A followed the pattern at the conclusion of World War II.

In the case of both companies, the decentralization was initiated purely for reasons of more effective membership-relationships. It involved no geographic or physical change at all in plant, processes, or facilities.

But expansion of each company made it no longer possible for a company officer-president or vice president-to direct the turbine business. This direction had to be delegated.

Because of the parallel organization structures between the firms, we may concentrate upon the larger of the two. According to Company A, "profit-and-loss responsibility for the steam turbine generator business rests in the hands of the Manager of the Company A Turbine Division." The organization chart relationship between this individual and the Company A Board of Directors is shown on Figure I.

The center of profit and loss responsibility is, therefore, four direct chart levels removed from the Board of Directors. It is three levels removed from the President, who supervises about eighty other major businesses organized in a fashion generally similar to that of the Turbine Division. It is two levels removed from the appropriate Vice-President, who is held responsible for profitable operation of the Apparatus Department which includes about twenty businesses in addition

(2) The concepts of vertical and horizontal integration contribute no insight into decentralization here and their use leads to ambiguity.
to Turbine. This profit and loss responsibility for Turbine is one level removed from its corresponding General Manager, who also directs some ten other businesses including large motors, aircraft jet engines, and switchgear.

At each of these four levels, therefore, there exists a "business" for which the chief executive at that level is held responsible. It is the executives at each of these levels who may readily be seen as the power centers in the decision-making chain to be discussed below.

According to Company A, the President and the Board of Directors must approve all major investments and annual operating budgets for the Turbine Division. "None of the levels between the Turbine Division and the top of the Company may be by-passed during the process of these approvals." (3)

1. An Investment Decision - Capital Equipment

A relatively simple investment decision may be used as an example to illustrate the operation of this process:

During 1948, the Manager of the Turbine Division foresaw the desirability of the construction and installation of an entirely new manufacturing facility for turbine shell boring. He believed that this would both gain for him the quality and cost reduction advantages of new technological methods and would provide him with additional capacity to meet the potential increased demand in his market. Assisted by his staff, he drew up plans for such a facility whose investment first cost was estimated at $2,000,000.

(3) From Company A accounting control statement.
First step in obtaining this sum from the "internal financial market" within Company A was gaining approval from the Manager's direct boss—the General Manager in charge of Heavy Apparatus Products. This General Manager was in process of receiving similar requests from the other businesses he supervised, but he approved the Turbine proposal without hesitation as a good investment.

Following this approval, both the Manager and the General Manager went before the latter's chief, the Vice President in charge of Apparatus Products. This Vice President, as Chairman of the Appropriations Committee for the Department carefully reviewed the $2,000,000 proposal. While recognizing its merits, he was also faced with similar investment requests from many of the twenty other businesses he supervised. He, together with his committee, decided therefore that $400,000 of the request was marginal as compared with these requests from other businesses. They gave their approval to a reduced $1,600,000 sum for use by the Turbine Division.

After affirmative discussions with the President, the Vice-President then brought this investment request to the Company level Appropriation Committee on which the President and key members of the Board sat. This group approved only part of the sum. The resulting sum—$1,300,000—was allocated to the Turbine Division out of internal company finances for use in equipping the type of new turbine shell boring facility that the sum called for.

A similar chain of approvals exists within the Company B organization relative to its turbo-generator business. No time need, there-
fore, be directly spent in reviewing the comparable Westinghouse investment process.

What is the possible significance for economic behavior of this highly formalized membership-relational procedure of passing appropriation sheets from desk to desk until they finally arrive at the desk on which final action may be taken?

Major point of significance for our expositional purposes here is not, of course, the details of the $2,000,000 investment decision-making process through which we have just so briefly passed—nor the details of any similar isolated decisions. Rather it is the fact that this process exists as it does in the two firms facing each other as sellers in the turbo-generator market.

The key individuals of these two firms for the turbo-generator market are the Manager of Company A's Turbine Division and his opposite number in Company B. These individuals are neither the entrepreneurs of economic tradition, nor the "top management of a large corporation" of the more recent literature. Instead they are employees in the upper middle management group, who are quite largely removed from the top level of their corporation.

As with the entrepreneur or the top manager, these Turbine Managers do, indeed, initiate investment proposals. They are, indeed, affected by expectations and by the technical conditions of their processes as are the entrepreneurs and managers of tradition.

But their relationships to other Members of the firm make them quite different from the entrepreneur in several other respects.
investment-wise. For example, these managers do not have within their ken any direct relationship to the external capital market; to them, the capital market is a purely internal one existing at Board of Directors level.

Nor is their participation in investment a matter of independent development, "selling," or adjusting of investment programs to the financial market existing at the time the investment need arises. Instead, these managers are merely the initial stage of developing such investment programs upon which there will be additional development before the program is presented to the "financial market".

Both the program development and its associated decision making for turbo-generators are made through a process in which there are five individual centers of economic decision making. Assuming one mindedness for maximizing profits (4) at each center so as to eliminate the bulk of sociological and psychological complications in viewing such a process, it is clear that the process is not the mere bureaucratic one of bringing presumably different points of view to bear on the same facts at each stage of the process.

Here, these points of view are brought to bear on different facts at each stage of the process. As the process proceeds, the facts which bear solely upon turbo-generators in the turbo-generator market may become of less importance since, at each level, there is a different business for which profits are being maximized.

In the brief detail of our case, the decision to cut the invest-

(4) We ignore here such matters as expectations of the effect of today's economic decision upon tomorrow's entry, or anti-trust charge.
ment back to $1,300,000 was not made solely because of considerations which affected the Turbine Division in the turbo-generator market. Nor was it made because of considerations affecting a financial market qua market in viewing the wisdom of the turbo-generator investment. Instead, it was made because of conditions which affected Turbine and a host of other similar businesses in a series of markets interrelated only the abstract sense of their existence on the profit and loss ledgers of the Accounting group at the Vice President's level.

2. Comparison with the Firm of Theory

These points may be reworded against the backdrop of comparison with the firm of theory. We assume again, for purposes of analysis and the discussion, that both the firm of theory and those which we are studying do, indeed, strive primarily to maximize their profits.

For the firm of theory, this means a single faced center of decision making. Decisions will be made based upon one-minded responses relative to a single business which is identified, by assumption, around a single product.

Our case study may be summarized to note that decision making for the single, long-established turbo-generator product in a multi-product real world firm is a significantly different matter from decision making in this firm of theory. In the firm of our case, economic decisions are made by a several faced organization through a process which has several stages.

Each of the faces of the organization may have the individual objective of maximizing profits, but the "business" for which profits
are being maximized is quite different at each stage of the process. It is identified around the single product itself only at the first stage.

Assuming economic rationality on the part of all participants, economic decisions affecting the single product will not necessarily be based solely—or even primarily—upon the considerations affecting it in its market. They will instead, by mathematical analogy, be determined from a series of simultaneous equations with only one less equation than there are stages in the decision-making process and with each equation representing the considerations taken into account for the "business" at one of the stages.

It is worthy of brief note that while the investment process represented by these equations is generally triggered by the Turbine Manager, this triggering action may take place at any level of the process.

For example, during 1949 forecasts of an impending recession along with correspondingly expected drops in material prices, and possible labor disturbances whose prospect called for a strong liquidity position, led some corporate businessmen to move toward reduction of their inventories. A view of the aggregate position of Company A, inventory-wise, led its President and Board to initiate substantial reductions in GE inventory.

This order was transmitted through the decision-making process to the Manager of the Turbine Division. Turbine was enjoying a strong position in its market which, from the point of view of the
Manager, made desirable no substantial reduction in its inventory. Over his protests, he was asked to make such reductions. (5)

Again, the decision was one not made purely upon the basis of expectations of the Turbine Division in the turbo-generator market—including the feedback effect of expectations in related markets which would affect Turbine expectations. It was instead based upon expectations involving the many Company A businesses with which Turbine was related by way of organization rather than necessarily by market structure.

3. What of It?

Suppose, therefore, that an area has been explicitly identified wherein it may at least be initially hypothesized that membership-relationships within the firm may be expected to have an influence upon investment decision making:

1. What of it, from the point of view of the insight it gives us either into economic behavior of the real world corporation, or into suggestions relative to the economic model of the firm?

2. What is the magnitude of this influence; is it sufficiently large for us to concern ourselves about it?

Limitations of the literature, in terms of statistical data developed for other purposes which could be organized to be tested concerning this magnitude, force us to depend initially upon fragments of industrial mythology, such as the MAPI suggestion noted

(5) Unfortunately, specific data is not available to us either upon the absolute magnitude or the ratios to overall company totals of these reductions.
And considerations of time and space, as well as other factors to be suggested below, have prevented any deep statistical study of the decision making processes of the two firms in the market of our case study. Indeed, it is necessary to note that this turbo-generator case study, while very useful for expositional purposes in a discussion such as this, has certain features which do not make it of top value for extensive quantitative study of the decision making function.

For one example of these features, the economic tolerance limits for actions affecting profitability of the product will inevitably have an important influence upon the data involved in the simultaneous equations at each level of the decision making process. These tolerance limits are so generous for the traditionally profitable turbo-generator market that they might have an inevitable dulling effect upon the sharpness of any study of the decision making function here.

It may be of interest briefly to note more fruitful areas for deeper quantitative studies of the decision making process. One such area involving the same corporations as in the turbo-generator market, but with a much narrower range of economic tolerance limits, is that of electrical secondary rotating machinery. These products range from fractional horsepower motors to huge ocean liner motors, and several "markets" may be reasonably well identified.

In the fractional horsepower motor market, for example, sellers are represented both from multi-product firms and from concerns which
concentrate largely upon this one product.

The wide variation in patterns of investment for these firms, both in terms of trend average and dispersion, is well known within the industry; it is a variation whose wide dispersion in particular observers have been unable to correlate with the more usual patterns of fluctuations and expectations. There are three readily identifiable patterns within the fractional horsepower market, whose decision-making processes could be studied against these variations. (6)

One of the fragments that we have concerning internal organization and investment behavior is that wherein industrial mythology has it that there exists a definite correlation between at least two of these patterns and investment decision-making. Methods engineers have, long suggested that capital equipment purchases in multi-product firms in electro-mechanical industries vary both in kind and in quantity relative to whether the firm's internal organization is based upon functional centralization or product decentralization. (7)

They suggest that the ultimate effect of membership-relationships in firms with functional centralization is for this type of firm to purchase investment goods in greater quantity than the product centered

(6) These patterns are: (1) product decentralization—as in the turbo-generator example—as in the multi-product firm, (2) functional centralization control at headquarters by manufacturing, engineering, heads of multi-product firms, (3) product centralization of the single product firms. The decision making process is different among all three.

(7) This concept is, for example, implicit to some of the suggestions offered by the Machinery and Allied Products Institute. See the discussion by its Research Director: "Dynamic Equipment Policy;" George Terbrough: MAPI: McGraw-Hill: 1949.
firm and to purchase both general purpose and specialized equipments. The product organization is held to concentrate upon specialized equipments.

Thus, exploration of the decision-making process in markets like that of fractional horsepower motors would both have the opportunity of affording further quantitative insight in the field of our discussion, and of testing this fragment of capital equipment folklore.

Clearly, however, the significance of our present discussion is more heavily directed toward the first, or "What of It" question at the beginning of this section. This significance is largely of a qualitative and an exploratory nature. It suggests certain possibilities from which hypotheses for explicit test could be constructed concerning both economic behavior and studies of this behavior, such as:

- It is possible, in certain product markets in which multi-product firms play a large part, that the end result investment aggregates relative to these products represent summations of a number of heterogeneous internal relationships. When lumped together in the final investment stream seen by the outside observer, no matter how finely he has broken down his facts by product markets, these data may not be useful of and by themselves for meaningful statistical analyses since they are neither independent nor random. What do the simultaneous equations for the investment decision-making process look like in mathematical models?

- The "entrepreneur" for these individual products of a multi-product firm is certainly not a counterpart for the entrepreneur generally assumed by the literature. There are enough possible differences between him and his traditional counterpart, possibly to justify explicit investigations of the extent of the existence and the significance for economic decision making of this creature of modern internal personnel organization.

- The process of economic decision making and its relation to the internal financial market may be more than mere refinements of earlier concepts of investment decision making, and more than mere tag-end replicas of a telescoping of the more traditional entrepreneurial decision making as it relates to external financial markets.
Of major importance in the market covered by our case, further study of this area might show differences of kind rather than of slight degree.

Modern industrialists have placed great emphasis upon internal membership-relationships as a means to more effective economic behavior of their firm from their point of view. That this may be of importance has already been suggested, but we have almost nothing which relates the unstated major premises, upon which these industrialists base these organizational moves, to explicit patterns of firm economic behavior. Parting the organization curtains of the firm to gain such data might cast greater insight into the aggregate results being pumped out of the accounting gate of the firm for outside consumption and analysis.

4. Sociological Implications of the Case

Construction of formal hypotheses for test from these qualitative suggestions places examination of these hypotheses squarely within the economics discipline even though internal personnel organization itself is more properly thought of as a sociological phenomenon. The reasons for this may be readily suggested.

Up to now we have assumed in our discussion that profit-maximizing is the one-minded guide of the participants in the decision making process, even though we have been concerned with endogenous effects of this internal personnel organization upon economic behavior. The relative reality of this assumption, which waives away much of the sociological implication of these endogenous effects, is easy to accept. For even casual observation of internal corporate behavior indicates that non-economic elements are of relatively small importance to investment decision making in the multi-product real world corporation.

The one-minded objective of the top levels of the typical modern corporation in approaching its economic decisions is too frequently argued
require further belaboring here. Apart from such situations as the Ford empire of the 20's where a decision making process of the sort we have discussed was not pertinent anyway, there is small evidence on the modern business landscape to indicate that internal investment decision making of the so-called "soul-less corporation" is meaningfully colored by internal psychological differences in taste or by sociological differences in interest. (8)

No attention will be paid, therefore, to review of possible non-economic differences of interest in the decision making process of investment in the turbo-generator market.

Case 2. Manufacturing Cost Reduction

We have in the turbo-generator case, however, been reviewing a situation wherein the participants in the decision making process were sufficiently close to the entrepreneurial model to justify the assumption that they react with economic rationality and that they are guided, for the sake of discussion, by the objective of profit maximization. But although the effect of membership-relationships in this area of investment may be an issue of purely economic differences of interest, matters of sociological differences of interest may not so lightly be assumed away in other phases of the effect of these relationships upon economic behavior.

The case study reviewed below is covered more by way of inserting this point into our discussion in its full importance, than it is by way of review of the case for itself or of its sociological elements for any quantitative sense of their relationship to economic behavior.

(8) - This is true, of course, because of the closed system within which we have been discussing this case. Were we to permit considerations of the external capital market to enter, then sociological factors might definitely be pertinent. For would the economic self interest of the Turbine Division have been best served by permitting it access to the external capital market from which it might have obtained its full
The study is concerned again with the long established Company A turbo-generator product. The manufacturing costs of this product are noted for their stickiness, and are broken down approximately as follows, accounting-wise:

<table>
<thead>
<tr>
<th>Element</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Material</td>
<td>32.0%</td>
</tr>
<tr>
<td>Direct Labor</td>
<td>18.0%</td>
</tr>
<tr>
<td>Indirect Manufacturing Expense (Mfg. overhead charges such as supervision, depreciation, indirect labor, etc.)</td>
<td>33.0%</td>
</tr>
<tr>
<td>Applied Apparatus Expense (Engineering overhead charges including tools, engineering salaries, etc.)</td>
<td>13.5%</td>
</tr>
<tr>
<td>Boxing and Packing</td>
<td>2.0%</td>
</tr>
<tr>
<td>Transportation</td>
<td>1.5%</td>
</tr>
<tr>
<td></td>
<td>100.0%</td>
</tr>
</tbody>
</table>

In the last decade, with an established product, these manufacturing costs in an era of uniformly high volume have benefited from only a slight downward motion, when adjusted. They are thus characterized by a high degree of inertia. Use of the term in this connection makes appropriate, as an aside, a paraphrase of the comment made by General Motors' Charles Kettering in relation to a somewhat similar term, "friction."

When developing the high compression internal combustion engine, we were faced with the problem of excessive heat being developed in the cylinders. A group of highly trained engineering experts, to whom we turned for advice, carefully studied our problem. They submitted to us, as the cause of the cylinder heat, "friction throughout the engine". They then left us as if they had solved our problem rather than merely describing it in a specialized language.

It is, therefore, quite appropriate that we ask "why" this inertia of manufacturing costs. For a partial answer, we turn in our $2 million dollars? Are sociological factors partially responsible for Company A's closing its doors to this external market? We do not know their answers, but these are pertinent questions certainly within the scope of the area suggested by this chapter although not within the span of this particular inquiry.
case study to the membership-relationships of the Turbine Division and their connections to the fashion in which turbo-generator costs are expended, controlled, and reduced.

The product decentralization discussed earlier in connection with the top level of Turbine Division organization becomes functional decentralization when we examine the internal personnel organization of this division. Decision making is carried on through manufacturing, engineering, accounting, and marketing channels rather than through product-centered channels, as will be shown below. And this decision making, while far more restricted by checks and balances and by operating control standards than was the investment discussed above, is far more decentralized as a process than is investment.

Since it does not so directly complicate us in trade union relationships as does labor costs, nor involve us in such matters as depreciation rates as does indirect manufacturing expense, we shall confine our attention here to the element of direct material costs.

This quite sticky element of cost covers raw materials, component parts, fluids, tapes, seamless tubing, etc., purchased by the Turbine Division from outside sources. These outside sources may be either other units of Company A or outside concerns.

When an annual output volume is decided upon for the Turbine Division, this volume is translated into manufacturing terms by the Manager of Manufacturing who reports directly to the Manager of the Turbine Division. This overall picture is then developed into a
formal production schedule for the factory by the Production Manager, who reports to the Manager of Manufacturing. Material and labor standards are factored by the appropriate methods engineering groups against this production schedule, and the materials portion of the standards are made available to the Turbine Division Purchasing Agent, who reports to the Production Manager—three levels removed from the Manager of the Division.

**Expenditures:** The Purchasing Agent, while he is actually responsible for outlay of the 32.0% of manufacturing cost represented by materials, has in fact a quite narrow discretionary tolerance range. While he may occasionally make an outstanding deal for low cost purchase or equally occasionally misjudge the market for a high cost purchase, decisions on the standards to which he is held for his purchase are really the critical factors in this process of decisions on purchases. The Purchasing Agent is merely the tag end of this process.

**Controls:** Control of material costs is gained largely by way of periodic reviews of material expenditures against control budgets. These reviews by the Division Accountant, who reports to the Division Manager, are of interest here only by way of rounding out our discussion.

**Reduction:** It is to reduction of material costs that our interest is more properly devoted. Since these costs, largely for specialized components and materials, are to a large extent a reflection of their standards, their reduction becomes largely a question of changes in standards. The standards themselves, however, have been developed and maintained through the length an
breadth of the Turbine Division's internal personnel organization. Individual methods engineers are responsible for durable tools standards, Quality Control people for standards on gages and measuring equipments purchased, individual design engineers for standards on various components, etc.

Decentralized functional membership-relationships in the Turbine Division thus reflect specialization, and widely decentralized decision making. And also reflect the reason that decision making relative to purchased direct materials cannot be merely the reaction of the Purchasing Agent nor of the Division Manager to material market conditions.

While the material costs themselves may not become institutionalized, the standards upon which they are based are very definitely subject to such institutionalization. Reductions in these costs, based upon changes in standards, become therefore a matter of institutional change through relationships by members of the organization where, as we have seen earlier in the inquiry there is much more that influences organization members reactions and decisions than the objective economic facts surrounding the institution.

It is no accident, therefore, that such organizations as the National Association of Cost Accountants revert, in effect, to discussions of the influence of membership-relationships when cost reduction qua cost reduction is discussed in their literature. Indeed, the reduction of costs, rather than a reflection of membership-relationships, often becomes itself institutionalized as an additional
element of in these relationships.

The Turbine Division in our example shows this situation. It has a "Cost Reduction Coordinator", reporting to the Manager of Manufacturing and therefore two levels removed from the Manager of the Turbine Division. This Coordinator acts as key man in the functional Cost Reduction organization which exists, for itself, throughout the Turbine Division.

Formal recorded reductions in costs are recognized only when they proceed through this channel which has very definite institutional operating rules.

The qualitative implications of this process, as compared with costs in our more traditional firm models, are obviously quite extensive and the process itself could be spelled out in much more detail. It is our purpose here, however, merely to identify one straightforward implication of this case: costs remain sticky in this company because there is no individual or group to reduce them. The membership relationships existing within the organization structure of the firm fosters forces which keep costs rigid and sticky. (9)

The possible endogenous influence of membership-relationships qua relationships upon economic behavior is not only a matter of the structural effect of organization on a purely economic basis in such areas as investment. It may also be a matter of sociological differences of interest in the case of those elements of economic behavior such as manufacturing cost, in which are of importance the actions of members of the lower

(9) - If we were to wish, for explaining these conclusions in more depth we could apply the tools of analysis as they have been developed earlier in this inquiry. It is likely that we would concentrate much of our attention upon the "external" variable in the model - in this case the economic fact of a two seller market. Would a many seller market foster membership relationships which promoted more flexible costs? Such a question, while again within the scope of this area, is beyond the limits of the space of this chapter.
Summary

We have seen in our discussion that it is deductively quite persuasive to challenge that assumption of firm theory which holds that internal personnel organization of the firm behaves as a homogeneous, single-faced lump. Our findings in other sections of this inquiry support the concept of non-homogeneity but require further exploration to determine the importance of such non-homogeneity upon economic behavior of the firm.

Two such exploratory areas, which are worthy of empirical study in further examination of the proposition about many-faced organization and economic behavior, have been identified here:

One is the process of investment decision making for a single product of a multi-product firm, where the assumption of profit maximization is fully compatible with several faced organization with genuine differences of economic interest and results not in one-minded, but in "several-minded" profit maximization. The entrepreneurial counterpart in this process is not the entrepreneur of tradition at all, but rather a middle management employee who has no direct relationship with either the internal or external financial market.

The second area is that of movements in manufacturing cost, where the wide distribution of specialized responsibilities have made assumptions about single-faced cost movements quite unrealistic, entirely apart from that area of cost covered by collective bargaining agreements. The complexities of sociological differences of
interest enter here to complicate analysis of inertia of these movements.

There are other interesting relationships between these two areas—and the host of other areas implied by them—and topics usually more directly identified in economics of the firm. To cite only one example in this connection, of interest are decision making functions of internal personnel organization of the large corporation as they relate to the process of allocation of resources by the corporation among products of varying realizations and varying expectations.

It is to be hoped that explicit inductive investigations of some of the more provocative areas of membership-relationships in the business firm may be initiated to give us more data on questions of this sort. It is only from such investigations that we shall be able more and more firmly to establish the importance for firm theory of the constellation of variables that is represented by many-faced internal organization. But we do see that the approach toward analysis of the many-member institution as a political agency may be fruitful even in this "acid test" situation—on answer to the basic question that we posed for ourselves at the conclusion of Chapter X.
PART SEVEN

CONCLUSION

TO THE INQUIRY
CHAPTER XII

SUMMARY ON MEMBERSHIP RELATIONSHIPS: THE AGGREGATION MEMBER AS POLITICAL OPERATOR, IN A POLITICAL AGENCY, IN A SOCIAL, ECONOMIC, OR POLITICAL ENVIRONMENT

Institutions with large numbers of members have become characteristic of the landscape of the Western world. The trend toward bigness of such "social inventions" as the business firm, the trade union, the social agency, the government bureau may be illustrated by the growth of one of these institutions, for which we have the most reliable data: estimates in connection with the American business firm have placed as "self-employed" 75% of all individuals who worked in 1850; only 20% of Americans were self-employed in 1951, however, and fully 10% of the total work force was concentrated in firms with 10,000 or more employees.

This development of many-member institutions in the Western civilization has invoked many issues often held as having been generated by the growth of these institutions. The economic arena has resounded with debate on the pro's and con's of the effect of bigness on the national welfare. Students of political science have been concerned as to whether or not this bigness of business firms and of trade unions - as well as that of governmental units - has fostered a trend toward gradual reduction of American political liberty as it is now understood. Observers of American industry have criticized its firms and unions for tendencies toward enervating the spirit of independent judgment by individuals.
Interviews with individual institution members show that they, too, have great personal concern about the problems that have been created for them by membership in large institutions. While they express their views in personal languages, these members—whether employees, foremen, plant managers, or shop stewards—may see themselves as "clamped down" by the institution, as being victims of "staff expendability," as being held back due to "politics," as being unsuccessful because of inability to find the "right button to push." Just as these individuals see their personal "efficiency" impaired by work in large institutions, so do these individuals responsible for the performance of the institution find that there is much cause to be concerned about the effectiveness of the large institution itself as a "work machine."

How may these problems of the individual and the institution be fruitfully analyzed in terms of the business firm, the social agency, the government bureau, and the trade union? How may forecasts be made about "optimum" ways for so integrating the work of their individual members that these institutions may operate at maximum possible effectiveness? Are questions of individual "expendability" and frustration in the large institution primarily to be attributed to the stupidity, or personality difficulties, or "economic greed" of those who are involved in the particular situation? How far is it possible to go in establishing satisfying "teamwork?" What is the meaning of "leadership" in the large institution?

These problems which relate, at base, to issues of individual "efficiency of personal goal realization," and institutional "effectiveness"
of purpose realization" - and the compatibility of the two - are new only in the particular way in which we give them expression in 1951. It was, indeed, with problems of this sort that Aristotle interested himself. And it has been to these problems that 2500 years of political thought has essentially addressed itself.

We have seen that this political thought has been, according to present-day standards, somewhat less hopeful about the compatibility of efficiency and effectiveness than have been many modern thinkers who have reflected the Western ethic. This modern Western ethic has contained, as a cardinal dimension, aspirations for the "maximization, or 'efficiency' of work satisfaction" for individual members of business firms and government bureaus. These aspirations have required, as another dimension, high levels of effectiveness for the many-member institutions themselves.

Contemporary thinkers on these problems have grown up in several schools of thought, of which the two most significant may be termed the "organization-chart", and the "human relations" points of view. This thought has subsumed all problems both of analyzing and forecasting efficiency and effectiveness under the general topic of "organization" theory. It has accepted full compatibility between efficiency and effectiveness by defining organization, which is held to be representative of the total business firm or trade union in its aspect as "work machine", in the following terms: An organization is an association of members whose sharing together of common purposes of the institution, in which membership is held, increases the probability of goal realization for the members and purpose realization for the institution.
The institution, which is properly "organized", is one in which the problems of efficiency and effectiveness which we have discussed, are minimized and, in the main, largely eliminated. The theories disagree on the fashion in which this proper organization is to be accomplished, some focusing attention upon "formal organization lines", others upon "informal organization", still others on personality interactions. But, once achieved, an organization - representing the total business firm, the total trade union, the total social agency - reflects "cooperation"; it is a society where all are "better off" through "teamwork", and where individual frustrations are not an important problem.

12.1

Our analysis has suggested that real-world institutions are or may become organizations in this sense, only in special cases. It has suggested that this is not because of stupidity, "lack of understanding", nor personality aberrations among the membership, but because there are fundamental pressures against the attainment of "sharing together of common purposes of the institution" and against the attainment of "cooperation" in these terms in the institutions with which we are concerned. It has suggested that both in present and in teleological terms, "conflict", in the sense of interactions among institution members where common purposes are not shared, is the more fundamental situation.

The analysis has come to see that the total institution may, in the general case, best be classified as an "aggregation" - using a term borrowed from Dr. John Dewey. The aggregation is defined, as follows:

Members together to increase the probability of their own goal realization
in an institution which strives to maintain or increase the probability of its purpose achievement. There may well be a "Law of the Conservation of Work Satisfaction" in such an institution; all may not necessarily be "better off" by working together. To distinguish the business firm, the trade union, and the government bureau - in their dimension as aggregation - from other types of institutions with which we are not concerned, the label of announced-purpose centered aggregation is developed. The "announced-purpose" of the aggregation is a function of the interpretation placed by the culture upon the institution's role, and the degree of "effectiveness" demanded for achievement of the announced purpose is also interrelated with the expectations of the larger culture.

We have seen that there are several forces which, under present-day conditions, impel particular institutions to act as aggregations rather than as organizations. Pressures from the larger social and political environment, which are themselves in turmoil; internal pressures generated by the non-homogeneity that is inherent to large scale specialization, and from the frictional effects of technology; economic pressures external to the institution - all tend to shape the institution's work-oriented activity toward aggregative behavior.

We have seen that it is upon these work-oriented relationships that individual and institutional concerns about bigness have seemed to focus. Analytically to get at an abstraction of this sort, we have had to create abstractions of our own. It has been necessary, although unfortunate, that highly specialized language has had to be used to
distinguish these abstractions clearly from some of the notions that have appeared elsewhere in the literature. Key among these abstractions has been that of the task-oriented membership relationship structure of the aggregation. This social network is held to represent the relationships which exist only because of activity directed toward their work assignments by institution members. It is through this network that "effectiveness of purpose achievement" for the institution, as "work machine", may be analyzed. And it is in portions of this network that insight may be gained concerning "efficiency of goal realization" for individual members. The dynamic relationships which provide the wattage (volt-amperes by electrical analogy) for this social network may be viewed through the concept of "power", which is viewed as the effective ability to satisfy institution-centered needs.

The framework of analysis developed from these abstractions is then turned intensively upon the many-member institution to explore such of its issues as "leadership," "line and staff", "managerial prerogatives". This framework conceives of the institution and its membership as not to exist for themselves, but rather to exist as a small element in a larger political, social, and economic continuum. At a particular period, however, it is nonetheless possible to identify those "key" variables which place the "significant" - in statistical terms - pressures upon the aggregation structure. These variables are classified under two headings: those "external" to a particular aggregation - such as beliefs and values, and economic pressures; and those "internal" to the aggregation, - such as its control systems, its
personal relationships, and its technological frictions. For analysis and forecasting of some of the extensive aspects of the many-member institution, as work machine, this complex of variables is then combined into a dynamic model whose ultimate value must be determined from further empirical investigations.

From this framework of analysis and its related real-world inquiries, it is seen that analysis of the many-member institution, both for itself in terms of purpose achievement and for such issues as "staff expendability", "hot teams", "cooperation", may fruitfully be pursued through its acceptance as political agency in an environment that may be largely economic, political, or social. The many-member business firm, for example, is finally seen as a political agency in an economic environment just as Mr. Ross earlier viewed the trade union in similar terms; the differences are of degree rather than of kind. The government bureau may be seen as a political agency in a political environment; the welfare group as a political agency in a social environment. Individual institution members - whether "president", "director", "bureau chief", "business agent", "foreman", "employee" - may be analyzed essentially as "political operators in a political model."

Turning toward policy, it is clear that our critical questions relate to the kinds of many-member institutions we would like to see in terms of the efficiency of individual goal realization and the effectiveness of institutional purpose achievement that they make possible. And we are able, based upon our findings, to see the high degree of ambiguity
and operational questionability of attempts by investigators like Professor Bakke to make efficiency-effective investigations of many-member institutions in such terms as indicating that: "our underlying assumption is that goal realization promotes and goal frustration retards, productive and efficiency teamwork within an organization."

Professor Bakke and his counterparts start their analytical inquiries with a basic policy assumption; even more questionable is the fact that the policy they assume is one that is based upon a cultural ethic rather than upon an analytical understanding of the situation for which policy is being established. Such policy, that is implicitly based upon "full" purpose achievement for the institution, and "full" goal realization for the individual in absolute terms, has little real-world meaning. There are fundamental limiting relationships which make it impossible to avoid questions of choice when making policy decisions in this area. We cannot achieve, for particular many-member institutions in their role as work machines, unlimited increases in effectiveness of purpose achievement without reaching points where significant reductive efforts for efficiency of individual goal realization are invoked. Nor can we increase individual efficiency in an unlimited fashion.

The policy choices made for a particular institution and/or for a particular membership relationship will, in cardinal terms, of course be a function of the specific pressure playing upon that institution or that relationship. And the choices that are made will be those made in terms that may be institutional, individual, or related to the larger culture itself depending upon those by or for whom the policy is made.
But it must be noted that, while there are limitations upon the effectiveness of the institution and upon the efficiency of its individual members, this does not, however, at all suggest that these limits are necessarily approached in particular real-world institutions. Understanding and education have many contributions to make in improving the prospects for goal and purpose realization over the present status quo - up to the limits established by the culture as fundamental for the institution as work machine.

Since these limits are, to an important degree, a function of the value placed by the culture upon the institution's "announced-purpose" and upon the degree of realization expected for this announced-purpose, they may not be viewed as related to purely static "satisfaction funds" with no possibilities for interdependent "secular trends". Society has in the past and may in the future make adjustments in the interrelationships that should exist between effectiveness and efficiency; such adjustments are matters of the long term, however, and our major attention in this inquiry has been to many-member institutions as they are to be found in the contemporary world.

12.3

Many individual institution members - particularly those who would be classified as "manager", "director", or "president" - might balk at these political terms into which we have cast their work interactions as well as those of their associates. These individuals frequently express themselves as believing that there "are no politics" in the business firm, and that "politics has no place" in the government bureau. And such key
institution members have almost as frequently insisted that there is no "power" to be seen in real-world institutions.

The semantics which this inquiry has adopted, as being most relevant to the vocabulary and usage in the literature, may be one to which these individuals and many others would object and would wish to change. Yet it is suggested by this inquiry, through its findings, that the concepts themselves, apart from their labels, do have great relevance to the way these individuals actually do behave in the real-world many-member institution.

We may not be similarly bullish about relevance to the contemporary literature of "organization thought." Not only would the semantics adopted by this inquiry be foreign to the organization literature, but so would its concepts as well. To the extent that further investigations will show any of these concepts to be of value, their integration with existing organization theory would be a most unlikely prospect. For the interstices of the conceptual framework developed in this inquiry, and those of the contemporary organization literature, can scarcely be hoped to be compatible - as we have seen this literature in our review of it in an earlier chapter.

Our inquiry has both left and created more questions about large institution membership relationships than it has been able to answer through its several analyses. Many of these questions have been raised throughout the inquiry itself; a few more may be explicitly identified here. In intensive terms related to the conceptual framework itself, how, for example, may further quantification be given to task-oriented structures, and to power? How may the dynamic equilibrium of the task-
oriented structure be identified in similar quantitative terms? How may the conceptual framework be adapted to the situation in which an institution is just coming into being, as opposed to that in which a many-member institution is already in existence?

In terms that are more extensive, can leadership in the many-member institution be truly analyzed on a basis that is "scientific" as opposed to that which is "artistic?" Can collective bargaining be analyzed in this framework in a "joint aggregation" sense? What are the limits beyond which institutional effectiveness and individual efficiency may not be pushed in specific situations? How may the political model of the many-member institution be improved and made more effective? Is this model truly useful?

If the political concepts are useful, how may they be most fruitfully used in particular cases for analyzing and forecasting means for integrating individual work efforts toward optimum effectiveness of an institution as work machine? Can these concepts be cast into an "organization planning" framework whose semantics are more palatable than those of politics to such institution members as "managers", and "directors"? Or may the present semantics be accepted over time? May classifications, that are analytically useful, be made of the variety of task-oriented membership relationships that are to be found in real-world institutions? How may such analyses of real-world institutions most fruitfully be made? May classifications, that are analytically useful, be made of the variety of aggregation structures that are to be found in real-world institutions? And how may such studies as these be made?
In effect, we need much more data on the many-member institution; we require many more inductive explorations of real-world business firms, trade unions, and government bureaus in their explicit role as work machines. Through such findings we may check hypotheses again and again, may reformulate these hypotheses and recheck them, and once again reformulate the hypotheses as we move to deepen our understanding of the membership relationships that are crucial to what is popularly labelled as "organization!"

The importance both of such explorations themselves and of their inductive bias scarcely needs to be emphasized in a world where large institutions are both a key to hope for future well-being, and yet are also the source of many of the problems that make realization of this well-being a probability rather than a certainty. It is crucial that we understand more about operation of these institutions as work machines; only with such understanding may we hope for their development in terms which permit the fullest practicable possibilities for individual goal realization. And only in such realistic terms, rather than in terms which are essentially moralizations, may we hope to achieve a working approximation of our culture's aspiration: that the "good life" may be realized by members of the large institutions which have come to characterize Western civilization.
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