INDUSTRIAL STRATEGY AND POLITICAL CULTURE:
ELITISM AND BUREAUCRACY IN ISRAELI INDUSTRY

by

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Boaz Tamir

ABSTRACT

The aim of this study is to understand, at the organizational level, how political culture and patterns of authority at both macro (national) and micro (firm) levels framed the strategies and actions of two Israeli companies as they adopted new production technologies. There are three major themes around which this thesis is organized. The first theme is that societal history should be considered as an important factor in shaping a firm's pattern of authority and production technology; the second theme is a particular application of the first, revealing how two firms incorporated key aspects of historical Israeli patterns of authority into their own; and the third theme is that each organizational pattern of authority constrains the range of strategic choices available to the firm.

Based upon empirical investigation, the study sheds light on two distinctive Israeli organizational patterns of authority which I call: "bureaucratic-egalitarian" and "elitist-egalitarian." These patterns consist of three components that are typical of and essential to Israeli political culture: the egalitarian element which is common to both; and the bureaucratic and elite elements which are unique to one or the other of these patterns. In this regard, these two patterns of authority have a mutual characteristic, but they cannot be equated. In this political culture, egalitarianism can co-exist with either elitism or bureaucracy, but the elitism or bureaucracy cannot co-exist with each other in the same pattern of authority.

The historical description of how each Israeli institution came to adopt one or the other of these political structures illustrates how these patterns, functioning within a framework of organizational political culture, determine policy far more than does logical, rational planning based on the "conventional" economic indicators.

The study examines two different organizational settings located in Israel. Both organizations are of similar size and work with comparable technologies, but their political structures are extremely different. Because these two cases are tied to Israel's history and political culture, their story cannot answer all questions about universal or global patterns of industrial development. Rather, they show a
particular pattern of authority and political process wherein power-holders within an organization decide upon courses of strategic action. By focusing on the political culture and history (both of the nation and of the firms), analysis of these cases may suggest more complex criteria by which to evaluate the success or failure of new industrial trends and to draw conclusions about industrial opportunities in the world of continuing change.

The thesis explores the debt each firm's policies owe to history, and it establishes a vocabulary linking the internal pattern of authority of a firm to the political history of the larger society (Israel) of which the firm is a part. I suggest the political culture and its related patterns of authority influence all stages of a firm's economic development. At the same time, each company is an independent entity, which uniquely reflects the qualities of its nation and the firm's historical development.

The approach taken in this study is skeptical of the usefulness of either applying a theoretical model to history or using a hypothesis-testing approach to establish causal generalization about organizational structure or patterns of change. Hence, rather than using a simply structured presentation of single histories, this study uses comparison of specific points for the purpose of highlighting the particular feature of each individual case. This study seeks meaningful interpretations of history, in two intertwined senses of the word meaningful. First, careful attention is paid to the culturally embedded intentions of individuals or groups of actors in the given historical settings under investigation. Second, both the topic chosen and the arguments developed about it is culturally and/or politically significant not only for the academic community, but also for the policy makers.

A major applicative proposition of this study is that a firm cannot shape itself solely in response to particular market or technological contingencies. Rather, a successful adaptation strategy would be rooted in a firm's political culture and history which are chief determinants in its ability to target an adequate market niche in which to successfully operate. A firm has a unique body and soul, rooted in its history. In finding a correct strategy for adjusting to market dynamics, a firm must look into itself as searchingly as it look outward at market and technological conditions.

Thesis Committee: Dr. Suzanne Berger (Prof. of Political Science, MIT)  
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GLOSSARY

Ashkenazim: Ethnic group of Jews who originated in Central or Eastern Europe.


CAT Scan: [Computer-Assisted Tomography] The CAT scanner employs a computer which is able to record thousands of X-Ray images and reconstructs, in any two of the three dimensions, images of complete organs and bones.

Heverat Ha'ovedim: The politically controlled institute in charge of the economic activities of the Histadrut. The Hebrew translation of the institute name indicates the founders' philosophy concerning the relations between labor and capital: the Hebrew translation for "Ovedim" is "labor", and "Heverat" can be used as "enterprise" and/or "society."

Histadrut: Israel's General Federation of Labor Union. The Histadrut is the "umbrella" organization for both the labor union and the economic production and services enterprises.

IDF: Israel's Defense Forces

Koor-Industries: The manufacturing arm of Heverat Ha'ovedim.

MATAM: The initials stand for "Mercas Ta'asiot Mada'a" ("Science and Technology Industrial Center") it is the high technology district in Haifa.

NMR: [Nucleus Magnetic Resonance] State of the art, extremely expensive diagnostic device that gets the image of the body's hard and soft tissues without using X-Rays.

PBX: Private Branch Exchange

SBU: Strategic Business Unit -- A profit/cost center and a sub-unit of an organization. In this study, each Cintel site (e.g., Nazareth) is also entitled SBU.

Sefhardim: Ethnic group of Jews who originated in the Middle East and North Africa.

Yishuv: ["settlement," in Hebrew] A period, used as the title for the modern Jewish establishment in Palestine from the "First Wave of immigration" (1882) to the establishment of Israel (May, 1948).
INTRODUCTION

The Context

During the last two decades rapid technological, political and market changes have created industrial crises in the West. According to one view, as markets become more varied and less stable, "Fordist" mass-production industrial institutions, patterns of authority, strategies and policies that succeeded in the past no longer work. As government, business and labor struggle both with one another and with new conditions, the rules, strategies and procedures of economic life shift beneath their feet. Virtually all major institutions recognize the need for change, but their attempts at transition are often guided by old assumptions and habits.

Such assumptions, in fact, often harden precisely at those times when an institution is under its greatest pressure and most in need of change. In a world of many industrial possibilities, firms constantly fall into the trap of molding themselves into a universal stereotype of "a successful firm," dictated by external fashion and environmental changes. Managers often view companies as the advanced flexible machine-tools that can be adjusted according to logical, quantifiable steps, subject to whatever changes the whims of the market environment or production technology impose upon them.

The aim of this study is to understand, at the organizational level, how political culture and patterns of authority at both macro (national) and micro (firm) levels framed the strategies and actions of two Israeli companies as they adopted new production technologies.
There are three major themes around which this thesis is organized. The first theme is that societal history should be considered as an important factor in shaping a firm's pattern of authority and production technology; the second theme is a particular application of the first, revealing how two firms incorporated key aspects of historical Israeli patterns of authority into their own; and the third theme is that each organizational pattern of authority constrains the range of strategic choices available to the firm.

Based upon empirical investigation, the study sheds light on two distinctive Israeli organizational patterns of authority which I call "bureaucratic-egalitarian" and "elitist-egalitarian." These patterns consist of three components that are typical of and essential to, Israeli political culture: the egalitarian element which is common to both; and the bureaucratic and elite elements which are unique to one or the other of these patterns. In this regard, these two patterns of authority have a mutual characteristic, but they cannot be equated. In this political culture, egalitarianism can co-exist with either elitism or bureaucracy, but elitism or bureaucracy cannot co-exist with each other in the same pattern of authority.

The thesis explores the debt each firm's policies owe to history, and it establishes a vocabulary linking the internal pattern of authority of a firm to the political history of the larger society (Israel) of which the firm is a part. I suggest that the political culture and its related patterns of authority influence all stages of a firm's economic development.
The aspect of political culture underlies the distinctive way in which industrial structures are employed in Israel. Naturally, Israel shares many features in common with other "Fordist" mass-production industrial institutions or social democratic regimes. Yet, no two social democracies or "Fordist" companies can be equated. In other words, the social democratic ideology, the notion of free market, and the bureaucratic phenomenon are not uniquely Israeli. But the ways in which these ideologies and structures are portrayed in the Israeli patterns of authority are distinctive. This uniqueness resides in the details of how they have adapted in the past and they are operated in the present.

The approach taken in this study is skeptical of the usefulness of either applying a theoretical model to history or using a hypothesis-testing approach to establish causal generalization about organizational structure or patterns of change. Hence, rather than using a simply structured presentation of single histories, this study uses comparison of specific points for the purpose of highlighting the particular feature of each individual case. This study seeks meaningful interpretations of history, in two intertwined senses of the word meaningful. First, careful attention is paid to the culturally-embedded intentions of individuals or groups of actors in the given historical settings under investigation. Second, both the topic chosen and the arguments developed about it are culturally and/or politically significant, not only for the academic community, but also for the practitioners.
The Setting

The study examines two different organizational settings located in Israel. Both organizations are of similar size and work with comparable technologies, but their political structures are extremely different.

The first case is that of Radgal, a telecommunications firm owned by the Histadrut --Israel's General Federation of Labor which was founded in the 1930s. Radgal, the offspring of a social democratic ideology, is a hierarchically organized manufacturing firm whose pattern of authority can be characterized as bureaucratic-egalitarian.

Radgal was founded in 1951, three years after the founding of the state of Israel in 1948. Thus, Radgal is the offspring of an organization with a twenty-year history, and its subsequent development has been shaped by the benefits and constraints conferred by its position as a component of the Histadrut.

At the end of the 1970s and on into the early 1980s, Radgal underwent an extensive demographic transition and shift in its strategic orientation by moving into the international market and by placing more emphasis on research and development (R&D). The first stage of this transition was relatively successful. Radgal stumbled, however, when it attempted to absorb its R&D operations completely into its traditional manufacturing system, and to embrace multiple specialization of its products.

The second case is Cintel, a union-free medical diagnostic firm. Cintel, a result of free-enterprise ideology, is a privately-owned, R&D oriented company, operated by a group of freewheeling senior engineers.
and scientists, exhibiting a pattern of authority I shall call elitist-egalitarian.

Cintel’s story is one in which a group of highly skilled and ambitious scientists sought to create an Israeli company able to become an international player in the very competitive, high-technology-oriented medical diagnostic market. Implicit in this attempt was the perceived need to break with the traditional Israeli orientation toward industry in which labor organizations play a major policy-making role. During Cintel’s early stages (in which R&D was emphasized), its scientist-managers were quite successful.

Cintel represents the counter model: a rejection of the traditionally Histadrut-related social democratic system. In this view, one cannot distinguish between the pattern of social structure and the use of technology. Therefore, when the old generation of leaders and Histadrut’s related system were exhausted, Cintel’s founders believed that they were creating not only the state-of-the-art technology, but they also were delivering, by example an adequate version of the Zionist movement. Cintel embodied the new set of values advocated by both the conservative and labor parties, and it exemplified how to build the idealistic "American firm" eventually to be located in Israel.

Nevertheless, like Radgal, Cintel floundered at a key point in its growth. Cintel’s problems came at a time when it attempted to expand and absorb a manufacturing operation while diversifying its production, all within a system designed especially for R&D.
Because these two cases are tied to Israel's history and political culture, their story cannot answer all questions about universal or global patterns of industrial development. Rather, they show a particular pattern of authority and political process wherein power-holders within an organization decide upon courses of strategic action. By focusing on the political culture and history (both of the nation and of the firms), analysis of these cases may suggest more complex criteria by which to evaluate the success or failure of new industrial trends and to draw conclusions about industrial opportunities in the world of continuing change.

The thesis is organized in three parts: The first (Chapters 1 and 2) establishes the theoretical foundation for our analysis. It focuses on the relationship between national culture and organizational pattern of authority. The second part (Chapters 3 and 4) introduces an empirical study of two types of Israeli electronic high technological firms. The third part (Chapters 5 and 6) shows how each firm's pattern of authority incorporates key aspects of Israeli history into its own structure and considers the ways in which these patterns constrain and enhance the firms' strategic choices.
CHAPTER I: THE SOCIETAL CONTEXT OF INDUSTRIAL INSTITUTIONS

Introduction

Industrial organizations vary dramatically, and apparently systematically, with regard to performance. What is the prescription for a successful firm? What are the scientific foundations for such rules? What rationale determines a firm's use of authority and technology to produce goods? Why, for example, do the Americans, the Swedes, the Japanese, the Italians and the Germans organize their car production so differently from each other? If we assume that the market is global and that technology is universal, then why is a firm unable to adopt a particular industrial organization that has proven efficient elsewhere (in another country or even distinct social universe)? In this thesis, I will consider this issue in terms of the following specific questions: Can Israeli firms organize their medical diagnostic devices or telecommunications production as they are produced in Europe, the U.S., or the Far East? What makes electronic engineers, manufacturing workers, and managers in Israel different from their counterparts elsewhere? How do these differences affect Israel's competition with foreign firms?

Answers to these questions are rooted in the details of the specific institution's patterns of authority and historical experience, rather than in universal laws based on economic and technological determination. Within this rationale, the strategy of this study is a deductive one: the development of ideas and theoretical concepts should be based on the interpretation of empirical observation. Nevertheless,
before moving into the details of the empirical investigation, this
chapter identifies and elucidates the major argument and the conceptual
framework of the study.

The underlying premise of this chapter is that, given a similar
function or task, different groups, institutions and organizations
respond differently to a similar environmental stimulus. Of intrinsic
interest to this study are the particular and the varying features of
specific kinds of social structures and patterns of change, which embody
temporal political processes and contexts, cultural and ideological
differences. In this view, history as interpreted and understood by
groups and individuals within various social levels, is not seen as a
unified development, optimal story or as a set of standardized
sequences. Rather, it is seen as varying paths that are either
consciously chosen or accidentally stumbled upon by individuals, groups,
and organizations. Earlier "choices," in turn, both limit and open up
alternative possibilities for future change, leading toward no
predetermined end.

There are many ways of trying to analyze these problems. In this
chapter, I shall discuss two of the more prominent theories: industrial
convergence,(1) and structural-contingency. This chapter consists of
two parts: The first analyzes the problems of the technological
determinism view and the partial solution that has been given by the
structural contingency school. Then, in an attempt to provide some
answers to the unexplained gaps, the concept of political culture is
introduced. The second part of the chapter shows how political culture
can be used as a link between macro and micro social levels, and how
patterns of authority are especially meaningful in linking national political culture and organizational production technology.

INDUSTRIAL CONVERGENCE OR SOMETHING ELSE?

Problems With Technological Determinism

International industrial divergence rather than convergence in production technology calls into question the universal application of most major organization theories. Surprisingly, liberals and conservatives, Marxists and neoclassical economists, sociologists, practitioners and scholars who adhere to the "scientific management" or "human relations" approach all share the belief that management strategies and actions can be defined scientifically. Charles Sabel (1982) points out that "all share three fundamental assumptions: technological determinism, essentialism, and reductionism":

Technological determinism is the familiar idea that regardless of its political preferences, any society that wants to produce industrial goods must adopt certain structures of organization, patterns of authority, and the ways of doing business. These modern institutional forms may correspond to the regime of free enterprise, or to the ideals of the socialist state; but in any case they and no other will prevail if industrial production is successfully organized.(2)

Production technology, in this regard, is designed to realize certain goals. Alvin Gouldner states:

The rational model assumes that decisions are made on the basis of a rational survey of the situation, utilizing certified knowledge with a deliberate orientation to an expressly codified legal apparatus. The focus is, therefore, on the legally prescribed structure --i.e., the formal 'blue-print' patterns-- since these are more largely subject to deliberate inspection and rational manipulation.(3)

Technological determinism led to the hypothesis of convergence among societies, which states that a society must follow a social development
path in an attempt to become modern. One of the major consequences of the convergence trend is the homogenization of societies, or essentialism. In Sabel's words,

Essentialism is a species of determinism. It is the claim that what is true for society as a whole is true of each of its parts. The more advanced an industrial society, the more clearly modern forms of organization predominate in each of their parts. As the differences between industrializing societies disappear, each society becomes internally more homogeneous.

The idea of reductionism as Sabel states,

is that human wants are not fixed. Rather, they change over time, stimulated by, though always outstripping, society's capacity to satisfy them: Following the expansion of the economic pie through continuing breakthrough in both technology and production systems, new goods awaken new wants, spurring further technological advantages, and so on.

The technological determinism argument assumes that there is a "best way" to organize the production process. Such a way, under the theory of technological determinism, can be determined "rationally" by scientific principles. The future, in this view, will bring more prosperity and social stability to an advanced industrial country; cosmopolitan factors --science and technology-- will dictate rationality while eliminating extreme social emotions and passions for revolutionary trends occurred by following anachronistic ideologies; a bureaucracy and sophisticated administration will replace cultural traditions in determining social interactions. This is the assumption that stands behind Daniel Bell's (1962) idea of "the end of ideology".

In a more recent essay Bell (1978) highlights the conflict between culture and the rational "techno-economic" sphere, and seeks to divide modern society into three distinct realms which can be treated in isolation from each other:
...one can best analyze modern society by thinking of it as an uneasy amalgam of three distinct realms: The social structure (principally the techno-economic order), the polity, and the culture. The idea of post-industrialism, I argued, is limited specifically to changes in the techno-economic order. But changes in the social structure do not determine either the polity or the culture.(8)

In line with Bell, the departure point of most of the mainstream organizational studies is still the rationale of technological determinism: Organizations appear to evolve by a continual and gradual process of technological and administrative "rationalization." Management’s authority and responsibility in this process are primarily to monitor and facilitate the sociological adjustments dictated by technological change. In other words, an organization’s problems are examined as technical and administrative issues. Following such an assumption, scholars believe there is little reason to examine how and why a firm’s or an industry’s, historically critical decisions were made, or to explore the reciprocal relationship between these decisions and the problem of the larger economy or labor activity.

In the same way, historic roots of other national institutions and the conditions that led to their establishment are only seen infrequently as important or as an influence on the current practices of industrial institutions. This lack of historical perspective causes analysts to channel their interpretations into the category of immediate action without considering the total "rationale" that led to this particular interpretation and reaction to environmental change. Thus, technological determinism cannot provide a sufficient explanation of the subjective view in which a given organization is interpreted and to which it responds.(9)
Following the loss of industrial stability in the early 1970s, increased political unrest and economic uncertainty put an end to a relatively short era of international optimism regarding industrialization and the distribution of wealth. The political eruption in the West during the late 1960s and 1970s, called into question the tendency to both devalue and view political culture and ideology as independent variables in industrial strategy and development (Sabel, 1982, Goldthrove [Ed.] 1984). The convergence hypothesis based on the technological determination's dictating a unilinear path of national development came under increased skepticism. Ronald Dore's (1973) prediction that in the future the British factory would be similar to the Japanese factory was rejected by the author himself one year later.(10) By the end of the 1970s, scholars had discredited convergence theory almost entirely.

The next section will focus on the structural-contingency school an approach which tries to solve some of the problems of the convergence school, and which ascribes organizational divergence to the environment contingents. In other words, the diversity of organization structures is a source of rational choice that leads each organization to adapt appropriately to a particular economic or technological contingency.

The Structural Contingency View of an Institution's Action
An organization is a social universe that exists within a broader one; it is also a structure which has attained a certain level of technological, economic, and ideological development. An organization's societal environment is characterized by ideologies to which its members
are attached. These factors impose a series of requirements on the organization's structure and functions (Kochan, Katz and McKersie, 1986).

The hypothesis above is the foundation of the structural-contingency school of thought. Specifically, structural contingency theory contends that the relationships between the organization and its environment affect not only the internal structure of the organization but also its performance, and therefore its capacity to survive competitively. Hence, the main interest of the structural-contingency theorists is to determine the organizational structure required to meet a given condition; the focus of this school of thought is on the laws that relate organizational structure to performance.

A pioneering study on the influence of available technology on organizational structure and performance was conducted by Joan Woodward in England. Woodward introduced the complexity and predictability of production techniques --"production technology"-- as a major criterion employed in her study of industrial firms in Essex, England (1965). "Production technology," in Woodward's terms, consists of "production task" and specific "technology":

To describe the production task fully, this specification would state the type, quantity and quality of the goods to be produced, and their rates of production. The specific technology of the organization is, then, the collection of plant, machines, tools and recipes available at given time for the execution of the production task and the rationale underlying their utilization. Thus the technology and production task of a firm are interdependent, since neither can be defined without reference to the other. (12)

Within this framework different types of production tasks are characterized by distinct technologies. Woodward characterized these tasks by introducing a continuum ranging from "unitary production" (such
as fabrication of a prototype, craft production or the manufacture of a small quantity of items required by specific production order) which is characterized by lack of organization complexity and sophisticated coordination. At the other extreme is "continuous production" (for example, the production of chemical products in a multi-functional enterprise), and between the two is "mass production" characterized by the assembly line.

Based on a broad sampling of industries, Woodward showed a statistical correlation among these organizational structures and technological types: The number of hierarchical levels and the proportion of management personnel increase with the degree of technological complexity (i.e., continuous production). Siding with the orthodoxy of technological determinism and its "one best way" argument, Woodward asserts that for each technology there is a single best organizational form, but she suggests that the best system is contingent on the production technology.

Like other scholars in the structural-contingency school, Woodward tends to examine both the concepts of technology and the concept of organizational structure without considering the extent to which both are social constructs, and by overlooking the way in which an organization's socialization processes and history shape collective identity within it. In short, trapped within the technological determinism argument, the structural-contingency view also overlooks the importance of historical and social factors such as political culture in shaping an organizations' structure and action.
The structural-contingency theme is reasonable approach, but like the technological determinism view, it falls short of giving a complete explanation which would answer our fundamental questions about the prevailing of industrial divergence. Scholars are using an overly rational approach that implies there is more logic and objectivity to decision-making processes than actually exists. What is taking place in industries is far more personal, subjective, political and power-oriented than most popular theories (such as those described above) would lead one to expect. Managers control others far less than their words, plans, strategies, and eventually actions imply. "Productions technology", to use Woodward's (1970) term, is determined far more by personality and hard-fought compromise than the logical explanations used to describe and justify them would ever lead one to believe.

Thus, this study pays special attention to politics and power relations in and outside organizations (this in line with recent political theories of organization (Bachrach and Lawler, 1980; Pfeffer, 1981; Mintzberg, 1983, Kochan, Katz and McKersie, 1986). However, politics and power relations cannot be seen outside their context -- i.e., the beliefs and ideas that become the purpose for attaining the political struggle. The following section will shed light on the concept of political culture as an essential factor in the diversification in organizations' structures and actions.
Ideas and the Struggle to Implement Them --Political Culture

A widely held social science view states that technology and hence institutions are important while human events have no intrinsic meaning to an organization. By overlooking history and social processes, this perspective cannot explain why different groups find cohesion in a distinct worldview, or ideology. This social science view ignores the fact that the reality of an object or event depends instead on the way in which human beings interpret it, and, for this reason, it is possible for the same object or event to have many realities. In this regard, the meanings of technology or market constraints are objects socially interpreted in various ways, rather than in one unified way. This argument is the heart of the sociology of knowledge (Berger and Luckmann (1966)).

According to the sociology of knowledge, reality is socially constructed (i.e., created through social interaction).(13) To the degree that individuals or groups share these realities, they hold a common culture.(14) The concept of culture refers to a shared worldview developed by members of a social group.(15)

Crozier and Friedberg (1980) define culture as an instrument or capacity obtained through experience. As such, culture is constructed through action and is inseparable from the structures within which it is acquired. As a social construct, culture makes it possible to relate the strategies of the actors to the structural constraints of those strategies. In other words, there are specific relationships to be examined between patterns of collective action, institutional development, and cultural contexts. In Crozier and Friedberg's
perspective, no variation in organizational structure can be studied in relation to its social environment or even in relation to the context of the political struggle without considering how society is shaped through social relationships and history.

Politics, in this regard is an essential factor in both attaining human ideas and the social historical experience that shape human reality. "Active men," asserts Bendix (1965\1974), "endeavor to shape and reshape their lives closer to their heart's desire. Subject to constraints though it is, politics is a part of that reshaping and represents a chance of freedom in a sea of necessities."(16) Individual and social necessities are translated into social action through ideology and politics (Bendix, 1965\1974). Bourdieu (1977) attaches these desires to political action. He defines politics as follows:

The instruments of knowledge of the social world are in this case (objectively) political instruments which contribute to the reproduction of the social world by producing immediate adherence to the world, seen as self-evident and undisputed, of which they are the product and of which they reproduce the structures in a transformed form.(17)

Hence, the theory of knowledge

is a dimension of political theory because the specifically symbolic power to impose the principles of the construction of reality --in particular, social reality--is a major dimension of political power.(18)

Sabel (1981) establishes the relationship between ideologies and the way individuals or groups attain them:

Politics can be defined as the struggle over the rules that limit who may demand what and the means that may be applied to satisfying demands. Insofar as visions of a just social order are embodied in procedural rules broadly defined, politics is a struggle over which ideology will prevail. I will call the opposite of politics so conceived simply the struggle for power. In the struggle for power the rules of the contest itself are always explicitly assumed or simply ignored; they are never in question.(19)
In short, according to these theorists, politics and culture are interrelated and shape each other. This interrelationship is referred to as political culture—a conceptual combination of politics and culture.

The concept of political culture is used empirically by social scientists to cover a wide range of political phenomena (Almond and Verba 1965; Pye 1965; DiPalma 1970; Devine 1972; Bluhm 1974; Rosenbaum 1975; Etzioni-Halevy and Shapira 1977 and others). It is characteristically summed up, however, along the lines suggested by Dawson and Prewitt (1969): "Political culture, conceptualized roughly, is the pattern of distribution of orientations members of a political community have towards politics." (20) These "orientations" can be referred to as "the perceptions (cognition knowledge), affects (feelings and attitudes), and evaluations (values and norms) through which a person relates himself to social objects." (21)

Typically, an examination of a political culture which is based on the definitions of the above scholars, will include three fundamental sides of the individual and/or group’s relations to authority or politics: the actor’s ideology and value perspective; any relevant personality or psychological factor; and cognitive aspects, i.e., the actor’s knowledge and beliefs about his or her own political pattern of authority, the way it operates, and the way he or she participates in the political game.

In the realm of the organization, the concepts of political culture and ideology (frequently used in terms of values) have been examined in relation to "management ideology and values" (Bendix, 1974) (22) or a
particular organizational phenomenon (e.g., bureaucracy as studied by Crozier, 1964 and Gouldner, 1954, 1965). Students of organizational culture (e.g., Edgar Schein, 1985), like most of the school of organizational behavior, are focusing on the micro level of the organization without seriously considering the importance of the organizational societal environment.

Political culture as defined in this study cannot stand by itself, however, in explaining how patterns of authority are shaped; political dynamics must be seen within a particular historical context of a social universe. Furthermore, every social universe is a political arena. Therefore, political culture should be seen as an instrument or capacity obtained through experience (Crozier and Friedberg, 1980) in every social arena over time. This is the main tenet of the present study.

This historical context in which political struggle occurs is essential in determining an institution's politics and industrial strategies (Kochan, Katz and McKersie, 1986). In *Peasant Against Politics*, Suzanne Berger shows that political behaviors of two Breton political regions, identical on every social and economic measure of political life, differ as a direct result of differences in the organization of politics. In Berger's view, that divergence can be traced to the period following World War I when the prewar political apparatus had been destroyed. In each of the two regions, the same two groups were competing to organize politics. The result, in each case, was contingent on a particular event, and depended more than anything
else on which group got its organizing drive launched first. Berger concludes that

the constraints that derive from economic and social structures narrow the range of organizational forms possible for a given society, but they do not define a single organizational solution for each peasant situation. Within limits, political imagination and initiative determine how a given set of social, economic, and political materials will be organized... Neither of the organizations developed regular or intense forms of participation. But once the organizations were in place, their impact may well have been decisive for the future outcome of politics.(24)

In Berger’s words, we close a theoretical circle: We have seen how commonly held-beliefs, interpretations of realities, political culture, and eventually social actions, are constructed and developed through interactions within political structure (March and Olsen, 1984) or what I call patterns of authority.(25) We have learned that these social structures and contents are the result of the political struggle of competing ideologies. Individual and group experiences --contests, successes, failures, and accidents-- are integral to a social universe’s history.(26)

Hence, there is more than technology and economic forces at work here. Political culture is at least as important a force as those which shape a distinct version of universal social phenomena --like bureaucracy (Crozier, 1964), social democratic institutions and enterpreneurial management style (Bendix, 1963/1974). This is true for Israel as elsewhere.(27) The next section elaborates on this notion by showing how distinct societal political culture and its related patterns of authority are critical in shaping industrial strategy and company actions.
POLITICAL CULTURE AS A LINK BETWEEN MACRO AND MICRO SOCIAL LEVELS

The relationship of an individual, a group and a nation to its environment brings us closer to our perspective of explaining the relations between the micro (the firm) and macro (national) levels of a given society. Whatever the social grouping, the degree to which it is characterized by shared basic beliefs, that is, the degree to which it might be said to have an ideology, is an empirical question. In a complex society, members typically have multiple affiliations, and ideologies may be seen as either nested within each other, or as intersecting. Thus, an industrial manager, an engineer or an assembly worker might be seen as a member of a national, ethnic and class culture, as well as an occupational and organizational one.

Consequently, the levels of analysis used to explain this issue are not only methodological conveniences, but are conceptually and analytically linked. The ideology of a small group is determined not only by small-group dynamics, but by the political and historical dynamics of its social environment.

Almond and Verba (1965) support this argument by asserting that political culture provides "the link between micro- and macro-politics." (28) Relying on this assumption, several political scientists and sociologists tried to employ the concept of political culture to link the culture of nation and the organization. The aim of these studies was to investigate the constraints the national political culture put on the behavior of industrial institutions. The following section will introduce the set of arguments contained in this discourse.
The Link Between Political Culture and Production Technology

Building on Woodward (1965, 1970) and the structural contingency theory described above, John Zysman goes one step further to consider politics as a major force in bridging the gap between the broad societal culture and an organization's ideology. In particular, he matches what Michel Crozier called the "national pattern of authority" with Woodward's organizational "control system." Zysman's study of the electronic industry in France focuses on the fundamental conflict between the "required" organizational structure and production technology, a dilemma that was considered in Crozier's The Bureaucratic Phenomenon. In Zysman's words:

Given this conflict [technology versus ideology], and despite the greater efficiency and competitiveness of firms that are appropriately organized, the hypothesis is that the organization of the French electronics firm will reflect this authority dilemma by displaying the characteristic outlined by Crozier. The firm will not, as a result, organize appropriately to resolve their technological tasks, and therefore will not resolve the problem....(29)

Crozier (1964) asserts that the mechanisms of social control, as manifested within the organization, vary from one society to another. These mechanisms, in Crozier's view, are closely related to the ideology and pattern of social relationships typical of each society. The organization of subinstitutions within this framework typifies the national institutions. Organizational structure is socially constructed, namely, it is produced by interpersonal processes that are largely determined by ideology associated with national identity. Thus, to understand a distinctive national "pattern of authority," one must look to the politics surrounding the establishment of the state. To
generalize his point, Crozier contrasts the French bureaucratic system of organization with those of the U.S.S.R. and the U.S.

Crozier highlights the tension between the individuals' and groups' manipulation of the organization's structure to achieve goals, and the boundaries that the organization puts on the individuals' activities. His hypothesis, in this regard, is that the specifically French features of the bureaucracy came into being because they settled social contradictions in French attitudes toward authority.

When both structure and actions are rooted in, and dictated by, societal culture, the ability of an organization to adapt to market fluctuations becomes uncertain. Crozier's notion of national culture and pattern of authority raises a critical issue about Woodward's proposition asserting that each industry requires a particular production technology. Namely, the question to be addressed is how to settle the conflict between the required "production technology" (or "control system" to use Woodward's term) and a distinct societal "pattern of authority" (to use Crozier's terminology). This dilemma is fundamental to Zysman's (1977) study.

Zysman sees this conflict resolved by political means, because politics on the national level essentially dominates a country's industries, or "subsystems."

Yesterday's fights, institutionalized in the rules, shape today's strategies, and the outcomes of current struggles will in turn influence tomorrow's strategies. Since many of the conflicts inside the organization will be settled in the political arena outside, and the rules imposed on the organization by the state, the institutionalization of the political struggles of the past, the establishment of particular values in the forms of rules and procedures in organization, can contribute to the formation of the typical behaviors of a culture. (30)
The differences between Crozier and Zysman are critical: Crozier considers national culture as a critical factor, an independent variable that determines the patterns by which a firm acts, while Zysman asserts that both the nation’s and the organization’s culture are shaped by political action and the critical decisions of government agents or industrial management. These differences in interpretation are crucial for predicting change. While Crozier (31) advocates change from below within a decentralized structure (i.e., triggered by individual and group participation in the political processes), Zysman proposes change from the top within a centralized structure (i.e., delivered by the national and the firm’s policy-makers who have an extensive role). In this respect Zysman approaches the structural-contingency view by getting close to the traditional "rational" perspective that is directed by the organization’s management and by the government’s policy makers who are motivated by the rational of technological and economic necessity. According to Zysman,

Critical decisions made by the organization’s leadership can be translated into changes in routine behavior. Critical decisions altering the organization’s structure and rules will affect the rules and rewards of all games, making some games more attractive than others and raising or lowering the costs of different actions.... Organization behavior, then, is shaped not only by its internal dynamics but also by its relations with other institutions and by shifts in the tasks it must perform. Critical choices made in response to such developments can provoke changes in patterns of routine. Differences proposed here with Crozier’s interpretation of French organization may turn on this issue. He considers organizations in isolation, while the effort here has been to see them in continuous adjustment to their environment.(32)

In Zysman’s view, the political struggle over an organization’s pattern of authority eventually will be settled in the national political arena --"the dominant organization." In his words,
...national pattern of authority behavior can be understood as the residue of the political struggle that created the state. Thus, culturally distinct patterns of behavior can be 'carried' in the organization's rules, rewards, and arrangements.(33)

Zysman's conclusion justifies government intervention in setting the required conditions to support the firm's policy-making. In Zysman's words:

common patterns of routine behavior, labeled here as culture, will emerge among organizations that are sufficiently interdependent, and that in particular a dominant organization [the state] may transmit its pattern of routine to a subordinate organization [the firm].(34)

The contributions of Zysman's approach to the discussion are twofold: First, it integrates Woodward's "production technology" and Crozier's national "pattern of authority". Second, it elaborates the concept of politics both as a source of and a means for social change. The weakness of Zysman's approach is congruent with the deficiency of the structural contingent paradigm: namely, that of attributing excessive political power to the decision-makers without fully considering the sources of the political struggle --specifically, culture and ideology-- as well as the individual and group's capability to participate in the political struggle over the firm's strategy. This point is addressed by John Child (1973), who asserts that it is wrong to view the relations between an organization and its environment as unilateral; rather, the organization is influenced by the environment just as much as the environment is influence by the organization.(35)

The distinctive feature of the political culture approach is that it seeks to deduce societal patterns of authority from its segment's subunits, and thus provide a bridge between micro and macro social
levels. Political inquiry in organizational patterns of authority (or types of governance) can be divided into two categories: normative and descriptive (Easton, 1965). Normative political inquiry addresses ideologies which underlie concepts of justice and is concerned with how governance should be. Descriptive political inquiry addresses design decisions whereby patterns of authority are formulated and maintained and is concerned with what is --rather than what could or should be. (37)

This study does not make Easton's (1965) distinction between the normative and descriptive categories. Rather, it tries to show how these dimensions are interdependent. Hence, on the one hand these patterns are a reflection of and typify the broader societal political culture, but on the other hand they are affected by it (Silverman, 1971). In other words, I will argue that these patterns are essential in characterizing the distinctive Israeli institutional actions in that they will provide some answers to the initial questions of what makes the Israeli industry different from others. Therefore, this study will utilize a definition of political culture which combines the comprehensive view of Bourdieu (1977) and Sabel (1981, 1982), with the instrumental approach of Crozier (1964, 1980).

In short, economic institutions, like other institutions, must be seen within a broad social context. This is in contrast to organizational models that offer an interpretation of organizational structure as a product of primarily "universal" economic and/or technological constraints.
CONCLUSION

In this study, I suggest that political culture and its related patterns of authority influence all stages of a firm's economic development. By examining the convergence and the structural contingency schools, I have shown that they ignore a firm's or industry's relations to social history and pattern of authority --factors which I believe are crucial to understanding a firm's strategies and actions. At the same time, each company is an independent entity, which uniquely reflects the qualities of its nation and the firms' own historical development.

Patterns of authority comprise a combination of both structural and ideological factors: i.e., a collection of institutions, rules of behavior, norms, roles, and physical arrangements that are relatively stable in the face of turnover of individuals and relatively resilient to the idiosyncrasies of individuals' political culture.(38) These patterns of authority are structures that profoundly influence the behavior of individuals, groups and institutions. In other words, patterns of authority should be seen as the universes or the micro-universes in which social and political interactions occur.

These patterns are essential for the understanding of both individual and social action. In contrast to theories that assume action is choice based on values and expectations (George Stigler, 1952) or on the will of independent free individuals (Crozier and Friedberg, 1980), I will argue that action is essentially the fulfillment of the duties and obligations derived from the individuals' and groups' previous choice to become part of a given social universe and conform to its distinct, agreed upon pattern of authority. In this case duties and
obligations are derived from individuals' and groups' interpretations of their role within the context of their political environment. In other words, these actors associate certain actions with certain situations by rules of appropriateness. As March and Olsen (1984) put it, "what is appropriate for a particular person in a particular situation is defined by the political and social system [pattern of authority, in my term] and transmitted through socialization." (39)

Similarly, as Crozier suggests, the actions of individuals and groups influence political culture and political structures. How this occurs is influenced by the society's history, political struggles, and the way these events have been interpreted by individuals and groups. In other words, the relationship between patterns of authority and an individual or group's action is an interactive and reciprocal one -- linked by an interpretation of history which is common in both macro and micro social levels.

Thus, the methodological approach I have taken is neither a theory nor a coherent critique of one. It is simply an argument that the organization of political life, what I call patterns of authority, makes the difference.

Obviously, this approach has several shortcomings. The attempt to embrace both multi-dimensional factors and multi-levels of analysis eventually increases complexity and raises, rather than answers, many questions. It allows room for conflicting arguments without giving conclusive explanations or predictions. Such a study is better able to refute theories than to construct a new one.
This study relies heavily on historical and ethnographic approaches. Since it searches for the particular historical experience of a social universe, the study cannot develop universal or broadly applicable social science laws of industrial development. Rather, this study seeks to outline a method of studying industrial institutions (firms) in particular countries during specific periods.

The next chapter will define the historical and political culture context which will put our two case studies in perspective. The decision to place the national historical context before the cases was based on the need to provide the reader with the necessary historical background. Conclusions about the national political culture are deduced from the empirical study of the two Israeli industrial institutions.

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CHAPTER 1, NOTES

1. The notion of industrial convergence is based on the premise of technological determinism and has been used as the foundation of the theories of international development.


More recently, Michael E. Porter (1980) constructs the framework of "competitive strategy" to examine the environment, and Arnoldo C. Max and Nicolas S. Majluf's in Strategic Management: An Integrative Perspective, New Jersey: Prentice-Hall, Inc. 1984, introduce the concept of "Strategic Planning" representing continuation of the rational approach.


6. Ibid p. 5.


10. While in *British Factory -- Japanese Factory*, (University of California Press, 1973) Ronald Dore advocates the "late development" or "convergence" hypothesis, only one year later in a paper entitled "Late Development--or Something Else? International Relations In Britain Japan, Mexico, Sri Lanka, Senegal", (Paper 61, Institute of Development Studies Discussion, Briton England: Univ. of Sussex) Dore brought some skepticism to his earlier conclusion.

In fact, today, the Japanese and the Americans are still producing cars with similar technology but using the technology in a different fashion.

11. The leading figures in this school are Peter Blau, Charles Perrow, Hall, D. Hickson, Paul Lawrence and Jay Lorsch, Hage and Aiken, Tom Burn, Derek Pugh, and Joan Woodward in the classic essay *(1965)* Industrial Organization: Theory and Practice, London: Oxford University Press.


14. As Edgar Schein (1985) suggests, "...culture should be viewed as a property of an independently defined stable social unit. That is, if one can demonstrate that a given set of people have shared a significant number of important experiences in the process of solving external and internal problems, one can assume that such common experiences have led them, over time, to a shared view of the world around them and their place in it. Culture, in this sense, is a learned product of group experience and is, therefore, to be found only where there is a definable group with a significant history."

Edgar H. Schein (1985), *Organizational Culture and Leadership*, Jossey-Bass Publication, p. 7. For the richness and various elements included in the concept of culture as well as the possibilities of empirical usage see Schein (1985), Part One.
15. Culture is the key guiding concept of anthropology, used in an attempt to grasp the totality of foreign, often primitive societies. There are more than 150 definitions, Sandy (1979), "The Ethnographic Paradigm", Administrative Science Quarterly Vol 24, #4 pp.427-538). Recently the concept of "organizational culture" has captured the imagination of many students of organization (see Ouchi and Wilkins [1985] "Organizational Culture" in Turner, R. H. and Short, J. F. [Eds.] Annual Review of Sociology, Vol. 11.)


20. Richard E. Dawson and Kenneth Previtt (1969), Political Socialization, Boston: Little Brown & Co. p. 26. This study assumes that any kind of authority is integral to every social unit, and as such it should be also conceived as a "political community."


22. Several studies have focused on the concept of political culture for an investigation of industrial institutions; culture and ideology have been used to explain organization action and even structure. Common to this body of thought is the belief that organizational ideology arises from interaction with the more general culture of the larger society. For example, in a pioneering study of "management ideology," Reinhard Bendix (1963 [revised edition 1974]), asserts that organizational structures grow out of the interaction of managerial ideologies with the dominant ideology of the societal environment they operate in. For example, in comparing management ideologies in the US and the USSR, Bendix shows how entrepreneurial ideologies prevalent in Western culture were replaced by more bureaucratic ideologies in the Communist world. These differences, in Bendix's view, are consonant with the different political and societal system of each country at that period in history. Bendix also shows that the function of such ideology is to interpret authority and obedience so as to neutralize or eliminate the conflict between the few and the many, and so to promote the interests of those in authority.
In order to achieve this, the enforcement of authority may be denied altogether on the ground that the few merely order implemented what the many want; or it may be justified on the basis of the supposed qualities excellence possessed by the few which enable them to realize the interest of the many. As an example for which his hypothesis, holds true, Bendix cites a recent case in the USSR where industrialization was advanced by an ideology in which authority was justified and legitimized by the idea that management represents the general will of the Communist Party.

In another study Juergen Habermas (1970), describes culture as a "world picture" that stabilizes or legitimizes authority and domination in a social universe, and takes an extreme view about the function of ideology. In Habermas's view, culture can legitimize or justify reprehensible social institutions, unjust social practices, repressive authority and exploitation. Hence, organizations' and groups' cultures are not, and in fact cannot be isolated from the community and society of which they are part.


25. The concept of "pattern of authority" will be defined in more depth at the final section of this chapter.

26. The meaning of time and experience for an individual, a group or a nation cannot be explored without considering their exclusive relationship with their environment. In other words, an organization's history is meaningless without the context of its environment, just as an individual's history cannot be understood without the exploration of the institution with which he or she is associated. A period of history of a given social universe should be seen as the context, the source, and the consequences of its members' ideas and beliefs. In this regard, men coordinate their activities --produce their goods, express their desires, fight their wars and build their communities-- within a social universe which is a distinctive patterns of authority.


32. Ibid, pp. 171, 173.

33. Ibid, pp. 169, 177.

34. Ibid, p. 176.


36. Lucian Pye related to this premise by asserting that the link between the social levels "is the problem of aggregation --which involves the adding up of the discoveries of individual psychology in such a manner as to make community-wide behaviour understandable in the light of individual actors... for which the concept of political culture hold such great promise."


CHAPTER II: THE NATIONAL CONTEXT

Overview

The aim of this chapter is to set the historical foundations on which the Israeli political culture and patterns of authority have been constructed. The chapter sheds light on two distinctive Israeli organizational patterns of authority which I call "bureaucratic-egalitarian" and "elitist-egalitarian." These patterns consist of three components that are typical of and essential to Israeli political culture: the egalitarian element which is common to both, and the bureaucratic and the elite elements which are unique to one or the other of these patterns. In this regard, these two patterns of authority have a mutual characteristic, but they cannot be reduced to each other. In this political culture, egalitarianism can co-exist with either elitism or bureaucracy, but the latter two cannot co-exist with each other in the same pattern of authority.

EGALITARIANISM in this context is an ideology advocating human equality, especially with respect to social, political and economic rights and privileges that have been translated into a social ideology advocating the removal of inequality. Egalitarianism takes two distinct forms in Israel(1): Formally, within the institutions of the social democratic system that combine social welfare responsibility to the individuals with a greater class economic equality; and informally, as the social phenomena of friendship and community support of the individual. Hence, egalitarianism is defined in terms of material equality rather than of social status.
ELITIST is defined as being descriptive of a socially superior group. In a democratic society the existence of such a superior group is legitimized by either the explicit or implicit advocacy of elitism and further legitimized by membership in an elite group. (2) In other national political cultures, elitism can be defined in various terms: for example, the political apparatus in the communist states and in the Third World, aristocracy or nobility in Britain, professions in the U.S., or upper castes in India. In contrast to these examples, elitism in Israel is defined in terms of social pioneering status or "symbols of the ideology" (Eisenstadt, 1967) rather than material wealth. In this regard, in many institutions (the kibbutz, for example) there is no direct relationship between wealth and social status. (3)

BUREAUCRACY is defined as a system of administration marked by officialism and characterized by specialization of function, adherence to fixed rules, and hierarchy of authority. (4) The patterns of Israeli bureaucracy consist of an amalgam of ideologies (i.e., Socialist-Bolshevik and British Western administration) and cultures (Middle Eastern and Western, especially imitation of American management style). (5)

The historical description of how each Israeli institution came to adopt one or the other of these political structure illustrates how these patterns functioning within a framework of organizational political culture, determine policy far more than does logical, rational planning based on the "conventional" economic indicators.
THE NATIONAL CONTEXT

A Broad Picture: Egalitarianism as the Foundation

Israeli egalitarianism developed out of a long Jewish tradition of reciprocal aid (within a fraternal society) and a belief in the common destiny of members of a society under perpetual external threat. Mutual support is a matter of survival, and the common interest is usually more valued than the individual interest. This is the culture in which the "Heveruta" (translated as both "togetherness" and "friendship") is the prime method with which generations of Talmudic scholars approached their study; "Minyan" (ten adult male Jews) is the minimum for congregational prayer. Judaism is overall a communal religion.

A not less important source for the Israeli political culture came about as a result of historical fact related to the emergence of the socialist-Zionist movement. Aspirants of Marxist-Leninist ideology, the socialist-Zionist segment sought to revolt against, and break a long Jewish tradition in the "Diaspora" (any non-sovereign Jewish establishment outside the land of Israel) to create a new culture and image of socialist society in Palestine. An essential factor in the implementation of the ideology in this new society is an understanding of the physical relationship between man and his land. In contrast to many other fundamental issues that cannot be reconciled, the vitality of communal and egalitarian values for both Judaism and socialism remained the core principles of the newly constructed Israeli society.

Egalitarianism, in the Israeli context, is the ideology that asserts the primacy of the collective over the individual; the individual is expected to realize himself by serving the collective;
publicly-owned means of production and collective forms of social organization are favored over private capitalistic ownership (Etzioni-Halevy and Shapira, 1977). This egalitarianism consists, not only of individuals' common interest, but also is based on an internalization of the virtue of "belonging" --almost expansion of the self into the commonality. Egalitarian relations are typically found, in various forms, in a variety of groups and institutions within Israeli society. These forms range from informal comradeship among close circles of individuals to societal institutions.(7)

The persistent ideological paradox that derives from the conflict between egalitarianism and elitism is a result of both contextual and content-cultural elements: The context derives from the particular way in which the Israeli institutions were constructed, and the content-cultural element is a consequence of classification by the virtue of religion, pioneering, political advocacy, charisma, and unique skill. A short elaboration of the contextual and content-cultural elements will provide us with a better characterization of the pattern of authority in focus.

**The Political Culture of the Bureaucratic-Egalitarian Pattern**

In contemporary Israel, the bureaucratic-egalitarian pattern of authority was found by the mainstream Socialist-Zionist movement (led by Berel Katzenelson, David Ben-Gurion and Yitzhak Tabenkin) as a prime method that transfers utopian ideas into scientific implementation. Within this view, the Labor party and bureaucratic institutions are the most authentic working class representatives. By controlling the modes
of production, the party can sufficiently promote egalitarian values as well as prevent worker alienation from production.

The institutional egalitarian form has been preserved by the powerful Histadrut (the general federation of labor in Israel, unionizing almost 90% of the national workforce), a leading force in the Israeli social democratic system. The egalitarian ideology, as expressed by the Histadrut, realizes the functions of both union and industry owner: as a union the Histadrut uses its strong position in national politics to assure job security and relatively equal compensation; as an employer, it has a strong commitment to its own industries, and to their surrounding communities, which are frequently located in the periphery, by means of providing and securing their source of living.

Despite the success of the social democratic system in keeping some of the essence of the egalitarian ideology, however, a number of major dysfunctions have developed. These dysfunctions are mainly an outcome of multiple sources treated to the excessive power of the Histadrut, and its rigid bureaucracy, the extent to which individuals are dependent on its administrators, and its inaccessibility to active participation of the newcomers–Jewish immigrants, especially the Sephardic population.

The historical irony, however, is that as "guardians" of the egalitarian ideology, the Labor politicians, are accused by many as an elite who enforce arrogant, even patronizing, relations with the rank-and-file. Thus, in the eyes of both its opponents and champions, the Histadrut is symbol of Israel's social democratic tradition, with its
well-developed bureaucracy to regulate and coordinate the distribution of strategic social resources.

The Political Culture of The Elitist-Egalitarian Pattern

In addition to the bureaucratic-egalitarian pattern, the founders of Israel and the Histadrut passed on another important heritage to their heirs -- the comradery of the pioneering groups and implicit elitism. The communal spirit continues to inspire "kibbutzniks" who settle the land. The comradeship and the dedication of the pre-statehood military undergrounds can still be found in the special Israeli Defence Forces (IDF) units. The revolutionary commitment of the settlers to create a society which is self-sufficient is found in the groups of those high-tech scientists who are committed to place Israel as a leader in the highly competitive international industries. These groups of engineers and scientists were the leading force behind the establishment of a new type of industrial institution -- the privately-owned, R&D-oriented enterprises. This new industrial form was intended by many Israelis to be constructed outside of the social democratic system.

In these economic elite institutions, there is a clear hierarchy of power focused on the core group of scientists, with a secondary circle of employees devoted to services that legitimize the primacy of the core. The elites emerge due to their embodiment of an ideological symbol (Eisenstadt, 1967), the level of individual volunteerism, commitment, and sacrifice for the common goal (Etzioni-Halevi, 1977), and only more recently personal skill and profession (Deber, 1970). All are major ingredients of charismatic leadership. Hence, power is not
formalized by a complex bureaucratic or regulatory system; it is exercised more informally.

These elite groups are also characterized by egalitarian elements. The sense of egalitarianism is particularly strong within each circle, and is probably most intense at the core where the most prominent value is the fraternal bond among the members.

Before its emergence in these high-tech R&D oriented firms, the elitist-egalitarian patterns of the early Israeli pioneers were transformed into a bureaucratic organization based on the social democratic union -- the Histadrut. This myth of the pioneers, however, still remains integral to Israeli society, and its embodiment in scientific business firms, makes these firms inheritors of an important national ideal.

In the following sections, I will describe the historical background of the patterns of authority with which we are concerned, the elitist-egalitarian and the bureaucratic-egalitarian models. We will see that Israeli society in the early twentieth century was marked by adherence to a strong elitist-egalitarian pattern within the context of a socialist-revolutionary ideology and the political movement that gave it expression. As Israeli society developed, the dominant ideology shifted toward a bureaucratic social-democratic model. The egalitarian strain, however, was retained in different forms within the structures and formal practices of the Histadrut and the platform of the Labor Party, and as a strong value embedded within the elitist groups.
THE HISTORICAL CONTEXT OF THE ELITIST-EGALITARIAN PATTERN

The first traces of the elitist-egalitarian pattern of authority can be found in the early Jewish settlements in Palestine, embodied in the ideology of the new revolutionary socialist-Zionist movement. The movement was composed of young people who rebelled against their parents, religion, and social traditions. These young settlers were motivated by the socialist-revolutionary ideology and wanted to implement these ideas in Eretz Israel ("the land of Israel" at the time called Palestine, an entity under Turkish rule). Their ultimate aim was to create a new, Biblical-like Jew whose life was rooted in the ground, in both senses of this word: namely, to live the real physical life and to be either a free farmer who holds land or free worker who controls the modes of production.

These young settlers in Palestine [named the "Second Wave" (1904-1915) and the "Third Wave Of Immigrants" (1919-1923)](9) motivated by the spirit of Marxist ideology, tried to settle the conflict between nationalism and class revolution. In 1919 they established the first politically organized labor group in contemporary Israel named Ahдут Ha'avoda --"the Unity of Labor". These Second and the Third Waves of immigration should be seen as decisive stages in the formation of the sociopolitical pattern of the Yishuv and the Israeli society. As Eisenstadt put is: "The ideals and organizational patterns created by them were not only maintained and perpetuated in the social structure of the Yishuv, but were to guide and shape its further development."(10)

Intent upon eradicating the anti-Semitic caricature of the weak ghetto Jew, Ahron David Gordon, a prestigious leader of this group,
developed the philosophy of "Self Work." The ideology of Jewish "self work" was intended to create a revolutionary transformation of the Jewish nature and image at that time. Jewish life in exile was only occasionally related to agriculture; historically, Jews rarely held land outside Israel. In short, to be a peasant is not only to be a person who does physical work, but it is to have a direct connection to the homeland ground. Self-employment is not only a badge of pride, but it is also a metaphor for an independent Jewish state.

Gordon and his young followers aspired to real physical work, a natural and direct relationship to the ground. In that sense, the Arab Palestinian natives who were there were a source of imitation for these young immigrants. These groups of young dreamers dressed in Arab clothes and adopted other native habits suitable for commune members living close to nature. The aim was to establish a new society with a new cultural content and values: an elite, by virtue of hard physical work. The kibbutz was established as the core institution that embodied these values.

The most important characteristic of this 'peasant' role was the deemphasizing of occupational and 'traditional' aspects of peasant life, at the expense of the more elitist conception of the agricultural work as the main symbolic expression of the pioneering.... The ideological and elite orientations of the first pioneering groups and the strong transcendental orientations and sense of personal responsibility for the fulfillment of the ideal inherent in the image of the pioneer guided the initial development of this center, its symbols and institutions.(11)

These groups were elite by carrying the pioneering ethos of establishing a new Jewish society and culture. They were conceived of as elite because they were the social vanguard which broke with the long Jewish tradition of scholarly pursuit and merchant occupations and committed
themselves to hard physical work. And perhaps, they were elite by virtue of their mingling traditional intellectual European Jewish and socialist values with the power of the land.

Three complementary aspects led this elitist movement to adopt the "Self Work" concept: 1) the reluctance to employ others and become the bourgeois society they rejected, 2) the revolutionary idea of changing the traditional structure of Jewish society and its members' occupations, and 3) a struggle for work during a time of economic scarcity. In this context the kibbutz system was sufficient to serve both the ideological and pragmatic needs of the new groups.

The major ideological themes were that on the kibbutz all wealth (except personal possessions) is supposed to be held in common, all work is shared according to each person's ability, all goods are distributed according to each person's need, and all decision-making is arrived at democratically by all members of the kibbutz.

In this social environment, a strong elitist ethos and internalized of common ideology supported participative relations between leaders and their fellow kibbutz-members. The nature of agricultural work consisted of broad job definitions, workers' rotation of jobs in the field and their work in agricultural and community services. Three major aspects of social organization --the nature of collectivism, the definition of roles, and the criteria of status-- complemented each other in controlling the incipient combination of both the elitist-egalitarian pattern of authority and the way in which it was employed.

This social organization was due to various factors: First, the overall societal infrastructure consisted of the relatively small degree
of variation in the Yishuv's social structures, and their internal social principles -- i.e., kibbutz-type settlements. Second, within these settlements the individual job was defined very broadly and little specialization took place among the many similarly composed yet different groups, and even the activities of the professional and the cultural bodies were not geared to any specific needs but rather to those of a "future" society (Eisenstadt, 1967).

Hence, the community leaders frequently were those who could crystallize and transmit the ideology, but also they often were subordinate to other strata of leaders during work time. The leaders at the workplace fulfilled the function of coordinators and were periodically replaced. The rotation of managerial jobs was important since the coordinator was a person who had many more obligations and duties than others.

Nevertheless, ideological enthusiasm is not sufficient to provide human necessities. Suffering from deep poverty and disease, the young socialist settlers looked for a better organizational system to face these difficulties. Since these waves of Jewish immigrants "lacked adequate private means, the emphasis had to be on nationally financed settlements. This helped create the conditions for the hegemony of the labor movement, which was the sponsor and promoter of this pattern."(12) It was also consistent with the labor ideology, prominent at that period, to seek answers from the promising and new revolutionary regime of the USSR. Based upon the experience of the Bolshevik revolution, the leaders of the new movement understood the importance of the institutional social and political infrastructure.
Lenin's interpretation of Marxist ideology was particularly attractive to the newly constructed socialist-Zionist movement. First, it solved the conflict between socialism and nationalism. Second, it allowed the existence of the leadership of the few, i.e., the pioneers as elite (or the party in the case of the Bolsheviks) which both embodied and transmitted the egalitarian values. This ideological belief was a major factor that shaped the construction of the socialist-Zionist segment—a leading force in the Zionist movement during the 1920s and the 1930s.

Thus, in 1920, the socialist-Zionist groups established the Heverat Ha’ovedim, and later the Histadrut, in an attempt to create a new revolutionary society jointly based upon the philosophies of socialism and Zionism. Their interpretation of Marxist-Leninist materialistic theory led to a unique conclusion concerning the necessary for realization of the Zionist goal to establish a new state for transforming Jewish social tradition. Social revolution, in this view cannot occur without the necessary materialistic conditions, such as economic and industrial infrastructure. As Eisenstadt describes:

Far-reaching attempts to develop a specific modern structure were implied in the pioneering ideology. These attempts combined the positive aspects of modern technology with the maintenance of basic human and social values and were oriented especially to their implementation in the fields of economic and social organization. However, these economic orientations were not purely social and ideological. They were closely related to national effort and were conceived not in utopian terms but rather as part and parcel of the building of a new nation. (13)

Heverat Ha’ovedim was an institutional resolution for the socialist-Zionist ideology. This labor organization was founded with a
threefold purpose: settling the country, creating jobs for the poor youthful immigrants, and dealing with workers’ life as a whole. By following the Marxist ideas of social equality and public control of the means of production, the new settlers created an efficient infrastructure for their new society. This infrastructure was intended to embrace the revolutionary content of egalitarian-socialist ideology.

This new Zionist enterprise in Eretz Israel become the foundation on which Jewish society had to undergo a radical social transformation, from its tradition of urban life in the Diaspora to peasant life in its homeland. (14) Eisenstadt (1967) identifies the roots and the characterization of this trend:

The first important characteristic, common to the Yishuv as well as to many other colonizing countries, was the absence of an aristocracy. This was due not only to lack of special family tradition but also to the fact that much of the land, and the available capital, was viewed in public hands, often abroad. The second characteristic was the concentration of wealth in various public bodies and organizations. Thirdly, the strong egalitarian emphasis in the social structure of the Yishuv became apparent even at this stage; and fourthly, side by side with the strong egalitarianism, there was also the emphasis of the elite inherent in the image of the pioneer. This combination had many interesting percussions on the social structure and organization of the Yishuv. (15)

The hegemony of these socialist generations of immigrants of the education system and the new political infrastructure of the Yishuv "strengthened the primacy of this ideology, as well as the predominance of the labor movement (of which the pioneers were part) in all key position of the Yishuv." (16) Hence, the Histadrut become the umbrella organization in which the collectivist-socialist ideology that the collective (as represented by its political organization) was to play a
major role in the organizing and supervising all facets of socioeconomic life.

The Elitist-Egalitarian Pattern in the Israeli Defense Forces

Traces of the elitist-egalitarian pattern can also be traced in the Jewish military underground before statehood and the established of the IDF. During the Second World War, or the "Yishuv" period, one can identify three military underground factions -- Palmach (Socialists), and Etzel, and Lehi (the latter two being Revisionist-nationalists) -- as well as formal battalions of volunteers mobilized in the British forces in Europe.

The major faction within the Yishuv was the Palmach. The Palmach was the military arm of the "Hagana," the political institution related to the Histadrut and the socialist-Zionist political faction in the Zionist movement. The Palmach, founded in 1941 by Yitzhak Sadeh, was closely related to the Kibbutz movement. Its members were either part of the Kibbutz movement or close to it. Most of the Palmach members were Ashkenazim. During its existence, each group of the Palmach was located in one of the Kibbutzim -- thus merging cooperative work and underground military training. The Palmach members saw themselves -- and were considered by the Yishuv -- as an elite. They were respected as the young generation that overcame the psychological inferiority of the Jews in the Diaspora. Young people, like Moshe Dayan and Yigael Allon, became symbols of this generation. The "Sabra", the Hebrew name of the cactus fruit with a prickly exterior and tender
insides, was used to describe metaphorically such an Israeli-born youth.(18)

The Palmach promoted elite values of the intellectual, self-controlled or "civilized" person who was motivated by the universal socialist ideology. Hence, they enforced democratic and egalitarian norms, not only among men but also between the sexes. Many women took active roles in combat within the Palmach forces. The leaders were first among equals: friendship and comradeship were vital values. Yitzhak Sadeh, one of the founders and the most prominent leaders of the Palmach, illustrates the beliefs of the Palmach member in their typical (if naive) rhetoric:

The fellowship of men fighting for a common cause is surely the perfection of comradeship. Without it, nothing can be achieved... Comradeship has to be nourished. It has to be learned. As you learn to feel that each and every day of the year is the crucial day, so you must learn to know that the friend at your side is your brother in the deepest sense -- your comrade in dedication... and in act.(19)

In sum, the characterization of the elitist-egalitarian pattern of authority consists of two components: elitism and egalitarian relations. Power is distributed and exercised within a democratic, participatory dynamic. As for the economic institutions, the egalitarian values of the early pioneers were removed as a leading force in characterizing industrial relations and patterns of authority with the institutionalization of the social democratic apparatus. These particular types of elitist-egalitarian values were never abolished completely, however, and always remained part of the Israeli myth.
THE SHIFT INTO A SOCIAL DEMOCRATIC IDEOLOGY AND BUREAUCRATIC MODEL

During the early 1920s the Zionist movement and the "Yishuv" in Palestine reached an important historical crossroads—the emergence of fascism in Europe. The anti-Jewish set of laws introduced in Poland in 1924 was a first important sign of the trend that reached its zenith in 1933, when Hitler led the Nazi party into power in Germany. Consequently, two new waves of Jewish immigrants entered Palestine: the "Fourth Wave" started in 1924 and consisting of Eastern European immigrants, and the "Fifth Wave" that started in 1930 and including mainly Western European immigrants. Both waves of immigrants were driven by the threat to their lives rather than by broad ideological motivation.(20)

These waves of immigration from Eastern and Western Europe shaped "Yishuv" history in two important ways: 1) contributions to the economic and social development of the urban sector; and 2) contributions to the ideological shift from universal class revolution to national realization. The dominant Zionist leadership from the labor movement, as well as that of the Revisonistic (conservative) movement, emphasized the rise of the nationalistic ethos; the building a Jewish state, not the universal socialist revolution, became the major aim of the movement.

After an economic crisis in 1927, all factions of the labor movement were consolidated by Ben-Gurion (who was at the time secretary-general of the Histadrut) into a new political party named MAPAI (Eretz Israel's Labor Party). By controlling the Histadrut's economic resources, Ben-Gurion managed to force political consolidation. The
Histadrut become both the umbrella organization and the economic infrastructure on which the Party apparatus was established. In many ways, this event was the milestone for identifying the shift from Socialist to Social Democratic ideology.

In 1929, Ben-Gurion publicly identified the need for an ideological shift "From Labor Class into a Labor Nation." In 1933, a collection of Ben-Gurion's speeches was published in a book entitled From Class to Nation. The word "Labor" was dropped. It was an important ideological indication that the universal interests of the Jewish working-class were to be replaced by more parochial national interests.(21) The social democratic values, at this historical crossroads, seemed adequate and attractive.

This ideological shift was accelerated after the establishment of Israel as an independent state in May, 1948. Just six weeks after the independence proclamation, during the "War For Independence" (1947-1949) Ben-Gurion dismantled all three pre-statehood military organizations, and gathered them under the umbrella of the new, legitimate national defense forces. Etzel was dismantled after a threat to use power against Etzel's forces. The new IDF guns were almost shot at the Altelena, a ship produced by Etzel that reached shore carrying volunteers and arms. Menachem Begin, Etzel's leader at that time, decided to disarm his forces without struggle. Many of the most prominent and experienced leaders of the Palmach, like Yigael Allon, were also reluctant to enter the national army of the new state; indeed, many resigned. Ben-Gurion had upheld the rule of the law and had crushed possible defiance of the primary prerogative of the state --
that is, to have a monopoly on the use of violence. Hence, the major source of leadership in the new army was the young Jewish volunteers who left the British army.

Ben-Gurion's rationale was twofold: to ruin all extreme political ideologies from the "left-socialist" (Palmach) to the "right-nationalist" (Etzel), and to develop a modern army based on the experience of officers trained in the highly institutionalized British army. As Ben-Gurion had done thirty years earlier (during the 1920's) when he established the Histadrut institutions, the socialist leader became statist advocate, and he preferred to establish a highly-developed bureaucratic infrastructure for the new modern army.

Ben-Gurion did not believe that the spirit of a socialist youth-movement consisting of what he called "barefoot dreamers" could be sufficient for building either a modern army or a modern economic infrastructure. His thrust was to promote experienced professional "civil servant" officers, in both the civil and the military realm, who could efficiently develop a modern state infrastructure and military force. The shift from the craft to modern heavy industries parallels the shift from guerilla warfare to full scale warfare using tanks and a sophisticated fleet. As Ben-Gurion explained:

We are now [in 1949] about to organize the army of Israel.... So far we have not done it. Up to now we have had a fighting force with which resist the Arabs. Now we are about to create a real army, with a military bureaucratic system and law...(22)

Such shifts, in Ben-Gurion's view, could only be implemented by using the "British" type of bureaucratically institutionalized organization consisting of a bureaucratic [hierarchical] leadership style. Along
with his overall political aim to accelerate the shift from the Eastern socialist perspectives to Western-liberal ones, Ben-Gurion espoused the British system of public and military control at the beginning of statehood.

Nevertheless, in Ben-Gurion's view, this bureaucratic pattern should not contradict the societal ethos. The role of the new army was far beyond a conventional military force:

...[the new army's role was that of] a pioneering, educating force, nation-building, wilderness-redeeming... molder of the nation's leaders, the cultural instrument of the in gathering of the exiles, their unification and spiritual uplifting. (23)

In this view, organizational order and bureaucracy is an approach which is both more rational, and practical, in terms of the moral values of the society. But not less important was the role of the bureaucratic order within the organization itself: bureaucratic order was a necessary instrument against excessive power in the hands of the commanders. Without the constraints of bureaucratic procedures and institutionalized rules, such an authority can be used inappropriately.

The rationale that stood behind the bureaucratization of the military also served as a major factor in constructing the economic institutions: a special concentration was given to the organizational structure.

The structure itself, in this view, should embody and enhance the egalitarian values. The division of power among the organization's institutions serves as a major check-and-balance device against management power excesses and arbitrariness. Institutions' rules are determined by a long process of negotiation and bargaining among various interest representatives. These interests often have dual allegiances
to both the constituency they represent (labor, stockholders, party members, and military subordinates) and to their own power-invested group (union leadership, top management, party leader, and military commanders). These organizational actors are constantly engaged in setting up new alliances inside and outside the organization that can advance both their own political position and those of their constituencies.

One of the most important aspects of these changes was the fact that the elite become a ruling class, and that, therefore political power became a criterion of status, prestige, and economic reward.... The new aims [of this elite] were to monopolize the allocation of status, occupational position and economic rewards, to impose an egalitarian, 'homogeneous' system based on the assumptions of the pioneering ideology and to absorb the new immigrants and assimilate new developments in the older section, according to these new principles. In the new reality of the state this necessarily implied increased power for the various bureaucratic and administrative bodies as well as greater bureaucratization of the access to positions of power.(24)

The power struggle, then, within these bureaucratic organizations revolves primarily around groups or institutions rather than individuals. But no less fierce was the political struggle of the later waves of immigration to gain access to the national political arena as legitimate actors. Various social groups gain power by organizing and marshalling enough force to gain entrance into the game --to institutionalize their role.

In the realm of economic institutions the bureaucratic-egalitarian pattern is expressed functionally by a hierarchy centralized by the general manager or president. The structure's institutions embody the locus of control and restrict both rank-and-file and management's freedom to act. In a formal way, the system reflects the balance of
power among the organization's actors. Because of its institutionalized formal structure, a bureaucratic system can more easily absorb non-selective employees; comprehensive planning, formal procedures and strict standards replace employee discretion. In combination with the intensified wave of Jewish immigrants from the Arab world (the Sephardim) and the expansion of the standard of living, the bureaucratization of social structures raises a problem of access to various positions, and underscores the variations between different occupations that were attributed to the differences between "new" and "senior" immigrant, Ashkenazi and Sephardim, as well as the increasingly different levels of compensation.

This transition affected both pioneer-ideology and as Eisenstadt (1967) put it:

...the most important structural result of this growing occupational differentiation was perhaps that it created a situation of irreversibility of [broad] occupational role. Unlike the original pioneer-ideology which assumed that a person can easily shift his occupational role according to collective demands, the economic development after the establishment of the state caused commitment to an occupational role to become more set.(25)

The bureaucratic-egalitarian model not only formalized production processes, but also institutionalized social relations within the firms: labor and management's conflicting interests, for example, are legitimizized and channelled into a proper institution, collective bargaining. Hence, institutional industrial relations becomes intrinsic to the system in which each institutionalized group's representatives negotiates its followers' particular interest.
BACK TO ELITIST-EGALITARIANISM?

Tension Between Bureaucratic-Egalitarian and the Elitist-Egalitarian Patterns of Authority

The Israeli social democratic system, marked by the prominence of the Histadrut and the Labor Party, never held a consensus within Israel, but managed to be the leading political and economic force for more then half a century. The first signs of social disenchantment with the system started in the 1950s when the leadership was blamed for its elitist exclusivity. "One could not get a job without having the Histadrut identification card," was a common criticism heard from the Liberals and the conservative parties.

This discontent was expressed more significantly during the 1960's. At that time the system was attacked from within and without. The major theme of the criticism was over-politization and bureaucratization.(26)

The traumatic 1973 War intensified social and political discontent. At this time, the myth of defense broke down; the defense issue, traditionally conceived as beyond politics, became part of the political agenda. This change damaged the reputation and even the creditability of some prominent Labor Party's leaders like Golda Meir and Moshe Dayan; the common social myth of the effectiveness of IDF suffered. Top military officers who just seven years before, in 1967, were perceived as national heroes, lost their reputations; people doubted that a successful military pattern of authority, with some accommodations, could be transformed by talented and experienced army leaders into economic institutions.
Despite the fact that the ideology of egalitarianism has remained institutional by its relation to the social democratic system (i.e., the welfare legislation and the Histadrut), in practice this form of egalitarianism has been losing appeal over time, especially for industrial institutions. The idea of income equality has become far less prevalent that it used to be. As Deber (1970) points out, a competing ideology has come to be increasingly prominent in Israel. This ideology holds that each individual should be rewarded in proportion to his overall contribution: skill, training, efforts, initiatives, and responsibility. As Etzioni-Halevy and Shapira (1977) put it, "the trend toward increased differentials in the salary scale is thus related to the receding of the ideology of equality and the advancement and increasing prominence of the ideology of equity." (27)

The middle 1970s can be characterized best as a period in which the old pattern of authority was cracked, if not broken, and an alternative pattern was yet to be found. All looked for external alternatives, and the favorite was the "American" way. Coinciding with the massive military airlift sent by Nixon's administration during the end of 1973, the Israeli ambassador to the US, Yitzhak Rabin, was brought back to Israel to replace the prime minister, Golda Meir, after her resignation.

In his first interview to the Israeli National Radio in 1974, Mr. Rabin spelled out his motivation "to adopt some important American values..." One should bear in mind that this message was first transmitted by a Labor prime minister. Rabin's declaration fell on fertile ground. It was the expression of a common belief that the social sicknesses was caused by the social democratic Histadrut.
philosophy which were integral to the rigid, complicated bureaucratic infrastructure of Israeli government, labor union, industry, and after 1973 War, even to the IDF. The broad consensus was that this structural illness could be cured, only by adopting neo-classical economic principles, especially in regard to the "American" philosophy of the free enterprise system.(28)

Thus, in seventy years (1904-1974) the ideological perspective, the international political orientation and political culture were dramatically shifted from the East (the USSR) to the West (the US): [a shift] from a combination of Marxism and nationalism into amalgam of liberal-nationalism; from a collective dream of individuals into individualistic dreams of free enterprise embodied in complex way within the umbrella of nationalism.

In 1977, the ideological shift from social democracy to a combination of capitalism and nationalism was translated into a national political transition. It was the sweeping election triumph of Menachem Begin, the most prominent leader of the right-wing Likud bloc, which ended more than fifty years of the Labor movement's domination of the Zionist movement. Begin openly campaigned against the early socialist pioneering ideology embodied in the kibbutz movement. Based upon a populistic rhetoric, Begin scorned the kibbutzniks as Ashkenazi elitists and "millionaires in swimming pools." The newly established Likud government's sympathies swung to a different type of pioneers -- the movement of Gush Emunim which was established after the 1967 Middle East War. Relying on a nationalistic interpretation of Judaism, Gush Emunim aimed to redeem the land of Israel with a youthful excitement,
dedication, and self-sacrifice similar to that of early socialist pioneers in the kibbutz movement (Asher Arian, 1985).(29)

Nevertheless, the egalitarian ideology was not abolished entirely; it just changed its institutional bureaucratic form. The spirit of the commune, the togetherness, the friendship, and the commitment of the individual to the common aims is preserved. It can be only an historical accident that the bureaucratic-egalitarian pattern of authority, within the new circumstances, brought back the notion of elitist-egalitarian pattern. Perhaps this is a case in which different ideologies produce similar social structures.

In sum, this chapter characterizes the fundamental Israeli political culture and the roots of its organizations' pattern of authority. It shows how these patterns were generated along history in two major periods, the Yishuv (1882-1947) and statehood (1948 on). Each formed a particular set of ideologies and patterns that transformed and accommodated in various organizations and institutions. These ideologies and patterns persist.

The link between the political culture and historical dynamics resides in the patterns of authority themselves. This link represents the clearest influences of Israéli history upon the way its institutions functioned. This fact gives life to the patterns of authority, because they are not abstract notions of what authority should be, but rather active, organic matrices with vital histories that are inseparable from the development of the Israeli nation. These patterns are important because they describe something essential about the way groups and
institutions, including large economic organizations have organized themselves in Israel.

* * *

The next two chapters will show how the internal political structures of Radgal and Cintel, and their ability—or inability—to negotiate the challenge of gaining international prominence in the high technology industry, depends a great deal on the inheritance they received from Israeli politics and history. Radgal, the offspring of social democratic ideology, is a union-owned, hierarchically-organized manufacturing firm whose pattern of authority can be characterized as bureaucratic-egalitarian. Cintel is a product of free-enterprise ideology. It is a privately owned and R&D oriented company, run by a group of freewheeling senior engineers and scientists, in a pattern of authority we shall call elitist-egalitarian. The egalitarian component common to both companies' pattern of authority reflects two variants of the egalitarianism held by Israel's founders.

Because these two cases are tied to Israel's history and political culture, their story cannot answer all the questions about universal or global patterns of industrial development. Rather, they show a particular pattern of authority and political process wherein power-holders within an organization decide upon courses of strategic action. By focusing on the political culture and history (both of the nation and of the firms), these cases may suggest more complex criteria by which to evaluate the success or failure of new industrial trends and with which to draw conclusions about industrial opportunities in a world of continuing industrial change.
CHAPTER 2, NOTES

1. As Etzioni-Halevy and Shapira (1977) assert, egalitarianism is among the few values of consensus in an highly ideologically segmented society. In their words: "leftists and rightists do not differ on a variety of their items pertaining to equality. They do not differ in the context to which they regard socioeconomic gaps and excessive (either on the abstract or on the concrete level) and in what they think should be done about such gaps. Thus on the whole, people of various political orientations do not differ significantly in the degree of their egalitarianism." p. 36.

For further discussion of the egalitarian phenomenon in the Israeli political culture see Eva Etzioni-Halevy and Rina Shapira (1977) Political Culture In Israel, Cleavage and Integration Among Israeli Jews, New York: Praeger Publisher pp. 62-64.


3. For further discussion about the root of this elitist element in the Israeli political culture see Samuel Eisenstadt (1967), Israeli Society, New York: Basic Books, pp. 44-46.


5. For further discussion see David Nachmias and David Rosenbloom (1978) Bureaucratic Culture: Citizen and Administrators in Israel, New York: St. Martin’s Press.
6. In the words of Etzioni-Halevy and Shapira (1977): "The pronounced collectivist tendencies in the Yishuv [see following definition] and the beginning of statehood derived not only from the Zionist ideology, with its emphasis on common national ideals, but also from the leftist-socialist ideology, with its emphasis on new pattern of collective life. Also in the Yishuv, collectivism was intertwined with egalitarianism.... the highest prestige was accorded to those groups and individuals who made the greatest contribution to the collective goals, that is the persons who devoted themselves to the various pioneering tasks (Lissak, 1970)." Etzioni-Halevy and Shapira Political Culture in Israel, p. 64.

7. For example, in contrast to the Japanese political culture of "vertical integration" as pointed out by Nakane (1970), Israeli political culture rests on the belief of equal rights and broad political participation in an attempt to form the newly-born society.

8. Before describing the Histadrut’s structure, it is necessary simply to identify its institutions by names and functions: Histadrut, Neverat Ha’ovedim, and Koor Industries. The Histadrut is the "umbrella" organization for both the labor union and the economic production and services enterprises. The politically-controlled institute in charge of the economic activities of the Histadrut is Neverat Ha’ovedim. The Hebrew translation of the institute name indicates the founders’ philosophy concerning the relations between labor and capital: the Hebrew translation for "Ovedim" is "labor", and "Neverat" can be used as "enterprise" and/or "society." Koor Industries, is the manufacturing arm of Neverat Ha’ovedim. In contrast to Neverat Ha’ovedim, Koor is basically controlled by professional managers nominated by the political leaders of Neverat Ha’ovedim.

9. The first "Wave of immigrants," during 1882-1903, was composed of 20,000 to 30,000 immigrants who escaped from Eastern Europe. They were not ideologically motivated, and they settled agricultural colonies --"moshavot"-- on a privately-owned lands. They were assisted by Baron Rothschild’s philanthropic enterprise, but their establishment was almost dissolved when the second wave of immigrants arrived.

The second wave was composed of 35,000 to 40,000 immigrants, and the third wave was composed of 35,000 immigrants.


12. Etzioni-Halevy and Shapira (1977), Political Culture in Israel, p. 8


17. The Socialist faction was the leading force in the Zionist movement, and from the late 1930s onward dominated its politics.

18. Etzel and Lehi (the two pre-statehood military undergrounds that have been affiliated with the Zionist-nationalist branch) were different from the Palmach: these military organizations carrying the Revisionists' nationalistic ideology were small and related to the urban sector. Etzel and Lehi mobilized many members from the new immigrants of the Sephardic group, and during this period they were not considered members of the social Jewish elite.


As we will see shortly, traces of Palmach's egalitarian values are still preserved in the IDF elite special paratroop units. Here, the decisive role of social ties and comradeship, and the opportunity they presented to the leader to grant recognition and build the individual soldier's esteem in the eyes of the group, are perhaps the most potent sources of rewards available to the elite unit leader.

20. In this historical moment, while other nations refused to absorb the Jewish refugees from Europe, it is clear that the lack of a Jewish state did not allow for a suitable rescue of many Jews that were eventually killed in the Holocaust. The State was a necessary condition for the Fourth and the Fifth wave of Jewish immigrants survival. For those immigrants, it was not just a matter of building a new society or of realizing nationalistic dreams of independence, but one of life or death.

21. For a good discussion of this shift see Yonathan Shapiro (1975), The Organization of Power, (Hebrew), Tel Aviv: Am Oved Publishers, pp. 190-200.


23. Ben-Gurion, (1971) Yehud Veyeud, Tel-Aviv: Maarahot, pp. 130-131. This Ben-Gurion anthology is a collection of Ben-Gurion's speeches during the first decade of national independence. The title was borrowed from one of the essays "Yehud Veyeud," translated as
"uniqueness"/"distinctiveness" and "designation". The title itself still give important emphasis to the pioneering ethos of elite which designated itself to the common concerns.


25. Ibid., p. 156.

26. The internal criticism of the Histadrut and the Labor Party apparatus was not less harsh and extreme than the external attack of the conservative parties. Traces of this criticism can be found in 1965, when Ben-Gurion left the party with a group of young supporters such as Moshe Dayan, Itzhak Navon and Shimon Peres who called for deep reform. Their major claim against the party was its institutional rigidity and the inefficiency of the bureaucratic political conglomerate. They called for a transformation from the bureaucratic institutions to a more "Americanized" type of party where leaders are elected by the rank-and-file, rather than by the party's nomination committee.

The overall criticism of the social democratic system was drawn from the ideology of Western liberalism. At this stage Ben-Gurion had completed his long shift from a socialist to a more Western liberal ideology mixed with some egalitarian ideas from the small communities of the kibbutzim. This personal ambition of the second generation politicians to make an "external liberal revolution" by establishing an alternative party failed. Thus, it was only in 1984 that Ben-Gurion's followers satisfied their personal ambition for national political position just after their return to the old institutionalized Labor Party system.

This political experience and shifting ideologies, explain why the present Labor Party leader, Mr. Peres, has a long history of resistance to the Histadrut. Mr. Peres and his close supporters' contention with the Labor Party and, eventually, the Histadrut apparatus, as we shall see shortly, offers a clue to the unique relations that developed into Cintel's ethos. There is much evidence that from Peres' viewpoint that Cintel, rather Radgal, should be the "valid model" for the future Israeli industry.


28. In practice, the Israeli government has never translated the neo-classical economics philosophy into a practice of minimum government intervention. This accounts for Israeli politicians' their inability to reduce government expenditure, or the extensive defense burden placed on both society and individuals. Hence, even orthodox Israeli neo-classical economists are not suggesting drastic elimination of the government role. After all, it is not easy to ask a politician to relinquish his or her sources of power. Despite the above evidence, the search for change has gained much
more leverage among economic institutions.

Ironically enough, during the Likud (liberal-conservative) government, political intervention reached unprecedented heights. In 1982, for example, the national budget reach 90% of the entire GNP. See Gideon Doron and Boaz Tamir, "The Electoral Cycle: A Political Economic Perspective," Crossroads, Spring 1983, #10, pp. 141-163.

29. The present Gush Emunim’s thrust is to build Jewish colonies in the occupied Arab territories of the West Bank and Gaza strip; the notion is that dense Jewish establishments will prevent compromise with the Palestinians, and the Biblical promised land of Israel will remained in Jewish control.

Overview

Radgal is a high-tech telecommunications firm owned by Israel's General Federation of Labor, known as the Histadrut. Radgal was founded in 1951, three years after the founding of the state of Israel. The Histadrut, however, dates back to the 1930s (see Appendix 3.2 for a background of the Histadrut). Thus, Radgal was born into an organization with a long institutionalized history, and its subsequent development has been shaped by both the benefits and inhibitions conferred by its position as a component of Histadrut.

Because the Histadrut played a large role in Israel's politics and economy, both before and after statehood, for many years Radgal developed with and was nurtured by the state which politically controlled by the Labor Party. The long period of national protection ended suddenly in 1977, however, with the victory of the conservative Likud Party over the Labor Party in the national elections. This political shift generally coincided with major changes in the worldwide telecommunications (hereafter shortened to "telecom") industry, and Radgal was exposed to both domestic and international competition as well as the fluctuations of the world market. Radgal faced these challenges, armed with a well-established institutional structure, organizational culture, and politics that had been shaped by a long period of stability and steady, moderate development.

The major focus of this chapter is to examine how Radgal's bureaucratic-egalitarian pattern of authority affected its ability to
respond to the internal and external challenges of the post-1977 period. I will argue that management and union ideologies and political interactions were reinforced at every stage of Radgal's development. By recognizing the constraints of their firm's pattern of authority and then the mutual interest of all members of the firm, it is possible to use the existing institutions as the basis for the success of a medium remote telecom industry in the world market. Thus, Radgal need not look far -- to "Japanese-style" firms, for example -- for solutions. The answer is often right "under the firm's very nose", in the potential to restructure existing institutions.

* * *

After providing a brief background of the firm's institutional structure and history of stable, protected markets, this chapter will detail the firm's integration into the international telecom market during the late 1970s and early 1980s. It will then focus on the firm's marketing crisis (1984-1985) that followed a short period of industrial success and massive growth. The last section of this chapter will describe how the firm has handled its decline in sales which brought about an economic decline, focusing on Radgal's unique organizational structure as a union-owned firm.

Radgal's Geographical and Demographic Environment

Until the 1967 Middle East War, the Israeli city of Jerusalem was surrounded by a dense Arab population living in the Kingdom of Jordan. The only Jewish passage into the city had been through the "Jerusalem
corridor." The entrance to this corridor was through the city of Lod, a key geographic crossroads and a strategic point for the state of Israel. Before 1967, Lod was necessary to maintain the territorial continuity between Tel-Aviv and Jerusalem. This is no longer true. Today, Road Number One --the major highway between Tel-Aviv and Jerusalem-- bypasses Lod, and although it is located just a 15 minute drive from the cities of Tel-Aviv and Petach-Tikva, and 30 minutes from Jerusalem, no one will visit Lod without a specific purpose.

Before being conquered in 1949 by Israeli troops led by Moshe Dayan, Lod was predominantly a Moslem city. After the Israeli forces enter the city in 1949, most of its population escaped and became Palestinian refugees, while a few others remained behind in the "Old City," a poor, "backyard Lod" cut off from the newer, Jewish city.

The new city was built in haste during the early 1950s, for its strategic importance to Israel was immediately recognized. It was built for the North African Jews --Sphardim-- who had just immigrated into the new state and who had no adequate shelter, and who were not integrated into the national economy.(1) Some of these Sephardic Jews were settled in abandoned Arab houses; others were placed in condominiums --huge, dreary, gray, block-like buildings surrounded by large, barren spaces.(2) The slum-like character of these projects planned by Western European Jews --Ashkenazi-- testifies to the challenge of integrating a new sub-culture into Israel in the years after the 1947 Israel's War for Independence.

Radgal, the first telephone company in Israel, was founded as a joint effort between a private investor, Mr. Rutemberg, representing a
British firm named Consolidated Near East Company, and Israel’s Solel Boneh. Each of the parties holds 50% of the firm’s shares. The company was located in Lod on the line between the old and the new quarters. Radgal’s placement in Lod served two purposes: its strategic location in the center was perfect for creating a new national telecom infrastructure; due to the large population of unskilled North African emigrants settled in the city, it provided jobs for the large of the community inhabitants.

Yet, there is something strange about the five-story building and the one-story R&D labs surrounded by a wall, security personnel, and a garden, placed in the middle of this divided and physically drab community. To pass through Radgal’s large electronic gate is to cross between centuries of civilization, from the ancient and divided cultures of the Semitic world into the modern sphere of the international high technology.

For many years, Radgal has been Lod’s major industry. As the district/regional union leader remarked, "Radgal is Lod, and there is no way to separate the firm and the city." Radgal’s presence is everywhere. At every major intersection, huge signs direct travelers to the facility. Almost every family has a number of members working in the plant. In the words of a senior assembly supervisor:

Radgal’s development and modernization are critical to all of us [Lod’s inhabitants]. There are many cases of parents and children working in different jobs in the firm, and we are proud of that.

Today, Radgal’s executive headquarters, labs, and manufacturing facilities are located in Lod. Only one division, that charged with the manufacturing of telephone terminals, and including the plastic
injection plant exists outside Lod, in Ma'alot. Unlike Lod the Ma'alot plant does not require skilled labor.

Radgal's initial production process involved the manual assembly of telephones and exchanges. In the early 1950s, both the technology and the products' components came from abroad. Thus, Radgal, as Israel's telecom firm, was established initially as a heavily labor-oriented company utilizing Lod's unskilled labor population. Later, as Radgal became more technologically advanced, a high percentage of skilled labor entered the firm. At the time of this study, engineers and technicians accounted for more than 30% of the workforce. This labor mix has led to a number of internal pressures connected with the external forces that have transformed both the telecom industry and Radgal itself in the past decade.

Before we discuss the firm itself, let us briefly view the international market environment of the telecom industry, particularly focusing on the market niche in which the company operates.

Radgal's Market Environment: The Nature of the Telecom Industry
Throughout the world, for nearly a century, the telecom industry was a sleepy, provincial business. In many countries, the Postal Telephone and Telegraphic Administration (PTTA) controlled all communications, from the home telephone to international communication networks. Protected and regulated by government policy, local telecom equipment-makers enjoyed a long era of stability in their respective domestic markets.
Market stability insured job security for the telecom labor force. In turn, a stable environment encouraged bureaucratized organizations involving a management style marked by rigidly hierarchical "patron" behavior. Employee promotions were tied to seniority. Thus, telecom produced an organizational culture well-suited to traditional institutional labor relations marked by annual collective bargaining procedures and the gradual accommodation of labor's demands by their organized institutions.

For many years, Radgal was a typical, stable telephone industry. Throughout the 1950s and most of the 1960s, Radgal production basically consisted of "plain" telephone stations. The design of its famous black telephone terminal was not changed for more than 20 years. During these first decades, the Israeli telecom infrastructure contained large analog exchanges that had been installed during the British mandate in Palestine. After the founding of Israel, the new government simulated the British system and created its own PTTA in charge of developing a national telephone infrastructure as well as installing and servicing the system. (4)

For more than twenty years, Radgal was the sole component supplier for the Israeli PTTA, and the country's only authorized producer of standard telephones and exchanges. Private installation of nonstandard equipment was illegal. Most components of Radgal's products were imported during the 1950s, manufactured to specification, and assembled into complete instruments that were then supplied to the PTTA. This process was directed and performed out of Lod.
Over the years, Radgal's small group of engineers and technicians developed their technical skills and conducted in-house experiments for exchange development. With very limited resources for research and development, the firm became an important laboratory for the Israeli PTTA, which has no in-house R&D capacity. Gradually, Radgal shifted from "Step-by-Step Switching Systems" (5) to "crossbar" technologies (6) and then to electro-mechanical switchboards.

The early R&D ventures were conducted in a tiny, poorly-equipped laboratory, without a large manufacturing capacity, thus limiting the scope of projects. Not all the experiments were aimed at telecom technology; some were aimed to produce audio systems as well as other electronic devices. None of the ventures was a commercial success because, at that time, nobody believed in the importance of R&D. A senior technician remarked:

This was an area for the universities. At the time we thought that we should concentrate on the real work -- production. We looked at these amateur imaginative experiments as a type of compensation that the company should pay for its few bright people. No one really believed that there was any commercial potential in these ventures. The notion at that time was that the only way we could make our living and the firm could prosper was by efficient manufacturing and high productivity.

This statement reflects the steady, regular condition of telecom technology that prevailed until the early 1970s. Radgal experienced no dramatic changes until then, and the telecom industry as a whole underwent no substantial technological breakthroughs, at least none comparable to those of the past fifteen years.

In addition, the traditional telecom situation of benefitting from its status as a government-subsidized monopoly tended to reduce the need
for aggressive R&D, a strategy which thrives on highly competitive situations. For decades, the Labor Party had given Histadrut-related firms a favored position in the domestic market. In Radgal's case, this policy protected the company from international competition, and, in effect, gave it a monopoly for selling telecom systems to the PTTA.

Private Israeli customers were used to waiting up to four years (and some times longer) for telephone installation.(7) Thus, demand for Radgal products was stable and seemingly never-ending. Production rested on well-defined standards and procedures. Radgal had mastered the production stages of its stable industry, as well as the coordination required to have the material and other components on line on time. Radgal maintained this control by producing most of its parts in-house with minimal dependence on external suppliers,(8) and when such dependency existed, by keeping in close touch with these suppliers.(9)

This classic mass-production environment was well-suited to --and helped create-- Radgal's highly formal, paternalistic managerial style. Its established organizational hierarchy and formal industrial relations, based on the collective bargaining process, are typical of a traditionally structured manufacturing organization.

In spite of its unique position as a union-owned firm, classic institutional labor relations --formal interactions between management and labor representatives through the process of collective bargaining-- were the basis of Radgal's industrial relations. Given stable markets and moderate growth, this system assured peaceful labor relations. Growth within a stable environment was consistent with the basic goal of the Histadrut --job security. Meanwhile, job security, the fundamental
labor benefit of a union-owned firm was also Radgal's major commitment to its employees.

Thus, for a time, Radgal did not have to face the contradiction of being a company with a management structure which its authority and history rooted in patronizing labor relations, while maintaining a traditional bargaining stance with regard to its own labor force. Job security and a government-sponsored monopoly combined to create the illusion that labor and the Histadrut-nominated managers had congruent aims and intentions. Labor issues were resolved "within the family." The high technology explosion of the 1970s and the political upheaval in Israel inspired Radgal's first labor strikes and other challenges to this perhaps overly complacent view of labor relations.

The Institutional Environment of a Koor's Manufacturing Firm

Radgal operates under the umbrella of the Histadrut and its two most important component institutions, Heverat Ha'ovedim and Koor Industries.(10) Industrial relations within Histadrut industries are played out on three levels: national, district/regional, and firm. Nationally, the union arm of Histadrut is institutionalized in the department of unions (national and craft) and the industrial arm is institutionalized in the central executive committees of Heverat Ha'ovedim and Koor. The district union is a regional arm of the central union. At the firm level, top management is appointed by and report to Koor's headquarters, while the plant employee committees interact with the district union or directly with the central union department members on specific professional matters.
Top-level executive positions of Koor are all political appointments. Plant managers are appointed to their positions by Koor's managerial board, whose members are, nominated by the political leaders of Heverat Ha'ovedim. Thus, it is apparent that a major Histadrut firm, such as Radgal, whose business is of great concern to the national government as well as its parent organizations, exists within a context of complex, interlocking, highly politicized institutions. Economic and political stability help the entire machine to run smoothly; disruptions in such patterns are be felt throughout every level of this structure.

In an interview with one of the top Koor's executives, I asked, "How does a Koor worker differ from his peer in a similar, privately-owned industry?" The reply was striking:

I don't think that there is any difference, and from the perspective of the entire laboring class, there is no justification for individual job differentiation. Do not forget that the Histadrut represents the entire Israeli labor force; either they are employed by the private sector, by public or government industries, or by Heverat Ha'ovedim industries. All employees are equal Histadrut members. And there is no reason why the person who stands in the unemployment lines and gets a Koor job should have more privilege in the workplace than a non-Koor worker. Both are union members, both elect Histadrut political representatives, and both should get the same treatment. Koor has a collective national aim, and it cannot and should not treat individuals differently.

While ignoring the common rhetoric and style of the Histadrut politicians and top managers, this Koor executive's statement reveals the fundamental view of Histadrut politicians and Koor management towards Heverat Ha'ovedim industries.

It bears repeating that Radgal and similar Israeli companies are in a unique position: workers *de jure* own the industry in which they work,
but they interact with management through the traditional institutional channels and a formalized process of collective bargaining. In this system, the owners of the means of production—which includes both management and labor—negotiate their interests under a basic assumption of adversarial relations between management and labor. Radgal exhibits the classic institutions of central managerial directory and employee committees, separated according to job classification.

This pattern reinforced—and was reinforced by—the classic pattern of union-management institutional industrial relations. Both sides talked only about the immediate materialistic employee issues of wages and benefits. Management insisted that corporate efficiency was enhanced by a strict division of labor: Management did the thinking and the workers did what they were told. Despite their special position as Histadrut members, as a Koor's employees Radgal workers traditionally were conceived by management, and in fact even by themselves, as having no stake or say in the way the company was run. They came to identify their interest strictly in terms of job security and wages. And for a long time, this approach was agreeable to both the union leaders and management. Union leaders at all levels felt that cooperation with management was equivalent to co-optation, an arrangement which could only weaken the vigilance of the union.

What seems like union militancy, however, can be interpreted just as easily as labor's falling into one of the traps of orthodoxy. No less than management, labor adopted the traditional view of management-labor relations, all the while ignoring the possibilities for
worker involvement with company policy that one might expect to find within the existence of a labor-owned firm.

The District Union in Lod

The district union in Lod is the intermediate institution between the central national union department and the employee committee. In contrast to many other district unions that steadily are losing their political position, the Lod union, led by a strong leader, has been involved deeply in Radgal's history. Radgal workers are the district union's major constituency. For many years the district union has provided employee committees with labor solidarity, technical support, and frequently has participated in the annual collective bargaining process, i.e., labor-management conflicts.

Still, the district union is ignored often by the employee committees, who bypass it to deal directly with the central, national union. This trend increased after the engineers' committee was formed, for this committee saw no reason to interact with the district union. When the engineers faced a labor problem, they identified either with management or with the national engineering union.

Yet, the district union's situation is even more complex. Nationally, the district unions are on the front line politically. They are an important local base for the national union and for the Labor Party politicians. In turn, politicians from the central national union make substantial efforts to maintain the district union's political viability by delegating some of its power to the region. For example, in many cases Radgal's management got a message from the central union
to make smaller concessions than planned when dealing with the employee committees in the annual collective bargaining process. Then, the district union intervened and won back from management the original concessions for the employee committee. Thus, although the district unions can be seen easily as functionally redundant, their entrenched role within the national infrastructure gives them a certain amount of real power. Because they exist, they must be reckoned with. They are useful, however, as a sort of safety valve in the struggle between management and labor.

The Protagonists: Radgal's Social Topology in the Years 1951-1976

Until the mid 1970s, Radgal's employees were divided into three principle tiers of personnel: managers; skilled employees and foremen; and the semiskilled and unskilled daily workers. For the first 25 years of stability, the pyramidal hierarchical bureaucracy was structured as a "functional" type of organization. During this time, Radgal's organizational structure was composed of a general manager, his deputy, five functional services departments, seven design and production divisions, and a large switching division.

Heverat Ha'ovedim's Managers

The history of Radgal management is typical of a Heverat Ha'ovedim organization. Abraham Daniel (1976) identifies three generations of managers within Heverat Ha'ovedim during the 60 years of its existence: the founders, the politicians, and the professional managers.
The first generation, the founders, led the labor organization during the 1930s and the 1940s before the state of Israel was founded. They were socialists who believed they were creating a new society. From their perspective, the union-owned sector existed in order to pursue this aim.

During the 1950s, the second generation of managers was composed mainly of political appointees. They saw Heverat Ha'ovedim as a major instrument for increasing national economic growth, for securing jobs for workers, and for being an effective source of political power. These quasi-politicians increased their domestic political power simply because they controlled major economic resources that could be directed towards a particular political group or individual.

The third generation of managers came to power in the mid 1960s. Most of them were trained in, or heavily influenced by, the Western liberal, especially the American, management style. This new generation of managers tends to see itself as less restricted by the fact that their organization is owned by a labor union. Their managerial attitudes toward industrial relations are based on market-oriented types of organization; They see profitability and competitive capacity as major aims of Heverat Ha'ovedim's industry. Thus, during the 1960s and early 1970s, despite political and institutional constraints and the fact that the industry is owned by the workers' institutions, Koor managers tried to implement a conventional style of private, all but unionized, industry. The model came from large US firms such as AT&T and General Motors, seen as examples of efficient and admirable management.
Within Radgal, in fact, even the nomination of managers -- substantially influenced by Labor Party politicians-- is determined mainly on the basis of professional skill and managerial experience rather than on political association or social philosophy.(12) Hence, Radgal's general manager is traditionally nominated by Koor. Other managerial positions are filled by the general managers.(13) During the 1960s, neither the employee committees nor the district union influenced managerial nominations.

Thus, there had been a clear trend, through the middle-1970s, of "normalization" in Heverat Ha'ovedim --and Radgal-- management. Beginning with the socialist idealism of the founders, which fit well with the collective energies of Israel's early settlements, management became politicized with the formation of the state and more complex political structures. With nationhood established, and Israeli industry entering the modern age, the first tendency was to look towards "the most successful" models of industrial management in the world, those which ran the immensely profitable American giants of the 1960s.

Perhaps the emphasis on management reflected the need to establish Israeli industry on a worldwide competitive basis. We shall see, however, that history, too, has its claims on organizations, and that alternative possibilities exist which may indeed be more suitable to Radgal's specific problems than are models drawn from American corporations which are very different from their Israeli counterparts in both structure and tradition.
Radgal's Foremen and Skilled Employees

The second tier of skilled workers --foremen, supervisors, technicians, and clerks-- are known as the monthly workers, paid on the monthly payroll. In the early 1970s, they comprised about 25% of the workforce. From the 1950s to the middle 1970s foremen were a powerful group in Radgal. Using a paternalistic style of control, these foremen led their groups of daily(14) semi-skilled or unskilled, mostly female, workers. In many ways this telecom assembly shop was not different from a traditional textile plant. Middle Eastern culture was both sexist and based on patron-client relations. Thus, the manager or foreman overseeing a workforce of unskilled women laborers has more than simply his maleness to lend authority to his position; as supervisor he is a sort of patron, or master, of those under his command. A democratic male manager is seen as a weak leader, and is identified as almost a female by his peers. As for as women, in the eyes of the male foremen, "they will never be good managers. It would just create confusions and jealousy --a female characteristic-- in the shop." The foremen had almost complete autonomy in their leadership of shop-floor assembly groups. In many cases, they had personally recruited new employees to their group.

Although each assembly section was semiautonomous within the plant and closed off from the firm's management, the sections were well integrated into the community life of Lod. The Radgal shop was a continuation of Lod community life, and frequently the foremen were called upon to play the traditional role of the patron in Middle Eastern culture: to solve family disputes as well as participate in Bar
Mitzvahs, marriages, and funerals. Personal disputes from the town that carried over into the workplace often were resolved under the guidance of the foremen. No one could bypass the foremen, and these manufacturing worker group was almost a sovereign territory. In most cases, foremen were a necessary link between management and the employee committees controlled by semiskilled and unskilled workers.

Radgal's Semi-Skilled and Unskilled Workers

The third tier of Radgal personnel is called the "workers" and is composed of semi-skilled men who operate some of the production machinery, and a large number of unskilled females. Until the early 1970s, they were the vast majority of Radgal's personnel (in 1970, for example, the group contained 492 workers or 70% of the work force). Until the middle-1970s, each of these two groups of workers was represented by an employee committee composed of an elected leader and two assistants.(15)

These officials supposedly work part-time in their committee activities in addition to their regular jobs, but in effect their positions in the committee are full-time. As representatives, they receive full compensation and seniority rights, and, in many cases, they see their roles as instrumental to furthering long-term political ambitions. Sitting in their small offices, the employee committee members deal with the workers' day-to-day concerns, as well as technical and safety, issues. The employee committees deal regularly with all levels of management, from foremen and middle managers in cases of informal grievances and disputes, to the top managers concerning the
consequences for workers of strategic decisions. Formal management-labor interactions take place during the annual collective bargaining negotiations.

It is significant for our analysis of Radgal's organizational culture and politics to understand that the semiskilled male workers had a great deal of pride in their work and a sense of almost cellular autonomy within Radgal for the two-and-a-half decades before the middle-1970s. Since production and marketing were so stable, an experienced semi-skilled worker could make his own calculations for the scheduling and output of his particular product. A Sephardic machinist who produced the telephone dial springs, accurately interpreted a fundamental fact of Radgal's political and institutional structure.

No one can touch or even come close to my dial spring machine. All those years, when I was the machine operator, there never were shortages in spring supplies. I knew the production needs, and always produced an adequate stock of springs. In case of unredicted absenteeism --if I or one of my family was sick-- I kept up the supply. Before going to the military reserve,(17) for example, I prepared the additional stock in advance. I was the only person in Radgal who knew how to repair and set up the machine. This was my power. Without the approval of the employee committee, I could not be relocated. Hence my sole control of the machine gave me full discretion in my job. In fact, I do not recall a case where I asked for something and did not get it. As a person who gave his life to the firm, I think I deserved this treatment.

Narrow job classification was a fundamental feature of Radgal's labor relations. It was also a major factor in an individual's compensation, based on the piece-rate system, which means that their wages partly depended on how quickly they worked. The company pays both a guaranteed base low wage and a piece-rate bonus on the top of the base. The piece-rate or standard premium is determined for a given job
classification. The guaranteed wage is always low—roughly equal to the legal minimum wage—so that the worker's attention turns to making the bonus. To be eligible for extra pay, a worker must exceed the particular job's "rate"; that is, the assigned minimum level of output needed to trigger the incentive system.

Narrow job classification helped determine an employee's seniority and hence his or her job security, and it was a crucial factor in the power relations among individuals and groups. From the workers' standpoint, as the spring machinist states, it was particularly important that under the management-labor contract, the employee committee must be notified about any employee relocation in the plant for more than three days. If a worker is to be relocated for more than a month, the move must be negotiated first with the employee committee. With his unique skill and position in the organization, the spring machinist can be seen as a good example of an individual who has gained additional, concrete benefits from the bureaucratic system.

Under this system, (one that prevailed into the middle-1970s), every level of personnel at Radgal down to the semi-skilled male workers had a high degree of personal autonomy that gave individuals a feeling of pride and commitment to their jobs. At the same time, this autonomy coexisted with very strong group and community involvement at virtually every level of Radgal's structure.

Radgal management was locked into the structure of Koor, Heverat Ha'ovedim, and Histadrut. The foremen were deeply involved with the daily lives of the workers they supervised and they were a crucial link
between labor and management. The semi-skilled laborers, at least, had their portion of power guaranteed by the employee committees.

Table 1 shows the extent of the shift in Radgal's personnel during 23 years from 1951 to 1974.

Table 1: Transition in Radgal's Human Resources (1951-1974)
(Numbers and Percentage of Total)

<table>
<thead>
<tr>
<th>Year</th>
<th>Engineers</th>
<th>Technicians</th>
<th>Unskilled</th>
<th>Total</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>1952</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>1954</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>1956</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>1958</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>1962</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>180</td>
<td></td>
</tr>
<tr>
<td>1963</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>300</td>
<td></td>
</tr>
<tr>
<td>1965</td>
<td>12 (3%)</td>
<td>20 (5%)</td>
<td>295 (76%)</td>
<td>388</td>
<td></td>
</tr>
<tr>
<td>1966</td>
<td>18 (4%)</td>
<td>23 (5%)</td>
<td>369 (78%)</td>
<td>475</td>
<td>22%</td>
</tr>
<tr>
<td>1967</td>
<td>15 (3%)</td>
<td>23 (5%)</td>
<td>335 (75%)</td>
<td>445</td>
<td>-6%</td>
</tr>
<tr>
<td>1968</td>
<td>22 (5%)</td>
<td>30 (6%)</td>
<td>346 (74%)</td>
<td>471</td>
<td>6%</td>
</tr>
<tr>
<td>1969</td>
<td>29 (5%)</td>
<td>41 (7%)</td>
<td>427 (70%)</td>
<td>602</td>
<td>28%</td>
</tr>
<tr>
<td>1970</td>
<td>32 (5%)</td>
<td>58 (8%)</td>
<td>492 (70%)</td>
<td>700</td>
<td>16%</td>
</tr>
<tr>
<td>1971</td>
<td>40 (5%)</td>
<td>86 (11%)</td>
<td>557 (69%)</td>
<td>812</td>
<td>13%</td>
</tr>
<tr>
<td>1972</td>
<td>40 (4%)</td>
<td>185 (17%)</td>
<td>715 (66%)</td>
<td>1077</td>
<td>32%</td>
</tr>
<tr>
<td>1973</td>
<td>50 (4%)</td>
<td>187 (14%)</td>
<td>871 (66%)</td>
<td>1320</td>
<td>22%</td>
</tr>
<tr>
<td>1974</td>
<td>86 (7%)</td>
<td>208 (16%)</td>
<td>777 (60%)</td>
<td>1303</td>
<td>-1%</td>
</tr>
</tbody>
</table>

For twenty three years this industrial system, comprised of two employee committees --the monthly and the daily workers-- operating within the "patron" management context, was sufficient to maintain peace. The hallmarks of Radgal's first quarter century were a situation which might appear paradoxical by Western European and American standards made perfect sense in Israel's hybrid context one which was influenced by Western attitudes and management methods, Middle Eastern customs, Israel's unique national history, the role of the Histadrut,
and the long-term stability of the telecom industry. Worker autonomy and security, interlocking worker-management structures, a hierarchical management structure, and a general satisfaction with the firm's performance.

The years 1973-1974 are recognized as the period in which Radgal started to speed its growth. These years were characterized by both the dramatic political events of the 1973-1974 Middle East War and the national economic recovery measures that were initiated by the Labor government in 1974; they were also characterized by Radgal's technological shift toward the electro-mechanic exchanger.

Such transition could not be achieved without affecting the firm's internal politics. In these historical moments, Radgal's major parties induce their political activities: Each group reconfirmed its political position, new groups tried to break into the arena, and new alliances, both within and external to the firm, were created.

In the beginning of 1974, Michael, Radgal's daily workers' committee leader at the time, tried to maneuver his political power within the organization. The demand to sharply increase the firm's work force was a major source of power in attempting to improve his employee committee position. It could have been his last chance to head the leading committee in Radgal. In early 1974 Michael, confronted a new general manager, Golan, a retired colonel, who had joined the firm that year. The new general manager shifted the labor-management issue to a vulnerable point for Michael in his role as an employee committee leader. That point was the company car he and other top managers were given for personal use. Besides their functional use by top managers,
these company cars were also important organizational status symbol. Michael was not a manager, but the fact that he had a company car symbolized his political position within the firm. The new general manager, tried to challenge this status. He required Michael to return the car's keys to management. In a demagogic way Golan forced the daily worker's leader to reveal himself as one who would fight only for his own interests rather those of the workers. Michael did not meet Golan's request and the workers walked out of the shop. This was the beginning of the first strike in Radgal's history.

Golan's timing for the confrontation coincided with a drastic shift in labor growth, (i.e., from a 32% increase in 1972 and 22% in 1973 to a negative increase of -1% during 1974). The general manager's threat to further trim the work force became substantial. This was the moment at which Lod's district union leader decided to intervene. And he did so successfully. Only after the distinct union leader's intervention did Michael reach an agreement with Radgal management that, for long time, was kept secret: For large economic incentives, including a very high pension, compensation for the car, and other benefits, he agreed to leave the firm. Michael was replaced by Lifshitz, who found himself in a similar personal confrontation ten years later in 1984.

In 1974 a small group of 86 engineers, led by Eli, organized a the third employee committee -- the engineers' committee -- that, from its inception accumulated power to become the most militant active worker institute in the firm. A year later, in 1975, Eli was replaced by Yeger, a prominent leader, who has led the engineers' employee committee since then.
The Changing Environment

Radgal's stable environment is undergoing severe stress due to external technological, political, and economic changes. Technological breakthroughs render equipment obsolete almost as soon as it is installed. Obsolete as well is the 30-year life cycle that used to govern the purchase of manufacturing equipment. The new technology is also creating a host of new products, and customers are demanding a wider choice of telecom services, thus playing a far more active role than ever before in shaping the trends of product development. It seems unlikely that communications systems will ever be mass-produced, like automobiles: Customer needs are so diverse that not even the biggest manufacturers, such as IBM, could produce all the products necessary to satisfy them. The variety and velocity with which new generations of computerized telecom and data-information systems have been introduced is unprecedented in manufacturing history.

The following chart shows the shifts in time of the telecom exchanger's product cycles:

Chart 1: The Product Cycle of Telecommunications Exchangers

30 YEARS

16 YEARS

7 YEARS

3 YEARS

STEP-BY-STEP  X-BAR  SP  DIGITAL

[SXS] [CROSSBAR] [Electro-Mechanical] [Electronic]
This technological revolution has dramatically changed the way telephones are used. The old plain telephone simply transmits a voice; newer, more comprehensive systems enable multidimensional communications such as voice combined with data of all sorts. The lines of definition between the telephone and the computer are becoming blurred.(18)

In the national and international political arenas, many Western governments have realized that telecommunications is playing a role today in national infrastructures parallel to that of the nineteenth century railroads or mid-twentieth century highways. Thus, they realize, one firm alone cannot meet a nation’s telecom needs (especially considering the variety and complexity of new technologies). This was dramatically illustrated by the break up of the long-time monopoly held by AT&T in the US. Other democratic nations such as Japan, Britain, Australia, Belgium, and Israel have promoted competition by privatizing their long-established PTTAs, which previously were government agencies.

The opening up of the national market exposed these one-time monopolies to domestic competition. In attempting to keep their edge, many of these firms, which previously concentrated on domestic markets, have been forced to enter the international market, thus intensifying competition there.

Radgal’s organizational system, characterized by narrow job classification, strict institutional procedures that regulated labor relations, and a highly politicized structure, was sufficient to meet industrial challenges in a world of low-level market fluctuations and no competition. With the great changes in telecommunications ushered in during the middle 1970s, and the accompanying political changes in
Israel, Radgal had to respond to dramatic changes in its external environment. How it did so is the subject of the next section.

To the Leading Edge: The Telecom Market (1977-1983)

The year 1977 was a turning point in Radgal’s history. In June, 1977, the Labor Party lost power after almost sixty years of leadership in Zionist history, and thirty years of state sovereignty and undisputed control of Israel’s political institutions. The changeover from the Labor Party to the conservative Likud Party, led by the charismatic Menachem Begin, fundamentally changed Radgal’s political and economic environment.

Because of its close ties to the Labor Party, the Histadrut watched its industries lose favored government support and become major targets for political attack. Adhering to the philosophy of the free-market economy, Israel’s new conservative administration initiated macro-economic monetary policies to replace the previous national industrial policy that had favored firms like Radgal. Specifically, Radgal lost its protected domestic market in the face of new deregulation policies in both the domestic and international spheres. Deregulation encouraged internal competition in the telecom industry, and the reduction of tariffs and restrictions on imported telecom equipment helped new Israeli players enter the field. Furthermore, under the direction of the new finance ministry, the old criteria for government subsidies for industrialists and exporters was revised, thus liberalizing transactions in foreign currency.
In 1978 Radgal lost its monopoly in the domestic telecom market. The market was divided among three Israeli firms, including Radgal. The three Israeli firms, however, were still protected from international competition. In addition, the illegal importing of plain telephone equipment became substantial. Domestic competition both legal and illegal, became aggressive, and Radgal had to adapt to new conditions in order to survive.

Koor management recognized the need of its mature industries, the largest segment of its conglomerate, to adapt to the new environment. Like many in the business and political communities, they believed that Israel’s future economic health depended on the nation’s ability to develop an advanced high technology industry. Thus, Koor decided to make an immediate effort to develop its high-tech industries such as electronics, biotechnology, and telecommunications.

In the late 1970s, Radgal, as a leading player in Koor’s strategic thrust, faced no other choice but to enter the international telecom market, the only way the firm saw of holding its technological and financial edge. The domestic Israeli telecom market was so small that a firm specializing in it could not remain viable for long. Radgal simply could not afford to invest the capital needed for new product development with a market potential limited to just four million inhabitants. In addition, only a firm with international experience could expect to accumulate the technological skill needed to become a domestic leader.

In line with Koor’s new approach, Telem was hired late in 1977 as Koor Electronics’ general manager. He had been a senior engineer for
one of the largest telecom firms in the US and was appointed to head Koor's electronics and communications division, of which Radgal is the core firm. (21) Telem brought with him a deputy who took responsibility for all supplies and services functions, both technical and human resources. At this time, Radgal's annual sales totaled approximately $20 million, of which under $1 million came from export.

Telem's influence on Radgal was extensive and immediate. He aimed to change the firm's traditional specialization from simple terminals to a wide range of telecom systems. This meant a shift in emphasis from manufacturing to research and development. The overall aim was to produce sophisticated electronics systems rather than traditional electro-mechanical analog devices. The first initiative to cut the traditional exclusive connection with one customer --Israel's PTTA-- was made by Telem by means of a small contract with the IDF (Israel Defense Forces) telecom division.

Radgal's 1977 contract with the IDF was the first step in building the capacity and skill needed for further R&D projects. (22) Involvement with defense --with its high specifications and standards-- typically propels companies' technological capabilities and it served this purpose for Radgal. In many ways, Radgal's work on a sophisticated telecom project with the IDF led to the company's next generation of products.

Radgal's next major step towards the international market was the signing of a contract in 1978 with a well-known North American telecom firm that agreed to sell Radgal most of the hardware needed to convert large analog exchanges into electronically controlled systems. Radgal's software department then adjusted the system for Israeli standards. In
addition, Radgal received permission to sell these large public exchanges to some of the European, African and South American countries in which the North American vendor did not have a market.

These critical challenges for the firm’s new strategy were difficult to meet. This was a sharp turn from a stable manufacturing environment to technologies whose success was not predictable. Radgal’s organizational structure, culture, and Human Resources Management (HRM) philosophy all changed rapidly and substantially. At this stage, it was Telem’s charismatic leadership that drove the organization forward. Telem, his followers, and indeed, most of the members of Koor and Radgal’s management held to the basic belief that "If we would like to be a first-line telecom industry, we need to become more dynamic." Such a consensus is especially impressive for an institutionalized organization whose highly political and hierarchical structure is not designed for change. Still, it is easier for an organization to grow and develop new functions and institutions than it is for it to roll back the old and retrench. Thus, Radgal was committed to the success of its new philosophy, which itself caused certain tensions within the company. When Radgal’s new course eventually ran into major difficulties, however, even more severe stresses were placed upon the company’s organizational structure and labor-management relations.
THE EMERGENCE OF THE R&D TEAMS

Shifting Unskilled Mass-Production Work to Ma'alot

During the late 1970s, as we can see in Table 2, Radgal recruited a large number of skilled technicians and engineers while making efforts to trim the unskilled labor force. This management move led to major changes in the firm's culture and internal politics. Among those most affected were the unskilled laborers, whose power was based on their numbers and the important role they played in the dominant manufacturing segment of Radgal's business. As R&D was increasingly emphasized, and as technical personnel came to be more numerous and play a more important role in the firm, the unskilled workers' political position grew weaker. Yet, as we shall see, they remained vital to Radgal's well-being, while engendering political conflict which became more and more important to resolve.

The firm's changing demographic balance involved structural transitions as well. By the early 1980s, most newly recruited unskilled workers were working in the new Radgal facility in the small, developing northern city of Ma'alot. The Ma'alot plant produced plain telephones and Private Branch Exchanges (PBX). As we will see shortly, like Cintel, in the early 1980s Radgal took advantage of government subsidies for developing industry in peripheral areas of the country and of the low labor costs in these areas. And Radgal, like Cintel, was true to the Israeli pattern of development in which the peripheral areas hosted manufacturing facilities requiring a low level of skilled labor, while the more sophisticated scientific work took place closer to Tel-Aviv.
While economics were essential for Cintel's decision to set up plants in the peripheral area, they were responsible only partially for Radgal's decision to do so. Politics played a primary role in Radgal's case. As a union-owned enterprise, Koor was committed to establishing shops in districts dense with a large, unskilled labor pool. The situation in Ma'alot in the 1980s was somewhat similar to that of Lod in the 1950s: A majority of Ma'alot's laborers were Jewish immigrants from Africa and Asia who lacked other job opportunities.

The Increased Prominence of R&D Teams at Lod

At the Lod facility, the key development was the increased importance of the R&D function by which engineers and technicians, rather than assembly workers, came to dominate the firm. Recruitment was carried out by the central corporate recruitment department. Radgal's senior engineers in charge of specific projects then chose the people they wanted for their specific projects. Each new company member became part of a project group, or cohort team. Radgal's culture traditionally reinforced the substantial autonomy of functional groups, and the new engineering teams enjoyed a great deal of freedom without intervention from above. In the words of one young engineer:

The freedom that we have in our laboratories is a paradise. If one of us comes up with an idea that is accepted by the team, he can develop it. We become a close group crystallized around the project, which is treated as the team's 'baby'. The project becomes the locus of group commitment, motivation, enthusiasm, and cohesion. If you terminate the project, you terminate the team, and eventually most of us would not stay at Radgal.
Another view of this cultural bonding was taken by a top R&D manager who complained about the inflexibility of this team-project symbiosis:

These talented people should be open enough to shift from one team to another. Frequently, I offer them even more intriguing technological challenges in an alternative project, but they prefer to stick with their team. It is much easier to recruit outsiders than to enforce an internal shift. As if this isn’t enough, these teams are used to having total sovereignty over their development niche and the firm’s politics prevent us [top managers] from transferring part of a project initiated by one group to another group.

The role of the project group was fundamental for a product’s success. Frequently, group members used their political skills to cross divisional barriers in an attempt to push their projects ahead. The initiating R&D group interacted with three subgroups, all within the R&D departments: electronic circuits planning; product architecture design (also in charge of development of electronic dials); and the engineering group in charge of transferring the prototype onto manufacturing blueprints. In addition, the initiating group interacted with the mechanical division in developing the plastic molding, and with the manufacturing division in order to determine the schedule for the product components. All production segments were integrated formally at the division managers’ Sunday meeting, (a working day in Israel) and informally by the personal interactions of individuals who were trying to advance their projects through bureaucratic channels.

Thus, the very nature of the R&D groups contrasted with that of the manufacturing workers. R&D engineers and technicians organized themselves around an integrated team and cooperative effort. The manufacturing workers worked under typical mass-production piece-rate
system. They operated in alienating assembly lines, each performing a small segment of a job that was integrated along the row stations. As described earlier, wages were determined by production standards determined by principles of "scientific management." Straight lines of workers sat in rows in the firm’s huge assembly hall. The rows were divided into working groups, each of which specialized in a few electronic circuits or product components. As a senior assembly worker with 19 years' experience in Radgal said:

Our mechanical work is so dull that we would go mad if we could not talk with each other. But imagine talking nine hours a day to the back of your peer and seeing only the sour face of your foreman or the quality control person. I know that the noise is bad, but the quiet is worse... I don't know why management is so bothered by noise when the ventilation is so poor. Don't you feel how hot and humid it is here? You are spending only two days with us; see what you will say after a week, no! more than a week! But I am not complaining... as long as I have this job. These young girls [young women] are complaining, they do not know how we worked in the past. I still remember the days when we were in metal sheet huts using sprinklers on the roof against the hot summer sun.

Surprisingly, however, despite the nature of their work, the manufacturing groups managed to hold onto their cohesive culture. The social ties carried into the plant from the community, and the long periods of working together maintained cohesion in an environment otherwise unfavorable to it.

The contrast between the two groups of engineers and technicians on the one hand, and semi-skilled and unskilled workers on the other, was quite marked for Israel. The former were highly-educated, mainly from urban centers such as Tel-Aviv and Jerusalem, Ashkenazi in origin, and saw Radgal as a stage in their ambitious professional careers. The
workers were generally under-educated, from Lod, Sephardic in origin, and for them, Radgal was a fully integrated part of their community life. They expected to be employed with Radgal their entire lives.

Table 2 shows the extent of the shift in Radgal's personnel during the 1970s.

**Table 2: Transition in Radgal's Human Resources (1975-1978)**
(Total and Percentage of Total)

<table>
<thead>
<tr>
<th>Year</th>
<th>Engineers</th>
<th>Technicians</th>
<th>Unskilled</th>
<th>Total</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>110 (8%)</td>
<td>198 (15%)</td>
<td>752 (58%)</td>
<td>1301</td>
<td>---</td>
</tr>
<tr>
<td>1976</td>
<td>110 (9%)</td>
<td>202 (16%)</td>
<td>713 (56%)</td>
<td>1267</td>
<td>-2%</td>
</tr>
<tr>
<td>1977</td>
<td>130 (10%)</td>
<td>204 (16%)</td>
<td>684 (55%)</td>
<td>1252</td>
<td>-1%</td>
</tr>
<tr>
<td>1978</td>
<td>127 (11%)</td>
<td>189 (15%)</td>
<td>630 (54%)</td>
<td>1157</td>
<td>-8%</td>
</tr>
<tr>
<td>1979</td>
<td>210 (17%)</td>
<td>222 (18%)</td>
<td>600 (48%)</td>
<td>1262</td>
<td>9%</td>
</tr>
</tbody>
</table>

Despite these differences the newcomers were warmly accepted by other employees. As a senior foreman put it:

We knew that we were in a new technological age. We also understood that Radgal could not simply continue producing its traditional product. It was clear to us that if we could not be at the leading edge of the telecommunications industry, others would beat us down and we would all lose our jobs. You know, we are the 'desert generation,' without any formal education. Only these young bright people could bring us to the main road. Radgal is our home, and we should be proud of it. And as such our positive attitude is conditional: the new generation should never ignore us, the founders... We have important experience that can be used. It would be a disaster if they threw us out. Don't forget, these people are only visitors in the firm, their profession is their home!

The potential for conflict was perceptible to Radgal's workers:

Prosperity, job security, traditional loyalty, and the prestige of working with a high-tech firm all served to moderate substantial
tensions that could have been expected between the new generation of engineers and the old generation of manufacturing workers. At the same time, the latter expected to be respected for their role in building the firm, and for their continued key position in maintaining its success. Respect meant, ultimately, fair wages, job security, and the sort of autonomy spoken of by the semi-skilled dial machinist.

The newcomers were absorbed into the traditional functionally-based organizational structure. Each division is in charge of part of the entire production process, with the general manager of the division in charge of integrating the various functions. This is, of course, a more centralized structure than a divisional structure in which every operation pertaining to a product, or type of product, comes under a single division. At Radgal, it was at the Sunday division managers and staff meeting where the major management decisions were made.

Since institutional restrictions prevented the traditional functionally-based organizational structure from changing, major transitions took place within the basic structural framework. Yet, even these less extreme modes of change led to political struggles. In R&D, this took the form of each division's guarding its control over its own operations by refusing needed help from other divisions.

For example, in the large exchanges division some engineers and technicians made necessary adjustments to imported equipment and over the years developed certain supplementary components. Yet, they were opposed to any coordination with other divisions and even, in some cases, were reluctant to provide technological information to the R&D
division. The large-exchange engineers, like the spring machinist, resented any attempt to penetrate their "territory." Thus, when the small R&D division started to evolve, the large-exchange engineers resisted any cooperation, let alone integration, with them. Some of Radgal's equipment, such as terminals, was developed simultaneously by two or three Radgal divisions.

Such internal political struggle is especially debilitating to a firm seeking to break into a highly competitive, fluctuating international market. Radgal could not afford this squandering of time and resources. Yet, Radgal management could not simply embark on a far-reaching reorganization of corporate culture and structure because Radgal itself was a branch of the Histadrut, Heverat Ha'ovedim and Koor, all with powerfully entrenched power bases whose institutional roots extended throughout every aspect of the firm. The newly prominent R&D division, partook more of the free-wheeling, independent, entrepreneurial high-tech culture, yet it too had to function within Radgal's historical constraints. Major adjustments were required of the firm, and yet it could not simply become another Cintel. A special brand of imagination was necessary to initiate major changes while respecting the integrity --and working with the inherent strengths-- implicit in Radgal's connection to the Histadrut.

**Becoming an International Vendor: The PBX Initiative**

The initiative to develop a new PBX(23) with a North American firm in 1978 was a major step towards entering the international market; it also significantly stimulated the R&D orientation at Radgal. In 1978, the
head of the R&D division appointed three engineers to a joint R&D and Marketing team whose job was to interact with the US supplier firm's representatives. (24) The team's job was to learn the features of the required PBX system, and to examine its production viability. These connections proved fruitful: the American firm successfully identified the market niche needs, while the Israelis managed to quickly develop a system tailored to these needs.

It was good timing for the new product. The technological shift from mini to microcomputers had just begun, and Radgal's engineers were striving to work with the opportunities and challenges this shift afforded them. Since the two major marketing problems of identifying the market niche and the features needed for the system were partially solved by the Americans, Radgal's venture began with a great deal of momentum. Enthusiasm was high and it filtered through to all of Radgal's divisions. The notion was, "We should become a dynamic high-tech vendor," and the pressure to intensify the pace of work frequently came from below, from employees who were highly-motivated to deal with state-of-the-art projects.

The engineers saw the challenging projects as a significant source of motivation, as one of the PBX project managers pointed out:

We know that in Radgal the material compensation will never be equal to that of private, nonunionized firms, but Radgal can provide us with the freedom and autonomy to develop projects without managerial interference, and with job security and 'normal' working hours if we want them. Our project is our autonomy (25) and group cohesiveness: if top management becomes more centralized and threatens our cohesiveness and autonomy, I do not see how we can be motivated to work. The challenge of developing a new sophisticated system was important for all of us, and we put a lot of overtime and effort into fulfilling this new opportunity.
The eagerness to become an advanced high-tech company paid off. In 1979 the first PBX model was ready for customer testing and in early 1980 Radgal started to manufacture the system. The success of the first stage of the system's development created great demand for the new product. This first year, Radgal sold $2.2 million worth of the PBXs to the US. Management's immediate challenge was to meet this demand. In this crucial task, Radgal reacted slowly. While an intensive effort from all divisions managed to get the first systems to the US, the production pace of the firm simply could not keep up. (26)

Nonetheless, the success of the system generated great enthusiasm within the firm. The pace of both recruiting new employees and of capital investment increased steadily. In 1981 PBX sales to the U.S. more than tripled from $2.2 to $7.8 million dollars, and jumped to $10.5 million in 1982. Through it all, the main challenge was to meet the production schedule.

The major obstacle to keeping up with the demand for the PBXs was Radgal's functional structure. Fundamental to Radgal's culture or common assumption was that most production stages must operate in-house. Subcontracting and purchasing outside components were allowed only when no internal group could solve technical or manufacturing problem. Since Radgal was so closely tied to organized labor, in-house solutions were especially important because they created more jobs within Radgal. This did not always allow for the greatest speed or flexibility in responding to new conditions. Radgal management generally saw one choice for solving the manufacturing bottleneck -- intensified automation. As a senior executive asserted:
Radgal must change. It cannot rest upon its traditional funds of labor and capital. It cannot become an international vendor without dramatic accommodations in its approach to technology. We need to intensify our thrust toward the Flexible Manufacturing System [FMS](27) which would give us a comprehensive solution for multiple problems, such as our inability to allocate skilled workers from who resent Radgal’s lower pay. Hence, by FMS we would improve our production quality and be price competitive and reduce our [management’s] dependency on labor and their anachronistic institutes.

Although we are already leaders in this sophisticated system, we still need to invest more in an attempt to complete the entire cycle of production from R&D to manufacturing.

The intensive investment in R&D facilities and the most advanced manufacturing systems coexisted with major transitions in human resources. Telem was committed to "bringing Radgal into the 1980s" by introducing the design and production of the most advanced electronic digital telecom systems. At the time it was clear that this technological breakthrough would be impossible to achieve without an accompanying structural and cultural revolution within the company. In the late 1970s, however, the most urgent need was to convey the message that Radgal had to adapt its traditional labor relations and human resources management to the requirement of its new business situation.

Radgal’s deputy general manager identified the overall problem as to need to determine a way to shift the company’s managerial philosophy from the traditional autocratic "'Theory X' style to the 'Theory Y' [Douglas McGregor (1957)] type of management." He saw this approach as necessary to Radgal’s entering the age of high technology: "This change would have had to occur even if we had not tried to become a high-tech industry."
The key to change, however, was to implement it within the context of Radgal being a Koor/Histadrut-owned firm. As the deputy general manager said:

As a Koor-owned firm, Radgal’s labor agreements grant a great deal of formal authority to the employee committees. Thus we have a tradition of indirect manager-worker connections. Workers generally take their grievances and requests first to their committees, thus enabling the committees to accumulate informal political power. This tendency generated conflicts which we were determined to avoid in the future.

Radgal’s top management saw the Hevrat Ha’ovedim’s political restrictions as a major obstacle in its move toward high technology and tried to establish an HRM system that could impart the flexible attitude management would have liked to develop in the firm to talented workers. For instance, in an attempt to overcome the strict Koor wage agreement, which is relatively egalitarian, Radgal’s management tried to motivate employees with a new HRM initiative, called the "People-Oriented Company." In the deputy manager’s words:

The dilemma we faced was how Radgal could compete for the most talented people when Koor’s salaries were lower than those of other electronics firms in Israel. Our answer was to create a ‘People-Oriented Company,’ a system of ‘lifetime employment’ where the workers could see themselves as an integral part of the company, where they would feel at home. However, we fully understand the necessity to provide reasonably competitive salaries for talent.

The pace of demographic and related human resources changes was rapid but, as the head of the firm’s personnel division suggested, "We did not have a strategy. Rather, we operated according to a general sense of direction." Another top executive in charge of human resources added:

No one was smart enough to say, ‘Here are the steps we need to take to succeed.’ We operated according to our most urgent
needs and according to our shared managerial philosophy [of professionalizing the firm]. I saw that Radgal's biggest need was in properly and professionally dealing with its most valuable resources, its human resources. In contrast to most electronics and telecom firms, our human resources are 'fixed assets.' Thus, human resource policy has both a strong positive and negative impact on the company. The positive side is the high employee commitment to initiative and production. The negative side is their high expectations and the threat of strike [without fear of being dismissed]. I felt [in 1978-1980] that the development of our work force was the best comparative advantage we could attain for Radgal.

Implicit in this view is management's desire to change the balance between unskilled and skilled employees more rapidly, and to shift the organizational power from the shop-floor foremen and middle managers to the hands of top managers and engineers. This approach ran counter to the traditional Heverat Ha'ovedim character of the firm, and affected future personnel relations within Radgal.

Table 3: Transition in Radgal's Human Resource (1979-1983)

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<tr>
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<tbody>
<tr>
<td>Engineers (Total %)</td>
<td>214</td>
<td>253</td>
<td>361</td>
<td>478</td>
<td>560</td>
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<td>Engineers (% of Total)</td>
<td>17%</td>
<td>18%</td>
<td>21%</td>
<td>24%</td>
<td>28%</td>
</tr>
<tr>
<td>Technicians (Total %)</td>
<td>282</td>
<td>396</td>
<td>430</td>
<td>499</td>
<td>500</td>
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<td>23%</td>
<td>23%</td>
<td>25%</td>
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<tr>
<td>Unskilled (Total %)</td>
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<td>874</td>
<td>963</td>
<td>1017</td>
<td>940</td>
</tr>
<tr>
<td>Unskilled (% of Total)</td>
<td>65%</td>
<td>62%</td>
<td>56%</td>
<td>51%</td>
<td>47%</td>
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<tr>
<td>Total</td>
<td>1262</td>
<td>1410</td>
<td>1720</td>
<td>1995</td>
<td>2272</td>
</tr>
<tr>
<td>% change from previous year</td>
<td>15%</td>
<td>12%</td>
<td>22%</td>
<td>16%</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

Restricted by political constraints in terms of how much it could cultivate highly skilled personnel who expected compensation commensurate with their value to the high-tech industry, Radgal's
management attempted to cope with change by expanding the traditional personnel administration into a larger, more comprehensive HRM function. Their strategic choices, however, were rooted in past patterns of effecting organizational change: Management decided to establish another organizational institution. "Without a solid administrative base, we had nowhere to go," asserted the head of the HRM division who led these labor transitions.

This raises a very crucial point. Radgal and the HRM department deserve great credit for recognizing the value of training and HRM to the company. At Cintel, for instance, training was the first to go in the face of cost-cutting. Radgal's perception arose, no doubt, from the traditional Histadrut commitment to labor and its recognition of the importance of all personnel to a given firm. The cohesiveness of the various groups --the engineers' project groups, the relationship of the foremen to the workers they supervised, the community ties among semi- and unskilled workers, and the interlocking committee and organizational structure that knit everyone together from the unskilled workers to the heads of Histadrut and Radgal-- helped guide management's prime focus to HRM. Thus, the HRM initiative was an expression of the inherent strength of a Histadrut company as opposed to private firms such as Cintel, and represents one major area of flexible response to complex problems.

On the other hand, the head of the HRM division's statement (quoted above) targets a major problem in Radgal's HRM initiative. To commit to training and a "People-Oriented Company" are worthy goals, but unless management itself comprehends that such changes involve a vital change
in the way the company is run, in both its organizational and political culture, such initiatives are destined to be purely superficial.
Radgal's management made these initiatives and results were represented in what proved to be an inadequate response to the major changes occurring in the company's external environment. From 1980 to 1982, Radgal's goal was to establish four human resource functions: administration, recruitment, employee benefits, and training.
Administration's role was to develop a standardized, computerized administration system in cooperation with the employee committees. The recruitment division would soon brought more than 550 engineers and technicians to the company, almost doubling the work force from 1262 to 2272 employees (see Tables 2 and 3, above). Employee benefits aimed to show that "Radgal is different" through company sponsored social and cultural activities. And training took the responsibility for continuous employee training and creating human resource development and employee quality circle (QC) programs.

RESPONSE OF THE EMPLOYEE COMMITTEES TO CHANGE AT RADGAL
The three employee committees were responsible for implementing these transitions at Radgal. Each committee responded differently, and a look at each response will be helpful to understanding the internal dynamics of Radgal in this period.
The Daily Worker Committee in the Growth Stage (1978-1983)

Lifschitz, the leader of the daily workers' committee, understood that at this time the firm's prosperity was not sufficient cause to make increased demands at the annual collective bargaining sessions. He interpreted Radgal's extensive investment in automatic electronic circuits assembly machinery as eventually deteriorating his political power base. He knew, too, that management was growing more confident in its ability to confront him and his constituency because of the growing importance of R&D.

Lifschitz also understood that the firm's institutional base in the Histadrut meant that external pressures applied by the district and national unions could play a big role in determining the committee's eventual position. The conclusion that Lifschitz drew from his understanding of Radgal's political picture was that only by strengthening his political alliances with the district and national unions could he keep his position internally. Understanding his political base, Lifschitz did not take the lead in any worker-militancy. The only major strike that the daily workers participated in was in collaboration with the other two committees in what called the "French Fried Strike" that was broken in 1981.

The year 1981 was the year that Radgal started to gain some access to the international telecom market. The firm's labor force increased steadily (by 27% in 1981, and by 14% in 1982) and the employee committees wanted to take advantage of this increased demand for labor. They jointly decided to confront management on an issue concerning the dining room: In the words of one of the participating worker leaders,
"There was no better issue for drawing all diverse labor attention and solidarity." The formal demand was that the company to improve the dining room’s sanitary conditions and food quality. The employee committees also required that their lunch "include french fries" and that this be standardized — served to all employees — and not just to management, which took their lunch in a separate dining room. After almost a week of an all-workers' strike, their requests were accepted. The old dining room was renovated, and a contractor was hired to serve the same quality of lunch to all employees. Top management were seated at a reserved table within the same dining room. For a short time, this daily workers' committee strategy was successful, and the workers' committee was a viable power that could not be ignored by management.

During the early 1980s, however, Lifschitz faced a new political threat. This time a young sophisticated leader challenged Lifschitz' leadership within his own constituency — the daily workers. The spring machinist who left his old position started to develop political ambitions. The daily workers' committee looked like a natural arena for him. Lifschitz was Ashkenazi, relatively old, considered a part of the bureaucracy, and losing his power steadily; the spring machinist was Sephardic, relatively young, not identified as bureaucrat, and had the potential to gain power for the daily workers against management.

The spring machinist who had a sophisticated understanding of Radgal's political arena at all levels, also felt he had to identify the present national political map that would allow his committee to establish political alliances in an attempt to meet the new, aggressive challenge to its power base posed by management's recent initiatives.
While the labor institutions were "occupied" by the legitimate institutions representing their established connections with the Likud Party, the spring machinists identified the weaknesses in his position as an individual without an institutional affiliation and developed connection with regional politicians affiliated with the conservative Likud Party.

There were several reasons why the workers' committee leader crossed political lines. First, other than their role as laborers in a Histadrut company, the natural political allegiance of the Sephardim (who comprised most of the firm's semi- and unskilled labor force) was to Likud. Second, at the time the spring machinist thought that since Radgal was directly tied to the Labor Party, his identification with the Likud Party would make Labor politicians understand that the unskilled workers should not be ignored in future negotiations. And third, he may have been concerned with his own political future and was using Likud as his own party base for a political career.

These political maneuvers were only an introduction to the final political struggle between Lifschitz and the person who challenged him in 1984. Before we reach this period let us shift our focus to the other two employee committees.
The Monthly Employee Committee, 1977–1983

This committee represents a diverse group of employees who have a monthly salary in common—a source of status within Radgal. The committee consist of two secretaries, one foremen, one electrician (an electrician is a skilled worker who trains for 6 to 12 months), and three technicians. They are between labor and management in status, and within the group, there are several subgroups with different aspirations and loci of identification. During this period of rapid human resource transition, the secretaries identified with, and were committed to, the view of upper management. They favored the shift to the prestige of a high-tech firm because their positions and job security were not threatened by either technology or human resources transitions. As an administrative clerk said,

I would love to implement 'office automation', and would like to spend whatever time was needed to develop my technological skills. Fortunately, at Radgal, we can participate in several training programs.

The foremen and stockkeepers saw things differently from the secretaries. They had developed loyalties to their cohesive teams of unskilled subordinates, with whom they worked for many years. However, because of the foremen's paternalistic relationship to their workers, they considered themselves as managers and liked to identify with managers.

During the years of rapid growth the foremen were still in a strong position within the firm. "In these days of increased demand and prosperity, they all look for our help," said a senior foreman in the electronic circuit assembly shop. He added:
...without our commitment and enthusiasm not even a single [electronic] circuit can be produced on time. They [top management] could just dream about meeting the international demand. We put our hands, our leadership skill into this job. We work day and night, everything for the firm that we have built and these young 'cocks' [slang for 'big shot' managers and engineers] are picking the fruits.

As the last sentence indicates, the future status of the foremen was under siege from both technology and the new type of management. The foremen were skeptical about their own capacity to be retrained, and were confused by the rapid pace of change in the plant -- the new machines and construction being introduced daily. As a senior stockkeeper put it:

We could not have a second of rest... One can go home for a short vacation and come back to a new plant he could not recognize. We really did not know how to react, especially when our employee committee leaders were even more confused than we were.

Interestingly enough, since the foremen and stockkeepers were socially close to the senior unskilled workers, they found it easier at this time to identify with the daily workers' committee leadership, an authentic representative of plant personnel, than with their own employee committee.

* * *

The technicians were the third major group included under the representative umbrella of the monthly employee committee, but they identified mainly with the engineers, taking care to distinguish themselves from the other two groups. Along with job security, they felt the need for retraining and experience that would be valuable in the open market. They also shared the enthusiasm and commitment of the
project group to "their" project, and resisted being shifted from one project to another. Thus, the technicians identified primarily with their skills and projects rather than with their institutional system of labor representatives. Their position on the boundary of high technology imbued them with the more entrepreneurial spirit of a high technology industry and undercut their allegiance to traditional labor organizations.

The segmentation of the monthly employee committee’s constituency made it almost impossible for it to formulate a strategy. Furthermore, the leader of the monthly committee was a senior member of Radgal’s twenty years older than the other two committee leaders. He pursued his goals in the old-fashioned way of working quietly within the system. Hence, in a pragmatic way, he negotiated individual grievances with management and let the other two "young cocks" engage in the big battles with management.

The Engineers Committee (1977-1983)
The newcomers to Radgal quickly deciphered the internal political map and formed an engineers’ committee that, in a short time, became the most militant committee in the firm. In 1978, only a few months after the committee was founded, it declared a strike against Radgal’s management, demanding expenses for "car maintenance."(28)

In 1978, Radgal’s new management was generally in sympathy with the young engineers’ demands. As one senior Radgal executive said:

\textbf{It is almost impossible to manage high-tech industry in Koor because of the political constraints. In competing in this market, we need to bypass these constraints and establish a differentiated compensation system that can attract talented}
people. Without this, we can do nothing in this sophisticated market.

Implicit in this argument was management's drive to become independent of Koor's bureaucrats and political institutions. Management's thrust was towards this new energetic and talented generation of employees. Their challenge was to develop their "own" organizational compensation system without breaking the sensitive balance with other groups of workers. To the extent that the other groups accepted compensation differentiation, management gained political power and the ability to act independently.

Eventually the strike for car maintenance increases was successful. Management's acceptance of the engineers' demands was a clear signal to other groups at Radgal that a powerful new group had to be taken into consideration in future decision-making processes. It should be kept in mind, however, that the engineers' success was in large part due to the lack of resistance from other groups of employees.

The engineers' committee tried to maintain the unique position that enabled them to increase demands without being tied to other groups. At the same time every successful demand of other groups was considered "gap-closing" and used as a sufficient excuse for further demands for the engineers. For example, after a successful collective bargaining agreement for fiscal year 1981-1982, the daily workers' committee got an increase in "car compensation" for some of its senior members. The engineers' committee immediately stepped in with a demand to keep their compensation differentiation in accord with the daily and monthly workers' demands. "If the firm prospers, and management must compensate key workers in the shop in an attempt to keep peaceful industrial
relations, we should get the same recognition and compensation," asserted the engineers' committee leader. "After a short management hesitation we announced a strike, and immediately won management's concession."

The engineers' committee leader used his committee activity to further his political career. As an employee committee leader, he had to maneuver between two conflicting interests: on the one hand, the desire to participate in strategic decision-making processes because his followers identified with, and had a sincere concern about, their projects' viability in the market. From this perspective the engineers sought participation in the business or management position even at the price of making material concessions. And on the other hand, like other employees the engineers pursued their "conventional" interests in workers' compensation and benefits without considering the economic condition of taking responsibility for the financial well-being of the firm.

In national union politics, the engineer's leader found himself in a similar conflict. That is, he recognized the incongruence between the tendency of the engineers to become a separate union organization outside the Histadrut, and the political understanding that this separatist tendency would undermine the base of their national political power. In other words, had the engineers exploited only their own talent in order to promote their individual interests, they would not need an organized institute like Histadrut. But political experience showed that in many cases labor solidarity paid off, and that the labor institution could be used as an important lever for personal interests.
The engineers' leader had pursued a national political career, and recently had been elected vice-president of the national engineering union. These activities draw substantial skepticism from his constituency: "We need an employee committee leader, not a national politician" said a senior engineer. Another asserted, "I do not think that we need an employee committee; this is just a base for some individuals with political aspirations."

This complex, dual attitude toward Radgal as a union-owned firm was an unresolved dilemma for the engineers' leader, and could be found in the attitudes of most of his fellow engineers. For example, while criticizing Radgal's decision-making process, several times the engineers' committee leader expressed his concern to me that my research would be give an unfavorable picture of the firm to the US, "our most important future market." This "positive tendency" toward the firm was translated into continuing pressure for increased participation by engineers' in Radgal's strategic decision-making process. The engineers complex attitude embraces sincere loyalty to the company and accompanied by their strong sense of their value to the firm. Loyalty and sense of their value led them to make significant demands for increased compensation.

To attain his goals, the engineers' leader often exploited the Histadrut's political slogans of employee participation, and pursued the formal procedures that enabled labor committee participation in any decision for new job openings. For example, when there was an opening for an outside candidate, the engineers' employee committee could submit its internal candidate, and question the rationale behind bringing in an
outside employee. This employee committee request rested on two basic motivations: to open channels for internal promotions, and to express the deep concern of Radgal engineers about management's decision-making processes. These employees' struggle to participate took place within the context of external political pressures to establish new industrial relations institutions with advanced worker participation in top decision-making.

Toward A Joint Managerial Board?

In the national election of 1982 the Labor Party suffered a bitter political defeat to the Likud bloc. Behind the defeat lay the alienation between the Labor Party and the laboring class, consisting mainly of the poorly educated Sephardic population. Furthermore, this alienation was so deep that in many of Histadrut/Koor industries the majority of the workers supported the Likud. Top political Labor leaders concluded that they needed a long-term project "to bring the workers back to the labor movement." While Koor management was identified with the Labor Party, there was no serious chance that shop-floor workers would recognize this complex distinction between the party, the Histadrut, and their management. The only way to bridge this gap was to develop an industrial "social democratic system", that is, to assimilate the Western German co-determination system in which workers were represented within Koor's managerial board.

Worker participation in Koor's management became a major political issue. In 1982, Itzhak Haziza, a Sephardi, was nominated Koor's vice-president of human resources and industrial relations. For many years
Haziza was considered one of the strongest and most militant leaders of the employee committees representing Koor's huge metal industries in the Haifa and Akko industrial district. In 1983, Haziza initiated an experimental joint managerial board.

The joint managerial board came into being as a result of the historical evolution of Heverat Ha'ovedim's industrial relations. The joint managerial boards should have replaced the old industrial relations system of employee committees and management which alienated the workers from their industry, and should have enabled workers to enjoy a higher degree of participation and influence. Ideally, this plan was to facilitate cooperation among workers and managers in sharing responsibilities and commitments. The existing structure was to be replaced by more active worker participation in all production concerns, not just in processes concerning particular labor interests. In such an industrial relations model, the employees committee would have no substantial role in the decision-making processes and hence should be expected to disappear.

At the first stage of its implementation, the joint management board experiment was opposed by the employee committees. The employee committees were encouraged to cooperate with this initiative by being given permission to send observers to the joint managerial board meetings. Even so, the traditional collective bargaining process continued at the plant level. In the second stage, all worker representatives on the joint managerial board were also employee committee members.
The primary goal of Koor's "Joint Managerial Board" plan was to replace the traditional industrial relations structure, which was based on the interaction of two separate parties with different interests, workers and managers, with a cooperative structure serving common goals and interests. The joint managerial board was supposed to replace the traditional roles of both the managerial board and the employee committees. In reality, neither party would sacrifice its particular interests for common or shared interests. Each party, through its representatives, still tried to maximize its interests by exercising its given power and influence.

This pursuit of particular interests continues to be seen in Koor's industrial relations system. The primary directors of the plants are Koor appointees. Since the early 1970s, each board of executives has sent its representatives to the joint managerial board. The Koor plants' joint managerial board consists of (50%+1) managerial representation and (50%-1) worker representation. The worker representatives originally were elected directly by the work force, in an election separate from that for the employee committees.

Eventually, many of the same representatives served on both bodies. The employee committee was not abolished, and management created a nonofficial active board to run the day-to-day operations of the plants, and to participate in the collective bargaining processes with the employee committees. Thus, the joint managerial board had little validity.

So far, this organizational structure appears confusing and, in fact, is confusing. The immediate question that arises is this:
What is the rationale for this overlapping of the joint managerial board, the employee committee, and the nonofficial active board?

The most extensive research on Heverat Ha'ovedim's (twenty-three) joint managerial boards was conducted by Abraham Bar-Haim. (29) Bar-Haim's study indicates that although joint managerial boards continue to exist, and even meet once a month or once every three months, their activity is not substantial and has no impact on plant life. Michal Katzenelson's study of the attitudes of Koor plant subgroups towards the joint boards indicates that the actual attitude regarding substantial worker influence depends upon a person's position in the organization. (30) For example, only 18.2% of the managerial representatives and 22.2% of the official worker representatives felt that workers did not participate in decision-making processes; by contrast, 65.6% of the workers felt there was no such participation. Furthermore, when workers were asked about the official rules for joint managerial boards, 53.1% of them (as compared to 9.1% of managerial representatives) did not know that these joint boards even existed.

Thus, it is no surprise that in Radgal, as in other Koor firms, the joint managerial board failed. Recently, Koor industries returned to its traditional institutional structure of collective bargaining.

Radgal Reaction to The New Labor Relations Venture

Radgal's management was convinced that employee participation in strategic decisions or those involving top appointments was an inherently weak policy. But continuing pressure from the employee committees to participate in management decisions created conflicts and
unnecessarily exaggerated labor tensions, since workers expected to participate in decision-making processes for which they were unprepared.

On July 1, 1983, Haziza requested Radgal to initiate a joint managerial board. A five man task force consisting of the general manager, his deputy, and three employee representatives was established. After two meetings in July and August 1983, the task force responded:

After two meetings, the task force came to the unanimous decision that in an industry like Radgal there is no place for worker participation in management -- that is, worker participation in the firm's strategic decisions. The idea of worker participation should be implemented:

-- Within the shop-floor by inducing decision-making cooperation between managers and subordinates at all levels (from the general manager to the last foreman).

-- By inducing the horizontal cooperation among divisions.

-- By inducing institutional cooperation between management and the employee committees.

In general, the committee came to the conclusion that the idea of a joint managerial board creates unnecessary duplicity within the decision-making process, and as such, it could become a source of delusion and a management excuse to neglect real participation at all levels. Employee participation that induces workers' involvement in decisions relevant for their particular work-place, and that supports personal effectiveness at their jobs is more suitable. (31)

Radgal's reaction reflects an organizational character consisting of multiple institutions and divisions, each holding substantial political power that cannot be challenged directly. Any attempt at change occurred through complex negotiations, and if change implied a deterioration in power of one of Radgal's long-standing institutions, it was bound to fail. Therefore, sincere worker participation in such an organizational setting could not be implemented through a joint
managerial board, or in any other symbolic setting; rather, it had be
enforced and sponsored by the organization and labor relations
institutes.

**Radgal Approaches Full-Scale Production, 1983**

In 1983, Radgal’s most successful year, total sales reached $97 million,
of which $30 million was exports, a 440-percent total sales increase
since 1978.

<table>
<thead>
<tr>
<th>Year</th>
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<tbody>
<tr>
<td>1980</td>
<td>$2.2</td>
</tr>
<tr>
<td>1981</td>
<td>$7.8</td>
</tr>
<tr>
<td>1982</td>
<td>$10.5</td>
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<td>1983</td>
<td>$29.5</td>
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</table>

Since management predicted that this pace of growth would continue, the
key question for Radgal was not future demand, but how to meet this
demand while improving product quality. Thus, Radgal invested heavily
in advanced computer systems used in designing products and in automated
manufacturing machinery.

In opting for this comprehensive increase in investment, Radgal was
adhering to its traditional emphasis on controlling the entire
production system without being dependent on external suppliers, since
such involvement created jobs for its workers. Radgal also was
interested in reducing the length of time required for R&D to create
solutions to production problems, and in improving production quality,
which was relatively low due to Radgal’s present manufacturing process.
In addition, Radgal's management believed that more sophisticated technology and automation would make the firm more independent of the institutional restrictions imposed by labor's traditional power on the firm.

**In-House Production Versus External Purchasing**

Radgal's rapid growth and large-scale production started to create internal organizational difficulties. The functional structure of the firm made it difficult to coordinate the complex production process. Management became increasingly frustrated at losing control over the organization's dynamics. Once again, organizational culture and politics restricted and channeled management's response. For example, the product architecture team, in conjunction with manufacturing, prevented management from purchasing a relatively minor component of PBX, the Japanese button dial. Instead, the team forced Radgal to produce the component in-house, despite management's hard evidence that the Japanese vendor was a specialist in the electronic dials' production and could provide Radgal with high-quality, competitively priced dials in a short period of time. At the same time, it was doubtful that in-house development and production could match the Japanese product in price or quality.

Another example of the same conflict of domestic production versus external purchasing was the question over who would produce the "plastic pajamas" (as they are called by the engineers) that fit over the telephones. The R&D division favored external subcontracting, while the technical division was reluctant to use external contractors. Once
again, the conflict was in essentially over the engineers' and
management's favoring Western management methods, which included the use
of subcontractors, while the more traditional labor-connected elements
within Radgal favoring whatever policy increased jobs and involvement,
and hence security, for the workers.

This strategic dilemma is a classic example of the difficulties
stemming from the shift from "Fordist" mass-production to a high-tech
flexible craft system. Technology and organizational politics, in such
a situation, open up a number of strategic choices for a firm's various
constituent elements. Now we shall see the forces which led Radgal's
management to the choices they implemented in attempting to
resolve the stresses that expansion placed upon the firm.

R&D's desire to subcontract the mold production stemmed from three
basic arguments. First, it was argued that Radgal must specialize in
telecom rather than plastic production. Second, it was argued that
product innovation and electronic software provide the highest profits
in terms of quantity and percentage of return; plastic covers of end
units are barely significant terms in profitability equations. Third,
it was argued that exceptional skill needed to produce a high-quality
mold was simply not available within Radgal.

By contrast, the mechanical division argued that in-house mold
production would reduce the firm's dependency on outside vendors, would
eventually reduce expenses, and, no less important, would create, rather
than eliminate, jobs within Radgal. The technical division's manager
was not concerned about the firm's lack of metal specialists. For him,
new technological advances would solve the labor skill problem:
The human resource skill problem is anachronistic. In the age of CAD-CAM all human skills are replaced by sophisticated machines. We will be the leaders not only in developing but also in manufacturing our advanced product. The 'factory of the future' will not only overcome the skill problem, it will also increase the flexibility of production to an unprecedented level. There is no excuse for waiting for others to develop such a system; we should take the lead and be the first in Israel to produce molds in our advanced PMS... I am inviting you to see in two years how these new mechanical engineers and technicians are becoming experts in mold production.

Thus, there seems to be an intrinsic contradiction in the direction in which Radgal was going. Under the guise of protecting jobs, the manufacturing and technical divisions denied R&D’s request to go with outside subcontractors who clearly would have been quite useful to the firm. Yet, the ultimate thrust of these divisions’ commitment to maintaining control of the entire production process in-house was to create a wholly modern, automated plant that would be a model for Israeli industry. In so doing, they inevitably made many jobs at Radgal obsolete.

We might ask, as many at R&D undoubtedly did, whether Radgal was being overly ambitious in thinking it could do too many tasks at the same time that it was trying to establish itself in a highly competitive market. On the one hand, Radgal did owe a great debt to its roots in the labor movement; on the other hand, there were a number of choices open to management, some of which could have resolved the contradictions within Radgal’s culture and still been sound business decisions. The challenge, however, was a difficult one. For instance, management’s response to the fact that many of its unskilled workers were no longer necessary to the firm demonstrates both the strengths and weaknesses of the policies Radgal was now pursuing.
The formal decision favored the bureaucratic choice of in-house mold production. Nobody could just dissolve an existing division, and investment in manufacturing automation was a major thrust of management.

The Necessity of Dismissing Two Hundreds Unskilled Assembly Workers

During 1982-1983 the shop-floor changed dramatically. The huge production hall was divided into closed glass rooms filled with large machines hooked to computers and terminals; the long, crowded production lines were replaced by clean, air-conditioned and quite automatic machinery run by very few technicians. Only a few spaces of the hall remained open, used by the remaining unskilled assembly workers who did the jobs the automatic machines were not capable of doing; these last spaces were still crowded and not air-conditioned.

Two hundred unskilled assembly workers suddenly found themselves without work, their jobs performed by the new automatic machines. Radgal management knew that lay-offs were almost impossible, but this particular group, consisting of many people who were illiterate or, at most, had only a basic preliminary education, could not be retrained at the firm’s expense. Furthermore, management had to consider the three employee committees further cooperation in implementing the new manufacturing technology.

The choices were so complicated that no solution could be initiated without an internal labor crisis. The decision was postponed and the two hundred workers, mainly women, continued to come in every morning to the plant, and receive their daily wages, including individual premiums, for jobs they did not do. It was staggering, even humiliating, to see
dozens of workers coming in to the shop every morning and doing their knitting.

At the end of 1983, Radgal management saw no other alternative but to implement lay-offs. At this moment, Histadrut politicians stepped in and asked management to postpone the lay offs for six months until "after the next national election." In the words of a top Koor executive:

We cannot show the public that we, Koor Industries, are laying off workers. The Likud will exploit this issue to reinforce the alienation between the Labor Party and workers that we have all worked so hard to reduce. Now that the recent tragic Lebanon invasion shows the real face of our political opponents, we cannot afford to allow the issue to shift.

Radgal’s management accepted Koor’s authority and judgement and kept the two hundred employees another eight months. At the end of the summer of 1984, however, Radgal management started a very complex and sensitive process of collective and individual negotiations aimed at implementing, with labor’s cooperation, the voluntary early retirement of these two hundred employees.

In addition to management’s sensitivity and the cooperative effort of labor and management to eliminate conflict in cutting human resources, the successful labor-trim was also attributable to the bargaining weakness of this unskilled group which consisted mainly (85%) of women. As one of the early retired women explained:

I was convinced to retire seven years early because I could not stand the humiliation of coming every morning to the plant without doing anything. I felt that my nerves are breaking apart. Thank God, my husband still works and the money which I got will give us the cash needed for renovating our apartment.
Moreover, increased market fluctuations and the resulting threat to
the remaining workers were also playing an important role in this
cooperative labor-management relationship. Lifschitz, the leader of the
daily employee committee, was charged with misappropriating workers
committee funds and dismissed.

This was also an appropriate time for the spring machinist to
intervene through his alliance with management. Later, he justified
this alliance by accepting the necessity of implementing new technology
in an attempt to survive in the telecom market. In his words:

I do not want to be the biblical hero Samson and destroy the
house with all the inhabitants. The 'tricks' which I used ten
years ago in operating the dial spring machine cannot work
with unskilled or semiskilled workers. The age of high-tech
is the age of the academic professional. They can do whatever
they want, they are today's spring machine operators. We can
only enforce our interests by skillfully maneuvering between
cooperation and confrontation.

Now I give a hand to management, and I am expecting that they
will give us the credit for the future. The threat to be the
hero Samson is our power and we could destroy everything if
they [management] decide to destroy us [the unskilled
workers].

About 25 percent of the problematic retirees were monthly workers
and left the firm voluntarily, which also reduced the need, in the
monthly employee and engineers' committee eyes, for any work action.
In addition, half the unskilled retired workers were people who
management would have liked to dismiss anyway; the other half had to go
as well (as there was no work for them) and they all took advantage of
the unique compensation to get higher retirement compensation than they
would have under other circumstances according to Radgal's personnel
manager.
Radgal had to provide financial inducement for employees to retire early or, if they were younger, to convince them simply to take a lump sum and go. There is a two-fold disadvantage of such an offer however. On the one hand, enough volunteers do not step forward, the threat of termination constantly hovers in the air. On the other hand, there is the threat of too many volunteers.

Radgal's personnel manager in charge of the retirement operation outlined the principles by which management approached the entire process:

1) Every decision was implemented only in accordance with labor law.
2) Management took into consideration the seniority, and personal and family background of any worker who had been asked to retire.
3) No decision was made without the full cooperation and agreement of the daily employee committee.
4) Monthly workers got early pension, daily employees got 200% compensation (that is, two months, salary for every year they had worked for Radgal).

Thus, it is clear that despite the growing tensions within the firm, management and labor were able to confront a difficult issue with skill and sensitivity. It is noteworthy that crucial to the success of the retirement project was the cooperation of management and labor, and the loyalty --as shown by the engineers committee leader's statement-- of the workers and their committee to the firm.

If Radgal could succeed in institutionalizing such cooperation, and if management could cooperate with labor in situations requiring management concessions, Radgal could possibly develop a style and
structure of organization that could meet both its historical
imperatives and the necessities of the telecom marketplace. External
pressures on the firm were increasing steadily, and in 1984, however,
Radgal had to confront a crisis of an entirely different order.

The Sky Becomes Cloudy, 1984
During the second half of 1983 customer pressure on the firm increased
steadily. There was growing discontent with Radgal product quality and
the pace at which the firm issued new generations of products. The most
immediate and prominent customer complaint was mechanical: the
telephone's push buttons often became stuck. Large customers, such as
some of the BOCs and OEM, were threatened by the Southeast Asian
telecommunications invasion and thus pushed Radgal to increase the pace
of product innovation. There were also many complaints about electronic
failures, but these were much less prominent. At Radgal, a spiral of
mutual accusations began.

The R&D project team became frustrated when their fears began to be
realized. They accused the mechanical division of being unable to
produce quality molds within the timetable needed for issuing a new
generation of products. They also accused the architecture engineering
division of being unable to develop a reliable dial and the
manufacturing division of being unable to meet high quality standards.
All of these divisions then blamed the R&D project teams for developing
a product that "maybe works in theory; but always, after we got the
product schema we had to make major accommodations." As an engineer in
the mechanical division explained:
The most simple reaction is to blame each other, but I would like to see these people going every other day to subcontractors to make new product accommodations. Only because we developed everything at home can they come over again and again to change their mind. If they were designed correctly, the push buttons would not have stuck...

And a senior assembly-line worker complained that the accusations against manufacturing were unjust:

I really don't know what they are doing. They developed an electronic circuit on which you always burn your fingers when using the soldering [brazing] iron. I wish they would spend two seconds on the shop-floor to know what it means to produce the products they designed.

A manufacturing foreman added:

I am sure that if they [the R&D project team] would think about the entire process of production, and not only about theory, we could have a great product. Look how easy and smooth a process we have with the large exchange circuits. Here we got the circuit schema from the American engineers, and they are perfect. I am sure that they [the Americans] are spending a great deal of time in the shop. I will tell you the truth, if I knew who they were [a cynical way to speak about Radgal's project team], I would certainly tell them that 'I don't trust your product.'

Today, each of us is losing money because of the low premium that we get stemming from the need to work again and again on each circuit, but I am afraid that tomorrow all of us will lose our jobs when the customers will throw our PBXs into the ocean.

It is beyond the scope of this study to examine all the arguments in this ongoing divisional debate and to make a final judgement. The debate itself, however, must be given special attention since it is such a clear indicator of the character of the firm's organizational culture. The organizational political culture underlies both the social cohesion within the manufacturing division and the R&D group as well as the difficulties in integrating and coordinating these functional segments into a single operating system. In other words, since an individual's
loyalty was predominantly given to his division or team, each group accused the other of inefficient operation. What is interesting is that, while such accusations are frequently part of a political struggle among division managers, Radgal's divisional debate was felt at all levels of the firm.

This intense group loyalty meant that many creative projects could not become products due to the lack of organizational integration. An extreme example of this approach was the development of the INFO. The INFO is a sophisticated terminal station that facilitates data and voice communication. The terminal offers the simplicity of "touch-screen" commands, the information capabilities of a terminal and the effectiveness of a dual-line telephone.

The project started as a bright engineering idea, supported by the R&D division manager, who built a team to design a product. This R&D initiative did not receive marketing division support, and thus there was no market viability examination or any preparation for marketing the INFO. Other divisions cooperated to varying degrees, depending on personal relations between the project manager and the R&D division manager. Despite the organizational obstacles, under the leadership of the project manager the highly committed group of young engineers and technicians worked over time, each person trying to do as much as possible regardless of job definition. Because of the lack of organizational cooperation, many stages of development were done in the laboratory. Top management, however, did not disturb them and allowed the project to go on. Radgal’s typical pattern was maintained: "Nobody

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will invade the other's territory; this is against the rules of the game.

This intra divisional tension and mistrust steadily increased. It reached unprecedented heights when the marketing division manager secretly invited an engineer, who was not accepted by one of the R&D groups, to develop another terminal station independently that, in effect, completed with the INFO. "I wanted to show them [the R&D people]," he remarked, "that we can issue a new station in a shorter time that costs less." This secret project was, in effect, a conspiracy against the current organizational structure. Rather than going through the regular procedure of development that called for cooperation among all divisions and departments within Radgal, the engineer competing with the formal "station developing" group got the mandate to communicate with external contractors for the design and production components he needed (such as the dial). He negotiated with Radgal's technical and circuits design divisions, and each of these division wanted to prove its capacity to meet the challenge. In the words of the marketing division:

In developing an alternative terminal station we wanted to put the R&D people under pressure to develop the terminal needed in the market now rather than having them pursue theoretical developments that do not produce a real product at the right time.

The person in charge of developing the alternative terminal station, which was named "Station-S" after his initial, visited Japan. As a solo designer, S. worked on the project for several months. In July 1985, in a very tense Sunday meeting, top management introduced S.'s station prototype. "Station-S" was accepted as the future station,
and the R&D division was forced to accept it for further development. The R&D head of the "station developing" group took this new development quite hard and his reaction was echoed by many of other R&D engineers and technicians:

This was humiliating, and unfair. They gave us a very problematic station, whose major problems were not solved. For months we knew about this exercise, but we thought that it was just part of the continuing adversary relations between the R&D and marketing divisions. Now when top management bought the marketing legend about the miracle of designing a station in a shorter time, without making any effort to understand the complexity of station design, I think that we were moving in the wrong direction... Personally I drew an important lesson, and came to the conclusion that this firm will never be a winner, and I have no plans to stay here for a long time.

This was one of a series of serious internal organizational conflicts that accumulated from the middle of 1984. Before examining the social and political consequences of these series of conflicts, let us focus on management's response to the increased internal pressure, beginning in the second quarter of 1984.

**Management Responds to Radgal's Increased Difficulties During 1984**

The external market and internal organizational difficulties put intense pressure on Radgal's top management. Along with customer complaints about service, quality, and failure to meet delivery schedules, sales decreased dramatically. Large amounts of equipment sent to the firm's foreign supply depots during 1983, when the expectation for high sales volume was high, started to come back. It turned out that long storage periods increased the rate of defective equipment. It was understood that the firm's first priority was product quality; it was also a
widespread feeling that general manager. Telem's leadership pushed the
firm too far too fast without reinforcing the organization's
infrastructure. In the words of one of the division managers:

We need somebody who will close the gap between our targets
and our implementation of them, and who will coordinate the
organization's various segments. Now that we have the vision
[Telem's leadership], we need an excellent administrator to
accomplish it.

The successful accomplishment of cutting the unskilled labor force
was very encouraging for labor-management cooperation. While rejecting
Koor's "Social Plan" for the joint managerial board, Radgal's management
bet on developing an advanced human resource policy to be implemented on
three levels: executive seminars for top managers; management
development and professional training for middle managers; and quality
circles for shop-floor workers.

The rationale behind these programs was given by Radgal's deputy
managing director:

Radgal's quality will only come when each manager can get the
maximum out of his or her people. The unwritten contract
between management and workers is: We [managers] will make
all efforts to satisfy your needs to participate, and you [the
worker] give this company all you can. Radgal's success
depends on its social cohesion, and not on segregating
individuals or groups. We need to develop the existing team
effort at all levels and not only within the divisions or the
working groups. This will lead to higher intrinsic motivation
and work satisfaction, and most importantly, higher quality
products and decisions.

The quality problems were the most immediate challenge management
had to face. During 1984 two major management initiatives were taken:
changing the basis of the shop-floor compensation scheme from individual
to group piece-rate system, and shop-floor quality circles. The
previous individual-based piece-rate compensation scheme was entirely based on the quantity produced. The result was that employees were being rewarded for maximum output with little regard for quality. The new group scheme, in contrast, was based on both: 70% productivity, counting only undamaged products above the standard production ratio, and quality ratio (30%), counting undamaged products above a set standard.

This was a fundamental transition for the traditional, narrow job-definition system. It could be accomplished because of a combination of factors. First, the status and pride of being employed by a high-tech firm gave employees the confidence and incentive to prove their ability to meet the challenge of upgrading quality. Second, the training division conducted a three day seminar for shop-floor workers in order to facilitate the development of group identity and teamwork skills. And third, the unskilled laborers felt increased anxiety over job security, especially after the forced retirements from this group.

A senior assembly worker’s remarks illustrate feelings in the shop:

I am confused, everything changes so rapidly. Now we have a new premium scheme. I was told that there is no other way to run high-tech company. The Japanese are the world winners so management wants us all to become Japanese, here in Lod... But I must admit I am proud of being a worker in a high-tech firm and if the price of that is that I need to slow my pace and suffer from fresh, inexperienced workers, what can I do? This is a different world. I hope they [management] will give us more opportunities for seminars which help me digest the change.

The new venture of shop-floor Quality Circles (QC) was targeted to these feelings. The first initiative was voluntary and included fifteen groups of ten to twenty workers and their foremen, who met once a week
during working hours. The immediate aim was to identify, analyze, and recommend changes for day-to-day work problems.

In the first few weeks, the meetings were pleasant. Every week another worker brought her home-baked cakes and special Greek or Arab coffee. Foremen tried to summarize for the group the major issues at stake for further discussion with top managers. The strength of worker aspirations to participate was clear. But it remained to be seen whether these discussions would prove substantial for implementing change.

The special adviser appointed to the QC program described these difficulties:

We should not keep the program small, on one level. Rather we should be encouraging all groups participating in these QCs to grow and develop by giving them visible support and substantial power to make the difference. The essence of this program is developing these groups of workers to be independent. Thus, if we sincerely want them to develop, we must let them walk on their own.

The leader of the engineers' committee was highly skeptical about the quality circle program.

The QC program is still artificial. This is not the solution for our continuing demand for sincere employee participation in the decision-making process. We [the employees] are a minority on every management committee we are involved in. So if management does not agree, they do not listen to what we have to say. At present the QCs are no more than a slogan! Given their limited authority, they cannot deal with anything but the neglected problems. In order to make these QCs real, the divisional heads and other senior managers must show their commitment. The fact that our deputy general manager is showing up at these groups from time to time is nothing but a meaningless show.

In October 1984 the training division manager sent a memo to Telem concerning the increasing alienation of the engineers from the firm's
values. While the manufacturing people identified with Radgal, the skilled technicians and engineers identified with their professional skills and project groups. Radgal's management tried to respond by intensifying their thrust for organizational cohesion, that is, by trying to develop an organizational culture in harmony with the notion of a "People-Oriented Company."

"Our Target is to Induce Individuals' Commitment to the Firm"

Taped to the wall of the deputy general manager's office was a poster that read:

\[
\text{PARTICIPATION + MUTUAL RESPECT = GOOD DECISIONS AND SUCCESSFUL IMPLEMENTATION}
\]

"A People-Oriented Company" is our major thrust," said the deputy general manager. "Organizational cohesion has been the prime management thrust for attaining individual commitment and motivation." He continued:

Radgal can attract the most talented employees in the high-tech industry only by its social cohesion and guaranteed lifetime employment. Our competitive advantage can only depend on management's ability to draw individual obligation to the firm [since Radgal could not compete on the basis of compensation].

In contrast to a common belief within Radgal that was influenced by the competing free market ideology, during this historical period at the company, its strengths grew out of its being a Histadrut/or Koor organization. Its traditions offered employees the potential for participation, security, and commitment that many private firms lack,
and in using these qualities while attempting to solve its problems, Radgal could have pursued an essentially sound, consistent course. While these training programs were targeted to increase integration among departments, however, there was no training program directed toward vertical integration of the organization.

Nevertheless, organizational integration does not depend solely on creative HRM policies such as intensive training, nor is it solely in the hands of management. Rather, multiple social and political factors both internally and externally affect the firm's decision-making process. Eventually, management's pledge for organizational cohesion was necessary, but this approach had to confront a complex array of forces.

**Confronting Severely Deteriorating Earnings (1984-1985)**

Radgal fell into a marketing crisis after the sharp decline in sales and increased cost that brought the firm $8 million in loses (by the most optimistic calculations) in 1984. The social cohesion, some top managers assumed, would provide the organization with the support and energy to overcome the "natural market fluctuation." As a top executive explained:

We have a good parent --Koor-- that supports us during bad days; in turn we are not laying off. Management's commitment to labor during the economic crisis [that recently affected a large number of the national industries] should reinforce our social cohesion and worker commitment. In this way, soon we will show that Koor's decision to support us was smart, and sufficient to bring us back to the road of independence.

The end of 1984 was a difficult period for Radgal management. They started to realize and digest the extent of their sales declines. Even
more disturbing was the $3.45 million worth of defective equipment that had been shipped back from the U.S. During 1984, defective equipment reached almost 26% of the annual sales to the U.S. Eventually the firm suffered from severe earnings deterioration. At the time, management saw no other choice but to shift orientations, and hence strategies, from rapid growth to a policy of cost reduction.

In general, a major management dilemma during a period of earnings losses is whether to reduce costs or to intensify operations and investment in an attempt to regain future profits (the bicycle rider strategy). Radgal’s management, under Koor’s direction, espoused a strategy of cost reduction. Like many other management policies at Radgal, however, the choice was affected by the firm’s institutional and political context. That is, in the case of Radgal, labor, like capital, was taken as a "constant" or "quasi-constant cost" since lay offs were almost impossible. Thus, the only significant "variable costs" that could be reduced, with great of political difficulties, were the R&D investments. The dilemma here, is especially difficult in high technology industries. R&D investments are extensive, aiming for the long run, and containing uncertain results. But, in addition, R&D projects, in most high-tech cases, are the major available bet for future industrial success.

Radgal’s management responded by asking for Koor’s financial support, although such "parental" support eventually reduced Radgal’s independence. Koor, in turn, provided Radgal with needed financial help, and nominated two key persons to become Radgal executives: The
first was appointed to work in the U.S. headquarters, and the second became the financial manager.

We should note here that the agreement, including the personnel nominations, was executed in a sincere demonstration of cooperation between Koor and Radgal's management. Despite Koor's support, these moments were difficult. Radgal's enthusiastic spirit of enterprise was followed, in the wake of Koor's financial support, by deep disappointment and frustration. Because of the Koor-supported policy of cost reduction, engineers and skilled employees were discontent with their decline in prestige and were concerned about their projects. Unskilled workers and other service employees were anxious about job security. This anxiety was particularly relevant against the background of the national economic crisis, and the collapse of many other leading high-tech industries as described in the previous chapter. Radgal workers' concerns gave management a good starting point for shifting strategies. Still, it was almost impossible to turn the firm onto a path of cost reduction without taking more dramatic steps. It became clear that management could not ask the employee committees for cooperation in implementing intensive concessions without indicating that management itself was willing to pay a high personal price.

Telem took the lead again. In February 1985, he resigned his position as general manager, and was replaced by Israel Leshem, a retired IDF general who was chief commander of the IDF telecommunication division. After becoming Radgal's general manager, Leshem gathered all managers, from the level of foremen on up, and introduced his strategy:

I believe that we can come back to the main road and become a leader in the market, but this aim needs the patience, skill,
and cooperation of all of you. We cannot keep to our recent ambitious pace of investment. Rather, we must make an effort to insure that the year 1985 will finish with balanced books or even modest profits. We have generous financial support from Koor that helps us keep all jobs, but we need to show Koor that we deserve this support. Words and slogans are meaningless; the balance sheet is the only substantive indicator that we are on the right track.

The 1985 national economic crisis was not the prime cause of the firm's economic difficulties, but was used extensively by management to gain employee concessions. Following an outrageous annual inflation rate and a sharp deterioration of the national foreign currency reserve, on July 1, 1985 the government declared a three-month period of national austerity. With the resulting measures, wages and employee benefits became a major target for a freeze. The immediate goal was a 33% wage cut for the average employee. In Israel, where the national union is so powerful, only legislation and intensive union cooperation could allow such a dramatic measure to pass.

Two days after the government legalized its economic austerity policy, Radgal's management assembled all managers, from the level of foremen on up, for a management briefing. Its purpose was to use the recent government economic policy as leverage for institutionalizing the firm's wage cuts. During his short introduction about the national state of emergency faced by the nation, Leshem said:

It is the first time in Israel's history that an economic crisis threatens our future existence. Today, as we have done many times before when mobilizing to defend our state in combat, we should give a hand to recover economically. Every one of us must pay the price for our future. It will be difficult, but it could have been a disaster had we not done anything.
Following this short introduction, the head of the HRM department read the formal government regulations published as law on July 1, 1985. In regard to wage increases, the regulation stated:

For the period of three months there will be no wage increase by the government and other public-sector employers, as well as private employers. At this period employers are restricted from paying other employee benefits above the present basic salary.

During this period, employers are restricted from promoting employees, or creating other job definitions that would be followed by wage or benefit increases.

The head of the HRM department then added his interpretation of these regulations as they affected Radgal. His major theme was:

In the next three months, I have no authority for dealing either with the union or with individuals about wages and fringe benefits. By doing so, I commit a criminal act which obviously I have no intention of doing. From our point of view, the issue is closed.

One of the controversial issues in this meeting was introduced by one of the project leaders, an engineer. In an emotional manner, he raised the question about the R&D innovation award. This is direct compensation given to individuals for an outstanding technological or manufacturing innovation. (34) The head of the HRM department reacted decisively:

I do not want 200 new requests for innovation awards on my table tomorrow. I cannot even compensate the innovation award committee for overtime... These regulations prevent us from any fringe benefits and this item is included in this category. We all admire our innovative people, but unfortunately we cannot compensate them materially.

Nevertheless, the sharp wage cut was not the last corporate austerity measure. The new general manager's strategy was to slash and
consolidate some of the major research and development projects, reconsider the export strategy, and place short-term emphasis on the secure domestic market of plain telephones and large exchanges. For example, the R&D division in charge of developing the PBX systems, a major export item, was hurt most; some of its major projects were canceled, others were not initiated, and the remainder were substantially squeezed. The firm was threatened by the specter of "brain drain," of talented engineers, the core of the firm's future, leaving Radgal since their major motivation was working on the intriguing and costly R&D projects.

The way in which Radgal's management handled these human resource difficulties was based on their restricted capacity to differentiate individuals, and the only fundamental choice was to develop the culture of organizational cohesion. Thus, Leshem, frustrated from the increased pace of the brain drain, remarked in a closed meeting in July 1985:

I do not need all these bright 'prima donna' engineers. I am looking for people who identify with the company. If excellent individuals leave the company because they do not fulfill their personal desires for an unlimited R&D budget, and feel this bureaucracy is too rigid for them, it is better that they leave; I have doubts about their personal values if they are to appreciate the fact that no one was laid off during this recession. We will manage to live without them.

Financially, 1985 balance sheet showed no losses. This was momentarily satisfying, but the firm's management was aware that further difficulties lay ahead. Leshem knew that the weakest "link in the chain" was the deep divisional and institutional segmentation:

Interdepartmental communication, especially between marketing and R&D, is seriously lacking. There are problems with organizational structure, authority, and responsibility today in Radgal. Our organizational approach and product and quality control need to be improved. But despite the
difficulties, I believe that through our combined efforts we
will reach, and even surpass, our goals.

In reaction to new warnings about the increased number of talented
engineers who had left the firm, Leshem requested the human resource
staff to intensify communication with employees. He also told them to
advertise requests for engineers in the "Help Wanted" section of the
daily newspaper, even though Radgal was not really looking for new
people. The ad, though, would indicate that Radgal was still recruiting
while other electronics industries were in deep recession, and would
help identify the most valuable people for future consideration. In
addition, they were instructed to intensify the training programs.

"A serious problem with many of our engineers is that they were
used to being promoted every year during the period of prosperity, and
now we cannot afford it," remarked a top executive. And the challenge,
he added, was that,

In implementing the budget cuts for 1986, one of the only
departmental budgets that was not only not reduced, but
actually increased, was the training and HR division. For us
to succeed, HRM must become a way of life, first and not last
on the firm's priorities list.

Inconsistent with top management's thrust, organizational cohesion
was not the first priority for other political forces in the firm --a
factor which limited Radgal management's choices. Three political
forces that played a crucial role in determining Radgal's organizational
cohesion were: (a) external consolidation of the engineers into a
separatist union and the ambition of the leader of Radgal's engineers to
become a national figure; (b) the commitment of the development division
to their projects rather than to the firm; and (c) the division managers’ struggles over strategic positions within the organization.

Table 5: Transition in Radgal’s Human Resources (1983–1985)

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<tr>
<td>(% of Total)</td>
<td>47%</td>
<td>43%</td>
<td>27%</td>
</tr>
<tr>
<td>Total</td>
<td>2272</td>
<td>1988</td>
<td>1935</td>
</tr>
<tr>
<td>% change from previous year</td>
<td>14%</td>
<td>-13%</td>
<td>-3%</td>
</tr>
</tbody>
</table>

The National Engineers’ Strike

Back in the summer of 1984, Israel’s 20% monthly inflation drove labor unions to use any means possible to prevent their members’ compensation from being reduced. In this environment, there were two strong national unions (both under the umbrella of the Histadrut): the monthly-clerical union that drew its political power from a large national service sector, and the new engineers’ union. While the power of the monthly union was built on collective action and internal solidarity, the engineers’ union had always tried to keep itself semi-independent via the power of its members’ professional skill. Under young leadership that included Radgal’s engineers’ committee, the national engineers union tried to assert a new strategy: that is, to become an independent professional organization rather than just another union under the
Histadrut umbrella. This strategy aimed to reduce the burden of having to work in coordination with other labor unions.

The new leadership tested its political power by declaring a national engineers' strike against a national labor-relations agreement recently signed between the government, the industrialists, and the monthly, or salaried labor unions. An important item in that contract was a salary increase that was to be linked to the engineers' compensation. Thus, the monthly clerical workers would get a percentage salary increase similar to that of the engineers. While the monthly clerical workers' success was achieved during a period of national elections, when this union could exploit the power of its large constituency, the engineers understood that this linkage tied their hands; that is, in the future, employers' concessions to engineers would require extensive payments to the monthly workers as well. The engineers' demands were linked, in management's eyes, to the demands of the monthly workers.

The national engineers' strike broke at a time when Radgal management started to realize its marketing and sales difficulties. Telem, then Radgal's general manager, gathered all project groups at a Tel-Aviv hotel. He gave a comprehensive explanation of the difficulties the firm faced, and asserted that...

...these are critical moments for Radgal; the easiest thing to do is to keep striking and ask for more, but we all have nothing if we play this game. What I am recommending is the alternative system of personal contracts, such as in Cintel. But I cannot offer such a proposal formally, as you can understand [the political constraints], but I have a real feeling that if the demand will come from the line engineers, Koor management will reconsider its human resource policy.

"We took the challenge," remarked the INFO group leader;
...and we circulated the petition required to open a new HR approach toward personal contracts. Anyway, nobody wanted this strike, and we were concerned much more about Radgal than about the national engineers, union, so why bother [striking]?

Many of Radgal's engineers signed the petition. There was no reason to strike, and the engineers' committee leader came to the conclusion that:

...my problem is that I work with a group of people that is not interested in any type of labor organization. It is understandable, they trust their skill, but I am sure that it will not be long before they regret it. I hope it will not be too late.

SHAVIT Versus INFO

In the summer of 1985 the extent of Radgal's losses and the need for strategic revision were clear. The new Radgal general manager faced a hard strategic choice, either to return to the middle 1970s, to the age of a stable world with a secure domestic market, or to make additional efforts to play in the international telecom market. The decision to keep operating in the international market required an intermediate strategic decision: whether to concentrate on one central R&D project or to try to spread into diverse ventures.

The background for this dilemma can be traced to 1984. At that time, Telem understood that the decline of Radgal's PBX system was inevitable. Telem initiated a new large project --titled SHAVIT-- as a joint venture with a large American firm. In order to have American interests, he was "forced" to promise many technological innovations that balanced on the fine line between vision and naivete. In the summer of 1985, it was hard to believe that Radgal's R&D groups could
meet such a comprehensive technological challenge. It was certain, however, that Radgal could not both accomplish this large project and engage in other R&D initiatives.

In July 1985, after visiting the U.S., Leshem reversed Telem's policy bet on the "centralized way" to approach the international market. He decided to consolidate all diverse R&D projects and focus on one large one.

Radgal's engineers were reluctant to participate in a national labor organization, and preferred to focus their professional interests on their loyalty to the firm. When duty to the firm came up against loyalty to the R&D project group, the latter was out. The national labor organization's integrity thus suffered from the team's cohesion. In other words, the R&D project and the engineering team were the major social base and source of identification for Radgal's engineers, and as such, must have been considered a major source of individual motivation. The end of the INFO project in 1985 is a good illustration for this argument.

In July 1985 the first INFO product-model was ready to sell. The timing was bad however. The interdepartmental (marketing-R&D) struggle was still under way, and became even worse against the background of the organizational priorities that were given to the SHAVIT project. Marketing still opposed the INFO project, and again, as in the case of "Station-S," Leshem had decided to cancel the project, but not before sending the R&D team's leader to two telecom exhibitions in an attempt to promote the product.
Leshem came to the group's laboratory for a short visit to consult with the team. "This was the first time he saw the product," asserted a bitter engineer. "It was a meaningless visit; they will close the project." A week later the project was closed. It was a day of mourning for the group. The R&D divisional manager, despite his personal bitterness about the troubled interdepartmental relations (a consequence of distorted organizational structure), could not understand the team's emotional reaction.

I really think that they are exaggerating. They will all have other interesting projects. We are not thinking that they are losers, and obviously nobody will be sent home. We all know that the team leader is a bright engineer, and loyal to Radgal, that it was only human not to predict the market accurately. So what is the problem? Why do they think that the world is collapsing? SHAVIT, a state-of-the-art PBX system, is much more challenging anyway.

In a few weeks most of the R&D (INFO) team left Radgal. Each of the team's members decided to look for other jobs despite increased national unemployment and a surplus of electronics technicians and engineers. Only a few of the team members accepted alternative offers within the firm.

**Summer 1986 -- In Radgal It is Hot Again**

After a year of employees' salaries, benefits, and promotions suppression, the three employee committees recognized some social unrest. The engineers' committee leader, as he had done during the last ten years, led the employee committees' activities. On July 1, he gathered the engineers in a general assembly to discuss his dispute with Radgal's management over the request for a higher percentage of rank promotions. In this meeting, the engineers' committee leader got almost
unanimous rank and file approval for taking all measurers needed, including a strike, to promote this request.

Management reluctance to approve massive rank promotions, as they had during the early 1980s, followed the continuing cost reduction strategy. The engineers' demand for increasing the percentage of rank promotions was consistent with Radgal's tradition of giving a salary increase or even a rank promotion within the criteria of collective, rather than individual, performance. In other words, rank was given almost automatically on the basis of seniority, with no consideration for individual performance. Therefore, while management agreed to give an increase five to ten percent maximum, the engineers' committee demanded fifty percent.

After negotiating for almost a week, the engineers declared a two-day warning strike for July 6-7, Sunday and Monday. The first day of the strike was a walk-out, and most of the engineers did not come to work. The second day, Monday, was a day in which Radgal's general assemblies and discussions took place. Management took advantage of this day and decided to initiate "communication discussions" to deliver their side in the dispute.

Following the lunch on that Monday, Radgal's general manager gathered the major management form, from foremen on up, and delivered his point of view. The message was clear:

Radgal is about to finish a fiscal year without loss. This is a great achievement, but we have done it with the collaboration of all employees that were patient enough to control their demands. However, our mission is not finished; we still have to struggle to be back on the main road. I do not want us to be a second Cintel. Through intensive negotiation, we [management] accept the engineers' committee demand up to a 15% increase [in rank promotions], but we
cannot give any more. It would simply betray our duty and responsibility to the firm.

But I have an important massage for you as managers in this company. You cannot hold the stick in its both sides, and behave like regular employees while identifying with the employee committees' demand. I should remind you that you are managers, and managers must be identified with management. If you cannot do that, please be honest enough to quit your position. There is no way that during a strike, R&D group leaders and even department managers that are engineers will not represent management's side and participate in work action with their subordinates.

Don't you think that in such an act you lose your leadership basis? In the future, managers who participate in a strike will not be managers anymore.

One of the department managers asked Leshem:

This is very nice to have a discussion with all of us for highlighting our obligations as managers, but as you know there is no way to promote one interest without being organized. So who will represent our [managers'] interests? Do you want us to establish another employee committee to negotiate with top Radgal management?

Leshem replied shortly:

This is serious issue, and I would like to have a longer discussion about it. However, unfortunately, today I asked all division managers to have an assembly meeting and we need to finish now without further questions. Soon we will organize another meeting to discuss all of these issues.

Another department manager did not accept this response and spoke emotionally:

I really don't understand. This discussion is very important. After a long period of time, and unfortunately because of a strike, top management found the time to deliver us direct information, very important, indeed. However, how do you expect us, the middle-level managers, to deliver management's massage while you do not have the time to even hear our questions in this discussion. You are always talking about worker participation, but do not have time to answer questions; we all talk very nicely about the family spirit, but I want to believe and think that you have in mind a feudal system...
There was no reply but the promise for future discussions, and the meeting was closed.

Shortly after the general manager’s discussion, I asked an officer in the human resources department, who was deeply involved in the previous management committee negotiations, about his prediction for the results of the strike. His reaction was:

Strike is a good symptom. It shows that management has the power to face labor’s demands; it indicates that management knows its direction and will not change it because of workers’ resistance. Without such a symptoms [strikes], Radgal could have sunk to the bottom [namely weak management that submit to workers’ dictates]. We do not have the funds to subsidize our workers demands.

Unfortunately, we [Radgal] are part of Heverat Ha’ovedim and need to pay for that. Radgal’s management must be much more sophisticated than management in private industry: we need to fight with ‘our hands tiding under the back.’ It is disaster. We cannot force lay offs, and in turn the workers can play with us as they like. See what happened with Solel-Boneh (35), and unfortunately I see many other Heverat Ha’ovedim’s following Solel-Boneh in the future.

* * *

SOME FINAL THOUGHTS ABOUT THE FUTURE

In a long dinner discussion with me, a senior executive stated:

Koor’s institutional labor relations cannot and will not be congruent with a high-tech industry that requires a high volume of R&D. This is a system in which management cannot manage change. And a high-tech firm that is not flexible enough to adapt to this rapid market change could not survive. As you definitely know, we almost cannot compensate our most talented employees, and cannot even think about inflicting a penalty on the worst workers. So why should skilled workers and talented people come to work in Koor? This is a paradise for parasites and problematic people who cannot find alternative jobs. Here, they are secure and play the union politics of making demands under any conditions.

I am a skeptic in regard to Koor Industry in general, and Radgal in particular. Very soon we will be forced to begin
lay-offs, it will be a state of emergency and a question of immediate existence. Since I do not see any future for the firm's export ventures, the only possible alternative is to go back ten years to the time when we got government protection for the domestic market.

In my view, however, the fact that Radgal is not only a public firm, but is also owned by the Histadrut, is not a simple disadvantage. The positive side is that, in a period of crisis, the Histadrut or Koor can bail out its subsidiaries by boosting their short-term cash flow and hence providing the necessary period in which to take the measures needed to face industrial difficulties. Radgal has taken advantage of the Histadrut's bail-out operation, and tried to use the time it was given to improve its position in the market. But whether Radgal can come back as a viable competitor in advanced international telecommunications market is still an open question.

An historical irony is that because of management's restraint, its strategic mistakes were less drastic than they might have been. Thus, the labor institutes and organizational politics worked, not just as constraints; but also as an important checks-and-balances system. Management cannot unilaterally reward workers, but it cannot punish them either. Management must be extremely innovative and unconventional to employ a system that will encourage, rather than discourage, sincere employee participation. In this case the three employee committees should be involved in decision-making processes, which will initiate mutual trust among the parties involved.

What is certain in Radgal's case is that the firm's life or death is not solely in management's hands. With such a high degree of mutual dependency, there is no alternative but to cooperate.
In almost all of my interviews with various parties frequently in adverse relationships with one another, I was surprised to hear a common response very similar to this one from the engineers' committee leader:

I am hesitating whether I should tell you my story or not. I really do not want Radgal's internal story to be heard outside... This is hard to explain but the firm is dear to me, I genuinely do not know why, there are so many explanations... Please do not disturb the firm's name in the U.S.

**Subjective Viewpoint**

Radgal's story is a tale of people that hate and love their firm in different moments, but nobody is indifferent to it. Even as a researcher, I was caught up by the firm and its people: after the first layers of formal hierarchy and bureaucracy are peeled away, the warm feeling of "home" at the shop or in the laboratories could not ignored. But this side of the firm is still hidden. The future will tell us whether or not Radgal's individuals and groups will discover this mutual bond and use it as leverage for industrial success by reconsidering the past and being receptive to change.

In my view, there are three main issues that Radgal should consider in an attempt to peruse change: First, Radgal's difficulties in dealing with the new advanced telecom market were due to rigidities within the firm's bureaucratic-egalitarian pattern of authority rather than to external environmental factors which traditionally have been considered the cause of Radgal's decline. These factors include the short product cycle, the government's change in its policies towards its domestic telecom industry, and what is considered by many as an anachronistic labor relations that characterized Histadrut's industries.
The inheritance of the Histadrut's institutions and politics and management's lack understanding of the potential strength embedded within this complex organization, inhibited Radgal's ability to negotiate the corporate rites of passage from a mass-production-oriented, manufacturing-based company to a fully mature international high-tech corporation.

Second, at the same time --and this is a crucial point-- the Histadrut, as a major element in its pattern of authority, still represents a major source of strength for Radgal, a resource which gives Radgal the flexibility and backup necessary for a small firm's success in a global industry dominated by giants. (See Appendix C for a discussion of the prospects for small firms in the worldwide telecom industry.)

Third, Radgal's ultimate success, and its ability to marshall the resources of the Histadrut and its own strengths, depend upon a fundamental reconsideration of its pattern of authority. The contradictions inherent in a high-tech firm requiring aggressive management that is still part of a labor-oriented organization (the Histadrut) can be resolved by the creative and open cooperation of all Radgal's institutionalized parties. The problems Radgal has experienced are systemic, built into its pattern of authority.

* * *

Surprisingly, I have not found a person who understands the nature of the firm's pattern of authority (and hence the prospect for change) better than the former semi-skilled spring machinist, who became the workers' employee committee leader. Rarely have I had an opportunity to
get a glimpse of the political process as much as I did during my discussions with him. His philosophy is rooted in his deep understanding of the relationship between politics, individual skill, and technology:

Today the daily workers are my 'spring machine'; I am the only person who can lead them to action. I am sure that they will follow me under all circumstances. I am the only person who really understands the advantages and disadvantages of the system, and I keep the secrets with me. I know that my strength is in my ability to keep the 'package' tied together. That is, my understanding that daily workers are the last priority of management, and they could be replaced by automatic machines, contractors or the many outsiders who are looking for jobs. I won't let anyone dismiss even one of them. Our secret is being bound together: 'all for one, and one for all.'

My strength is also my weakness. This is an 'explosive' that needs to be treated sensitively, with a significant amount of skill. Today, I am a real Labor Party's activist. I become an active member in the Lod district union... A long passage from being a former Likud politician. This is the 'oil' that I need to put into the machine; this is also an important source of energy. I genuinely do not care about the Likud or the Labor parties, they are all the same. I do care about my 'spring machine' and as long as the Labor Party will control Koor I will be a Labor activist. This will obviously change if the Likud will ever do the unlikely and take control of Koor.

Don't you think that Radgal, Koor or even the Histadrut are also different types of 'spring machines'? I have doubts if our managers know how to operate our machine [Radgal] efficiently.

Do Radgal's managers actually know? Do they have the same perspective and intuition that this worker leader has? Do they understand the importance of Radgal to Lod's community? Do Radgal's parties understand the advantage of human strength and natural leadership available in their own house? Do they have the skills to find the way to cooperate and combine all these forces for a common aim? The future will tell.

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CHAPTER 3, NOTES

1. From 1949—the year of establishment—to 1952, the Jewish population in Israel tripled from around 500,000 to 1,500,000. Most of the immigrants were North Africans, and other Asiatic Jews known as Sephardim.

2. Recovering from the long bitter 1947-1949 Middle East War, during the early 1950s Israeli society faced the challenge of absorbing new waves of immigrants: The challenge was very complex, due to a lack of economic infrastructure, as well as to significant cultural and social diversification. The government provided basic life necessities, such as apartments and food, while the Histadrut aided the government’s efforts by developing jobs.

3. Today Solel Boneh is a large constructing industry owned by the Histadrut. First it was the umbrella organization and industrial arm of the Histadrut. Following a reorganization of the Histadrut industries, Solel Boneh was directed to construction while the new organization, Koor, became the industrial umbrella. See Appendix 3.2., for description of the Histadrut.) In 1976, Radgal became fully-owned by Koor Industries.

4. The justification for the tradition of government control of the national telecom infrastructure is beyond the scope of this discussion. We should bear in mind, however, that the importance of such a governmental-owned telecom agency is at least twofold: the national information system is vital to political power; and telephone service is an important source of financial revenue for the government.

5. Electro-mechanical switching centers use a sequential switching approach. When the calling telephone is lifted off-hook, the central office searches for the calling line with a line-finder relay rack. When the line is located, the central office circuits send a dial tone to the calling telephone, which in turn sends its dial pulses to the central office.

6. The crossbar is another electro-mechanical switching system which uses a set of matrix relay switches that can quickly set up a transmission path to either a remote office (interoffice) or to the same central office (intra office).

7. The major reason of such a poor performance in a country that intends to be an advanced industrialized power was due to the inability of the PTTA to develop the necessary telecom infrastructure, especially the replacing of the old British system. Only in the early 1980s, when the analog exchanges were replaced by the large digital systems, did supply exceed demand.

9. Comprehensive control over most of the production stages, the material, and the supplementary components needed for the final product enabled the firm to stabilize prices and hence reduce costs. It also helped the firm to develop the accurate timing essential for efficient manufacturing. For an extensive discussion of the role of timing in mass production system see Alfred Chandler Jr. (1977), The Visible Hand, The Managerial Revolution in American Business, Cambridge MA.: Harvard University Press. In his influential book Chandler describes the historical role the US railroad infrastructure played in developing the American corporation.

10. For more information about the Histadrut Ha'ovedim and Koor see Appendix 3.2.

11. In the organizational literature, the "functional" form is structured around the input required to perform the tasks of the organization. Typically, these inputs are functions or specialties such as R&D, finance, manufacturing, and marketing. This is different from the "divisional" form, which is structured according to the outputs generated by the organization. The most common distinction of the outputs is in terms of the products delivered.


13. Rarely are there interventions from the external political institutes --the Histadrut or the Labor Party-- to nominate a specific person for a given position. Most of these interventions are targeted to lower-level employees who were active in or closely connected to political activists either in, the national or local political arena.

14. In different from the US "daily" workers, who are not necessarily on the company's payroll and who are hired and let go on an as-needed basis, Radgal's daily workers are integral to the firm's payroll, they get a monthly payment, but their compensation is determined by the number of days worked each month.

15. Only after Radgal's demographic transition and massive recruitment of professional skill --employees with academic training-- In 1978 the third employee committee, called the Engineers Committee, was established. I will focus on this particular and very active employee committee shortly.
16. For many years it was part of Radgal's, and in fact Koor's, culture that union and employee committees should not participate in strategic decision-making. "Let managers manage" was the basic axiom. Employee committees were reactive and basically dealt with the labor implications of management decisions. The employee committees, however, were a significant checks-and-balances instrument against arbitrary management decisions. This function was implemented by setting the institutional restrictions for the decision-making process through the collective bargaining system.

17. After two or three years of regular military service (age 18-21), most Israeli males ages 21 to 55 perform 30 days military reserve service every year.

18. Thus, no government can afford to regulate the telephone industry, as too much regulation would surely block necessary technological evolution.

19. Israel's new national industrial policy toward the telecom industry is common to most other democratic states. Examples include the breakup of AT&T's long-time monopoly in the US, and the privatized Britain, and Japanese PTTAs. This deregulation tendency followed not only new political and economic directions, but also the substantial technological revolutions in the telecom industries.

20. For example, Radgal's marketing division survey out pointed that during recent years the illegal market for telecom exchangers was 15%, while Radgal's supply of its PBX systems direct to its private customers was only 4%. The entire number of private branch exchanges in Israel of two to 1000 lines is 6499.

21. Radgal is the largest firm in Koor's electronic and telecommunication division; the other five firms are very small and in their first stages of development.

22. This study will not deal with Radgal's defense projects. I should point out, however, that defense contracts have always characterized a very small portion of Radgal's overall operations.

23. At the basic level, the PBX operates as a relatively simple switching device for voice communication. It sets up calls within a private network and connects to the public telephone circuits provided by the local telephone company and long-distance carriers. From this simple beginning, however, the PBX has developed into a wide variety of products supporting communications networks of all shapes and sizes. The selection of PBXs ranges from the small "Key-Wall-Mounted," which handles from 16 to 80 telephone lines, to a giant exchange which peaks at 30,000 lines.

PBXs are also found in all kinds of network setups, and come in several generations (no two experts agree on how many). In any case, the general range of complexity is from analog signaling
(common to most telephone lines) to digital signaling (compatible with computers) and from voice-only communication to integrated voice and data.

The application of computer technology to communications has been the force behind the recent evolution of the PBX, and has brought about countless innovations and improvements. The power of minicomputers and microprocessors has, for example, made possible common digital PBXs that offer such sophisticated features as integrated diagnostic defects -- the ability to detect, isolate, and in some cases, automatically correct faults in the system. In more advanced models, intelligence actually has been distributed through out the system, instead of residing entirely at the switching hub. The extent of the system's range reduce the likelihood of system-wide failure and relieves the central processing unit of many lower-level functions.

Of equal importance to the users of a flexible environment is the option to acquire processing power in increments. This has encouraged the trend toward modular PBXs and systems that can readily be expanded and upgraded. With a modular switch, management theoretically should be able to call for fine-tuning of system growth, and, perhaps, even postpone obsolescence.

24. We should bear in mind that Radgal traditionally operated within the framework of a functional structure. A joint R&D and marketing team was in many ways a new experiment that crossed the traditional lines of internal political autonomy. As we will see shortly, this cross-functional collaboration did not last long. Precisely after this successful experiment was completed, the tension and even explicit conflict among functional divisions became more prominent.


26. As will be discussed later, the reason for the delays in meeting market demands was embedded in Radgal's functional structure, the cultural adherence to mass production -- that is the attempt to produce everything in-house -- and political tensions. The functional culture assumes that each division or cohesive group of workers must deal only with its own related functions.

27. The FMS is the most advanced manufacturing approach, also known as "the factory of the future." The FMS consists of the integration of Computer Aided Design (CAD) with Computer Aided Manufacturing (CAM). In other words, this is a computer-directed integrated system of machine tools and materials handling equipment designed to randomly and efficiently manufacture a variety of work-places at low to medium volumes.

In such a system an engineer designs a product on his terminal, and
sends the blueprints translated into electronic signs directly into
the manufacturing system. Here, the Computer Numerical Controlled
(CNC) machines translate the initial blueprints into one element of
a product. Then this element is produced on an automatic robotic
assembly line. Along the way a few highly skilled and some
unskilled employees make diverse adjustments and supplement
assembly jobs. So far there are only a few industries worldwide
employing the entire integrates FMS. Partial systems such as the
nonintegrated CAD or CAM are much more common.

28. Because of long the history of strong and influential labor
organization in Israel, basic salaries are egalitarian. It is
almost impossible to give a salary increase for one group without
creating a chain of demands from all other groups of workers. In
order to bypass this political restriction, and in an attempt to
differentiate among groups of workers, over the years a complicated
and sophisticated system of indirect compensation was developed.
It became standard that top managers and engineers in Israeli
industries got a "company car" for their personal use. As earlier
described the company's car also became a status symbol within the
organization that "with seniority comes larger engine and a more
prestigious model." As stated earlier in the conflict between the
daily worker employee committee and the general manager in 1974,
the "company car" was a major issue for Radgal's first strike.

Many of these favored employees are not required to commute with
company cars to the work place; often the cars are used by their
spouses while they commute with company-organized transportation.
In addition, many of these top managers receive full compensation
for their telephone and other personal expenses. All compensation
items are not included in the basic salary negotiated in the
regular collective bargaining process; these benefits are part of
the individual's compensation.

However, middle managers and engineers who do not have a company
car negotiate for compensation for a car's maintenance expenses out
of their basic salaries. Because car expenses are so high, such
benefits can reach 33% of the basic salary, and as such is central
to employee committees negotiations.

29. Abraham Bar-Haim (1979), Worker Participation in Managerial Board
of Manufacturing, Instructions and Craft, Ph.D Dissertation, Hebrew
University Jerusalem.

30. Michal Katzenelson, M.A. dissertation, Tel-Aviv University,
31. The quote was taken from Radgal's "joint management task-force" letter which was sent to Itzhak Haziza in October 3, 1983.

32. This inexpensive injection-produced plastic component must be mass-produced. The major investment in the process of plastic injection is for the metal mold into which the hot raw material is injected. The quality of the mold determines the quality of the plastic product and, thus, the mold must be built from expensive metal by a skilled and experienced mold specialist.

The process of producing a mold is relatively long (about three months for a sophisticated one), but once the mold is produced the injection process is short and simple. Hence, only a large number of products can economically justify mold production. Additional variable costs are not significant.

33. One fascinating point is that despite the Histadrut national general strike, that was a symbolic rather a substantial struggle, the Israelis accepted the austerity measures, each making a deep personal material concession. Hence, in an unprecedented move for democracy, during these three months the rate of inflation was reduced sharply from an annual rate of about 800% to less than "three digits" (100%).

34. The award is determined by joint management and employee committees and is frequently used to bypass the institutional system of collective bargaining. This was an implicit channel for compensating individuals without formal negotiations, and it frequently led to the "linkage effect," the need to compensate other employees as well.

35. Solel-Boneh is Israel's largest prestigious firm that, during the spring of 1986 would have gone bankrupt without massive government bail-out operation. This old Histadrut firm, however, found itself laying off hundreds of its workers to help forestall bankruptcy. Many of them were skilled and senior workers who had been employed by the firm for many years.
CHAPTER IV: CINTEL, A CASE OF AN ELITIST-EGALITARIAN FIRM

Overview

The story of Cintel is the story of a group of highly-skilled and ambitious scientists seeking to create an Israeli company capable of becoming an international player in the very competitive, high technology oriented medical diagnostic market. Implicit in this attempt was the perceived need to break with the traditional social democratic Israeli orientation toward industry in which labor organizations play a major policy-making role through a developed process of collective bargaining.

In the early stages of the establishment in which research and development were emphasized, Cintel's scientist-managers were quite successful. Cintel floundered, however, when it attempt to expand into a fully mature company, embracing R&D, manufacturing, and marketing a variety of products. In this chapter I will argue that Cintel's pattern of authority constrained and was responsible, in large part, for its inability to negotiate the corporate rites of passage from focussed R&D to manufacturing and marketing successfully.

It is my view that, unless Cintel had fundamentally restructured its internal organizational culture and politics, its decline could not have been prevented. Cintel's problems were therefore systemic, built into its managers' most basic assumptions and reinforced at every stage of its development. My view is at variance then with the more widely held one that has attributed Cintel's sudden fall to specific financial and managerial mistakes. I will argue that the immediate business
mistakes were not localized faults in judgment, but arose out of weaknesses in the conceptions guiding the firm. It seems to me that the increased tension between a decentralized organizational structure that contains a centralized pattern of leadership must be solved through an organizational transition. Hence, sooner or later, Cintel would have found itself in crisis.(1)

The key question now for Cintel is whether attempts to revive the firm will proceed under the assumption that Cintel's mistakes were merely a matter of making a wrong turn in the road, and that an infusion of government aid will set everything aright, or whether it will be recognized that Cintel must be reorganized drastically before it has any hopes of succeeding again.

By exploring the dynamic underlying Cintel's rise and fall, this chapter seeks to demonstrate the logic of the second view. In either case, I hope it will be clear that internal structure, the political culture of a business organization, has a profound effect upon the direction and quality of key policy decisions made by management, and that the consideration of such factors is integral to successful organizational planning and performance.

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MATAM, A Short Geographical Description

On a clear day, the view from the top of Mt. Carmel is spectacular. One can see across most of northern Israel, from the sparkling blue of the Mediterranean Sea to Mt. Hermon on the embattled Golan Heights. One need not look that far, however, to observe some of the dualities that define Israel, for immediately below Mt. Carmel lie two of Israeli's most important industrial zones. At the foot of the northern slopes lies the port of Haifa with its concentration of Israel's blue-collar, labor-oriented chemical and manufacturing industries. Ten miles to the south, away from the smoky and polluted sky above Haifa, is a narrow three mile strip of land between Mt. Carmel and the sea. Here, blue is not the color of the workers' collar but of the clear sky and the sea. On this strip of land is MATAM (the initials stand for "Science and Technology Industrial Center"), the center of Israel's high technology industry.

The contrast between the two regions reflects something more than simply the difference in their products. It serves as a commentary on not only differing visions of organizational cultures and labor-management relations, but also on differing orientations to Israel's economic future.

An old Israeli tale, for instance, says that the only thing in Haifa which opens after nine p.m. is the highway to Tel-Aviv. Bohemia and social avantgarde belong to the large metropolitan. In Haifa, "life" starts and ends with daylight because Haifa, the "workers' City," or "Red [socialist] City," as it is also called, respects work. It was natural for Haifa to have the largest, most prestigious --and for years
the only-- institute of technology in Israel. Not until the middle 1960s, with the foundation of Haifa University, could a Haifa resident study academic arts, humanities, or social sciences without relocating to Jerusalem or Tel-Aviv. Haifa has always provided "real" education for "real" professions and "real" life. With its roots so strongly set in the soil of traditional heavy industry (steel, metal, and chemicals) and labor's political power, Haifa represents Israel's fundamental industrial base.

MATAM, on the other hand, is home to Israel's most advanced international and domestic high technology companies specializing in electronics, computers, and fiber optics. Modern buildings and huge(2) parking lots absorb thousands of Israel's best engineers and scientists. It seems to me another world from Haifa. The high-tech industry thinks in global terms, for its markets, models and competition are all overseas, in the US, Europe, Japan and some of the newly developed countries. Therefore, it behaves "internationally": the five-day work week and individual rather than collective working contracts were unknown in Israel until these concepts were "imported" and adopted by companies like those of MATAM.

Labor organizations do not have a foothold here. The "American" individualistic style, however, is modified by the distinctive Israeli style of workers' unity, for even among separate firms, many of MATAM's people know each other from the same youth movement, the same school, or same IDF (Israeli Defense Forces) unit. In other words, this new environment, like those of the U.S. along Route 128 in Massachusetts and in California's Silicon Valley, develops a unique social and work
culture; but each is rooted in its own individual and social history. Despite this unity, the high status, competitive wages, and elite image of the MATAM industries, along with management's anti-union perspective, have served to keep the Histadrut out of MATAM. This has resulted in MATAM companies having a very different type of organizational culture than that found within traditional Israeli manufacturing firms. The experience of the firm focused upon in this study --Cintel-- at least indicates that, although it broke decisively with the social democratic type of institutionalized industrial sector, it was still rooted in other Israeli organizational patterns and politics. This new political culture tendency in the economic organization has hidden difficulties and promises that usually go unrecognized by managers in high-tech industries.

MATAM, to some, represents Israel's industrial future. Not that the chemical and other manufacturing industries are not expected to play a major role in Israel's economy. Rather, implicit in MATAM's development, is the hope of Israel's government, economic community, and indeed, entire population, that Israel can compete profitably in the world-wide high-tech market. It becomes another element of survival for a nation that is under perpetual external threat.

For most of the past two decades, Cintel, the first company in MATAM and the region's flagship firm, has been the most glamorous representative of these hopes. Every tendency in the Israeli high-tech industry is embodied in Cintel, and the fate of its aspirations is highly instructive for Israel's economic future. Cintel's story follows an almost classical dramatic pattern. The company's image achieved
heroic proportions in the eyes of the Israelis as a result of its brilliant economic success. But at the very roots of Cintel's success, were the seeds not only of the firm's eventual mismanagement, but also of its leaders' inability to perceive the dangerous contradictions inherent in their overly ambitious policies. At the time when Cintel should have been responding to the dark clouds already gathering on its horizons, euphoria about the company's prospects was at its height, both within the company and among its supporters in politics and the press. Finally, came the fall, and with it came the inevitable question of how the jewel in Israel's industrial crown had shattered. Behind any attempt to explain the past is the unspoken question aimed at the future: Can Cintel rebound and become successful once again?

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The Carmel district and MATAM provide an environment naturally conducive to professionals applying their theoretical knowledge and skill to the partial development of commercial products. As a scientific center, Haifa attracts the best among Israel's scientists and engineers, while the geographic distance between MATAM and the industrial city is an important symbol of the new adventure that Israeli science and business have embarked upon.

In January 1, 1969, Haifa provided Cintel with its founder, Dr. Abash, a nuclear physicist in the Nuclear Physics Department of the Israel Institute of Technology (Technion) in Haifa. Abash was invited by Mr. North, chairman of LEI, an umbrella organization of a variety of high-tech industries, to lead LEI's physics group, which was
organized as the company, Cintel. Abash is considered the "father" of Cintel, and served as it president, Chief Executive Officer (CEO), and, until recently, as the most influential person in the firm.

Abash quickly gathered around him a small core of applied scientists from the Technion and Weizmann Institute of Science who became the founders or the core social nucleus of Cintel's management. This group was a spin-off from an electro-physics group primarily engaged in military work. Despite the family-like atmosphere that marked Cintel's work environment for most of the firm's history, this "hard nucleus," as the group was called, never relinquished its power. In many ways, the story of Cintel is the story of this central nucleus of energetic, entrepreneurial scientists and their archetypical leader, Abash. Even the name, "Cintel," reflects the nucleus's chief concerns: Cintel is an acronym for "Electronic," "Scientific," and "Technologies." Thus, much of the Cintel story concerns the policies of this management group.

After its founding in 1969, Cintel immediately began as a company with about ninety employees(4) of whom comprised the core, represented by six scientists, including Abash. In this early "start-up" stage, the group specialized in applied research. This was logical, considering that the group essentially came from Technion. This first venture --to apply theory to the development of scientific measuring equipment and Gamma cameras within the laboratory-- reflected the realm of research with which the core group was most familiar. The ambitions of the group were far beyond these modest experiments in applied science, however. They dreamt of using their talents to create a major corporation by
finding a "micro-crack/fraction" and using it to gain access to a substantial portion of the international market in medical diagnostic equipment. Expanding Cintel's business concerns and capacity was seen as a key to gaining this access, and thus such expansion was, a major concern of Cintel management from the beginning.

Cintel's ambitions were in keeping with the nature of the diagnostic imaging industry, in which new technologies grow as fast as old ones mature, and in which competition among vendors is particularly stiff. The extensive demand for diagnostic imaging brought many companies into the field, but few lasted very long. Cintel's core of ambitious scientists and engineers seemed perfectly suited to an industry in which research and development of sophisticated equipment underlies the scope of manufacturing and marketing endeavors.

The imaging field consists of several sub-technologies, including the X-ray technology that has been used since 1896 and still represents the greatest portion of the market. An important development within X-ray technology was the Computer-Assisted Tomography (CAT scanner). The CAT scanner employs a computer which is able to record thousands of X-ray images and reconstructs, in any two of the three dimensions, images of complete organs and bones. This bypasses one of the major faults of conventional X-ray imaging, which is that one layer obstructs the other, leading to loss of information.

Other sub-technologies include ultrasound, which makes use of high frequency sound waves to produce images and which provides safe, reliable information about a developing fetus. The images are coarser, however, than those of the CAT or X-rays.
State-of-the-art diagnostic technologies include nuclear medicine and the Nuclear Magnetic Resonance (NMR). With the NMR, one can image the structure and density of the nucleus in the organs. Radioisotopes are injected into the body and detected by machines which produce images of internal organs. Free from radioactivity, and allowing scientists to detect the slightest alteration in the chemical composition of tissues, the NMR enables us to study, not only the structure but also the functions --such as oxygen consumption-- of all the body's organs in a non-invasive way.

Cintel's Integration Into the World Market
In the start-up stage of the firm's development (1969-1975), Abash was confronted with the primary strategic choice faced by any manufacturer of medical diagnostic materials. Access to its markets is a major challenge for any newly established firm; to enter the medical market is especially difficult, for it is a highly formalized and regulated market dominated by well-known vendors who have a long history of providing reliable products and services.

The market itself consists of two major sectors: hospitals and private clinics. Hospitals generally require comprehensive systems suited to their multi-unit structure. Clinics are generally characterized by their specialized doctors or subcontractors (i.e., ultrasound; mamographs for obstetricians; CAT for cardiologists etc.) who offer diagnostic services for specializing doctors or to hospitals. Cintel's potential markets were in the advanced industries, such as these in the United States, Western Europeans, and Japan.
A major strategic dilemma was whether to specialize in a single niche or in multiple niches of the diagnostic market. Within the first choice, a firm can direct its sales either to the private clinics or become an Original Equipment Manufacturer (OEM) supplier for another vendor. In most cases the organizational structure of the medical institutions -- hospitals -- determines that administrators would purchase diagnostic equipment. Frequently, these administrators select a favorite brand name. These key people tend to deal with one, rather than with multiple, suppliers. Hence, it is very difficult for specialized firms to gain access to this niche. Here again, the specialized firm becomes dependent upon a large vendor who can gain such access.

Abash's basic strategy was to develop a specialized medical diagnostic company that would also take the comprehensive multiple sub niches specialization approach, "to put all the eggs in the same basket," as he put it. He planned a corporation that would not enlarge its activity outside the medical electronic diagnostics. However, the challenge of such a firm is to develop the capacity to supply an integral and comprehensive package of medical devices for a client. In order to do so the firm eventually had to expand from nuclear medicine to NMR to mature X-ray techniques.

One path for a medical diagnostic firm's development is by starting with X-ray technologies, then working with the CAT scan and eventually advancing to the complexity of advanced NMR and nuclear technology. Cintel took the opposite tack: it entered the market with nuclear medicine, CAT next (both R&D value added enhanced), and only after
eleven years of its existence did it introduce its X-ray devices (manufacturing enhanced).

In Cintel's start-up embryonic stage of development of both human and capital resources during the early 1970s, the only choice was to become a specialized vendor. Consistent with the core's technological specialization in scientific measuring devices, the emphasis on nuclear medicine represented a huge $2 billion market at that time. These first industrial stages were supported by the Investment Corporation of Discount Bank, which provided $220,000 of Cintel's original $300,000 capital. As with many other industrial start-ups, however, the major challenge was how to get the opening to the critical U.S. market, 5500 miles from home without the backing of a strong marketing infrastructure.

Cintel responded to this challenge by establishing subcontracting relations with General Electric (GE), the largest American electronic corporation. GE was the leader in the market of electronic medical diagnostic equipment. At the time, GE was looking for a vendor specializing in nuclear medicine devices in an attempt to supplement its own range of products. With some good connections and luck, the new Israeli firm attracted some GE executives. A joint venture with the young small company from Israel was especially attractive, since Cintel could not endanger GE's position in the market. In 1971, Cintel got the first opening to the U.S.: GE became Cintel's sales agent in North America.

For the price of sharing the profits from its new home-grown technological innovation with the giant GE, Cintel not only acquired
access to the largest advanced market in the world, but also brought back to Israel leading-edge technology that would be so important for further research and development.

The Organizational Political Arena: Who Holds The Power?
During this early period, from about 1969-1973, Cintel's internal relations assumed their distinctive shape. Since Cintel's hierarchical structure contained many of the seeds of its performance, and eventually, future decline, a more detailed look at that structure is in order.

In general, Cintel was organized into three tiers: 1) the corporate hard nucleus consisting of the innermost group of six, led by Abash, who sat on the Product Committee and were called the "Gurus"; and 30 additional scientists and engineers in central positions; 2) the secondary or the divisional nucleus which contained the engineering leadership of the Subject Business Units (SBUs) that branched out from the corporate nucleus; and 3) the line manufacturing managers and employees.(5)

Figure 1: Cintel's Typology of Internal Politics

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(From 1978 #950)
Dr. Abash ==> Six Gurus ==> Hard Nucleus ==> Plant Nucleus ==> Line

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In a sense, Cintel's social and political relations are reminiscent of a cult in which a charismatic leader and his gospel attract a number of young followers who virtually give over their lives to "the movement". The concentration of power in this core, organized around the central "father" figure, eventually has to lead to conflict with subordinates who seek a higher degree of independence during the mature phase of company's development. This maturation process could occur only through the establishment of SBUs which take charge of the expanding marketing and manufacturing divisions. Yet the hard nucleus never was able to distribute its power in accordance with the expanding, decentralized functional structure of Cintel.

During the first years of its existence, Cintel's image was that of an Israeli elite symbolized by the national myth of the IDF,(6) the "sacrificial warriors" bound together by the spirit of the unit. The expression "the pride of the unit" is borrowed from the IDF, and this pride is what leads highly professional individuals to devote themselves as a group, as a family, to a mission which they believe is of critical value to their society. This "pride of the unit" embraces all aspects of its members' lives: lifetime friendships; social relations after work; the slang and the style which they all share.

Cintel's organizational culture and important elements of its leadership style resembled the IDF's special units, especially in the start-up stage (1969-1975). The pride and commitment of all family members to the common mission was aimed not only at the potential success of Cintel, but at establishing a superior Israeli high-tech industry. This affected all aspects of the company's culture: Cintel's
informal style of charismatic leadership; the relative absence of rules, regulations and bureaucracy; a flexible definition of responsibilities; and the direct involvement of senior managers in all levels of field work. These all reflect the emphasis on personal social relations and interpersonal trust that one finds in male warrior bands. During Cintel's start-up stage, for instance, new engineers were recruited on the basis of friends' references, as is true with the elite IDF units. (This has gradually changed with the growth of the firm). Cintel's personnel also divided socially along similar lines: the engineers involved with advanced research versus those people in the manufacturing group.

The inner core of six on the Product Committee was also the basis for the "guru system" (see below) that developed during Cintel's second developmental phase, the "growth stage" (1977-1983). The Committee consisted of the CEO, the president, the vice-president of R&D, the senior vice-president of marketing and two other R&D scientists. By targeting product development and marketing according to very tight schedules, the Committee set the performance, cost and time targets by which the rest of Cintel abided. As time went by, this group became the focus for the Cintel myth, and came to be known as "the Gurus".

Cintel's expansion grew out of the hard nucleus's technological specialization. The innovation of a new family of products led to the establishment of new facilities in Israel and to mergers with small enterprises in Western Europe and the United States. Initially, the Israeli units were supposed to be highly autonomous Subject Business
Units (SBUs), controlled mainly by the over-all corporate budget which was Cintel's major planning tool.(7)

Each international plant in Western Europe and the U.S. was supposed to have been controlled by the Israeli SBU with an identical specialization. Thus, functionally, Cintel developed like a tree, with each new branch developing its own (seeming) autonomy but always rooted to the trunk in MATAM.(8) Generally, a member of the core nucleus group gathered a new secondary group --the second tier personnel-- around himself and that became the start of a new branch. In this way, for a long period of time, the "groupism" and the tradition of close family spirit was diffused throughout Cintel. Cintel's leadership at first proved creative, not only in developing products but also in the way they adapted to the company's changing political environment. In time, however, this structure was undermined by the increasing centralization of power in the hands of the Gurus. The second tier group restrained itself from exerting power or creating any substantial resistance, and they were enraptured by the Gurus.

Third tier Cintel personnel, consisting of line manufacturing employees, never had substantial power at Cintel. In most cases, they were indifferent to the decision-making process which was controlled by the upper tier. The few times they tried to become more active, management successfully thwarted them. Labor organization was taboo for Cintel management, a basic assumption that diffused to all levels of the company and became an important cultural characterization.

Labor's attempts to organize were considered extreme measures. The first such attempt was in 1970, soon after the founding of Cintel, when
the firm was still very small and family-like. For example, all employees still ate in the same dining room at MATAM. At that time, a small group of workers circulated a form in which their peers were asked to sign a petition, aimed at management, saying they wanted to be organized. After the petition was submitted to him, Abash gathered all workers and managers together and announced at breakfast the next day:

The firm is closed, all people are fired... there is no reason for Cintel to exist if it will be labor organized like the other companies. If we will not be different, there is no justification for Cintel's existence.(9)

The workers immediately gave up their attempt, and in the same year the organizers were dismissed from Cintel. In Abash's statement, we can see that Cintel's top management felt that Cintel was breaking with the past traditions of Israeli industrial relations.(10) Even beyond this, Abash --and Cintel's top management-- so strongly felt the spirit of the elite unit that they could countenance no rival power center, certainly not among the "lowly" manufacturing workers who did not participate in the cutting edge of the company's grand adventure, its scientific R&D of new high-tech products.

The National Political Environment

From the beginning, Cintel found itself ideally positioned to benefit from several key themes in the Israeli government's national economic policies aimed at improving the national labor market and the competitiveness of high technology companies.(11) These themes included: 1) Generating foreign currency by encouraging export industries; 2) Generating economic growth by supporting companies that
would be competitive in a wide range of markets; and 3) Generating jobs in the non-urban periphery of the country, away from the skilled and professional labor pools concentrated around Haifa and Tel Aviv.

As a new high-tech firm of extraordinary promise, Cintel was a perfect candidate based on the first two themes alone. Cintel's high-tech medical diagnostic products were meant largely for export, a strategy designed to bring in foreign currency and encourage economic growth. Cintel was considered an important national asset by both the Israeli government and by Israeli citizens. In addition, Cintel's success in a wide range of markets fit well with Israel's desire to develop high-tech industry.

If Cintel expanded, the benefits of its research and training undoubtedly would be felt by other companies, and would lead to the development of future high technology companies within Israel. The need for a growing high-tech and export industry was one of the few issues of consensus within a society so split by harsh political debates. Cintel was born into a political and economic environment that pampered it with warm support, supervision, and protection. Although the firm acted as a classic capitalistic entrepreneur, the political superstructure of Israel always stood behind it.(12)

For instance, by the law of "export inducement", a firm received from the government twenty cents, as well as national credit, for every dollar of product value it exported.(13) In addition, export firms were benefiting from a wide variety of government subsidies for capital, research and development grants, and tax exemptions.
Cintel was also quick to take advantage of the third theme of government policy, for the SBU's were located in peripheral industrial areas that the government was eager to develop. Professionals and scientists tended to live in "the Carmel" or around Tel-Aviv. It was almost impossible to convince most of them to move to the periphery. Thus, a key pattern of the Israeli labor market can be described by the following rule: the more sophisticated the technology and skill required, the closer the plant is to the urban centers of Israel; the more unskilled the labor and the greater the capital investment in heavy industrial machinery, the further the facility is from the center.

While government policy had not influenced Israel's scientific community to shift from the urban centers, it did have some success in producing jobs for the semi-skilled and unskilled workers of the periphery. By shipping its manufacturing facilities to the periphery, Cintel enjoyed government subsidies. For example, in Nazareth and Ma'alot, two geographical regions classified as "A", or top priority for development, government support approached 80% of any capital investment in addition to leasing to investors industrial space and buildings for marginal costs. In establishing the peripheral plants, financed substantially with government support, Cintel scored a double coup: it was seen as a "Zionist" or "patriotic" organization supportive of national aims, and it helped bring the prestigious high-tech industry to the developing areas.
The 1973 War and Reinforcement of the Gurus' Political Power

By 1973, Cintel was still allied with GE and had developed the internal structure and developmental pattern which we have been examining thus far. The international crisis of 1973, however, temporarily interrupted the company's economic growth. During the 1973 October War, most of the firm's employees were mobilized to their reserve units, and development and production almost stopped.

Remaining workers were preoccupied with maintenance and other home-front activities. The situation lasted for more than six months, and was a trauma for the nation. For a short historical moment, there was a feeling that this intensive collective experience had to influence all social factors and basic assumptions, including management-labor relations. This was the background for the second experiment in organizing labor at Cintel.

Cintel was still a small firm, and there was a basis for the concern that after more than six months of maintenance, without any development or income, it could not reabsorb many of its former employees, and would be forced to lay them off. The remaining workers thus thought that only by being organized could they protect the rights of their fellow-workers at the front by obliging management to bear the additional expenses of a portion of the mobilized workers' salaries. At this sensitive moment in the collective psyche, management could not resist labor's attempt to organize, for the public would not tolerate such managerial policies. There was no way to bypass the national moral obligation to the reserves at the front. Therefore, management abandoned its resistance to labor and accepted labor's desire to
organize on the condition that a general poll on the issue would be taken when the workers returned.

The poll was held by the employees in the spring of 1974. A large majority of Cintel workers voted against unionization or any other form of labor organization; most of the workers preferred the American-style non-unionized high-tech firm. This vote reflected and confirmed an organizational culture that basically rejects the bureaucratized organizational pattern characterizing most Israeli manufacturing industries.

Cintel workers at all levels apparently saw themselves as an elite simply by being involved with a glamorous company at the cutting edge of Israeli-based technology. Additionally, Cintel's skilled workers felt they could easily transfer if conditions at Cintel became unbearable to them. And, compared to other companies, Cintel's workers were relatively well paid.

Mistrust of unions is rooted in the history of the moderate wing of Israel's Labor Party, a view with which Abash was in full accord and which probably had a good deal of currency among Cintel's workers. Many of the third tier workers (which during the 1970s account only for 15% of the firm labor force) were never immigrants to Israel who did not have roots in the socialist movements of the early Zionist period or in the heavy industry exemplified in Haifa.

Cintel's plants were modern and clean, and personal relations between managers and workers were generally informal. Many workers felt that Histadrut --the General Federation of Labor-- placed the interests of the Labor Party and its politicians before those of the workers.
Thus, once the deeply emotional feelings engendered by the 1973 war had passed, the inherent resistance to unionization at Cintel reasserted itself within all levels of personnel.

We may also look to Cintel's political structure for a clue to anti-union attitudes. The existence of a nucleus of guru figures tended to centralize authority and endow it with an almost mythic aura. The Gurus were not simply "management", but freewheeling heroes of the free enterprise system who embodied the spirit of the fast-growth high-tech industry. These "heroes" were convinced that to become an international high-tech player, Cintel had to imitate American labor relations and the political structure of high-tech non-unionized firms. Management saw no role for labor in determining company policies; in its view, labor's influence could only hurt Cintel's growth. Surprisingly, both the second and third tiers workers' point of view was not so different. From their perspective, as long as this elite seemed in control and avoided any major cause for grievance, there was no apparent reason to unionize, pay dues, and have one more system of authority overseeing their lives.

Following the Gurus, Cintel management's attitudes towards unions hardened after the 1974 poll, for it appeared to them that the workers essentially validated management's antagonism to unions despite all the strong sentiment for unionization. At times, however, management's attitude became virtually a caricature of itself, a policy that, for some reason, was a mixture of rational understanding and emotional fear. For example, some young mothers working part-time asked their managers to help them get commuter transportation two hours before the cabs
usually arrived, a request that was rejected on the grounds of management opposition to any collective action. Another time, some workers asked the personnel manager to support them in organizing a basketball team so they could participate in a work-place league for northern Israel. The negative answer was accompanied by this rationalization:

We [management] won't let you [workers] be organized in any form, but you can have the necessary budget for teams that compete in Cintel's internal basketball league.

Two major consequences for the future development of the organization followed the defeat of the union effort. First, the guru system had received an enormous validation which led to a consolidation of its power and its increasing detachment from both the second and third (especially) tiers of Cintel personnel. Secondly, the belief took hold that Cintel was indeed different from other Israeli firms, in that the spirit of the elite best represented all the individuals and groups in the organization. Thus, the two examples of apparent anti-labor paranoia cited above become more understandable from the standpoint of management: the entire value system of a closed, elite group (management) that considered its guidance absolutely essential to the success of this ambitious, far-reaching venture, could be called into question by any examples of workers operating cooperatively together. This culture also crystallized the power relations among different groups of employees, and blurred the institutional bureaucratic lines of hierarchy. This was an historical juncture in which all Cintel groups eventually delegated the usage of political power to the Gurus. This
tendency of centralizing both authority and all legitimate initiatives was not a healthy one for Cintel, as its subsequent history proves.

**Going Independent: Growth During Full Capacity**

In 1975, a convinced Abash persuaded LEI's executives that a unique opening of a new market niche gave it the opportunity to break off its relationship with GE and attempt to fulfill its goals of becoming a global power in the medical diagnostic equipment market.

Global scientific breakthroughs in imaging technology dramatically improved the use of the traditional X-ray picture via electronic signals and computerization. The Computerized Tomography (CAT), for example, is basically a development of X-ray technology, with images translated into digital images yielding a multidimensional view of the object. This development of the CAT technology gave a unique opportunity to a firm with flexibility, like Cintel, to enter this free market niche. In 1975, without so much as asking his financial backers' approval, Abash decided to direct the firm into a head-on rivalry with giant international diagnostic firms in this new, extremely competitive market, as well as to develop a new medical diagnostic device, the CAT scanner.

**A Global Power in the Market of Medical Diagnostic Equipment**

To become a broadly specialized vendor, even within the borders of the electronic medical diagnostic equipment, a small firm like Cintel faces the constant risk of being out maneuvered by the larger companies. In
addition, other risks to a small firm include: 1) losing rigorous quality control over its unique technology and over its reputation as a specialist that is at the heart of a small firm's ability to compete; 2) losing the flexibility of a small firm by becoming a large organization; 3) risking the high level of capital that would be spread among the several branches of the corporation; and 4) risking confrontation with the giants of the industry, whose resources far outstripped Cintel's.

Abash took the risk. He was confident that despite the above disadvantages and other weaknesses stemming from the simple fact of being an Israeli firm (e.g., difficulties in raising money, limited number of skilled workers), Cintel could succeed. Abash's confidence was due to the nature of the hard nucleus -- the strength, ambition, and confidence that is typical of many engineers who carry the conviction that if they can develop a state-of-the-art product, customers will be "rational" and will, by necessity, "buy into it." Thus, as very skillful scientists, they were sure that with their technological leadership, hard work and full commitment to their projects, and a capacity to adapt quickly to market conditions, they could successfully pilot the firm to the leading edge of the industry. But along with these factors, a very strong ambition to become a powerful firm underscored the decision to take the risks.

Cintel's leadership was sure that the firm could achieve its goals and become an independent, world-wide leader. The first bet was in 1975. It aimed the CAT scanners at the expanding market generated by the digital and computer breakthroughs. In an interview for Fortune magazine (1981), Abash referred to this historic decision and pointed
out that "my friends used to tell me, 'Abash, you must be mad.'" Once the dramatic and risky decision of 1975 was made, the company began building its own marketing networks in an attempt to sell its product directly to the end users. The result was an unprecedented success story. Not only were the firm's products accepted by the market, but also survived a brutal shakeout in the young, and still very sensitive, CAT market.(15)

Cintel started shipping the CAT scanners to the U.S. market, despite the stagnation of the market that followed the 1977 decision by the Carter administration to bar hospitals from spending more than $100,000 on single items of capital equipment if they wanted to continue to qualify for Federal medical payments. These events forced firms, larger than Cintel to pull out of the business, like the British EMI (whose chief scientist shared a 1979 Nobel prize for the development of the scanner). In 1981, EMI sold its CAT systems to "Omnimedical."

Understanding that only the fastest and most flexible firm could grab a share of the market, Abash had to make his bid. And he did. He decided "to bet all the bank." In Abash's words:

In that year [1975] I placed the future of Cintel on the computerized tomography. It was basically a matter of putting all our eggs in one basket; contrary to the idea of spreading the risks and resources.

We pursued that course for two years, against the warnings of the banks and the investors. In 1977, we almost went bankrupt. We had only two million dollars in capital, and had spend one million by opting for tomography, sustaining ourselves just barely until our equipment went to the market.(16)

Among other barriers, the major geographical and cultural challenge to Cintel was the "one and a half oceans" between Israel and its major
market. Before Cintel, many Israeli vendors had tried to sell their products directly, without the mediation of native marketing networks. Above all, these Israeli firms failed because of cultural differences between themselves and Americans that made communications difficult and frequently frustrated both sides. These difficulties in communications were considered a major impediment to any commercial interactions between the Americans and Israelis. If Cintel could acquire a native medical company, it would bridge this cultural obstacle.

In spite of all the above circumstances, why did Cintel succeed where more established firms had failed? The puzzle can be solved by analyzing the nature of the CAT scanner—a product that incorporates many components into a complicated integrated system. This is a product that, at that time, was matched perfectly to Cintel's human resources. First, it is a very expensive product that contains complex technology whose intrinsic value derives basically from engineering development rather than from manufacturing work. Second, it is a product of which only a small number of units are being sold and which does not require a strong manufacturing capacity. Third, it is a product that must be tailored for a particular customer and is installed in a hospital before it is completely finished, the last stages of design taking place on site. Fourth, it is a product that at the time represented a small portion of the diagnostic equipment market, for the giants were still not especially interested in it. Fifth, it is a product that requires flexible specialization rather than large manufacturing skill. Finally, it is a product that a few talented and committed engineers are best suited to develop. While the mature X-ray equipment demanded a strong
manufacturing capacity, CAT systems basically can be developed in a laboratory. Thus, the CAT systems were the ideal Cintel product, for Cintel was in no way equipped to enter into a large-scale manufacturing project.

An additional factor in Cintel's success at this point was Abash's fearlessness or simply "chutzpah." He took the risk of entering the market despite a US administrative policy that forced many hospitals to manage without such an expensive system. From 1978, when Cintel sold its first CAT generation (EXEL 905), it was very well-received by the market.

From 1979 to 1981, the firm steadily expanded with a range of products that included nuclear medicine, a new development in ultrasound equipment, and the CAT scanners. Cintel developed the digital technology and capability to use the same computer processor and software in all three fields. Data from Cintel devices could be transmitted over telephone lines to a master data processor at a large hospital for interpretation, and then returned to the smaller facility. Such features enabled smaller facilities without expert diagnostic personnel to get the results they needed at a cost within their means.

Abash's bet began to pay off when the American federal health care administrators realized the saving that CAT systems could bring (i.e., by reducing the need for exploratory surgery). The market took off again and Cintel, perfectly positioned within it, become more international in its outlook and interest every day. Cintel's CAT scanners' success earned the company an excellent market reputation. It
strategic accomplishments also gained access to foreign capital resources such as a listing on the New York Stock Exchange.

In early 1981, a New York Times business analyst praised Cintel as a very good buy on Wall Street: "In the next fiscal year [1981-82], the company is widely expected to nearly double its earnings and sales."

The commentator also indicated that Cintel's narrow specialization was a risk that nonetheless contained a substantial business potential. Cintel, he asserted, was competing with the big conglomerates, GE and Siemens. But Cintel is "the only one that has devoted itself completely to diagnostic 'imaging.' It is thus a pure play (Wall Street jargon for a company with a narrow range of products) and may interest investors who can accept the risk involved."(17)

The firm's emphasis on specialization proved itself.(18) In that same year of 1981, the huge vendor Pfizer, a multi billion firm, that had been specializing in the mass pharmaceutical market, failed to develop its own CAT scanner. Small Cintel beat the giant Pfizer. In November, 1981, Cintel acquired a worldwide servicing operation in medical imaging belonging to Pfizer Inc., of the U.S. for $6.3 million. Interestingly, this acquisition represented a juncture of two contradictory paths taken by the two companies. For Pfizer, a major competitor, the sale was consistent with its strategy to get out of CAT scanner manufacturing, and to specialize in pharmaceutical production. For Cintel, by contrast, the deal was consistent with the approach of becoming a broad-specialization firm. Logically, from Cintel's viewpoint, the deal made good sense since it gave Cintel access to about four hundred hospitals and radiological departments (12% of the 1979
U.S. CAT market)\(^{(19)}\) that were using Pfizer scanners. Pfizer's clients gained Cintel's guarantee for its liability regarding the future support and services of Pfizer's CAT scanners already in place. Cintel undertook this obligation in order to secure its newly acquired market niche.

Each new success generated further ambitions and a willingness to take more risks. At this time, top Cintel management looked for further acquisitions. Cintel's executives claimed to be the second largest supplier of CAT scanners in the US after GE. The company executives' confidence was so high that some of them insisted that "before long Cintel will be number three in the world, behind GE and Siemens AG of West Germany." As Cintel's president at that time asserted in *International Management* magazine: "We have to succeed because medical imaging represents 100% of our business. For GE it is perhaps 5%."\(^{(20)}\)

The Gurus in the Glorious Days of Growth

The high self-confidence of Cintel's top executives was dictated not only by their interaction with customers, investors, and government agents, but also by their internal leadership style. When Cintel became a national myth and a subject of pride to Israel's public, the Gurus were assumed to be the unbounded force behind the present success and the fulfillment of future dreams. It was then that the power of these "superman" leaders seemed to be unlimited. The Gurus themselves saw their ability to control technology as a major strength of the firm's
competitiveness in the international markets. The Gurus worked closely with top medical clinics and felt their technological superiority:

We don’t want doctors to tell us what they need, we want them to tell us their most difficult problems. Then we can come up with solutions that are far more imaginative than they could dream up because we know the vast and expanding capabilities of technology. (21)

Although many foreign customers were skeptical, due to the "Israelis’ arrogant style" within the firm, this style of charismatic, informal, autocratic leadership that relied on direct intervention, was accepted by subordinate employees. This employee toleration of their leaders existed as long as the firm kept up its pace of growth: the success became a legend, and the leaders "Gurus."

Thus, respect toward the R&D leaders changed into admiration, and the informal style of direct access to the leadership changed into an unbounded, sometime unbridled, intervention by the leaders across all levels and activities of the company. In short, Cintel’s CAT success, overseen by the top engineers, led to the "Guru system."

Following its international success, however, Cintel started to lose its uniqueness as a flexible-specialization firm. It was no longer an applied laboratory, but rather was becoming a mainstream medical diagnostic equipment vendor with a shift toward a manufacturing orientation. The contradiction between the institutional structure and political culture of Cintel had become more prominent: while the success had given additional legitimation of the Gurus’ power consolidation, the institutional lines had become more blurred. While the third tier of personnel still accept their high dependency, the second tier (which consisted also of ambitious engineers who sought
higher discretion in their position) becomes discontented with the Gurus' arbitrary intervention, and managerial inconsistency. However, the second tier or the SBU nucleus' discontent was still latent, and stifled by overall Cintel's business results. Thus, the "Guru system" that took shape at this stage was a self-blockage. Eventually the system contradicted the innovative structural development of the independent SBUs. This is a classic example of how a firm's triumph can undermine its strength, of how victory can contain the seeds of the company's future failure.

Cintel's successful exploitation of the diagnostic equipment niches of the market rested upon the strengths inherent in its ability to apply itself to specialized R&D problems. At the same time, the company's takeover of Pfizer's network and its success in penetrating a market dominated by two of the world's great corporations (GE and Siemens) could only feed the hard nucleus's ambitions to become a world-wide leader in the medical equipment industry. In 1982, Abash explicitly addressed this ambition:

The aim is to have at least ten percent of the total world medical imaging market by 1985. If the market grows according to expectations, it will be worth $4.5 billion by then, compared with $2.5 billion now [in January, 1982]. So the Israeli company would have sales of around $450 million.(22)

During the era of rapid growth, the six Gurus had enormous power and prestige. Reporting directly to the R&D vice-president, they bypassed divisional chiefs and the "field nucleus."

The six Gurus held complete responsibility for product development from conception and design to production and marketing stages. They
spent much of their time in the field, working with the engineers in the divisions, sorting out stages and solving problems on the spot.

Occasionally, the Gurus went together to work as a "special mission team" in one of the divisions. This happened when a project did not meet the time table that was set by the Product Committee, or when it had a budgeting problem. Each Guru then took a segment of the project and examined it thoroughly. In this way, every strategic issue was controlled by the corporate center.

Furthermore, the Gurus frequently changed demands and specifications of a project after it started: "We don't have time to move paper so we move people." The justification for that was given by one of the marketing executives:

The company's success is ascribed to quick reaction between the market-place and R&D, an interchangeable technology and a management style that exudes self confidence. And thus, to be autocratic is to provide 100% success. We do not consider the possibility of failure.(23)

Guided by the pressure of the aggressive competition in the markets, the Gurus sometime used their authority to push a division to release a product into production, and even into distribution, before development was completed and the appropriate documentation ready.

Besides design, the pace of issuing new generations of products was crucial to Cintel's competitive strength. When Abash felt that a new generation of products had to be on the market, he crossed bureaucratic lines and procedures to push the project. As Abash put it:

There is a point at which you have to stop design and start production. The [divisional] engineers will always yell, 'wait, I can make it better.' You can start production when a product is 90% finalized but not at 60% or 80%. We can spot the right point.(24)
A senior vice-president of R&D gave an additional explanation of the system:

I think we are succeeding in convincing the lower level people on the production floor that design changes are in the nature of our work, so that the people regard that rate of engineering change as normal.

He describes the system by analogy to the German army during the Second World War.

There was the general line of command, but every unit down to corps level also had officers attached to it from the High Command. In that way the German army could to some extent standardize its systems and still have fast communication up and down the ranks.(25)

Although the complex relations between the Gurus and the divisional engineers (the second tier of personnel) are fundamental for a comprehensive description of Cintel's internal political relations, we should consider for a moment the third group of line managers and employees that, for a long time, were overshadowed by the R&D people. In the start-up and growth stages of the firm's development, the manufacturing employees had relatively little impact on the overall organizational culture and policy-making processes.

For the most part, even more so by 1981 than in 1974, when they felt proud to be part of a very successful and prestigious organization defeated the union initiative. After all, for years Cintel had been an elite and prestigious organization and they were enraptured with the Gurus. The social duality, and the lack of clear institutional lines that marked Cintel's personnel would maintain itself as long as there was a marked functional division between R&D and manufacturing, and as
long as the leaders maintained their reputations as successful pilots of the company's fortunes. (26)

Despite the line manufacturing group's weak political position in the firm, the new Cintel strategies were shifted in orientation into that group's domain. Thus the X-ray manufacturing group received more responsibility, but no additional authority. It was one of the internal ironies when the body who received the least attention in the organization found itself bearing the burden. In essence, the shift to an X-ray or manufacturing orientation basically followed the typical pattern: delegating organizational responsibility while reducing institutional authority. This shift from R&D to a manufacturing orientation was symbolized by the shift from MATAM to Nazareth. (27)

**THE MOVE INTO THE X-RAY MARKET**

In 1982, Cintel found itself at a crossroads. Should it maintain its role as specialist in the research and development of advanced medical diagnostic imaging systems, or should it shift its emphasis into mass manufacturing? Abash and the Gurus apparently though they could do both. If Cintel was to expand as dramatically as their recent heady success seemed to demand, then it must gain access to the mass diagnostic market. And the means of achieving that end only could be through the most widely-used and most mature diagnostic technology, the X-ray. Many hospitals did not use CAT scanners, and only a few use Nucleus Magnetic Resonance (NMR) devices or nuclear medicine. Virtually every hospital had X-ray equipment of some sort.
Cintel's leaders made a decision that was to have monumental consequences for the firm. They chose to shift Cintel's orientation to manufacturing. The hard nucleus began concentrating on the X-ray market, viewing it as the key to the company's new approach to expansion. This decision opened a new era in Cintel's history, an era that I shall call "the X-ray Age."

Cintel's new strategy rested on the assumption that successful marketing of X-ray products would provide inroads into the market for the company's more sophisticated equipment. In addition, the extensive X-ray market would pull in more capital that Cintel could use to further its R&D ventures in the more advanced diagnostic branches, such as the highly-sophisticated and expensive NMR.(28)

Cintel's strategy for entering the X-ray market paralleled its experience with the CAT. First, the firm would acquire some small firms specializing in the conventional and traditional X-ray technology and equipment. Second, it planned to purchase some components from other vendors as OEMs. And third, it would pursue internal product development, especially in the realm of the software, that would enable conventional equipment to be integrated with other Cintel equipment. Thus, Cintel would be able to sell a comprehensive system under its brand name.

Although X-ray technology was not part of the firm's traditional area of expertise, the electronic engineers put their trust in the possibilities inherent in computer applications to X-ray imaging. Thus they developed the capability to digitalize X-ray films and to store them on mass storage devices such as video disks. This digitalized
information can be used by radiologists, whose work is in the domain of conventional radiology, to process the image to their benefit via such techniques as windowing, zooming, and enhancing edges. In addition, the compact storage of data in an electronic archive can bring about substantial economic benefits. The digitalization approach appeared especially promising due to Cintel’s concentration of extraordinary human resources.

The first venture into X-ray technology was in developing a Digital Fluoroscopy (DF) system for advanced angiography. (29) Cintel was confident of its ability to speedily develop a computerized system that would create an image of the heart and its blood vessels because the DF system posed problems similar to those of CAT systems.

**Acquiring Small, Mature X-Ray Companies**

Even by late 1981, Cintel had initiated the first steps in its new broad-specialization tendency. The firm started acquiring small medical diagnostic equipment firms in the U.S., France, Italy, and Brazil. Cintel also aspired to acquire similar firms in other countries of Western Europe or in other regions of the world. Meanwhile, during this period of acquisition, actual market coverage had to be secured by entering into distribution agreements with independent sellers.

In Israel, Cintel founded a new X-ray division along familiar company lines. Key individuals spun off from the hard nucleus and established an SBU in a new site. The new SBU was to have coordinated the firm’s X-ray operations, including the newly purchased small firms.
The Gurus, however, were unable to relinquish control of the X-ray division, and their retention of power centralization and policy-making ability during a period of ambitious expansion. This to be a costly mistake.

A New Strategy of Product Development

Cintel was faced immediately with the necessity of adjusting to its move into the X-ray market. Most of its customers were in the U.S., 5500 miles away, and its several plants were located on four continents. Thus, the firm had to install its own R&D facilities within the U.S. The immediate consequence was the loss of the direct personal connections that had grown between the Israeli development engineers and the small circle of customers for the CAT and nuclear medicine equipment. Hence, while actual power in the firm was still highly-centralized, the traditionally strong commitment of Cintel customers to the firm was undermined. By contrast, Cintel's takeover of the Pfizer subsidiary had left most of the R&D and all the manufacturing in Israel. Now, Cintel's drive to become a broad-based medical diagnostic firm resulted in the shipping out of several R&D projects, from Israel hardly what had been envisioned as the role of the firm in the Israeli economy.

In fact, this movement was part of a truly fundamental shift in Cintel's orientation. It had apparently been decided to shift the focus of the Israeli operations from research and development to manufacturing. This tendency had already started in 1980 with the acquisition of Cambridge Research Laboratories in Massachusetts. During 1982-83, the trend became more intensive and rapid as the X-ray strategy
took shape. Cintel saw itself as shifting the base of its most important operations --R&D-- closer to its primary market. In preparation for this during 1980, Cintel shifted its headquarters in charge of U.S. operations from MATAM to Brookline, Massachusetts. Meanwhile, since manufacturing was a key element in the production of the X-ray equipment Cintel hoped to market, the company located a major manufacturing plant in Israel at Nazareth, a developing, peripheral area that entitled Cintel to extensive government subsidies and low tax rates.(30)

At this stage, Cintel's executives underwent a clear change in perspective: they began to "think big". They no longer considered Cintel a parochial, peripheral firm. Rather, they envisioned it as an "American" firm. As Abash put it, "Increasingly, we are thinking of ourselves as an American company based in Israel."

Thus, when the Gurus, by travelling extensively, kept up and developed their contacts with the market, the secondary divisional nucleus lost touch with the new developments in the company. In a sense, they were left behind in Israel, and there are became alienated from the process of marketing and product development. The shifting orientation in Israel from R&D to manufacturing also influenced organizational politics in another way. At this time, the third tier of personnel, mostly tied to manufacturing, grew larger and began to play a greater role in the firm's operations. Yet, however, they were considered a service group without meaningful organizational power.

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The expansion into the X-ray market was part of the drive to expand that was exemplified in the hard nucleus of about thirty Cintel engineers, concentrated in the Product Committee of six, and distilled in the personality of Abash. Talk of becoming an American company, the shift to international and especially U.S. operations, and the vision of the X-ray market providing the capital for the accelerated development of more sophisticated technology, were all part of the elite culture of Cintel's top scientists. They felt, in effect, that their talents could take them anywhere, and the company was the chariot that they would drive to the sun. In a sense, they imagined that management and scientific endeavor were similar operations.

Yet, the isolation and adventurous spirit of the R&D engineer do not necessarily translate into good management policy. It seems the hard nucleus was incapable of not questioning the need to grow as fast as possible. They were perhaps too uncritical of their own judgments. Finally, they ignored the demands of the entire organizational culture below them, which had its own history and "weight", and which required nurturing and attentiveness activities in which the Gurus had no ability to or in pursuing interest --or ability.

A good account for this transition was given by top Cintel executives:

We are moving from one way of thinking to another --from independent profit-center plants toward centralization in marketing and sales. But it is in between the two stages, and that makes life complicated. We should decide on centralization. Ambiguities over responsibilities make this necessary.

And a marketing person from Nazareth gave a further explanation:

Now, everybody calls Haifa [and not Nazareth] for help repairing parts, technical service. The corporate people would like to build
a service organization that has the capacity to provide answers to local problems while adhering to central policy.

This was the rationale that led Cintel's CEO to search for an American firm that had the capacity to "answer the local service problems," and which eventually led to the Xonics acquisition.

The Xonics Acquisition

If there is a single day that can be pointed to as the most dramatic historical crossroads Cintel experienced, it was December 27, 1983. On that day, Cintel acquired the marketing network of Xonics, a large American medical diagnostic equipment vendor with a market share of ten percent in almost all sub-segments of the conventional X-ray market. Abash thought this indicated that Xonics could open the door to a large number of customers predisposed to the company. Xonics would thus be the "springboard" for Cintel's move to become a broad-based specialized medical diagnostic firm.

By acquiring Xonics' sales and service network, Cintel was apparently taking a significant step towards developing a computerized-ray technology. By having such a base for distributing conventional X-ray equipment, Cintel could now offer an entire family of products: low cost radiographic equipment, remote control tables, angiographic arms, mobile units, and generators. The digital radiology market, in particular, was expected to benefit from this move. Thus, Cintel could hope to widen access for its comprehensive, integrated diagnostic equipment. As the "add-on" market diminished, the integrated system approach mandated that a full variety of X-ray equipment be
offered. The X-ray strategy appeared to be working. Cintel expected a sizable increase in sales volume and a comprehensive system offering that would embrace a range of its technological offerings.

For a short time, euphoria was felt throughout the company and LEI, and throughout the Israeli public as well. The acquisition was considered a great step towards making Cintel a world-wide leader in the high-tech industry and in the national thrust for economic recovery. With political and economic crises aplenty, and almost eight hundred percent annual inflation, Cintel's unprecedented international expansion blazed forth as a sign of hope for the public and politicians alike.

In February, 1984, just six weeks after the merger, Xonics declared bankruptcy. The blow came from out of the blue. It may have been possible to predict that Cintel's expansion would bring it under increasing pressure, but no one expected anything this drastic. In order to keep the trust of its newly-found clients, Cintel decided to take over Xonics' entire line of production, which had been under the control of Xonics' parent company, and ship it to Israel (excluding the generator facilities).

On top of this, danger signals also were appearing within the new consolidated marketing network. Within a year of the reorganization, almost all the salesmen in the Cintel sales force had left the company. Lack of FDA ratification and licensing of Cintel’s NMR, which was delayed by bureaucratic considerations, decreased sales dramatically. Other X-ray equipment, from the DF to the most mature products like generators, diagnostic tables, and arms were selling poorly as well. The X-ray equipment strategy completely failed in its projected task of
providing the capital necessary for the long-term development of advanced technological devices. The reality was that the firm found itself under increasing financial and personnel pressures to meet its new responsibilities.

Sales deterioration did not harm all divisions, however. The CAT scanner division maintained its solid rate of sales. It was the only division whose manager, a Cintel vice president, had the political strength within the organization to remain independent. Since its marketing segment had not consolidated with the new Xonics' marketing network. Thus, it would appear that this one example of assertion of a decentralized SBUs' authority proved more successful than the policy of Abash and the Gurus.

On the whole, the company was consolidating its divisions in line with Abash's vision that the X-ray acquisitions would lead to a more integrated push to sell all of Cintel's products. The price of obtaining a wide marketing network and prominent market position was a deterioration of the company's Israeli base. To gain access to the new customers in the Xonics network, the old Cintel sales network was replaced by Xonics people. Thus, a young, ambitious sales force, highly committed to the future of Cintel, was replaced by salespeople whose sole commitment was to their immediate commission. This was partly due to the new Cintel's marketing strategy.

The consolidation of the marketing network generated an internal conflict of interest: A salesman that had worked for a 10% commission had a very different perspective and marketing approach when dealing with an NMR system worth around one million dollars and an X-ray

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mammographic system for breast examination that cost only one hundred thousand dollars. Such a salesman could make good a living by selling one NMR system, while for the same income he needed to sell about ten mammographic systems. When the products are so distinct and aimed at serving different customers, each firm’s sales person could not specialize in and invest the time needed to sell them both. With an uncommitted sales force that had lost interest in the products with which they had been familiar with in Xonics days --selling the mammographs-- and due to unsuccessful experiments with the NMR systems, Cintel sales declined sharply after the Xonics marketing network consolidation. Thus, vital connections were cut between the divisional nuclei and their old customers, undermining middle Israeli management even more.

This served only to deepen the division between the Gurus and the divisional people, especially the nucleus managers of each division. Traditionally, the latter felt like second-raters in the company, always in danger of being outshone and second-guessed by the Gurus. Paradoxically, such a dynamic was fostered by the informal and unstructured organization that marked Cintel. Since nobody worried too much about hierarchy and procedures, anyone in R&D, including both Gurus or divisional engineers, could pursue research "underground". Such pseudo-equal relations created a high level of expectation in the young engineers, and they naturally expected a high degree of discretion over their projects. Thus, when the Gurus made their frequent unilateral decisions, especially in critical moments, the divisional engineers became intensely frustrated. Had the lines of authority been better
defined, the expectations of the divisional engineers would have been more realistic, on the one hand, and yet interference from the Gurus probably would have been less arbitrary on the other. With the new pressures caused by the Xonics bankruptcy and the transition to the new market network, the split between first and second tier Cintel personnel became sharper than ever.

This split was deeply-rooted in the earliest stages of Cintel's history. The hard nucleus of engineers had great discretion over the decision-making process in R&D, manufacturing, and marketing. The firm's subsequent growth seemed to validate this structure. Then, the cleavage into SBUs, or divisions, was consistent with the logic that small units, whose engineers could maintain their discretionary power over projects, were the most efficient means of gaining both specialization and flexibility. Yet, there was an inherent contradiction here, because the hard nucleus also wanted to maintain its discretionary power, in the old style, over the entire company. Thus, decentralization did not lead to power-sharing.

This discrepancy between structure and political authority could not last long. Eventually, the Gurus attempted a resolution by restructuring the company from the classic divisional type of organization into a more functional one. (32) The attempt to consolidate its marketing network via the Xonics merger was the most prominent milestone in Cintel's structural centralization. It was, really, the culmination of a process that had begun with the acquisition of the Pfizer subsidiary. Since the corporate hard nucleus identified marketing as the key to Cintel's success, they could not allow the
secondary group control the system. The SBUs would have to sacrifice their strength in order for the Gurus to maintain their centralized control.

Thus, the key questions are: Did Cintel's concentration of power and decision-making in the elite group of Gurus foster attitudes that led it to embark upon overly ambitious policies of acquisition that, sooner or later, were bound to end in disaster? By alienating second-tier management from the policy-making process, did the Gurus lose touch with the realities of the company's capabilities? Were they simply incapable of managing a company in a stage of maturity, since they themselves were always bound to an ideology of wide-open, total flexibility suited to engineers at the cutting edge of technology, and unsuited to be managers of a major corporation with pretensions to global stature?

* * *

Relations between second and third tier employees were also changing. Cintel was fast becoming a manufacturer that dealt in "irons", as Cintel's scientists called the basic framed equipment, rather than focusing on "brainy" or "smart" electronic systems. The balance between R&D and manufacturing and service workers shift towards the latter. The old internal political relations that had been dictated by the majority of highly-skilled employees no longer were as effective as they had been previously but in practically, these internal political relations had not changed significantly. The informal relations among all levels of personnel were not sufficient for coordinating diverse and large-scale operations.
In summary, in the context of Xonics mistake, it would be inaccurate to see the Xonics acquisition as simply fluke made by an otherwise competent company. That acquisition was a symptom of far deeper problems --pitfalls that had been part of the Guru system of management itself.

The sources of this malfunction received little attention both within and outside the firm because of the profound and immediate Xonics drama. But, it was this unevaluated symptom that later would have a substantial impact on the firm’s long-term performance.

THE PARTY CANNOT BE STOPPED

Despite the Xonics bankruptcy, a euphoric spirit permeated the company’s strategy. Warning signals from both the market and skepticism within the organization itself were not internalized by the Gurus. Rather, the SBUs were asked to face new operational challenges without participating in the decision making processes. For an elite group, a period of difficulties and challenges is a glorious time: those are the moments of mobilization in which groups tend to crystallize and morale rises in response to a challenge. Harder work, voluntary overtime, and increased spending on subcontractors all come under the same umbrella of meeting the challenge. At these moments, people at all levels believe they can make it, and the burned out, the weak, just leave.

Cintel was already considered the diamond of Israel’s high technology industry. It was a special stop for President Sadat during his historic visit for peace, and became a national symbol of Israel’s
role as an international competitor in this most prestigious market. Cintel's success bore out the transition of the Israeli economy from agriculture and mature industries to high technology that was the major thrust of prime minister Peres' government program.

In February 1984, two months after the Xonics merger, the board of directors got the "Cintel Five Year Business Plan 1984-1989" from top corporate SBUs' management. The document was the culmination of a series of glorious events held to honor Cintel's phenomenal success. In March 1984, at a luxury hotel at Caesarea (an ancient seaport twenty two miles south of Haifa), Cintel's board of directors and other top executives hosted an unforgettable party. Cabinet ministers and top political and business leaders were introduced to the newly-composed "Cintel Anthem." At this glorious moment, nobody thought about the oncoming crisis. Nobody thought that the "Five Year Plan", which predicted $331 million sales in 1985 and 5,095 employees worldwide, and $772 million sales and 7,015 employees in 1988-89 would prove so out of touch with reality.

Abash had become a national hero. Almost every week, he gave an interview concerning the national economic crisis. The title in most cases was "Cintel's Growth as a Model for the National Economy." Since the national election was scheduled for June, 1984, Abash was invited by all the major parties to become a leading member of their slate. Eventually, he turned down all these offers, but endorsed his friend, Mr. Peres for the position of prime minister and the leader of the Labor Party.
Looking Forward to a Promising Future

The first part of 1984 was a glorious time for Cintel in general, and for Abash in particular. In the midst of a national economic crisis, Cintel was a sign of hope, a myth employed by politicians to indicate the national economic future. During these days of glory, Abash's political influence became a substantial asset for the company. For example, at Abash's personal initiative and encouragement, the government introduced, and eventually won, Knesset ratification for what has been called "Cintel's Law." The law enabled a high-tech firm to issue stocks and bonds to the public as a special offering. These securities would be available for individuals or firms in the form of a tax shelter. Hence, in addition to a prior 1984 "Encouragement of Industrial Research and Development" Law, Cintel was the first firm to take advantage of this second law --"Cintel's Law"-- and successfully issued stocks and bonds to the public.

Cintel's top management and staff were busily preparing a "Five Year Plan." Perhaps, the plan was a signal of Cintel's evolution into a more established firm that was losing its traditional intuitive spirit, or perhaps it was simply a nice piece of window-dressing for the public, which was being asked to invest in a promising growing firm. A rigorous reader of the plan would find not the slightest attempt to tackle the latent symptoms of future hazards.

As we can see in Table 1, all divisional managers and corporate staff indicated that, in the next five years (1984-1989) the company would expand steadily. The X-ray division, under the plan, was still expected to become the firm's flagship product.(33)
Table 1: Cintel’s Five-Year Plan 1984-1989

Prediction of Cintel’s Total Worldwide Sales
(Figure in Millions of Dollars)

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Predicted Annual Growth 38% 33% 27% 24% 23%

New Era: A Better Future?

In late 1984, the full extent of the Xonics disaster became known to the public, which was shocked by the extent of the blunder. After Xonics’ bankruptcy, it was found that under the terms of its contract, Cintel had to cover an additional $5 million of Xonics’ debts to its creditors. Cintel was also forced to compensate the remaining five hundred Xonics employees until the end of 1984. Cintel submitted a $9.2 million legal claim which would not be sufficient to cover its damages. The bottom line was that Xonics’ investors from Chicago had gotten Cintel to hand over $15 million for a firm that was worth $5 million at the most.

For more than six months, Cintel’s top executives had tried to keep this discouraging information from the public. Their major concern was that such a critical mistake would cause unpredictable damage to
Cintel's international reputation; domestically, the public's grasp of the firm's true situation would serve to destroy the myth of Cintel superiority that had been employed so effectively by its executives.

The period of public manipulation was over on June 25, 1985, when Abash took responsibility for the crisis and resigned. Politicians and other public figures never resign in Israel. Hence, even in this difficult moment, Abash drew substantial public support: "It is painful but refreshing" was a typical phrase used by the newspapers that day. By contrast, "even [Ariel] Sharon did not draw the conclusion and resign after the incomparably poor decision of the tragedy in the 1982 Sabra and Shatilla Palestinian Camps in Lebanon." (34)

Abash resigned from his position as Cintel's CEO, and shifted to the Brookline, Massachusetts headquarters "to build a new marketing network." He gave a short explanation for his mistakes:

We have been forced to be involved in three dimensions at once: dealing with R&D to develop new products, to build manufacturing facilities to produce them, and to establish a marketing network to sell this equipment. Unfortunately, I could not coordinate these activities on different parallel tracks. I have built a marketing network that was too large, in too short a period of time. (35)

Abash's position was taken temporarily by North, LEI's chairman. In September, 1985, Abash left the Boston headquarters. The founder and most prominent person in the company lost his last duty with the firm, although he still held about 8 percent of Cintel's shares. In December, 1983, the shares were worth $18.50 each; currently (in April 1987), they are selling at $1.75.

The big question then was whether Cintel could be saved, and if so, if it could regain its previous promise and success. As we observe the
steps taken to reconstruct Cintel, we might keep in mind whether the
correct questions were being asked about Cintel's internal structure and
its operating assumptions. It may be that economic bailouts and new
top-level personnel oriented more towards management than R&D, however
helpful, could not cure what really ailed Cintel: a fundamental
misconception about its potential role in the world market and its way
to go about best fulfilling that role. This misconception was rooted in
the company's history and in the internal political relations of the
various tiers of personnel.

In early July, 1985, the extent of Cintel's cover-up of its
problems was published. On July 6, Cintel's Board of Directors gathered
in MATAM to discuss the implications of the new situation into which the
firm had fallen. A central question was whether or not to inform the
stock market, creditors, and the Knesset of the full extent of Cintel's
financial problems and its need to raise capital.

To add to Cintel's problems, the corporate giants GE, Toshiba, and
Siemens, were now finding Cintel's market niche attractive. In 1985,
these firms provided equipment comparable to Cintel's. In fact, some of
their devices were even more sophisticated than the Israeli firm's, and
priced competitively as well. The challenge was too heavy for Cintel to
bear, and its adjustment was not adequate. The company was neither
prepared for nor quick enough to face the new international competition.

This was a frustrating "Catch-22" situation for Cintel: in order
to be financially viable, sufficient to impress the public, the firm had
to cut its expenses radically. Cutting expenses, however, undermined
the firm's ability to survive in the market. Since the product life
cycle of current medical diagnostic equipment is so short, market presence depends on constant regeneration and renovation of products above all. Taking on the highly ambitious challenge of becoming a broadly-specialized vendor, the firm needed the venture capital to support an ongoing R&D process. On top of that, no firm could really predict when and how an R&D project would yield a profit.

In a sense, "the chickens had come home to roost." Cintel could have approached its marketing strategy differently, but had not. The company could have sold its sophisticated equipment independently, and not linked it to the rate of the X-ray market. It could have built up both sets of products independently, nurturing the sales force with close ties to the Israeli SBUs, and avoiding the Xonics venture entirely. This would have meant, however, that the Gurus would have had to relinquish some of their power. Such a strategy also would have necessitated a more patient approach to Cintel's development. Quite simply, a much larger company could have absorbed the Xonics fiasco easily. Cintel was violating the first two laws of gamblers who want to hang in the game for the long haul: "Don't bet more than you can afford to lose" and "Don't put everything on one horse." It succeeded once with the CAT scanner, but it is hard to believe that they believed such bet could win again. Furthermore, even had Xonics proved a "good bet", given the impulses that guided Cintel, one could have expected a similar problem to arise somewhere down the road.
The Attempt To Rebound

Among all these dark clouds, there was one important sign of hope: the Israeli public still believed the Cintel myth. Two weeks after Abash's resignation, for example, a business professor, Michael Parry, analyzed Cintel's marketing crisis in the economic section of Maariv, a major Israeli newspaper. His main theme was:

In spite of that [all the strategic mistakes] there were no doubts that Cintel, led by Abash, would learn the conclusion and comeback to the "king's way" [the high road]. (36)

The business professor neither believed nor even speculated that Abash's resignation was real. And again, the firm took advantage of favorable public and political opinion. Through "Cintel's law", Cintel raised an additional $72.5 million from the Israeli public.

International developments, however, shattered the hopes riding on that money. At the end of 1985, it became clear that the firm had suffered enormous losses of more than $50 million. This, against a background of sharp declines in sales and reputation, led to negative reactions in the market and to further damage to the company. The $72.5 million was not enough to bail Cintel out of its crisis.

The company was faced with the strategic choice of keeping its R&D projects at the price of reducing sharply the newly developed manufacturing facilities in Jerusalem, Tirat A'Carmel, Ma'alot, and Nazareth. In an attempt to keep the manufacturing reduction to a minimum, however, the firm's top executives devoted most of their time and effort to appeals to the government and the five major Israeli banks for new support.
The first reduction in manufacturing took place in January, 1985. The DF plant at Tirat A'Carmel (a Haifa neighborhood) was consolidated with the manufacturing plant at Nazareth, and was accompanied by the first Cintel layoffs. Some interpreted this move as simply a minor organizational accommodation, but in reality it was a clear break with the family spirit of the company that also implied no layoffs. Although most of the laid-off employees were provided with alternative jobs within Cintel, some seventy workers did lose their places within the firm.

In May, 1985, the extent of the crisis was becoming more clear. The newly-established Ultrasound division in Jerusalem was consolidated with the NMR plant at Herzelia. Jerusalem's plant, a new, large, and modern building, was put up for sale and most of its employees were dismissed. This was the first truly substantial public blow to Cintel's prestige. The decision to cut manufacturing put into question the future prospects of the Ma'alot and Nazareth facilities. Since the sales decline, many employees at the two plants had little to do. Some local initiatives of management to employ the plants to fulfill regional contracts for metal construction and electronic assembly had not succeeded due to the national economic recession that especially hurt northern Israel.(37)

It was at this point in Cintel's history that the core of the local plants, line managers, and manufacturing employees began to indicate unrest and discontent with the firm's top leadership, the Gurus, who had remained in control even after Abash left. When the Cintel myth was destroyed, so too was its leaders' charisma, and the social glue that
had held all segments of the company together had begun to melt. This was particularly stressful on the plant managers, who were besieged from above and below. From above, they were pressured to implement layoffs even while they tried to maintain peace in the shop. From below, their most talented engineers, line managers, and employees threatened to leave the company as soon as they could find alternative jobs.

Cintel's management gave labor and personnel issues low priority. During the period of reconstructing the firm this tendency was born out in the fact that when the company began reducing expenses, management immediately cut into the Training Department. Thus, this was a clear signal to the firm's employees that management was giving little thought to internal skills or the internal mobility of labor within the company, elements so crucial to employee morale and loyalty, as well as to successful adjustment. Workers' must have perceived that they were no longer being prepared to advance themselves within the company by training for another position. All in all, this move is one more example of the inability of Cintel's management to address company needs at all levels of organization.

Financial support, in such difficult times, is necessary to maintain short-term operations. Financial support alone, however, is not sufficient to reconstruct employees' faith in failed leadership, or capable of return the firm to a new growth cycle.
NAZARETH -- THE SUMMER OF 1985

The Nazareth facility served as the headquarters and manufacturing base of the X-ray division. The establishment of Nazareth was in line with the overall organizational orientation implicit in Cintel's early 1980s plan to shift its Israeli operations from R&D to manufacturing. The plant was in a perfect location to fulfill this new strategy. The government subsidized capitalization, and around Nazareth, labor costs were seventy percent of what they were in the industrial areas. Opened with great promise in 1983, the plant was threatened with closing in 1985. To a large degree, the problems endemic to Cintel were particularly pervasive in Nazareth: a key functional responsibility was given to the plant while the authority to run it remained with the Gurus who were, after all, more interested in the increasingly international R&D and marketing networks. A closer examination of the background of the site and the effect of Cintel's decline in Nazareth will help us better understand the issues involved with Cintel's internal political relations.

*   *   *

Since the early 1950s, there had been two towns of Nazareth: the old Nazareth, consisting of Arab, Muslim, and Christian populations, and the new Nazareth, which is completely Jewish. The only thing held in common by the two towns was their name: they were independent and managed by different administrations. There are almost no social or commercial connections between them. Upper Nazareth was built for the Jewish community that emigrated from Northern Africa during the early
1950s. They were settled in the new zone as part of a long-term government policy to settle all the available land of Israel. During the 1970s, a new wave of Jewish immigrants entered Nazareth from the Soviet Union.

The third largest community in Upper Nazareth consists of young, native Israelis who have taken advantage of government support for housing in the town. Recently, in an attempt to attract more young Israelis, the Ministry of housing initiated a project entitled "Build-Your-Own-Home". Those who could afford to, built houses or villas for themselves on pieces of land given by the government.

Nazareth's image as a proud, expanding, modern town depended in large part upon the presence of Cintel's ultra-modern plant. Little could the inhabitants imagine that the forces at work within Cintel would deal severe blows to the company’s viability and prestige, and undermine the foundations upon which Nazareth's future was based. Cintel's workers living in Nazareth felt as though they lived in the style of Tel-Aviv: "I am proud walking in 'the center' after work. Everybody knows that I am an Cintel employee," said an unskilled Nazareth worker from the Cintel plant. "The center" is a small commercial area at the top of the hill, the shops arranged in a horseshoe around a paved square. In the center are a supermarket, a greengrocer, hardware stores, a photographer, a pharmacy, branches of several banks, and a variety of cafes, falafel, and shish kabob stands.

The Nazareth plant was placed seven miles from the center, in a new industrial zone built on the east side of Upper Nazareth. It was the third industrial zone in the town, and consisted of small shops and
plants. There is no heavy industry and hence no pollution. The Cintel facility is the largest and most advanced there. The plant boasts a spectacular view of the Upper Galilee towards the surrounding Lebanon mountains, the Golan Heights, and the Sea of Galilee; it seems more suitable for a mountain luxury hotel than for industry. An industrial zone of this type, however, received a great deal of government support for being in a developing area. A government-owned firm built and leased the building at a very low price.

At 7:30 A.M. on workdays, some dozen cabs hired by the company would bring workers from all over the north, especially from the Haifa metropolitan area. Only forty percent were from Nazareth. At 4:30 P.M., the same groups gathered again. Compared to the nine-hour-a-day, five-day-a-week schedule at Cintel and at other high-tech companies, most manufacturing and service workers work eight hours a day, six days a week.

At lunch time, the plant cafeteria served only Cintel employees who paid with company-subsidized tickets. There was no table for management, and all shared the same food, as it was from the firm's beginnings in the MATAM plant. At the cafeteria entrance was a large board with many personal notices, as well as personnel department notes that announced a variety of product-purchasing programs, discount movies, and theater tickets for employees.

During August of every year the whole firm closed for two weeks of "organized vacation." A corporate human resource management department organized discount hotel rates for employees who wanted to take advantage of them. In the summer of 1985, there was a notice on the
cafeteria board that the discount would be given to all employees, including those scheduled to be laid-off.

**The Crisis**

In July 1985, after laying-off nineteen percent of his employees, a plant's general manager declared to his workers: "I can assure you now that this was the last lay-off action that the company will take." At that time he knew that a second wave of lay-offs would probably come in few weeks. He took the risk of losing his reliable reputation in order to keep, even artificially, some stability by promising the remaining employees job security.

A few hours later, in a personal interview he explained his rationale:

I know, at this moment the most critical issue is our credibility in the market: The image of the firm as reliable has been damaged with its creditors, banks, stock-holders and suppliers. Difficulties with our labor are secondary to the lack of confidence in our external environment. Hence, the central problem is regaining our clients' confidence, not our employees' trust. I am sure that when we reestablish our reliability with our clients we will not have problems with our employees.

As a matter of fact, like a medical operation, I think that lay-offs are painful, but could be a healthy process. This is an important junction in Cintel's history. At this point everyone must stop and reconsider the future. In particular, we should examine our tradition of pushing the firm's growth at any price. We should reconsider the price.

The firm's structural reorganization and reevaluation strategies include the process of laying off as a necessity for trimming organizational fat, in terms of human resources as a major source of expenses. In the era of rapid growth the firm has had to mobilize any available workers, which obviously led to compromises in human quality; now we can afford to be more selective.(38)
During July, 1985, lay-off guidelines were issued by Cintel's MATAM headquarters only two weeks after they closed the Jerusalem Ultrasound facility. While top corporate management saw layoffs as a last recourse, it was also a major cost reduction item. The strategy was to cut thirty-three percent of labor across the board in the remaining divisions (Haifa, Herzelia, Nazareth and Ma'alot). The time table for the execution of the lay-off was a strict two weeks.

At the same time, in the Nazareth plant (the core of the X-ray division), the plant's general manager called his managerial staff for two meetings: a briefing and internal discussion; and a final preparation and lists' revision before layoffs were announced to the dismissed workers.

In the first meeting, Nazareth managers were given the general background to the firm's current marketing crisis. Then, they divided among themselves the share of dismissed employees in each subdivision. In a week, each subdivision manager sent his share of the lay-offs down to the middle managers who were assigned to prepare a list of specific workers to be dismissed. The subdivisions' layoffs' share was not equal: in manufacturing the percentage (in the summer of 1985) reached almost twenty-five percent; by contrast, research and development bore only ten percent reduction. Throughout the week, the plant managers informally negotiated among themselves and with the plant's general manager about the justification of their share, and reviewed particular individual cases.
In the second meeting of the top plant managers, the subdivisions lists were brought in. There a major initiative was raised by the manufacturing section.

The manufacturing section in Nazareth, like the Ma'alent plant, was subject to the highest cut labor force. Managers and workers of the Nazareth manufacturing section jointly decided to take care of the regular services jobs, such as maintenance and clean-up, which had been given to a subcontractor. By thus reducing costs they thought they could save some jobs. In addition, during the week that the dismissed workers' list was prepared, the section's manager had raised an original initiative to save jobs in the Nazareth plant. According to his idea, both employees and managers at all levels would voluntarily contribute a day's salary cut every month. The manager gave an accurate calculation of the percentage of jobs that such an initiative could save. The initiative was rejected immediately. "It smells of organized labor," he was told. No one tried again; nobody believed an individual could do anything.

Cintel’s top management gave high priority to a "quiet, unpublished" lay-offs process. They knew that the "media is looking forward for any work action in Cintel." In line with this strategy, Cintel's vice-president for human resources nominated an ad-hoc corporate committee which got the mandate to coordinate the organizational lay-off process. The committee was requested to put a lot of effort into supporting local plant managers to implement the lay-off process in a peaceful way, and to ease the individual humiliation and pain of being unemployed. The committee was composed of four human
resource executives in charge of the following corporate personnel
departments: individual welfare; compensation and benefits; and staff
and recruitment. The fourth committee member was the local plant's
human resource manager; in this case he was from the Nazareth plant. I
was allowed to observe these meetings.

Discretion concerning whom to dismiss was given to the plant
management, but the final decision was in the hands of the corporate
committee.

The committee conducted a long interview with each one of the
workers who might be selected for dismissal. During the interviews, the
decision whether or not to lay-off a given worker was made definite. In
this way, the candidate was given the right to appeal to the committee
as a more objective body. In some cases, this body changed management's
decision. The most dramatic example of such a case was that of an
equipment storekeeper who had served in the company for thirteen years.
The committee was convinced that the decision was made arbitrarily by
the storekeeper supervisor because of irrelevant personality clashes.

As was typical of the committee procedure, the storekeeper spoke in
his own defense. In a very emotional way, the man turned to the
committee and spoke impulsively:

With my own two hands I have built this firm, and later this
plant, only for recruiting social workers who help managers
that I have always backed-throw me out into the street....

He could not stand, in his words, this "humiliation" any more and left
the room. I could detect embarrassment in the looks and gestures of the
committee members. Nobody spoke for a long and depressing moment. "How
can we do this to a person who celebrated his "Bar-Mitzvah" [a Jewish
boy of thirteen] in the firm?" asked one member in an embarrassed 
voice. Another supported him, "The person is right! We should prevent 
management from dismissing senior people. There must be some other 
alternatives."

Later, by the committee's recommendation, the storekeeper was 
shifted to another job in a different division within the Nazareth 
plant. Thus, the management's decision to lay-off this storekeeper was 
overruled. For the sake of harmony, he was relocated internally within 
the plant.

If the management decision to lay-off was not changed in a given 
case, the committee would try to relocate the person in another plant or 
division within the firm. Since the firm as a whole underwent a similar 
process, only a few semi-skilled employees were able to be relocated 
within the firm.

In such a case, the only alternative was to find external jobs and 
support the employees in their relocation process. The committee was 
also provided with a list of possible alternative jobs in the region for 
a worker they were forced to dismiss. In many cases, one of the 
committee's members personally made the first connection with the new 
work-place. This move was especially appreciated by the laid-off 
workers, since most of them were unskilled and semi-skilled. These 
workers were not accustomed to "selling themselves" in the labor market. 
They usually got their jobs through friends' connections, or through the 
regional governmental labor agency in charge of labor relocation. With 
increased unemployment, both the government and the private channels
were almost closed off for most of the Nazareth plant’s laid-off workers.

As the last step for workers who were not going to be relocated within or outside the firm, the committee gave an extensive explanation of the legal rights and benefits to which he or she was entitled from National Unemployment Insurance (NUI). The NUI covers unemployed persons based on his/her age and seniority; each employee under 42 years of age is entitled to 70% of his/her last salary for 135 days and if over 42, they would receive this percentage for 174 days. Since most of the national medical services are owned and administrated by the labor union --the Histadrut-- unemployed workers are eligible to receive these services for free.

Throughout all this, Nazareth management assumed that, given the dynamic pace at which Cintel operated, the shift from rise-and-fall-and-back-again would take only a few weeks or, at the most months. The new reality was difficult to accept. The choices made in cutting workers loose --favoring R&D over manufacturing, for instance-- were congruent with the lack of labor institutional restrictions and the fundamental culture embedded in the firm from beginning.(39)

In particular, the way in which the plant manager approached the painful layoff process was consistent with the typical cultural character of the firm. There was still strong differentiation between one group consisting of the top level of managers and engineering project leaders (the second tier of Cintel Employees after the hard nucleus), and the various line manufacturing employees (the third tier). These third tier middle managers, supervisors, technicians and line
employees were barred from participating in the most of the X-ray division's strategic decisions, including those concerning layoffs. By contrast, the plant nucleus was treated in an egalitarian fashion and its members were indeed involved in the decision-making process.

Thus, at the beginning of this particular cycle of layoffs, the plant manager, whose position was just below that of the vice-president of the X-ray division, was reluctant to give the workers an accurate and broad picture of the firm's difficulties and its real chances of recovery. In his view, there was a danger in allowing workers to participate in this fragile stage of the firm's crisis:

Why should we bother our employees with such bad news? Let them have a few more good nights' sleep. Facing reality paralyzes people.... How can a person function in a state of high uncertainty?" he asked rhetorically.

As further justification for denying his workers information, he asserted:

We must be fully alert to our external environment -- our clients and creditors-- and then resolve our internal labor and organizational problems. Key people are not leaving yet. I think that man naturally looks for stability, and thus, people think more than twice before sacrificing their work conditions. In any case I do my best to convince people that there is a future and we just have to get through this difficult period.

In contrast to the distorted view of the firm's future that the plant manager gave the workers, the Nazareth nucleus got an accurate and honest picture. This plant nucleus, or the second tier, although secondary to the core corporate nucleus, was considered one of Cintel's major assets, and was identified with the firm's future ability to survive and flourish. When this group of young engineers started to indicate signs of discouragement with the Gurus, and a weakening of
trust in the firm’s future, some of the plant manager’s optimism dissolved. Despite their being included in the plant decisions affecting the plant and the lay-offs, these second tier employees were disillusioned with what they had seen and heard.

As in many other cases, much of the problem went back to the concentration of management in Cintel’s Gurus. The localized decisions that were allowed the second tier of engineers were enough to keep them happy as long as the Gurus and the hard nucleus were guiding the company successfully. In addition, they did not resent the Gurus’ arbitrary interference in their research or their policies as long the Gurus appeared to know better then they. Once the Gurus were exposed as very fallible, the heart of the firm’s organizational framework --the second tier-- was undermined. The consequences were twofold: deterioration of confidence and loss of faith in Cintel’s charismatic leadership.

On August 5, 1985 after the first wave of lay-offs, the plant manager was less confident about his ability to control the situation:

What bothers me now is that for the first time senior and experienced engineers have lost confidence in Cintel’s future. Some of the best people are leaving. The brain drain’s damage is substantial, especially because the quality of our production is determined by a few central people. Now that the nucleus has been split, the discharged energy is so strong it can’t be contained. The young bright people, the future of the company, are heavily influenced and are developing a distorted view of the firm’s values and traditions. Eventually, this could be a major impediment for the firm’s future development. The loss of the characteristic pace of growth which has, for a long time, injected blood into all the company’s vessels, has now created a blockage, and even for us, as professional radiologists, it will be hard to bridge and overcome this stroke.
The winter of 1986 was very cold and gray for Cintel workers. Nobody could predict the near future, let alone the long-term viability of the firm. An average of thirty percent of the firm's labor force was already laid-off, and in some facilities and divisions, such as the Ma'alot plant which specialized in basic production, the percentages reached fifty percent. In Cintel-Nazareth, the labor force was reduced from 286 employees in July 1985 to only 189 in January 1986. The remainder lived in a frustrating state of personal insecurity. Top plant managers tried to give them some hope for the future. The major theme was "the worst is behind us, nobody will be laid-off any more...." They knew that this was not true; if Cintel did not increase its sales in the near future, it would substantially reduce its labor force and product lines.

The process of lay-offs was not accomplished all at once; rather, there were several waves of lay-offs. Beginning at the summer of 1985, every few weeks corporate management would issue a "new list" or a "new selection", as it was cynically dubbed by the plant workers.(40) The posting of each lay-off list was followed by promises for a better future. This pattern was repeated a few times in the second part of 1985. As a middle level mechanical manager pointed out:

Upper management's failure to give us an accurate picture and the process of 'dropping' lay-off lists every few weeks, without even a minimum of courage to face the workers directly, is very destructive. Given such intensive distrust between managers and subordinates at all levels, I don't know how we can renew the social unity that previously played such an essential role in our strong industrial performances.
During the fall and winter of 1985, management tried to maintain the same pattern of gaining short term labor peace by making false promises of a better future. The workers, in turn, became more cynical in response to their managers' style of leadership, but surprisingly, they accepted the waves of lay-offs without work actions of any sort. Almost every day began with new rumors about the future of the firm in general, and of Nazareth in particular. After a visit by the Ma'alot(41) plant's general manager to the Nazareth plant, a subcontractor who had done some construction jobs in both facilities entered the shop-floor and asked:

Why are you such 'frayerim' [suckers in Hebrew slang]? How come you people didn't understand that Ma'alot's plant manager has come to identify the most useful machines here to use in his plant. Corporate management has already decided to close your facility!

Ironically, it turned out that the Ma'alot workers had heard other rumors that the firm was going to close the Ma'alot plant.

Both rumors were distorted reflections of the internal political struggles of Cintel's top level management over the firm's and over their own personal future. In particular conflict arose over the austerity measures of reducing cost, including those of the manufacturing sites of the firm. By their nature, the Nazareth and Ma'alot facilities were built for emphasizing the manufacturing part of the production process. And, in fact, corporate managers had decided to consolidate these two into one facility. The vice-president for the X-ray division, the only Nazareth-stationed Cintel employee in the hard nucleus, rightly understood that such a step would mean the eventual
eradication of the X-ray product line altogether, and he successfully struggled against this strategic decision.

Following Abash's resignation, the banks put substantial pressure on the company to nominate a president of their choice. They looked for a person who would reorganize the firm and formalize procedures of management. This was in many ways the formal end of the "Guru system." The informal and charismatic approach was about to be replaced with traditional bureaucratic management. North, LEI's Chairman of the board, accepted the bank's demand and nominated Iron, a well-known retired Air-force general, also known as a practitioner of a centralized and formalized type of management with a successful record of building high technology firms in the LEI group.

In preparing to take the position, the candidate for Cintel's presidency visited the firm's sites. One day before the new candidate's visit to the X-ray division, the managers of the Nazareth plant gathered their people and told them about this important event. The motto was: "This visit opens a new era for all of us." Workers were asked to spruce up the shop and make other preparations. For a moment, a new spirit of hope diffused throughout the plant.

A few hours after Iron's "how-do-you-do visit" to the shop-floor, somebody entered the shop with the nightly newspaper announcing the corporate decision to close the Nazareth plant. The next day corporate management issued an official denial. In addition, corporate sources issued a statement that the origin of this distorted information was the regional labor union, which had been trying for a long time to penetrate this unorganized facility. The Nazareth plant's regional union leader
asserted that this claim was ridiculous. Whatever the source of the information about the plant's possible closing, labor distrust was very high. It was hard to cure the damage; the impact of this incident and of the accumulation of reversals was substantial.

* * *

The fundamental question at this time was: How can the firm or the plant renew production at full capacity? The deterioration of labor trust had reached unprecedented heights. Even if Cintel's top managers solved their immediate financing problems through an agreement with the banks, they would face a human resource crisis. During the winter of 1985-1986, nobody had any control over the rapid deterioration of Cintel's principles of "human resource management", even the vice president for human resources was preoccupied with reaching the necessary agreement with the banks.

Over the winter, the plant manager's overall optimism and confidence had deteriorated, but the new president offered an option that might give new life to the X-ray division. The plant nucleus group could "buy-out" or acquire their work place in Nazareth. The Nazareth manager considered this to be the last chance for saving the plant. It was his last ray of hope. In discussing the effort that he made to convince people to stay, he asserted:

In fact, my bag of tricks and slogans is empty. Today, I am afraid, we will be forced to 'bribe,' that is, to pay a high price for the skilled employees we need... It will be extremely difficult given the current cash flow situation in the company. We need immediate recovery. It is a matter of days, not weeks any more. In general, people are interested in the plant, not in the firm as a whole. Everyone here wants to bail the plant out. We have a good chance with a
new product, the Integrex [an integration of multiple X-rays machines within one computerized system]. If the firm will give us the freedom to act independently without their marketing network, we will be able to make it. I am very confident about it. (42)

Two weeks ago when the new president and North [LEI's CEO] came to visit here and raised the alternative of independence, we [the top managers of the X-ray division] were very happy about it and responded very warmly. I hope they were not simply trying to examine our basic belief in the market-ability of our product.

The Fate of the Rank and File

Concurrent with top management's deliberations concerning the plant's future, the labor force was coming to terms with its own future. Surprisingly, for a long period of time, in spite of their accurate interpretations of the firm's crisis and its implication for their jobs, Nazareth employees displayed indifference or even apathy to the possibilities of organizing. In the winter of 1986, Cintel's labor force was still unwilling to take any job action or any initiative to becoming organized.

There were, however, two different attitudinal patterns in the work force: helplessness and self-confidence. The feeling of helplessness was expressed by the unskilled workers, especially the circuit assemblers, solely consisting of women:

If it is my destiny to be dismissed, what shall I do? I don't believe that anyone really wants to help... I can only pray that my husband will keep his job.

A single-paren' woman was more fatalistic:

My world is already destroyed... what can I do? There is nothing to talk about; no one really cares about us.
Both the semi-skilled and the skilled workers had a much more self-confident view. Sitting around the lunch table with four skilled technicians in the summer of 1985, I found an optimistic view. These four workers were confident, despite their understanding of the current company crisis and its implications for labor. When the lay-off process had started, some of the skilled workers did not perceive it as their personal problem. They were sorry about the others, but felt immune to being dismissed. A typical attitude was:

You see, I am central and necessary to the plant. Nobody will let me go. My skill is my immunity. If I find myself outside the plant, I am sure that it will be easy to get an alternative, maybe even a better, job... I don't want to leave, I am proud of Cintel and have confidence that Abash will manage the crisis soon. I want to take care of myself and not put myself in the hands of a union whose leadership cares only for their political careers at the price of closing plants and losing even more jobs.

By the winter of 1985-86, the shop floor atmosphere was dramatically different. Most of the unskilled assembly workers had been dismissed (more than 60%), and they still felt helplessness. In contrast, the views of semi-skilled and skilled workers (both male and female) had changed. They had lost their faith in the firm. They felt deceived and embittered, and openly expressed their feelings.

"All of us are looking for alternative jobs," said a skilled technician, who then added:

The national economic recession saved the company from a brain and skill drain. You would see what would happen if industries in the north would slightly increase their demand for labor: nobody would stay here. As it is now, why should someone quit his job when he has no honorable alternative?

You see, if we would be more active and show even a small hint of an attempt to organize and help each other, management would immediately shut the plant.... They would not think
twice about it. I was once fired from a job at Cintel just because of trying to organize a group petition against the quality of services and the standard of the food that we were served by an external catering subcontractor. We just wanted to replace the subcontractor, but management saw it as an attempt at collective action and fired the leaders. A few months later they recruited me back. They knew that I was essential... in any case, I learned this important lesson.

From the early failures to organize, Cintel workers had a strong negative bias towards labor unions. They could not accept the notion of collective labor consciousness; they could not believe that collective action could be in their own benefit or interest. They did believe that individual action would be meaningless in most cases. This was true in relation to labor collectivism within their own organization, as well as in a national or international labor context. A concrete example of such an attitude was Cintel labor's reaction to the general national strike that was organized by the Histadrut on July 2, 1985. This national work action was aimed against the government's economic austerity measures to reduce the thousand percent annual inflation rate. The austerity measures were targeted to reduce the national standard of living and, hence, they cut into workers' salaries and benefits most of all.

Against the culture of the firm's economic crisis and the waves of lay-offs at that time (July, 1985), Cintel workers had all justification for expressing labor political solidarity at both the firm and the national level. Surprisingly, they took the opposite stance. Virtually as a demonstration, all workers showed up at work that day. Furthermore, the few regional union leaders from Nazareth that had
arrived at the plant were thrown out with the support of Cintel's workers.

The indifference and even apathy of Cintel's workers toward labor militancy can be explained by more than just the nature of Cintel's labor force and its organizational culture. Another major factor was Cintel's external political environment, which was dominated by the current dynamics of the national economic crisis and by the high rate of unemployment in the north. Furthermore, in the last three months of 1985, two dramatic industrial crises erupted in Haifa's old manufacturing zone: The first was the collapse of ATA Corporation, the famous textile manufacturer that, for many years, was a national symbol for the first stage in Israel's industrial development. The second event was the government decision to close the state-owned shipyard in Haifa harbor. Like ATA, the shipyard had been a national symbol of independence for many years. A common slogan was: "After two thousand years in exile, like other nations, we have our own shipyard." In contrast to Cintel, both ATA and shipyard workers were organized.

In the case of ATA the workers lost the struggle, despite a series of bitter strikes and demonstrations. About fifteen hundred workers lost jobs. The intensive work actions as workers locked themselves into the factory for a month did not help; many of ATA workers became unemployed, despite the organized support of the Histadrut and nationwide labor solidarity.

In the shipyard, the struggle for jobs continued. In January, 1986, in an attempt to capture public and hence political attention the shipyard workers demonstrated in Haifa's streets almost daily, and
lobbied intensively in the Knesset (the Israeli Parliament in Jerusalem). The shipyard struggle took place in spite of workers' and their union committee's understanding that the best possible outcome would be that the shipyard would survive and its work force would be cut in half.

The impact of these two dramatic events in the Northern part of the country has been substantial. Indeed, many of the newly unemployed workers and those still fighting for their jobs are well known to their peers in Cintel Nazareth plant.

Reactions at Cintel to these two events were mixed: management and engineers pointed out that the ATA case suggested that work actions were not sufficient to save jobs; in fact, they just increased the number of people forced to quit. Manufacturing workers and superintendents were confused. They understood the meaning of collective action; as one of the manufacturing supervisors put it:

I will go to support the shipyard strike even if we will be forced to use violence... Now I understand that their fight is mine!

They still were reluctant to use work action, however. When the supervisor was pushed harder to deal with his own case, he replied:

I come to Cintel because I don't want to be control and blocked by labor unions as in Sultam [a union-owned firm]. I think that I am good and as such want to pursuit my career as far as I can in a free competition.

An assembly worker asserted:

Why bother? Look what happened at ATA, workers fought but they are unskilled and no one really cares. So, we better keep our health and not struggle. If our destiny is to be thrown away, nothing can help.

And another assembly worker added:
Why should other [members of employee committee, such as in regular unionized firm] advance their political career on our bodies? We will have no benefit from their activities, just damages, and endanger our plant and jobs.

The workers that had not been laid-off not only lived in a state of economic insecurity, but they also conceded more than a quarter of their salaries in real terms. Possibilities were eliminated for overtime jobs for extra money. In addition, the workers suffered intensive cuts in other benefits such as subsidized purchasing coupons for food, a sharp reduction of the firm subsidies for lunch, and removal of the hot drink machines on the shop floor.

As a technician asserted:

There is nothing to work for any more. As one of the machinists in the mechanical division put it: ...my job is not secure, my salary is not enough to cover my family's basic needs, and I even don't have the coffee machine in my break time to simply stand around, to have a good cigarette, and complain with my peers. Do not think that all today’s absenteees are really sick... They may be sick from the company.

The personal manager of Nazareth had been very pessimistic. In a long, painful monologue he described the future of the firm’s human resources; he did not see how can the firm would ever mobilize new workers:

Surprisingly [he said], most of the laid-off workers have found alternative jobs. In fact, many of them are better off now, in terms of job security and even compensation. However, the firm lost its reputation and prestige, which were the basic pillars of its human resource framework. Workers, especially skilled ones will never come again. Israel is a small state, everyone knows Cintel's story. But even in the present, we cannot hold steady. The best skilled people are leaving rapidly. And what can we tell them? Who can prevent them from leaving?
Looking to the Future

In the winter of 1985-1986, the unemployment rate in the North was so high that no political party and local politician could disregard layoffs. Usually, after the direct liability of the employers, the government is second to blame for decreases in the standard of living or increased unemployment. There is thus great pressure on the government to act.

The five major Israeli banks, in different proportions, had invested around $180 million in Cintel. To save some of their investment, executives of these four banks were trying to cooperate in a bail-out operation. Thus, in exchange for an agreement that delayed interest payments on the loans, the banks demanded that the current firm's president be replaced with a person that they had selected.

During the days of expansion, Cintel took advantage of the government's political support to quicken its pace of growth. But when the company was struggling for its existence, it became entirely dependent, directly and indirectly, on the government's agents. During the days of decline, because so much was at stake, the Cintel crisis was not just a private matter. The fact that its success became a source of public pride gave the firm substantial strength --Cintel could not be abandoned. A coalition of political and financial institutes would make a cooperative effort to prevent the firm's collapse. A crisis that was caused literally by the company's own mistakes and miscalculations was to be solved at public expense.

In an attempt to legitimate this public bail-out, the firm had to argue clearly in favor of its future prospects. To do so, a "neutral",

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large international consulting firm based in New England was recruited to examine independently the probability of the firm's survival, and then to bring the case to the banks and government panels. The consultant made the case in February and early March, 1986.

Only after the personal intervention of Prime Minister Peres, did the government agencies and the private banks arrive at an agreement concerning Cintel's unbearable debts. The credit and support of the Central Israeli Bank was thrown behind the agreement, and the contract between Cintel and five private banks could be negotiated. In March, 1986, the Wall Street Journal reported the major components of the agreement:

Cintel LTD., an Israeli medical equipment company, said it has agreed with its creditor banks and LEI Ltd. of Israel on the restructuring of its debt and equity, subject to shareholder and other approval. The banks will extinguish $80 million of $180 million in short-term and long-term loans.

Cintel said $50 million of short-term loans will be covered into an 8%, four year loan with principal and interest to be paid at the end of four years. The other $50 million will remain as current loans. The banks will receive warrants to purchase shares in the company exercisable for a period of four years.

LEI, which owns 30% of Cintel, will also extinguish a $10 million loan owed by Cintel and invest an additional $20 million in preferred shares convertible into common shares. (44)

A joint effort of the Israeli government and the financial community resulted in a new financial package that gave the firm some additional time to make the necessary accommodations to its new position in the market.
SOME FINAL THOUGHTS FOR THE FUTURE

The major question that remained was whether Cintel could or would make the internal political and labor-related adjustments necessary to return even to a position of viability, much less to the days of its former glory. Early signs were not promising. For instance, on April 18, 1986, in an interview for Yedioth Ahronoth, the Israeli Finance Minister, Mr. Itzhak Modaee, asserted that,

In contrast to other firms in crisis, the Cintel crisis is temporary. It was due to a small mistake in predicting future sales. Hence, the government should support the firm in overcoming the crisis and put it back on the main road for future success.(45)

One hopes that this was statement was merely meant for the public, and does not reflect business and government leaders' actual assessment of the Cintel crisis.

It is clear that Cintel management was unable to make the transition from the kind of elitist-egalitarian --entrepreneurial, R&D oriented-- mind-set suitable to the start-up and early growth stages of a high-tech company, to the more mature managerial practices required in the later growth and maturity stages. It is also clear that Cintel's drive for growth at any price, and its lack of respect for the lower two tiers of its personnel, especially those involved in the increasingly important manufacturing operations, had several negative consequences. In the first place, policy alternatives that could have succeeded were never considered. Thus, the Nazareth-based X-ray division never had a chance to market the product which it knew best. The Cintel sales force was overwhelmed by the shift of the marketing emphasis to the Xonics network. The failure of Xonics itself crippled the company. With more
diffused authority, development could have proceeded more steadily. Lower level Cintel personnel could have received the training necessary to develop horizontally, to establish product and marketing initiatives that the obsession with fast growth and expensive integrated systems simply prevented from ever occurring.

Secondly, the crisis with its labor who lost its faith with the company might have been averted had Cintel given more responsibility to its second and third tier people. When a company's entire character and legitimacy is based on a few elite charismatic leaders, the potential for a loss of faith in both leaders and company is far greater than when people feel they are making an active contribution to the organization. Worker and middle management initiatives often play a major role in a firm's success, in large part because, they represent a population committed to the company. At Cintel, everyone felt part of a great adventure, but most were in an essentially passive position with regard to the fate of the company. When their world began to collapse, many grew bitter, indifferent, or bewildered. In a small society, like Israel, these feelings could prove fatal to Cintel's ability to attract committed workers.

The new bail-out agreement has the potential to help Cintel get back on its feet, but how will the company respond? Will it seek to repeat its past history, and place its hopes on R&D? In that case, how will management and labor be structured? Will it seek to enter promising niches in manufacturing, and if so, how will management respond to labor initiatives for job security, or middle management ideas about marketing and research? These questions remain to be
answered about Cintel, but satisfactory solutions will not be found
until the people directing the firm recognize that Cintel's crisis had
its roots, not just in some ill-considered decisions, but in the most
fundamental premises underlying the firm's development.
CHAPTER 4, NOTES

1. Obviously, environmental factors such as the structure of the international medical diagnostic market, or domestic economy and politics, played an important role in this case. They all will be used as necessary background for the main issue in focus -- organization and politics.

2. It is not common for workers in Israel to have private cars; it is much more common that workers commute either with public or workplace organized transportation. Although these two basic commuting means are also used by MATAM's workers, the rate of private car ownership is much higher. The presence of many private cars at a workplace is a good indicator of the economic and social position of the inhabitants.

3. LEI was founded by the investment division of Discount Bank, "Discount Ashka'ot".

4. Unfortunately, as a researcher of Cintel, I could not find a good series of the company's personnel and human resource development. Hence, the only "formal" number I have are those of 1969, 1979, and 1984. Perhaps it is characteristic of Cintel that there is no accurate historical data of human resources, or maybe the firm's officials were reluctant to submit such data.

5. Although the description of one general line between R&D and manufacturing does not do justice to these groups' complexities, I find it helpful. Obviously, there are substantial differences in world-view, human experience and expectations of the subgroups within the broadly defined divisions of manufacturing managers and employees. A more accurate line should be drawn among the skilled, semi-skilled and unskilled workers, or between managers and employees at various levels. It seems to me that manufacturing is always perceived as second-class, however, and this perception is important for the understanding of the groups' basic world-view, their internal integrations, and their political position within the organization.

6. In Chapter 5, I will elaborate on, and describe the roots of the analogy between Cintel and the Israeli military elites units.

7. As we will see shortly, Cintel's organization consists of an internal contradiction: an organization that initially was constructed as decentralized, yet contains a centralized core. This is an interesting case of managers that developed a structure that enabled them to share power, but once it was established, they did not relinquish their power.
8. One of the most striking historical examples of the way in which Cintel was developed is "Systeme Motte's" cotton-textile manufacturer in Roubaix, France during the 1850s. As Piore and Sabel describe it, "The Systeme Motte was to pair each family member who had come to age with an experienced technician from one of the family's firms; provide these two with start-up capital (most of which was held of course by the family member), and have them establish together a company that specialized in one of the phases of production that was still needed. The new firms often found markets outside, as well as inside, the family, but their financial and emotional ties to the lineage made them dependable partners, even in difficult times."


9. This quote was given to me, separately, by three senior employees.

10. As we see in the Chapter 3, the origins of the Israeli industrial relations were rooted in the socialistic and later on social democratic institutional assumptions. In relation to the third tier personnel, one can identify Cintel's labor relations system as a counter revolution toward the pre-labor institution era of the early century. This was a shift from the institutional labor relations into type of the old patronized "Welfare Capitalism" system. See further elaboration in Chapter 5.

11. Later in this Chapter, we will see that Cintel enjoyed government support aimed directly at the firm. When Cintel become a national myth for the successful high-tech industry, the politicians could not afford its collapse, and made direct efforts, first to support the firm, and then to bail it out.

12. The legislature defined the national policy in the "Encouragement of Industrial Research and Development Law" that was revised in 1984. In the words of its first chapter:

Object:

1. The object of this law is the encouragement of industrial research an development for the process of

1) The development of science-intensive industry whilst utilizing and expanding the technological and scientific infrastructure, and human resources existing in Israel;

2) The improvement of the balance of payment of Israel by manufacturing and exporting science-intensive products developed therein and reducing the import of such products;

3) The creation of places of employment in industry and absorption therein of scientific and technological manpower.
Means of Achieving the Object:

2. For the purpose of achieving the object of this law, there shall be provided the grants, loans, exemptions, reductions and relaxations...

Implementation:

3. The Minister of Industry and Commerce and the Minister of Finance are jointly charged with the implementation of this law...

13. From the US federal Security and Exchange Commission (SEC) report it turn out that in its history the firm not only took advantage of this law but also manipulated it by shipping products to consignment abroad before selling them. The Commission discovered that some of its deals were declared before the contract were signed.

14. See Appendix 4.1: "The Rise in Sales of The International Market of Medical Diagnostic Equipment."

15. This shakeout was a result of international political economic events: the shaky international --especially Western industrial economy, and bureaucratic decisions by the U.S. federal government.


18. As we can see from "Cintel Revenues and Net Income Figures from 1979-1983," a 1984 stock holder report, the rate of Cintel's growth was very impressive.

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenues (Million $)</th>
<th>Net Income (Million $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979/80</td>
<td>$28.6</td>
<td>$1.6</td>
</tr>
<tr>
<td>1980/81</td>
<td>$42.6</td>
<td>$5.1</td>
</tr>
<tr>
<td>1981/82</td>
<td>$71.9</td>
<td>$10.1</td>
</tr>
<tr>
<td>1982/83</td>
<td>$110.0</td>
<td>$15.0</td>
</tr>
</tbody>
</table>


22. International Management, 1982 (the issue number cannot be cited).


26. The third group’s indifferent response to the elite’s power struggle was challenged when the reverse trend of cost reductions, lay-offs, and the deterioration of the myth and the charisma of the nucleus occurred later in Cintel’s history. When we reach the stage of the organizational shift into manufacturing, this third group will receive more attention.

27. Despite this shift, the basic internal political structure (as described in Figure 1) remained the same.

28. The Nucleus Magnetic Resonance (NMR) is emerging as the most sophisticated diagnostic tool in medical history. Using completely different technology from X-ray based equipment, it provides excellent clinical images without the use of invasive techniques or ionizing radiation. The NMR system utilizes the nuclei of the body’s atoms, and hence can provide the physicians with a picture of not only the tissues, but also the body’s internal liquids.

At the early 1986, the FDA (American Federal Drug Administration) has not yet licenced Cintel’s NMR.

29. Angiography is the roentgenographic visualization of the heart and its blood vessels after injection of a radiopaque substance. It was almost impossible to visualize these elements with the mature X-ray techniques, since the ray could have a resonance only from hard tissues, such as the bones, but not with the soft tissues such as the blood vessels.

30. The Nazareth plant is the focus of this study. Shortly we will provide a more comprehensive description of the site. In the meantime, the reader should bear in mind that the location of Nazareth --in the periphery-- could not allow for substantial R&D projects. This was simply because of difficulties in recruiting skilled professional scientists and engineers. In addition to the tendency to shift a substantial part of its development projects off-shore, the domestic solution that Cintel took in 1981-1982 for the X-ray division was to keep the major laboratories in Ramat-Gan a city locating beside Tel-Aviv, a three hour drive from the manufacturing plant.

31. *Fortune*, 1981 (Issue number cannot be cited). I should indicate here that to be an "American Firm" as symbolized in the Israeli myth, is to be large, strong, and very efficient economically.
32. For further discussion of the relations between structure and strategy and the differences between the two extreme types of organizational structure, see, Arnoldo C. Hax and Nicolas S. Majluf Strategic Management, An Integrative Perspective, Prentice-Hall Inc. Englewood Cliffs, New Jersey, 1984, Part Four "The Congruency Between Organizational Structure and Strategy".

33. In the next section we will examine the rise and fall of Nazareth that was symbolized by the X-ray approach -- a new strategic thrust that had become a major pillar for the Cintel future. The adequate geographical deployment of the X-ray equipment plant aimed to make use of favorable labor costs and to make use of nationally-sponsored incentives in investment and current costs.


37. In January 1986, the national rate of unemployment was 7%, relatively low in comparison to other Western industries. The unemployment rate in the northern part of the country was much higher, exceeding 10%. In a newly developing peripheral town, such as Nazareth, the rate of unemployment reached a figure of 16% to 17% of the total labor force. These figures were given by the governmental division of labor.


39. As we can see in Appendix 4.2, the Cintel's population is relatively young, seniority is low, and the turnover is high. This evidence made the process of lay-off much easy to pursue and abuse.

40. The term "new selection" was an expression from the Second World War's Holocaust. The Holocaust and its symbols and expressions are rooted in the Israeli culture. It is common in situations that are extreme, either for the individual or the society as a whole, to refer to this historical trauma. In day-to-day discussions, some Holocaust expressions may be used sarcastically.
41. The Ma'alot plant was established only as supplier for the mechanical and basic manufacturing needs of all the firm's SBUs.

42. The old firm's marketing network would have been a liability to the new company because of the belief that Cintel had suffered a substantial decline during the 1984-1985 period.

43. The collected data of the human resource manager of the facility indicates that the average increase of more than 50% in absenteeism involved from 9% to 15% of the labor force in each day.


CHAPTER V: A SYNTHESIS

Overview

This chapter aims to synthesize our cases. The major argument of this chapter is that these two high technology firms are to some extent, homologous and typify overlapping Israeli patterns of authority. Because of distinct historical contingencies and internal political development, however, these firms cannot be reduced to each other's pattern of authority.

There are two main themes around which this chapter is organized. One is the relationship between the pattern of authority model and each firm's actual history. To what extent do the bureaucratic-egalitarian and the elitist-egalitarian patterns of authority offer useful explanations for Radgal and Cintel's experiences?

The second theme is the key dynamic between the history and the broader social environment, i.e., Israel and the ways in which each firm incorporated key aspects of Israeli history into its own structure. How strongly did Israeli history contribute to the assumptions and structures under which the firms functioned? In other words, the chapter will show how these patterns of authority have a profound effect upon policy-making and the internal politics of a firm. Thus, they reflect the great importance of the social environment upon an economic institution and the utility of such models in analyzing the character of a firm.
RADGAL AND CINTEL: A SYNTHESIS

In universal terms, Radgal and Cintel represent two extremes of the industrial world. Radgal, a product of the social democratic ideology, is a worker-owned, bureaucratic firm oriented toward manufacturing. By way of contrast, Cintel is a free-enterprise firm, which is privately-owned and is oriented toward R&D. These are obvious disparities, but when one uses a set of historical and political culture lenses, an entire layer of similarities becomes apparent. These similarities are reflections of the firms' external social culture and their political struggle over competing ideologies.

The historical lens reveals the importance of egalitarian ideology in the establishment of Israel. This ideology becomes obvious when we consider Radgal's pattern of authority, which is its being a part of the Histadrut. But this structural reflection is only part of the founders' heritage (and inheritance). No less deep than this structural-ideological dimension of egalitarianism is its socio-cultural aspect which is found in the spirit of group comradeship tradition. The motives for this cultural egalitarianism, are based on equality which arises from shared goals and perpetual external threats. This aspect of cultural egalitarianism is manifested in spirit by way of group comradeship.

This type of egalitarianism is not bound to social democratic institutions. Rather, it is an elitist value, deeply rooted in the pioneer spirit of Israel. It is found in the special IDF units (among those first to enter the battle), in the kibbutzim (among those first to settle the borders), in the youth movements (among those first to
respond to the national missions), and in those high-tech groups of pioneers, like the anti-social democratic Cintel Gurus, who are committed to making Israel a leader in the highly competitive field of international high technology.

With the political lens, one can see clearly how the cases of Radgal and Cintel reflect the anti-social democratic political shift which has occurred in the Israeli political arena in the 1970s. Cintel, which was established on free-enterprise ideological grounds, is the obvious reflection of this shift.

Radgal, the social democratic entity, is also experiencing the impact of this shift, but in a more complex, compound way. With regard to Radgal, the anti-social democratic shift can be traced to an internal struggle between the newcomers (especially top managers and engineers), who carried the message of change, and the rank-and-file employee committees who, in various ways, were affiliated with the traditional institutional structure. In practice, this political struggle over competing ideologies within Radgal was translated into a struggle over the way in which to pursue the transformation from a traditional manufacturing emphasis toward an R&D orientation. In other words, the ideological transformation brought about a change in style, strategy and goals. An entirely new set of problems had to be confronted. This change was followed by a new set of questions about its compatibility and integrity with the existing structure, and the values of the traditionally bureaucratic-egalitarian manufacturing oriented firm.

*   *   *
The following sections first summarize the strength Radgal drew from its bureaucratic-egalitarian pattern of authority. They then describe the broad societal movement to reject the traditional social democratic system that Radgal embodied. From this perspective, the elitist-egalitarian pattern of authority should be seen as a major artifact of the anti-social democracy movement. The elitist-egalitarian pattern embedded in Israeli history and society reasserted itself, in the form of an internal challenge to the Histadrut and the Labor Party, and in the form of industry led by Cintel.

As the clearest embodiment of the anti-social democratic principle, Cintel's founders' free-wheeling, elitist-egalitarian pattern of authority recalled the early pioneering spirit that characterized and established Zionism. Thus, the alternative model of labor relations and leadership that Cintel represented was firmly rooted in the elitist-egalitarian model of early Zionism. The inability of both firms to integrate alternative patterns of leadership (Radgal to integrate the elitist-egalitarian model that dominated its new R&D groups, Cintel to integrate a more bureaucratic system capable of guiding its expanding marketing and manufacturing operations) to a large extent limited their capability to be players in the global market and to create a niche in that market. Nevertheless, the efforts of both firms should not be seen in overly schematic terms. The internal dynamics of both are quite complex and unique. The following section will illustrate how each pattern of authority is socially constructed within a particular case.
RADGAL AS A BUREAUCRATIC-EGALITARIAN ORGANIZATION

Radgal, as a Histadrut-owned firm, was born into an organization that embodied the social democratic communitarian ideology. Bureaucratic authority relations were accepted as sufficient for developing sophisticated industry. At the time, the interdependence between developed bureaucracy and social democracy resulted from a pragmatic move to adopt British standards of production, while preserving the communitarian Histadrut's values.

For more than 26 years Radgal's bureaucratic pattern of authority proved sufficient for managing masses of unskilled workers with the few skilled and semi-skilled employees integrated into the standard process of production. Power struggles between the organization's different actors were limited to the well-defined boundaries of industrial relations. This bureaucratic model defined the job-discretion, authority and responsibility of each individual, group, and institution, as well as the way these actors interacted among themselves.

The social democratic and the communitarian values were the complementary part of this authority pattern. Above all, the social democratic philosophy is revealed in its classic "Dunlopean" institutional labor relations system.(1) The way in which management faced the necessity of trimming the unskilled labor force in 1983 is a case in point. Either because of external political pressures or because of other internal reasons, management found itself bound to its declared slogans of "People-Oriented Company," a system of "lifetime employment." In 1983, no one was formally dismissed, and the labor trim
was enforced by mutual agreement between management, the employee committees, and the individuals who voluntarily left the firm.

Most of Radgal's unskilled and semi-skilled workers, and foremen, are Lod inhabitants and have a strong relationship with the community. As an unskilled assembly worker put it: "To know what is going on, what is the new gossip, one does not have to go to the 'center' [of Lod (the shopping district)]. He can hear everything here at the shop." For years, there were many cases of parents and children working in different jobs in the firm. Before the establishment of the "modern" recruitment department in the early 1980's, each foreman selected and recruited his workers from the community.

Radgal is far from being a commune, however, and the relations between labor and the firm do not exceed the limited elements embedded in the social democratic philosophy. It is a system in which hierarchy is well-defined, and in which labor plays no role in making economic decisions concerning finance, marketing and R&D. Similarly, strict bureaucratic rules constrain management from unilateral decisions about labor's concerns. To this extent, Radgal's bureaucracy gives each institution substantial autonomy. An institution, in these terms, can be defined as a division, a department, an R&D group, and even an individual that has managed to institutionalize his or her job. The spring machinist is an excellent example of a one-person institution who, like the maintenance workers in Crozier's "Monopoly" case, skillfully manipulated his knowledge as a machine operator to gain institutional power.(2)
The relative strength of Radgal's bureaucratic-egalitarian pattern of authority is derived from its efficient way of dealing with complex and extensive operations that are difficult to coordinate, such as mass production. In a relatively stable environment, this model is sufficient to "manage the troops" (the mass workers). Its additional strength is the ability to embrace operations and production diversification to increase its overall organizational stability. The model's weaknesses, however, are its relative inflexibility and difficulties in accommodating a fluctuating market. This is a point in which comprehensive planning, strict standards and formal procedures become an obstacle to quick response.

Despite the potential for tension between the bureaucratic and the egalitarian components of this hybrid pattern of authority, the data show no conclusive evidence for a significant conflict. The tension was created when the elitist component was implemented. As we will see in Cintel's case, tension was created when the hierarchal bureaucratic component was introduced and was not a result of the elitist and egalitarian components.

Nevertheless, it should be pointed out that the egalitarian factor is rooted in Israeli culture and, as such, is commonly found in diverse Israeli organizations. Hence, in their diverse forms, these egalitarian beliefs are not likely to conflict with either bureaucratic or elitist elements. Rather, bureaucratic or elitist elements themselves are far more likely sources of tension and conflict.
Tension Between the Elitist-Egalitarian and the Bureaucratic-Egalitarian Patterns of Authority

The social and political discontent with the traditional Israeli social democratic system that is typified in the bureaucratic-egalitarian pattern of authority, reached an unprecedented height after the 1973 Middle East War.(3) This was the societal and political background to Telem’s nomination as Radgal’s general manager in 1976. Telem, recruited by Koor to replace a retired military colonel, found himself in a bitter struggle against the employee committees in an attempt to develop a more authoritarian pattern of authority.(4) Koor management could not handle such an extreme management attitude toward labor and therefore replaced Radgal’s former general manager, another retired military officer, with Telem.

In addition to the immediate response to the management-labor conflict, Koor’s move symbolized a significant transition that would shift the firm’s orientation from that of a stagnant domestic technology to that of a high technology export industry; that would attempt to replace the traditional semi-skilled manager with a highly professional electronic engineer; and that would bring in an American-born and-educated person with international experience, such as the former AT&T employee.

Telem became general manager at the right moment. He was warmly accepted by the rank-and-file who were committed, overall, to the firm and who had expressed their discontent with the preceding general manager’s approach to labor. They also were committed to remaining on track. As a senior foreman described Telem’s appearance:
Telem’s arrival coincided with the completion of the new modern highway, national route number 1, between Tel-Aviv and Jerusalem. The period was over when every commuter between these two national centers must visit Lod [part of the old road was Lod’s main street]. Now, everyone bypasses us, we are off the road. We bet on this talented person who was not in the army, but in America, to bring us back onto the industrial highway...

Following Telem’s arrival an extensive demographic transition occurred. This transition reshaped Radgal’s human resources through the professionalization of the firm. The old tiny development lab where a few engineers and technicians worked together with a small group of manufacturing service staff was replaced with new labs using sophisticated research and development technologies; the old method, using technological experiments, was replaced by the new, more advanced method using simulation devices. The manufacturing support staff was shifted back to the shop. The lab became strictly R&D’s realm.

When adopting a new pattern of authority, Radgal did not follow the "American" mold, despite the new management’s adherence to popular management books like Thomas and Waterman’s *In Search For Excellence*, or Lee Iacocca’s autobiography (5). Somewhat unintentionally, they imposed major elements of the 1920s Yishuv elitist-egalitarian pattern upon the traditional bureaucratic pattern of authority.

The R&D teams attached to the initial stage of the production line (as illustrate in Figure 1.) were not integrated into the system. Isolated from the entire plant’s labor force, the new R&D groups gathered around their own projects. These cohort groups were headed by an engineer that started a project. Then, when the project took shape, the founder recruited engineers or technicians, frequently through friends and relatives in the surrounding community. Thus, within the
sea of bureaucratic organizations during the late 1970s and in the early 1980s, some new social egalitarian islands were established.

The R&D group was a relatively closed world of highly-motivated skilled workers that committed themselves to their projects, rather than to their profession skills or to the material benefits. In their strong ambition to further the projects, these elite individuals refused to be promoted into more prestigious positions, and did not turn down any unskilled jobs even those which were necessary. These R&D team members preferred to quit the company rather than shift positions within the firm.

Figure 1: Organizational Structure From the Perspective of The Production Flow (The example of the PBX)

<table>
<thead>
<tr>
<th>R&amp;D Division</th>
<th>Mechanical</th>
<th>Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D</td>
<td>Engineering</td>
<td></td>
</tr>
<tr>
<td>PBX Group A</td>
<td>Architecture &amp; Design</td>
<td>Metal Mold (Plastic)</td>
</tr>
<tr>
<td>PBX B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>INFO Stations</td>
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The new structural elements of R&D teams did not remain untouched. Shortly after these talented skill employees were warmly accepted, tensions grew, and resistance to change accrued not only in the manufacturing division but also in the engineering and the technical departments that made the R&D prototype a product blueprint.
Furthermore, tension built among these cohesive groups' creating competitiveness on a level such that the head of the R&D division could no longer coordinate efforts.

One of the consequences is the INFO case in which an entire product was developed by one group although there was no meaningful intention on the part of any other department within the organization to invest the effort and time necessary to promote this product on the market. The "defective push buttons" is another case in point that reveals the inability of the R&D groups to integrate within Radgal's traditional system.

In sum, Radgal's initial technological breakthroughs were due to the skill and commitment of the R&D teams, but the teams could not maintain their successful record. Radgal's inability to absorb the elitist-egalitarian pattern of authority into its already developed bureaucratic-egalitarian model hurt the firm both socially and economically.

The Ethnic Dimension

In contrast to Cintel, the ethnic factor played an explicit role in Radgal's internal politics. Ethnicity became an artifact that defined the class lines or relations between ethnic origin and elitists: namely, top management, R&D and Marketing groups were Ashkenazim, while clerks and manufacturing workers were Sephardim. In fact, ethnicity is just one artifact that indicates more complex relations, not only in terms of the social class to which employees belonged and the status they gained from their jobs, but also in terms of where employees came
from, and whether they were professional, skilled or unskilled workers. For example, being "Lodai," [an inhabitant of Lod] in Radgal, on the one hand, reflected the pride of being a "founder" and of being an authentic Radgal worker. But, on the other hand, it suggested the image of a frustrated person who could not be part of the elite, even in his or her own house, because the elite positions belonged to "outsiders" from Tel-Aviv or Jerusalem.

The spring machinist's emergence into power as a daily employee committee leader was a consequence of increased Sephardic discontent with Radgal's newcomer Ashkenazi elite. The foremen who were from Lod identified far more easily with the daily committee (another example of the power of "Lod family") than with their formal representative, the monthly employee committee. Both examples illustrate the importance of self-esteem, and of the world view that is generated by ethnic origin and the sense of being part of the community.

Ethnic lines also delineate the boundaries that divided manufacturing workers and their authentic political representatives, the daily employee committee, from the Histadrut/Koor apparatus.(6) The Histadrut became a symbol of the Ashkenazi apparatus that controlled not only the mode of productions but also the means of labor protest and struggle for worker interest. When the national labor organization alienated itself from Radgal's workers, the workers expressed their discontent with their militant employee committees. Where the ethnic factor became significant in drawing the boundaries between the organization's different internal and external parties, the tension between the Histadrut and the rank-and-file was intensified.
While the manufacturing workers saw the Histadrut as part of the Ashkenazi infrastructure, the engineers blamed it for being the stronghold of narrow-minded interest groups and political bureaucrats. They constantly searched for a way to separate themselves from this institution. Hence, despite the fact that the majority of the engineers were Ashkenazim, they found common ground for a coalition with the manufacturing workers against the Histadrut. In fact, one can have an important insight into these political trends simply by redefining the Sephardi-Ashkenazi conflict. Instead of a particular ethnic conflict, it really symbolizes a more general social discontent with the national institutions. Conformism becomes equated with "Ashkenazi", while non-conformism is thought of as being Sephardic.

In short, after the Histadrut adopted social democratic ideology and developed a pattern of authority that distinguished labor from management, it also legitimized conflicting interest. The institutionalized collective bargaining process, aimed at reconciling these labor conflicts, instead channeled them into more "constructive directions." As a result, both Koor and the Histadrut came under repeated attack by plant management and rank and file.

What Went Wrong With the Attempt to Change Radgal's Direction?
Radgal's story is that of an economic institution that pursued internal change in its pattern of authority. For a short time, it allowed for the development of highly autonomous groups within its traditionally hierarchical bureaucratic structure. But these engineering groups remained isolated and were never able to integrate themselves into the
larger "whole" of Radgal. The organizational inability to integrate the engineering groups both the company's capability of flexible adaptation to market change and the quality of its products. Hence, the first promising steps were followed by frustration: The promising product development, during 1980-1983, which generated an international enthusiasm with Radgal's PBX systems was followed by disappointment and customer dissatisfaction with defective products produced by Radgal (as in the case of the PBX), and with the pace of R&D response (as in the case of project SHAVIT) during 1984-1985. As a consequence, the firm could not enjoy the fruit of the newcomers --the products created by talented skilled employees.

If this interpretation is true, it may be the case that both management and the new R&D group did not understand what the spring machinists did, namely channeling all possible energy to accomplish their interest. On the one hand, the R&D groups should have understood the politics of organizational integration in order to promote the project to which they were committed. On the other hand, management should have understood better the potential energy embedded in these cohesive teams and, rather than investing so much energy to dissolve these teams, it could have put more effort into integrating them within the traditional system.

But perhaps there is a more comprehensive explanation for Radgal's failure. Perhaps these two different patterns of authority simply cannot work together. This evidence underlies the political culture --one in which elitism or bureaucracy cannot co-exist with each other in the same pattern of authority. Elitism, by its nature cannot be
constrained by bureaucratic rules and procedures; bureaucracy loses its meaning when its fundamental lines and rules are not considered. In other words, this is a case in which the strength of each component is stifled by the other: while bureaucracy provides a stable and predictable environment, the elitist component, based on constant shifting directions, derives from the core elite individuals.

At any rate, as a consequence of the firm's crisis, Radgal's management turned back to its "big parents", Koor and the Histadrut. These umbrella organizations were in place and provided the bail-out support that was needed. The era of Telem was finished; the "tried and true" bureaucratic-egalitarian regime was reinstated under the leadership of another recently retired general.

CINTEL AS AN ELITIST-EGALITARIAN ORGANIZATION

Cintel's case is one in which the effort to integrate these two models came from the opposite side --the elitist-egalitarian-- an effort which eventually failed. The myth of Cintel typifies both ideological and political attacks on the ideological Israeli social democratic system.

Cintel developed a unique subculture --one which reflected various elements common to the recent kibbutz agricultural branches and to the military special elite paratroopers. The cultural artifacts that characterized Cintel's informal relations were similar to those one might encounter on a kibbutz, and the way management offices were decorated more closely resembled those of the Israeli military elite units than they did the "classic executive suites".
The small elite units of the IDF are characterized by very highly committed people who are selected very carefully and who are managed in an egalitarian, democratic style. The initial field examinations for new candidates in these units are called "Gibush" (crystallization), to suggest that the focus is on the social integration of the individuals under stressful emotional and physical conditions. The new candidates undergo extremely intensive training in which they are required to maximize their ability to function as independent individuals in a wide range of tasks ("everyone can do everything"), as well as to maximize their ability to perfectly function as group members.

The values which help create this type of unit integration and cohesiveness are democracy and informality. These values co-exist with such contradictory military values as discipline and obedience. Commanders in these units are obliged to be exemplary leaders ("the commander goes first" as they say). They have no privileged conditions, but rather, they are always actively involved in all types of field tasks performed by their soldiers. Commanders are not distinguished by status symbols. They wear no ranks, and receive no salutes. They keep direct, informal, democratic, and friendly relations with their subordinates. The authority of the commanders is respected and accepted, but not because of formal rank. They are respected because of their experience in the field, professionalism, skills, and above all, their belief in and the commitment to the common purpose.

The elite unit consists of two levels: the combat personnel who are the nucleus of the unit; and the servicemen ("Jobnics") who are managed in the formal military way. This distinction stems not only
from the obvious differences in their military function and training, but also from the social-economic origin of the people. The first group, the fighters, is selected informally (e.g. friends' references) on a voluntary basis. Most of them are from moshavim and kibbutzim (the collective working settlement of Israel) and/or they are upper-middle class Westerners (Ashkenazim) whose families go back a few generations in Israel. They usually identify with the labor Party or with other leftist political movements.

The second group (the Jobnics-services) is mobilized through the formal bureaucratic channels of the army. Most of them come from working-class, second generation North African or Middle Eastern immigrant families, and they usually identify politically with the right wing (the Likud Party). Although the services section is certainly inspired by the spirit of the fighters, and although the two groups share pride in their unit and recognize the importance of high quality service to the overall performance of the unit, the distinction is clear. Formality and ceremonies are not required in order for one to recognize where the glory really belongs.

Despite its deep roots in the broad society, Cintel is a new phenomenon in contemporary Israel. Cintel and MATAM are an intrinsic part of what I have called the "Carmel culture": a professional group characterizing the social environment of high-tech, non-smokestack types industry. Cintel's founders have been pioneers, and they have invested an immense effort to develop this ethos into a myth: The myth of the physicists' company, a place where a person learns by doing ("you do it
by and for yourself, not by and for a bunch of sluggish bureaucrats, and you have fun with the work.")

Cintel represents the counter model: a rejection of the traditionally Histadrut-related social democratic system. In this view, one cannot distinguish between the pattern of social structure and the use of technology. Therefore, when the old generation of leaders and Histadrut’s related system were exhausted, Cintel’s founders believed that they were creating not only the state-of-the-art technology, but they also were delivering, by example an adequate version of the Zionist movement. Cintel embodied the new set of values advocated by both the conservative and labor parties, and it exemplified how to build the idealistic "American firm" eventually to be located in Israel.

As pioneers, even as national missionaries that had to operate in an unfavorable, ineffective economic and political environment, they deserved a special elite position. An elite pioneering group gains its status and recognition by the virtue of producing evidence of excellence, i.e., in a case of an industry, fast and efficient growth. As one of the founders said to an interviewer:

We seek growth at all costs: the feeling is for growth, not profit. We do seek 15% profit, before and after tax, because we aren’t prepared to pay tax:(8)

In the context of this philosophy, an effective elite management group should never be satisfied with only the last achievement; it must continually introduce higher standards. While the social democratic system stifled the energy embedded in the free enterprise spirit, the new system made it a matter of principle to expand the boundaries: "We never merely met our targets; we always exceeded them."

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Operating within such a model is stressful and requires high quality personnel -- in this case, the elite. These committed elite individuals deserved special treatment because others could not match their pace. Thus, an average of 30% labor turnover was intrinsic to the system. This was an unfortunate, but necessary and acceptable, cost of the system. It may be seen as a winnowing mechanism that separates the wheat from the chaff.

In the founders' view, a pioneering firm run by strong people who were the heart of the business eventually would become an autocratic firm that governs by virtue of professional technologists. A centralized authority of the best engineers and scientists was dictated by the conditions of an economic environment in which a product life cycle is short (from nine to twenty four months). In such an environment, there is little slack; a mistake is very quickly propagated through the entire system. This was the formal rationale of the "Gurus" system.

The "Gurus" system was built on total domination over the company's strategy and actions by the six people included in the corporation's "Product Committee". Although the six "Gurus" were dominated by one individual -- Abash, who always had been the strongest and most prominent figure at Cintel-- they shared a substantial amount of responsibility and authority in a relatively egalitarian fashion. They all spent a few months a year in the lab on the keyboard. A lot of people felt insecure in such a fluid situation, because the Gurus (led by Abash and the President) decided on everything. For example, when there were difficulties issuing the CAT Model 950 on time, both the President and
Abash went in-depth on every problem, until the project was completed. The internal organizational myth was that the President was the best engineer in the company.

The divisional plants (or the SBUs) were established under the same principles, and they were microcosms of the elitist-egalitarian pattern of authority. For example, at the Nazareth site, the relations between the core management engineers group and the line manufacturing labor were not in accord with the functional hierarchy, but rather, were more like a broad service circle that supported the nucleus.

The "Chinese Box"(9) is a good metaphor for the system's structure. If we push the "Chinese Box" metaphor further, we will see how the plant nucleus (as in Nazareth) was part of a service group for the corporate nucleus -- the Gurus. But as we noted earlier, the autonomy of the nucleus was restricted. On the one hand, the lack of formal structural hierarchy and strict information channels limited the extent and the channels of corporate control; on the other hand, the very same informal structure did not protect the subordinates' autonomy (as revealed in the R&D groups in Radgal). Put another way, without formal bureaucratic rules, subordinates had the potential for greater autonomy, with much less protection. By contrast, management, had a limited amount of formal control devices, but no restrictive rules for arbitrary decision-making.

In short, Cintel's pattern of authority can be described best as a hybrid model that consists of conflicting elements --elitists and egalitarians. At each level of the firm, groups keep internal
egalitarian relationships, but they interact with other groups in an elitist fashion.

The elitist-egalitarian pattern that characterized Radgal's R&D groups was also typical of the corporation, and of each level of the plant's leadership. A tension among these "Boxes" was inherent to this pattern of relations. The ethos of professional leadership was crucial to keeping the system together. Without the periphery's admiration and internalization of core values and spirit, this package could have been broken apart. The "gravitational energy" was consistent with the common organizational ethos which had been developed skillfully by Cintel's leadership, and with the broader social discontent with the alternative --i.e., the traditional social democratic system.

This pattern of authority, incorporating internal egalitarian and external elitist elements, was manifested externally through marketing and internally through labor relations. In its approach to marketing, the firm's relations with its customers were expressed in the notion that "we don't want doctors to tell us what they need, we want them to tell us their most difficult problems." In human relations, typical personnel rhetoric was: "We have problems in holding manpower. We are intolerant of those who are not flexible enough. They leave because they cannot adjust." Production people had the tendency to feel as if they were second class citizens whose sole role was to serve the elite talented scientists and engineers.
Cintel's Ethnic Dimension

Cintel's "built-in" job differentiation and the potential tension that is embedded in such an organizational structure could have been accelerated had the ethnic issue become more prominent. Similar to Radgal, Cintel's functional or structural division of labor should be examined also within the context of ethnicity. The data that we have show that, in both companies, the manufacturing rank-and-file are Sephardim, while the R&D and marketing personnel are Ashkenazim. In contrast to Radgal, however, these structural and social ethnic issues at Cintel did not develop into explicit tensions.

At Cintel, the lines dividing ethnic groups, as well as the line between management and labor interests, were blurred. Cintel, as mentioned earlier, was a counter model of ethnic relations. Both Abash and the Presidents were Sephardim. While that fact was not the critical element in Cintel's anti-union (Histadrut) ethos, it definitely was an important social protest against the traditional labor system.

With their decision to enter the firm, Cintel's workers identified with those demonstrating against the Histadrut as a reflection of the socio-ethnic groups that it represented. Hence, for Cintel's manufacturing workers to identify with "Cintel's camp" was, in many ways, similar to Radgal's unskilled workers and foremen identifying with their daily employee committee. The contradiction between their tolerance for the internal organizational elitist structure and their intolerance for the national elitist structure was not seen as problematic.
In many ways, the coalition between Radgal's engineers and the manufacturing workers against the Histadrut is similar to the coalition between Cintel's Gurus and the service rank-and-file against their economic and political environment. Despite the fact that Cintel's founders are elites who come from the Carmel (a "stronghold" of the Ashkenazi group), the ethos of the firm was a rejection the Ashkenazi infrastructure.

Although the neighbors of Cintel workers from Nazareth or the Haifa suburbs went out on strike to vent their frustrations against management, government, or even the Histadrut, Cintel workers accepted their management's decision to lay off workers in a passive way. As a group, they demonstrated their loyalty to Cintel's management, despite their being hurt individually. This evidence is not surprising considering that Cintel was a "counter model." As a counter model, Cintel not only represented the ethos of the economic pioneer, but also that of a new social trend. In many ways, Cintel as an institution embodied individuals' and groups' resentment of their economic and political environment. When this institution failed, the individuals who made the previous gamble took it as their own failure. There was no one to be blamed. They felt that their bet had been wrong.

According to my analysis, Cintel's rank-and-file's view of itself as part of a social and economic revolution, which helps explain the fact that Radgal's workers generally were active in responding to management initiatives, while to the contrary, Cintel's workers were passive, even during the worst days when they were manipulated and laid off with short notice.

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What Went Wrong?

Cintel's elitist-egalitarian system worked as long as it dealt almost exclusively with R&D and innovative technological breakthroughs. At both the corporate and the plant levels, Cintel's nucleus group specialized in Nuclear Medicine, CAT scanners, and ultrasound, and got minimal manufacturing services from small groups of semi-skilled or unskilled workers. In these minor operations, the control problems were meaningless. After all, there is no better evidence for the effectiveness of an economic institution than its success measure by sales, growth and profits. No one argues with a winner.

In the early 1980s the Cintel model became a national symbol of the future industrial approach. This recognition came, not only as a result of the commitment to high technology, but also as a result of the broader social and political absorption with new approaches. A broad consensus rejected the Israeli social democratic system. The widespread and prevailing notion was that the usual structures would not permit the substantial change that was needed.

Thus, only by developing new sites that distanced themselves from conventional economic institutions could such changes become real. A case in point is that even Radgal's executives claimed that the Histadrut system could not accommodate the development of a modern, high technology industrial sector.

Cintel's leaders successfully translated their ethos into a national myth. The broad support that Cintel got from the government coincided with the above trend: when one could not get rid of a well-established institutional system, the only course was to support a
successful external alternative. Cintel's leadership showed impressive skill in translating broad political support into the currency of political and economic aid to further the firm's interests.

For a mixture of pragmatic reasons -- principally, to promote the firm's interests and ideology, to reshape the national economic environment -- Cintel returned to the traditional system against which it had rebelled originally. The firm which had advocated the new bureaucracy-free, union-free and government-free industrial environment, now called for government intervention. The time had come to let the government become involved again. As a result, the amount of legislation that was initiated and promoted, either directly or indirectly in Cintel's interest, was unprecedented.

In a way, developing closer relations with the government can be seen as one among several signs of an important crossroads in Cintel's history. Successes become the seeds of failure. The pattern of authority that had brought the firm successfully so far had become a source of disintegration: when the firm kept expanding, the "gravitational power" could not hold all its segments together. When the firm started to diversify its range of products, to seek the goal of being a "one billion dollar company," its pattern of control turned against itself.

The firm found itself in a "Catch-22" situation: if the energy of the entire system sprang from the core group, then the group must develop bureaucratic channels to diffuse the energy into the expanded system. But how would Cintel allow itself to become a conventional hierarchical institution? The informal channels that had been used to
transmit the Gurus' energies efficiently since the beginning of the firm, could not carry anymore. If the Gurus wanted to work on the keyboard, even six months a year, how could they also embrace a widely diversified system? And how were they to deal with the "iron" of the X-ray systems when the Gurus' entire specialization was electronics?

I find the deal with Pfizer in November, 1981 an important milestone in Cintel's history: it marked the beginning of an intensive period of acquisitions and diversification which lasted in the firm's crisis in the late 1984. During 1983, the President and Abash found themselves unable to keep their traditional tight control, and they brought in a new general manager from a famous government-owned bureaucratic firm. Constant intervention in the SBUs/plants level's affairs by one "Guru" or another, without any formal coordination with the domestic SBUs' managers, created increasing tension and uncertainty at Cintel. The period 1983-1984, can be characterized as an era of transition, the only explicit factor of which was the domination of Abash and the President.

Beginning in 1982, this dilemma was discussed by many executives. In the beginning of 1983, for example, when one of the top corporate executives was asked about this challenge, he replied:

> We need to build an image of what’s going on. For example, take capital equipment. Everyone wanted responsibility for this, but where is the responsibility for controlling it? A control system is needed, with checks and balances, but not so bureaucratic that it stops things from working. We should get direct feedback from our operators, just as we do in marketing. (10)

In this context the Xonics acquisition in 1984 was not simply a "rational marketing decision," but a consequence of the elitist-egalitarian pattern of authority itself. In some ways, the acquisition
was meant to resolve the tensions between structural decentralization and political centralization. Consolidating the SBUs' marketing networks disconnected the secondary nucleus from the core market—the source of their products' development—and eventually neutralized the power of discretion held by the SBUs' engineers and managers. This approach is even more interesting when we identify the parallel paths of organizational transition then taking place: the strategic orientation shift from specialization to diversification; the strategic orientation shift from R&D to manufacturing; and the political shift from some to even more organizational centralization. A glance at the patterns involved is enough to reveal the inherent tensions in these moves.

* * *

This seems to me to be an appropriate point at which to discuss briefly one of the most intriguing questions in Cintel's case: how would Cintel's history have been different had it not fallen into the Xonics trap?

My immediate answer is, I do not know. If we accept the assumption that history develops through contingent branching points rather than unilinearly, we will also accept the idea that historical contingencies are important in the shaping of social and economic trends. It is very difficult, however, to identify exactly whether these contingencies are the source or the consequence of a more fundamental pattern. Surely, we are talking about a mixture. Yet, the proportions of the two components of the mixture—broad historical trends and dramatic events—are not, and perhaps, cannot be specified.(11)
Nevertheless, the Xonics drama, like the "push-button" and other mistakes of Radgal's management, were important historical milestones in the firm's life. These events, and their economic and political consequences enable us to have multiple perspectives regarding these firms. Within one study, we can examine and characterize these organizations at the peak of their successes and during their worse crises.

While leaving questions like Xonics and "push-button" unsolved, I will conclude this discussion with by addressing another important issue, one that deserves careful attention: what accounts for the fact that Radgal workers were so active, in general and reactive to management initiatives, while Cintel's workers were consistently so passive --even during the most difficult days, when they were manipulated and laid off with a short notice?

Dealing with the overall societal implications of these two cases, one should look at both Radgal and Cintel as symbols of the overall national ethos. While Radgal's culture is embedded within the model of the Histadrut and its social democratic philosophy, Cintel is literally a counter-model in that it rejects everything is related to the Histadrut or the social democratic system; and it represents an alternative mode of thinking present in both contemporary Israeli society and at its beginnings. Cintel, as a myth, is a complex response by the firm to the elements which the Israeli society, to a greater extent, opposed in the Histadrut, and to additional ideas about the way a company should be managed. This new model was perceived by the
Israeli public, and adopted by the politicians as an alternative way to organize Israeli industry and society.

CONCLUSION

Cintel's growth in the 1970s took place against the background of a broad-based discontent with the social democratic system. This discontent polarized Israeli society along economic, political and ethnic lines. Many influential economic thinkers thought that the social democratic model was incapable of fulfilling Israel's economic needs. They looked toward neo-classical, "liberal" economic model as exemplified by American business practice.

Politically, the extensive control of political power by the Labor Party and the Histadrut angered other political actors whose challenge to the Labor leadership received great momentum from the 1973 Middle East War. The conservative Likud Party rode to power on the anger of the largely-ignored lower class. This lower class was largely composed of Sephardic Jews from North Africa and Arab countries who had emigrated to Israel during the 1950's and who now felt ready to participate in the political process. Since the Labor Party was dominated by the Ashkenazim (European Jews whose forebears established the social democratic institutions), the Sephardim looked to the conservative Likud, led by Begin, to represent their interest. Within individual industries, similar tensions, reflective of the larger society, emerged.

Radgal's difficulties with embracing both manufacturing and R&D were due to more than its bureaucratic-egalitarian pattern of authority.
In economic terms, Radgal's structure was well-suited to mastering a standard manufacturing process, but politically it was relatively weak at integrating and embracing an innovative R&D function in which the elitist perspective was dominant. The new R&D groups were warmly accepted into Radgal, and they gained success initially by developing a new R&D branch characterized by an elitist-egalitarian pattern of authority. These new elitist structures remained isolated from, and could not integrate into, the traditional bureaucratic system. The tension that had surfaced already at the national level became apparent, however, within one of the major social democratic firms as well. In addition, the failure of Radgal's bureaucracy to successfully incorporate the most advanced aspects of Israeli science bred discontent and questions from within the labor movement itself.

Meanwhile, Cintel's system, which was well-suited to achieving innovative technological breakthroughs, was ill-suited to allowing the elitist-egalitarian pattern of leadership to develop the more bureaucratic organizational system which was required once Cintel expanded its manufacturing and marketing operation.

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The empirical study sheds light on the historical, political, and organizational patterns of authority of two Israeli firms one, a traditional bureaucratic, labor-oriented manufacturing company; the other, a company marked by the charismatic leadership, flexibility, and engineering-orientation of the modern computer industry. In my view, the failures of both can be ascribed to a series of misguided steps.
which were at odds with the companies' patterns of authority. Both changed only superficially in response to their perceived need to act in accordance with some overly-rationalized model of corporate adjustment. I will argue that both should have examined their fundamental internal structure and taken their cues for future expansion and organizational change from the organic and dynamic political and cultural elements that had nurtured their early successes. The next chapter will summarize the two firms' patterns of authority features and constraints on action.
CHAPTER V, NOTES


For a detailed description of the institutionalized collective bargaining system see Radgal's case (Chapter 3) discussion about "the institutional environment of a Koor's manufacturing firm."

2. This case is a good account of the "bureaucratic phenomenon," in which some selective group holds a strategic positions that can be facilitated in the organization political struggle. Some key R&D or marketing groups, as well as the concrete case of the maintenance workers in Michel Crozier's study are good accounts of this phenomenon.


3. See discussion in Chapter 2.

4. See details in Radgal case (Chapter 3) "The First Radgal Strike".


6. Despite the fact that the Histadrut's general secretary is Sephardic, the nomination of a Sephardic person to the position of vice-president for human resources at Koor was only symbolic. Workers and their plant representatives --employee committees-- pointed out that the Histadrut politicians and Koor's management were Ashkenazi institutions. The notion of "Ashkenazi" is a complex concept that in many ways indicates ethnic differences, but perhaps more importantly, is the cultural symbol that identifies the Ashkenazi image with the old political apparatus of the Labor party and the Histadrut.

7. For further information about these Radgal's difficulties see Chapter 3.

8. In contrast to the U.S. tax system, Israeli tax law permits the deduction of all revenues that are reinvested. Hence, we are not dealing with law violation, but with a common practice. In fact,
the compensation that these groups get is relatively modest, consisting of company shares. The context of mentioning the tax, however, is a way to criticize the system that taxes productive social forces in order to keep the large public sector's bureaucrats alive.

This quote was taken from a "Review of Cintel" with the permission of Professor Donald A. Schon (MIT, Urban Studies). This review was requested by Cintel's president, and was conducted by Professor Donald Schon and Lisl Klein in 1981.

9. A "Chinese Box" is a toy, each box of which contains a smaller one; the center core box is the smallest.

10. This quote was taken with permission from Donald Schon's "Cintel-notes" --a consulting report that was submitted to Cintel's President in 1983.

11. The historic and ethnographic material was not intended to answer riveting questions, such as what could have happened if management have not made the strategic mistakes that led the firm into a crisis. In fact, the question of how these two firms became successful has the same relevancy. Eventually, answers to these types of questions are embedded partially within an adequate characterization of the cases.
CHAPTER VI: PATTERNS OF AUTHORITY AND INDUSTRIAL CHANGE

Overview

The aim of this chapter is to show how the distinctive patterns of authority constrain industrial change. The major argument is that industrial change can evolve within the boundaries of these patterns; however, when a company takes action outside these boundaries, its pattern becomes a major obstacle. For example, Radgal floundered in its attempt to integrate into its system an innovative R&D capacity by employing groups of engineers outside its traditional organizational bureaucratic-egalitarian pattern. As another example, Cintel failed to generate a massive manufacturing capacity when producing the X-Ray line of products. Thus, both Cintel and Radgal found themselves in difficulty when they tried to develop new capacities that did not fit their initial patterns of authority and boundaries of change.

This is a case in which distinctive societal patterns of authority framed the way in which more universal ideologies and structures evolved. That is, despite the fact that several nations have adopted the social democratic ideology and that the bureaucratic phenomenon is an integral part of every administration, there is a unique way in which a society adopts and then employs one or the other organizational structures and ideologies.

The underlying premise of this study is that historical roots are the prime factor in the development of a social political culture and are critical sources of institutions' distinct interpretation of reality and of the ways they interact with their environment. David Silverman
(1971) raises a similar argument by underlining the concept of "patterns of interaction." In his words these patterns validate, deny or create prevailing definitions of the situation. In doing so, they are influenced by the changing stock of knowledge in the wider social world, by their own particular interpretation of the situation, and by the form of their attachment to the existing system. ...as in other areas of life, it is generally possible for an observer of a world to taken-for-granted, which is not frequently questioned by the participants, and give, therefore, a certain stability to their relationships. It is feasible then to ask how the present pattern of interaction has emerged historically and consider the extent to which it represents the shared values of all or none of the contemporary participants.(1)

Hence, within a reality of economic uncertainty and unpredictable industrial development, long-term strategic planning becomes almost irrelevant. A company's politics often rigidifies precisely when a firm is under its greatest pressure and most in need of change. In a world of many industrial possibilities, firms constantly fall prey to the trap of attempting to mold themselves into a universal stereotype of "a successful firm," a mold which is dictated by external fashion and environmental changes. Managers often view companies as advanced flexible machine-tools that can be adjusted according to logical, quantifiable steps, subject to whatever changes the whims of the market environment or production technology impose upon them.

While most major industrial institutions recognize the need for change, attempts at transition are often guided by old assumptions and habits which are difficult to abandon. This is a world in which policy makers are sometimes surprised by the consequences of their own decisions. Organizational change cannot match the pace of market diversification and technological change. This fact is frequently overlooked by policy makers who tend to ignore the inherent stability
and strength of an organization’s pattern of authority a pattern which is rooted in its socio-political culture. Rather than utilizing socio-political culture as sources of guidance and strength, some planners adopt the approach of shifting the organization in an attempt to respond to external conditions as if the organization were a kaleidoscope. Since these conditions are transforming rapidly, disorientation, lost contact with the specialized qualities that have made the firm successful in the first place, and an advance to a no-win pattern of response to new market challenges are often the results of following the classic theories.

This study shows the prominence of history and politics in shaping economic activities. It implies that national divergence rather than convergence characterizes industrial development. In the world of constantly shifting markets and changing technologies, we have seen that a national history and social culture offer a foundation of stability and continuation. Thus, paradoxically, against a background of uncertain fluctuating universal or cosmopolitan factors such as technology and economic markets, the unique national social setting becomes a stable factor which indicates a general pattern of social and economic accommodation to its unstable environment. In other words, social continuity and political culture that have been shaped throughout history are much more predictable and useful for defining the ability of such a society to adapt to a fluctuating market than forecasting technological and economic trends. A firm’s particular social character predominantly determines its economic efficiency.
This distinct social character of each organization plays an important role in shaping the firm's activities. This social nature also gives us an important clue to understanding the way in which industries adapt to their environment. A policy maker can draw at least short-term conclusions about patterns of accommodation and adaptation from the political culture and patterns of authority of his or her social environment. It is often overlooked that the organization, not the market, represents stable societal continuity and the most reasonable platform for response. Societies and nations construct their industrial organizations in the same patterns they administer other institutions; subjective political factors, such as culture and ideology, are much more forceful in institutions' creation than "scientific," cosmopolitan factors such as production technology or market economy.

I conclude that technology and market trends are not the sole factors that dictate a firm's adaptability. Fundamental to the firm's adaptability is its unique approach to the interpretation of reality -- i.e., political culture-- that is translated into strategy --i.e., ideology-- through political action. These patterns are fundamental for understanding not only the firm's use of technology, but also its particular mode of production innovation and technological breakthrough.

In short, a firm's behavior is a reflection of its own identity and its distinctive interpretation of environmental stimuli; a firm's actions cannot, and in fact do not, exhibit "rational" management planning. Instead they are a consequence and reflection of political struggles and historical events. In this regard, firms typify their
societal political culture like other institutions. This view invalidates Bell's (1978) distinction between the "rational techno-economic" sphere and other societal universes that are culture-related.

On the one hand, an investigation of firms' patterns of authority can be a useful vehicle to examine and understand why firms respond in different modes to similar market stimuli. On the other hand, such an investigation provides a useful perspective for understanding the constraints that make a firm react in a similar way to its counterpart.

This study is skeptical of the usefulness of either applying theoretical models to history or using a hypothesis-testing approach to establish causal generalizations about organizations' structures or patterns of change. Therefore, rather than being simply a conceptually-structured presentation of single histories, this study uses comparison for the specific purpose of highlighting the particular features of each individual case. It seeks to provide meaningful interpretations of history, in two intertwined senses of the word meaningful. First, careful attention is paid to the culturally-embedded intentions of individual or group actors in the given historical settings under investigation. Second, both the topic chosen and the argument developed about it should be culturally and/or politically significant not only for the academic community, but also for the policy-makers.

From the perspective of the firm, the aim of this chapter is to explore the condition under which industry can appropriately respond to the environment of fluctuating markets and constant technological change. Specifically, how do corporate political cultures and
institutional structures (summarized in Table 1.) influence a firm's adaptability to rapidly changing markets and technologies?

This study contributes to three areas of concern to both scholars and policy-makers: 1) to the general discussion of industrial development and social adaptive response; 2) to the understanding of the role of political culture in general and patterns of authority in particular in establishing a firm's constraints for interacting with its environment; and 3) to the exploration of the possibilities for developing a high technology industry in Israel, one of the newly industrializing countries in the international market.

* * *

Patterns of Authority and Their Particular Economic Constraints

The argument advanced here -- that a firm's behavior is a reflection of and is constrained by its own identity -- invites the question of how a firm can adapt to environmental changes that do not always coincide with its patterns of adaptability. Put another way, what can firms do when adjusting policy according to "rational" constructs is not sufficiently responsive to the pace of market diversification and technological change?

The answer to this question is built upon two factors: the nature of the market and the firms' patterns of change. The first -- the expansion of markets' diversification -- allows space for industrial pluralism instead of a unilinear "best way" approach to industrialization (Piore and Sabel, 1985). Firms now can retain their own "character" by discovering an adequate niche in which to specialize

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and operate. Organizational change and adaptation can be implemented within the boundaries of market specialization and the firm's political structure.

The second factor --the firms' pattern of change-- is a more complex solution. The fundamental argument of this factor is that political culture and its derived patterns of authority are essential, but that they do not determine organizational rigidity. Consideration of these social resources, however, provides us with the patterns with which industries will probably adapt more successfully. These patterns also allow us to predict the constraints that each firm is facing in choosing a particular strategy.

The firms' constraints and their available patterns of change are considered in this section. In an attempt to highlight these characteristic constraints, I have constructed an illustrative dichotomy (Table 1). This dichotomy will also be used as a guide for this chapter's argument.

*   *   *
TABLE 1: General Dichotomy of the Patterns Of Authority

ISRAEL'S POLITICAL CULTURE:

1) HISTORY: Anti-semitism, persecutions, and wars. Economic conditions in Palestine (Common Finance Resources, settlers without capital; Jewish philanthropy, from Rothschild to the Combined Jewish Philanthropy [CJP]).

2) IDEOLOGY: Judaism; Socialism (1904); Social Democracy (1948); Neoclassical economics/ Nationalism (1967/73)

REFLECTION ON THE FIRM'S LEVEL:

<table>
<thead>
<tr>
<th>ORGANIZATIONAL FEATURE</th>
<th>BUREAUCRATIC-EGALITARIAN</th>
<th>ELITIST-EGALITARIAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE FIRM</td>
<td>RADGAL</td>
<td>CINTEL</td>
</tr>
<tr>
<td>DOMINANT IDEOLOGY</td>
<td>Social-Democracy</td>
<td>Free markets and Entrepreneurship</td>
</tr>
<tr>
<td>ORGANIZATIONAL STRUCTURE</td>
<td>Formal Bureaucracy/ Functional Hierarchy</td>
<td>Informal flexible Style (Centr./Desce.)</td>
</tr>
<tr>
<td>ORGANIZATIONAL POLITICAL ACTORS</td>
<td>Open Political Arena; Institutions</td>
<td>-Close Political Arena -Individuals/groups</td>
</tr>
<tr>
<td>FUNCTIONAL SPECIALIZATION</td>
<td>Standard production and Manufacturing</td>
<td>R&amp;D, Small units Production (Craft)</td>
</tr>
<tr>
<td>MARKET'S NATURE</td>
<td>Stable Environment</td>
<td>Fluctuating market</td>
</tr>
<tr>
<td>PATTERNS OF ADAPTABILITY</td>
<td>Domestic Monopolization International Joint-Ventu.</td>
<td>Flexible-Specialization</td>
</tr>
<tr>
<td>HISTADRUT ROLE</td>
<td>Major Buffer in Both IR and Financial Support</td>
<td>None, or Supporting laid off workers</td>
</tr>
<tr>
<td>GOVERNMENT ROLE</td>
<td>Active Protectionist/ Direct Support</td>
<td>&quot;Parent-child's&quot; relations</td>
</tr>
</tbody>
</table>

Centr./Decen. --Centralized/Decentralized
IR --Industrial Relations
Manage. --Management
Joint-Ventu. --Joint-Ventures.
The rest of the chapter will utilize this dichotomy by elaborating its characteristic features. It will show how these features constrain each firm's adaptation to a constantly shifting market conditions and to rapid technological change. The rationale for the order of the following items is to explore the most fundamental characteristic first. Thus, I will state the firm's characteristic dominant ideology as a broad perspective that was interpreted in a very distinctive-subjective way. This distinctive interpretation draws the lines between the more universal social ideologies (i.e., social democracy and the neoclassical free market) and the unique patterns of authority that are integral the Israeli political culture.

Hence, I describe the features of these patterns of authority in order to show the constraints and the boundaries within which politics occur, and to show how they influence the firm's strength and weakness. Then, I will examine the firms' favored markets and the way the companies adapt to them. Finally, I will examine the role of the external institutions --the Histadrut and the government-- in shaping the firms' strategies and actions.

The Companies' Ideologies

Radgal and Cintel have contrasting ideologies indicative of key perspectives in Israeli society. That is to say that these more universal ideologies have been adopted and operated in a distinctly Israeli way. Radgal's adherence to the social democratic ideology and Cintel's to the high technology-oriented, entrepreneurial spirit point
to two dominant models which inspire the firms' intentions if not always their practical actions.

A company's ideology evolves out of political responses to historical events. Ideology should be considered the foundation for companies' patterns of change. Often political dynamics interact within the constraints of a firm's patterns of authority. In other words, ideology cannot be treated as mere belief, ultimately congruent with the organizational pattern of authority. Politics, as I showed earlier, is the essence of the organizational struggle over which ideology will prevail. Politics is the locomotive of organizational change.

Radgal was built and organized on the basis of social democratic ideology. The firm's ultimate aim is to provide decent jobs and to produce the necessities of national telecommunications. Profits and the enterprise ethos are secondary. As we have seen previously (in Chapters III and V), both management and labor's attempts to change ideologies were unsuccessful. Without seriously considering other organizational actors, Radgal's management is not free to initiate policies or to act. It frequently struggles with them in order to implement its strategy. Changes in Radgal's strategy are made within the social democratic framework, which emphasizes maintaining close relations with the community and providing long term job security to its employees. This framework also provides a legitimate decision-making role to internal and external institutions, such as employee committees, the regional and national labor unions, Koor, and the Histadrut.

By contrast, Cintel is based upon a competing ideology which includes a rejection of social democracy: the primary concerns of the
firm are entrepreneurship, profits/growth, and its desire to become an international player. Unlike Radgal, whose social democratic ideology promotes a major obligation to labor concerns, Cintel's labor force is just another element which serves the common ideological purpose maintained by the founders (the Gurus). In this case, the organization's prevailing ideology reflects its "Guru ethos." Cintel's workers adhere to the firm's elitist pioneering ethos and do not take an active role in the decision-making process. In fact, they have internalized Cintel ideology to the extent that even when they were threatened with being dismissed or even actually laid-off, they were inactive and maintained their aversion to unions.

Cintel's elitist ideology gave too much power to the Gurus. They could initiate almost any policy without substantial institutional resistance. Within this organization's political circumstances, the firm developed the capability to adapt flexibly to external stimuli. The drawback of this unbalanced power structure was the shortage of checks and balances. The likelihood of strategic mistakes by management is higher when this type of structure exists, and these mistakes can be extreme, or even fatal, to the future of the firm.

Organizational Structure

The differences in ideology and patterns of authority between Radgal and Cintel carry over into organizational structure. At Radgal, the formal hierarchical bureaucracy structure reflects the firm's historical roots as part of the Histadrut. This formalism leads to a predetermined
orthodoxy in the realm of decision making. At Cintel, where the more flexible, informal pattern reigned, decision-making could be more imaginative and undetermined by past behaviors and expectations.

The formal organizational structure not only institutionalizes the hierarchical chain of command, but it also prevents management's unilateral decisions. It gives a substantial amount of leeway for all institutions and groups: each keeps its own autonomy within the structural organizational boundaries.

During the late 1970s, the traditional bureaucratic-egalitarian pattern of authority came under increased attack. The emergence of the new elitist R&D groups on the top of Radgal's bureaucracy was a powerful indication of the emergence of an alternative ideology. Radgal's management faced two major choices: it could integrate new ideology and create a new industrial institution on top of the existing one; or it could initiate some accommodations to the existing ideology (without abolishing its fundamentals) and then integrate the new group into it. Radgal's decision-makers favored the first choice; the firm's management decided to use the products designed, but to isolate the new R&D groups, a move which would place the groups beyond the existing institutions.

The Radgal attempt to segregate the R&D groups from the traditional patterns of authority floundered. In part, the management initiative failed because management could not implement organizational change that was not integrated with, or inherent in, the existing pattern of authority. The new pattern was too artificial and alien to be absorbed within the system. The alternative choice would have been consistent with the existing pattern of authority. The implementing process could
have occurred simultaneously within the labor relations and the production institutions. The institutionalized labor relations was to be approached by integrating the labor committees; and the production system was to be accommodated by shifting from a functional organizational structure toward a more integrated divisional structure.

The strength of Cintel's pattern of authority was built on its leaders' capability for organizational maneuvering between centralization and decentralization. On the one hand, these flexible maneuvers consisted of the Gurus' centralized control over critical projects in crucial moments; on the other hand, the informal style and the organizational structure (relatively independent SBUs) gave the autonomous freedom needed by individuals and groups to initiate and operate in their specialized segment (e.g., X-ray, CAT-Scanners, NMR, etc.).

Cintel management ignored the formal hierarchical chain of command and dissolved all attempts at collective labor action or organizations. Yet, the pattern of authority apparent within Cintel is one which is derived from a political culture which supports and enhances individuals and groups, and repudiates institutions. The failure of Cintel's top management was a great disappointment. It flew in the face of the firm and country at the time of shifting ideologies within which Cintel's organizational structure was an important model for the future Israeli industry.
Organizational Political Actors

At Radgal and Cintel, typical actors in the firm's political arena reflect the different ideologies which shaped strategies. At Cintel, the political actors are individual members of the engineering elite. Example are the six Gurus at the corporate level, and the core engineers in the SBU level. At Radgal, however, an individual or group first must become recognized as a legitimate institution before becoming a political actor. Examples of political actor at Radgal are the operator of the spring machine, the R&D groups, the employee committees, the organizational divisions, the regional unions, Koor etc.

Radgal's ideology is embodied in its institutions. Nevertheless, Radgal's pattern of authority can be seen as that of an open political arena for institutions within and without the company. Internally, the pattern coincides with the primary institutions (management and employee committees). Further, individuals like the "spring machinist" or groups like the R&D newcomers are institutionalized and become active actors in the firm's politics. In addition to these indigenous institutions, external entities like Koor and the national and regional unions play an important role in the firm's politics.

In this pattern of authority, organizational change occurs through political dynamics that consist of an institution's alignments and realignments. Each institution becomes a potential agent of change.

By way of contrast, Cintel's pattern of authority should be seen as a closed political arena: the Gurus and their leader (the CEO) have exclusive power. No other institutions participate in the political process. Various groups and individuals have the leeway to interact and
initiate actions as long as they do not contradict the Gurus' strategy. In contrast to Radgal, no external institution, including the firm's holding corporation, can directly participate in Cintel politics.

Thus, Cintel's politics do not derive from institutional alignments, but are a consequence of, and build upon, the actions of one group -- the Gurus -- or in many cases one person -- the CEO. Only this elite core of founders is conceived of as the agent of organizational change. For a period of time, during the firm's 1985 crisis, this pattern was changed. At that time, in a bailout operation, various institutions like the Israeli banks, the government, and the holding corporation were invited to participate actively in Cintel matters. Even today it is not clear, however, whether or not these institutions provided the cash necessary for Cintel's immediate survival, without gaining substantial power and access to Cintel's politics. It is apparent that the new CEO, conceived as a powerful authority figure, does not allow much space for other participation.

**Labor Relations**

The issue of labor relations portrays the most fundamental distinction between Radgal and Cintel. Radgal's industrial relations (IR) are integral to its role within the Histadrut and the social democratic system. At Cintel, however, labor relations are built on the relationship between the elite and the service personnel. Service is compensated by the sense of belonging to an elite and by having the
pride and status for being a part of Cintel's pioneering adventure and myth.

Labor concerns have always been crucial to any industrial development in Israel. The structure of industrial relations is the focal point around which the continuing debate between the competing ideologies (and their implications in patterns of authority) has occurred. As a union-owned firm, Radgal was constrained by the need to engage in a continuing discourse about the role of labor in the firm's strategy and action. Radgal's institutionalized labor relations, however, are an outcome of shifting ideologies coincidental with the Histadrut history.

From the 1930s to the 1950s Heverat Ha'ovedim (the industrial arm of the Histadrut) transformed its original communal elitist labor relations into an institutionalized "Dunlopean" (collective bargaining) type of industrial relations. This transformation should be seen as a recognition of the conflicting interests of labor and management. It was assumed by the Histadrut leadership that adequate institutions could provide the efficient and civilized means to accommodate these differences. Hence, the Histadrut-related industries developed their labor relations in accord with the bureaucratic-egalitarian pattern of authority characteristic of the Histadrut. The fundamental contradictions derived from the dual role of the Histadrut on the national level, as both owner and union, affected the Histadrut-related industries as well.

The interdependency between Radgal's institutional labor relations and its pattern of authority is typical of how the organization and
ideology of the Histadrut influences its umbrella institutions. This system, and its related institutions, were sufficient for the decades of the 1950s and the 1960s when there was steady industrial growth. But the system’s flexibility to adapt during a period of fluctuating markets, as well as its capability of operating in a high technology environment are questionable. The demographic changes in Radgal, evidenced by the emergence of professional managers, engineers, and skilled technicians, led to a decrease in the family-like intimacy of the firm, weakened the relations between the firm and the community, and generated rifts among various groups. Management and labor distanced themselves from each other, and institutional labor relations entered into a cycle of distrust.

From the early 1970s, Radgal’s management blamed the unions and employee committees for the firm’s organizational rigidity and ineffective response to the market. From the viewpoint of Radgal’s management, it was impossible to manage a high-tech firm owned by the union. Like many of their counterparts in private industry, Radgal’s management sought a union-free environment, but they were constrained by the Histadrut’s ownership of the firm and by the company’s pattern of authority. When it appeared a declared confrontation with labor was imminent, Radgal’s management, in an effort to avoid a confrontation, sought a more sophisticated alternative to dismantle prominent labor institutions, i.e., the collective bargaining process and the employee committees. In an attempt to neutralize the employee committees, management initiated sophisticated employee quality-of-life programs and expressed resentment toward any union collaboration. Implicitly, it was
a continuing political strategy to forge an alliance between management and the rank-and-file in an attempt to neutralize the employee committees and the union. This strategy was partially successful in the case of collaboration between management and the engineering groups against the engineers' committee. But this tactic was not viable after a short period of the initial production stage.

Frequently backed by the Histadrut, Radgal's employee committees could afford to be more active, and even militant, than their counterparts in private industry in their struggle to improve their political positions with regard to management. Furthermore, the struggle of organized labor did not always coincide with the firm's economic performance. Frequently other political considerations were at stake. As an open political environment, Radgal's politics reciprocally was affected and influenced by national industrial relations. As described in Radgal's case, the firm's politics not only gave access to external institutions, but also internal politics were frequently integrated into the external environment. The example of the summer 1985 job action initiated by the engineering committee as part of the national engineers union strike is a case in point. Thus, the lines between internal and external labor politics have been blurred and political struggles frequently have crossed these lines.

In short, Radgal's labor relations either can be cooperative or adversarial, but labor relations of either type cannot be ignored in the firm's decision-making process. Therefore, no strategy can be implemented without considering its implication for labor relations.
Cintel's labor relations, on the contrary, should be viewed as the "counter labor relations" model. The prevailing position of the Histadrut and its ethos has had the reverse effect on Cintel's labor relations. The Histadrut and the labor union were the "flag" against which the firms' ideology was directed obsessively. Like other aspects of Cintel, labor relations were constructed around the elitist myth. The decision to become a Cintel employee required an individual's conscious commitment to the elitist myth. Such an individual decision should be seen also as an ideological proclamation. It was equivalent to an announcement rejecting the institutionalized social democratic philosophy in favor of elitist ideology and its related elitist-egalitarian pattern of authority.

Industrial relations in Cintel were of great concern to both management and employees. Nevertheless, labor could be avoided during decision-making and the implementation of new strategies. Management not only avoided unions successfully, but it also circumvented any organized resentment for its unilateral policies.

Cintel's pattern of authority is one in which all energies were directed to serve the firm's purpose. The core groups had a common aim. Cintel labor relations can be typified as a modern version of "Welfare Capitalism."(3) These reciprocal relations consist of individuals' adherence and commitment to the core leadership in return for social recognition and the high status that comes with being part of an elite (i.e., part of a pioneering group). Symbolically, Cintel's management concerns are with "human resources" and not with "labor". "Human
resource management" was the method selected to deal with employees' concerns rather than the institutionalized "industrial relations" approach.

Functional Specialization

In large part, the industrial and economic capability of the two firms reflects, their patterns of authority. Radgal is best at standard production and manufacturing operations. Cintel's informal, flexible style is best suited to innovative R&D and small units production.

As a highly politicized organization that consists of strict hierarchy, narrow specialization, and a developed division of labor, Radgal found it difficult to change its structure as required by market fluctuations. During the early 1980s, for example, the firm could not utilize its capacity in an economic environment which was based on a short product cycle or a small quantity of items to be produced. In that type of environment, Radgal experienced difficulties in either approaching R&D and technological breakthrough, or in producing small quantities.

Nevertheless, Radgal was found to be effective in integrating components into a product by an efficient assembly process. It is likely that, with some accommodation, other functions such as R&D or specialized manufacturing could be supplied by either external contractors or other of Koor's related specialized workshops which are also related long-standing satellites of Radgal.

Cintel's pattern of authority was found to be effective in non-standard small quantity production. The firm had been very competent in
scientific and technological applications for industry, but it floundered when it tried to shift into broad industrial diversification and intensive manufacturing.

Cintel could regain its effectiveness by promoting the previous (1973-1983) pattern of relatively autonomous groups that specialized in small-unit, customized production (such as the NMR, the CAT Scanners, and the Nuclear Medicine). Essential to this renewed approach is the reestablishment of direct and close relations between these autonomous specialized units and their customers. If this approach were to be taken, Cintel should abandon its latest strategy to embrace both customized scientific applications and large manufacturing-oriented products (such as the mature X-ray-related products).

The Nature of the Market

Radgal, because of its cumbersome organization and talent for standardized operation, does best in a stable market environment. (4) Cintel, by contrast, is equipped to respond better to rapidly changing markets.

As an international telecommunications vendor, Radgal's major constraints are twofold: its size (small, roughly $100 million in sales and 2,000 employees); and its proven incompetence in managing rapid organizational shifts and the fast-paced development of R&D into a high-quality product. As a result of these deficiencies with regard to international competition, Radgal's preferred market should be stable in nature.
In a fluctuating market there are two available niches of relative stability: 1) operating in a protected domestic market, and 2) handling a secondary role as a subcontractor/supplier of other telecommunications vendors in major international markets. Radgal probably would be more successful in concentrating on these particular niches of the overall market even without dramatic organizational change.

Cintel's capability, both to face and initiate rapid change, gives it relative strength in the international market and in the generation of scientific, technological and production innovations. The firm's constraint -- i.e., its being a small vendor which is incompetent to integrate complex manufacturing and marketing dimensions -- does not permit it to assume a leadership role in all segments of the medical diagnostic market. The highly specialized and professional nature of this market, the pace of its technological innovation, and its size(5), however, allow for the firm to become a major international vendor. To be an active participant in such a competitive market, a firm must be a "front runner." Because of its nature (size and pattern of authority), it is fatal to Cintel to risk its specialized capability by attempting industrial diversification into the entire range of products and to embrace mature manufacturing-oriented devices.

**Patterns of Adaptability**

The two companies' contrasting styles carry into their respective abilities and respond to changes in the market place. Radgal needs the protection of domestic monopolization or joint ventures in the international market to compensate for its inflexibility. Cintel, on
the other hand, is an example of a flexible specialization(6) firm since it can respond quickly to market shifting within its specific niche of operation.

Radgal's pattern of authority can function best in a stable market environment. Change in its organizational structure is slow and it requires complex political interaction among the various institutions. Every institutional relocation must meet the interest of diverse groups which are frequently in conflict. Changes can be brought about by either mutual agreement or struggle. Management unilaterally cannot impose policy. The cooperative approach can be attained by mutual understanding and all employees' acceptance of the organizational necessity for change. A good example for this mutual approach was in the late 1970s transformation move into digital technology and the extensive recruitment of the new groups of engineers.

The alternative way to induce change involves a political struggle. The pattern of this struggle necessarily involves a spiraling build-up of mutual labor-management distrust and continuing threats of strikes and lay-offs. For example, in the early 1980s, strife led to a series of strikes and management struggles against the employee committees. These struggles included a management attempt to establish an alliance with the R&D groups, as well as management's dismissal of the daily employee committee's leader.

By contrast, however, Cintel's pattern of adaptability is based on its volatile market. In order to remain a "front runner," the firm must always introduce new state-of-the-art products to the market. The firm's adaptability is based on the Gurus' decision to introduce a new
product, the corporate effort to develop the prototype, and the introduction of the product to the customer before it has been completed. The assumption underlying this strategy is that the final stage of the product design will be in the customer's house.

Cintel's cost for being first in the market was high. Pressure and uncertainty intensely burdened the firm's employees. The customers frequently were disappointed and irritated by the low quality of the product and by their having to wait longer than expected to receive the complete product.

The Histadrut's Role

Radgal owes a great debt to the Histadrut. The labor organization served as a major buffer in the realm of industrial relations, and it provided financial support during a period of crisis. In the late 1970s, however, Radgal's management actually looked to Cintel for inspiration, a move which generated tensions within Radgal. Cintel viewed the Histadrut as the "counter-model" to its own successful style. When Cintel's crisis occurred, however, the Histadrut had an opportunity to reassert itself and did not take it.

The Histadrut plays an essential role in Israeli social and political life. It is both a dynamic actor and a symbol of the institutionalized social democratic ideology. It is condemned by many as a major obstacle to industrial development, and glorified by others for its contribution for the benefit of the labor class. As we saw in
Chapter 2, since the early 1960s the balance between these two camps is constantly tilting in favor of the Histadrut’s antagonists.

After the establishment of the State of Israel, the Histadrut was no longer central to Israeli society. Many of its previous functions were transferred to the newly established government. The Histadrut replaced its broad social and industrial responsibility in favor of a much narrower obligation as a general federation of labor unions. The Histadrut’s strength and prominence derive from its former control over critical public services (medical and public transportation, and pensions funds), its enormous capital (Koor, Bank Ha’poalim), and its capability to embrace all labor unions.

The Histadrut’s major inadequacy derives from the co-existence of such an institutional power within the context of prevailing neo-classical economic ideologies. When policy makers adhered to the neo-classical view of free enterprise, the comprehensive role of the Histadrut in the national economy was seen as excessive and came under fire. As in other domains of Israeli political culture and social life, the American model --in this case the AFL-CIO-- was considered the right way to approach the future institutions. But despite the attacks from various institutions, the Histadrut’s deeply-established roots in national politics and economy keep this unique labor organization a major political institution.

In their ideology, Radgal’s management and engineers in the past decade have been much more attracted to Cintel’s pattern of authority than to their own. The rank-and-file has shown evidence of being confused: on the one hand, they accept the union part of the Histadrut
as an institution which provides them with job security, but on the other hand, they identify their management with the Histadrut. All have felt trapped by the Histadrut role as both owner and labor union. In fact, the more the Histadrut has supported the "Dunlopean" institutional industrial relations system, the less room has been left for accommodation between its major roles as labor union and manager.

During it. crisis, Radgal management and employee committees asked the support of the Histadrut (the union or the industrial arms). In this stage the Histadrut proved to be an important buffer that provided the necessary support and stability.

Cintel, on the other hand, represents the counter model (the firm is a significant example of the case for the implementation of a competing ideology). The Histadrut represents a counter model to Cintel's personnel. The firm's success and existence are evidence for the success of an alternative model to the Histadrut and its ethos in Israeli society.

The Histadrut could have made important political gains by creating an alliance in the Nazareth plant with both managers and labor who were under the perpetual threat of being shut-off and losing their jobs. The Histadrut easily could have bought out the plant and reestablished the alliance among the community (Nazareth), the regional union, and the plant's management and the owners --Heverat Ha'ovedim.

The Histadrut, however, did not respond adequately to the Cintel crisis. At the moment of crisis, Histadrut could have reinforced its old ethos in Israel. If there was an ideological drift back into the
elitist-egalitarian model, the Histadrut could not have been less capable in reasserting itself. Why did the Histadrut not take this unique historical moment to show the primacy of its competitive myth? The answer probably can be found within the Histadrut itself: it is not clear whether or not the recent Histadrut leadership still believes its own myth. This leadership disregards the evidence that Heverat Ha'ovedim and the Histadrut were the authentic elitist-egalitarian model(7), before Cintel adopted its recent form.

The authentic structure and ideology of the early Histadrut sheds new light on this labor organization's present usefulness. The essence of the Histadrut's original features (consisting of broad individual specialization, flexible adaptability to an uncertain environment, and a system of mutual support to overcome difficult periods) recently become very relevant to the current industrial environment.

In a world of constant uncertainty, the Histadrut original comprehensive role (which consisted of its broad responsibilities in industrial relations, the individuals, and the community) could be reasserted. The Histadrut shifted its original role, however, into a more conventional union federation, and therefore lost an important part of its overall social and economic usefulness. The Histadrut's early role as an organization that enhanced social and economic innovations (such as the kibbutz) and as a buffer for industries during economic fluctuations could support the essential process of craft specialization in today's industrial climate. Such a role could sufficiently serve the most advanced industries in recent fluctuating market.
The historical irony, however, is that the Histadrut of the 1930s can better serve contemporary advanced industry than the Histadrut of the 1980s. But it is still an open question whether or not this view will receive the attention it deserves.

**The Government's Role**

Through the Histadrut and its close ties to the ruling social democratic Labor Party, Radgal benefited greatly from the Israeli government protection. This era ended when the conservative Likud bloc took power in 1977. Cintel, while seeming to represent a firm free of government involvement, actually depended greatly on the government and the State legislators for various subsidies, supportive legislation, and national backing at the time of crisis.

The Israeli government is extensively involved in the domestic economy.(8) In fact, an essential part of any firm's strategy is related to government policy, rather than being a direct response to market developments. While the Histadrut provides Radgal with financial support, the government provides Radgal with a stable market. The government protects Radgal by preventing an outside vendor from gaining access to the domestic telecommunications market. Until 1977, the government also permitted Radgal to monopolize the national telephone system. From 1977, however, the government allowed other Israeli telecommunications vendors restricted access to Radgal's market. The regulation of the telecommunications market is still in the hands of the government. Like many other Israeli firms, Radgal takes advantage of
the government's industrial policies to induce exports. For example, the rush to ship extensive numbers of PBX systems without selling them to the U.S. during 1984 was partially a response to government subsidies and other financial benefits for exporters.

In many ways, Cintel's attitude toward the government resembles a child-parent relationship. Cintel declared its ideological maturity by rejecting government involvement in the realm of the economy. A common slogan of both the previous and the recent CEO are: "We should allow our industry more independence.... The government role is destructive and distorted."(9) Despite these explicit criticisms of governmental economic intervention, however, the firm used the politicians' support of its pioneering myth to get financial support (i.e., Cintel's Law), export subsidies, more than 60% free capital for its manufacturing plants (in Nazareth and Ma'alot), and above all, the bail-out operation during its 1985/86 crisis. Hence, despite Cintel's declared ideology of free entrepreneurship, the firm invested a substantial effort in availing itself of the advantages of government support. When the disparity between the ethos and the action was too sharp, the reaction of one of the top executives was: "As pioneers, we gave our important share to the Zionist movement, and it is just natural that in times of difficulty the public will support us."(10)

The government accepted the role Cintel gave it. In harmony with the national ideological drift from social democratic to free enterprise industry, the politicians were delighted to build and support a new pioneering myth. Politicians from a wide range of ideological spectra sought to be affiliated with the new myth. As a result, in 1985 they
had difficulties acknowledging that Cintel had floundered, and they persisted in believing that Cintel, or its myth, would rise again.

FINAL REFLECTIONS ABOUT ISRAELI INDUSTRY

The exploration of the role of national/societal political culture and the related patterns of authority is significant for all advanced and newly industrialized countries. All are experiencing rapid technological progress and concomitant socioeconomic dislocations, all are seeking a "suitable" pattern of change.

Israel provides a useful case study of industrial strength derived from specific social and historical roots. By exploring the case of Israel, this study suggests a method for understanding the national and organizational roots of a company's patterns of authority. The study also sheds light on the constraints upon and opportunities for change, implicit in these various patterns.

In recent years, Israel, like many other countries, has undergone severe economic and industrial crises. In order to restore the economic growth that characterized the 1950s and the end of the 1960s, the government, the Histadrut, and industry must cooperate more effectively. This cooperation can be reinforced by mutual understanding of the roots of the national political culture and of the constructive role each institution can play.

This study suggests that, in order to survive, Israeli industry need not change from "mature" manufacturing to advanced high technology industry as so many Israeli business and political leaders believe. In
fact, there is a great deal of room for industrial diversification. Israeli firms should identify the market potentials or niches matched by their specific social character. This is not to say that accommodations are not needed, but the way in which a specific firm will accomplish such adjustment must be rooted in its social nature rather than drawn from universal rules or abstract models.

What can be deduced from a specific case study of the industrial environment of Israel? In terms of development theory (in particular the notion of unilinear international development), Israel is in a weak position. Israel is a young, small state without substantial natural, capital, or labor resources. The Israeli labor force is relatively expensive. Israeli industry faces the geographical liability of being located a great distance from the major markets of the West. Under the propositions of this study, however, the evidence of plurality in the international market economy and technologies can give new opportunities and advantages to Israeli industry. In this view, present market conditions require both industrial flexibility and specialization. These, in turn, are decisively dependent on the quality of labor's scientific and technological skill as well as on the industry's ability to adapt to a fluctuating economic environment. Israeli industry should utilize these new industrial trends and open economic possibilities. A shift from an industry requiring capital and natural resources to one closer to the nature of craft production requiring skilled and talented labor could benefit many Israeli firms.

* * *

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History shows that Israeli society and its labor force have been capable of adapting to the most uncertain tense circumstances during wars, rapid demographic changes, and economic growth. The recent economic and industrial crises are neither a consequence of unfavorable markets and international economic trends, nor due to inadequate domestic social character or organizational structures. Politics, at both the national and the company level, is critical.

At the national level, Israel's economic difficulties are closely related to its complex domestic and international political conflicts. A long international conflict and adversarial relations with its neighboring countries have made Israeli society more isolated, cynical and mistrustful of the world. The national dependence on defense production, which brought Israel's industry to the leading edge of technology, secluded it from international civilian markets. Against its fundamental ideology (to be a free-independent people in Zion-Israel), Israel found its independence deteriorating from 1967 (by being almost totally dependent for U.S. military and financial support), interacting and involving itself with politically dubious international markets (e.g., South Africa, Iran, or the Nicaraguan "Contras"). A continuation of unbalanced relations between defence and civilian industries is destructive to the Israeli international political position, to its economy, and to its security. In my view, and as the Radgal and Cintel cases prove, there is a direct link between the ideological and political culture and national industrial development: namely, the drift from secular social democracy to a religious-nationalistic orientation during the years following the 1967 Middle
East War and the crises within industries. This shift was critical to the way in which the national industry evolved.

This study does not intend to deal with the most fundamental questions of war and peace that eventually impose the basic conditions for industrial development. Answers are yet to be furnished for the outcome of the future political struggle. The outcome of this political struggle will provide the foundations on which the Israelis will build their industries.

It is beyond the extent of this study to deal with these questions. Rather, it focuses on the company level, showing how national experience and politics diffuse into corporate pattern of authority, strategy, policy-making and organizational actions. As such, this study suggests a way of thinking about the prospects for industrial development by type of firms that are hold the key to Israel’s future development.

In my view, Israel’s industrial success depends primarily on how well firms will be able 1) to utilize their unique qualities; 2) to respect their clients’ culture and desires; 3) to keep themselves from crude imitations of fashions in corporate management; 4) to become open and sensitive to the development of a relevant pattern of authority; and 5) to transform the characteristic flexible adaptation, so prominent within the Israeli culture, into a flexible and accommodating production process within a given social and political pattern of authority.

2. See Chapter 3, for example regarding the collaboration of the INFO leader and management to "cross the picket lines" of the engineers national union strike.


4. For the relations between the nature of mass-production (characterized by product standardization) and a stable market see the extensive discussion in Michel Piore and Charles Sabel (1985) *The Second Industrial Divide*, New York: Basic Books, Chapters 2, 3, 4, 5.

5. There is a substantial limit on the number of hospitals that can bear the expense of these sophisticated diagnostic devices. Most of the medical establishments are using the more conventional and traditional medical diagnostic instruments.

6. The concept of "flexible specialization" was borrowed from Piore and Sabel (1985).

7. See Chapter 2, for the early history of the Histadrut.

8. From the middle 1970s the government budget exceeded more than 70% of the national GNP. See Gideon Doron and Boaz Tamir "The Electoral Cycle: A Political Economic Perspective" *Crossroads*, Spring 1983, #10, Table 1, p. 147.

9. This quote was taken from an interview with Cintel's CEO in the winter of 1984.

10. This information was conveyed to me during a discussion in the summer of 1985.
Chapter III: Appendix 3.2

The Histadrut Institutional Structure

The Histadrut is a unique organizational system that consists of trade unions, mutual aid and welfare activities, and broad economic activities through union-owned economic and social enterprises. Over ninety percent of Israeli workers, or sixty percent of Israeli citizens over the age of 18, are members of the Histadrut. The Histadrut generates 24.5% of Israel's GNP (1982) and controls the strategic social and economic sectors of the country.

The Histadrut controls most of Israel's medical care, most of the nation's public transportation, a large number of union pension funds, and the country's largest insurance company. The Histadrut also generates a comprehensive cultural network, which publishes books through the publishing house "Am Oved" ("Worker People"), puts out a daily labor newspaper, the "Davar" ("news" or "saying"), and which is seriously involved in "The Labor Youth Movement." In addition to all union and cultural affairs, Heverat Ha'ovedim, the economic arm of the Histadrut, is composed of all kinds of finance, construction, and manufacturing sectors known as Koor Industries.

Approximately 100,000 workers are employed in the "institutional" sector, or in enterprises controlled directly by the political institute of Heverat Ha'ovedim. These enterprises are organized into large concerns or conglomerates, according to the type of economic activity: manufacturing, construction, housing, insurance, tourism, etc. The major concerns are:
A. **Koor Industries:** the manufacturing arm of **Heverat Ha’ovedim,** involves 30,000 employees in 100 industrial firms in various sizes and in different production branches, such as metals, ceramics, chemicals, electronics, communications, etc. **Koor Electronics,** for example, is section that contains Radgal in addition to five other smaller firms. In general, Koor products account for 25% of Israel’s industrial exports.

B. **Solel-Boneh:** The major Israeli construction company, employs 20,000 people.

C. **Bank Ha’poalim:** or "The Workers’ Bank," is the second-largest bank in Israel, and the main institution dealing with the financial transactions of the enterprises belonging to Heverat Ha’ovedim.

The Histadrut’s organizational structure is determined by its comprehensiveness. Thus, the organization is built in order to act from a broad, social perspective, not from a particular or regional one. The National Elected Assembly (National Convention) is in charge of electing the Histadrut’s executives. The General Assembly is elected once every four years by all Histadrut members (i.e., 90% of Israeli labor force), on the basis of relations to the national political parties. The National Elected Assembly elects the General Council, which is considered the "parliament" of the Histadrut. The council is in charge of electing and nominating executives and initiating and improving rules and strategic policies.

The Executive Committee, the "Government" of the Histadrut, chaired by the Histadrut’s general secretary (president), is the active board in charge of initiating and implementing policies in both unions and Histadrut industrial activity. Each executive of the central committee holds a portfolio of either union or Heverat Ha’ovedim. For example, the general secretary of the Unions Departments, like the general secretary of Heverat
Ha'ovedim, is a member of this central executive committee. In relating to union concerns, each executive carries one of the crafts or other labor concerns portfolios.

The Executive Committee is also in charge of the annual national collective bargaining. The Histadrut's relationship with the government, in terms of national collective bargaining did not change in principle after the Likud came to power. The tensions between these organizations increased.

**Heverat Ha'ovedim's Organizational Structure**

Heverat Ha'ovedim consists of three types of industrial organizations: 

a) general union-owned industries, i.e., urban industries involved in manufacturing, finance and construction, 
b) urban cooperatives, 
c) kibbutzim and moshavim. Associated with these three types of industrial organizations are three systems of industrial relations: 1) A traditional industrial hierarchy exists in union-owned industry. In this branch of Heverat Ha'ovedim, employee participation in decision-making processes is low. These industries experience all the usual industrial relations problems. 2) The urban cooperatives are based on and consist of partial industrial democracy with their members, but a high percentage of non-member employees still does not participate in any kind of managerial activity or in the nomination of executives. 3) The kibbutz industry is democratic (i.e., full worker participation and suffrage at all levels of the decision-making process).
(International Market, in Million Dollars)

<table>
<thead>
<tr>
<th>Type of Instrument</th>
<th>1980</th>
<th>1983 (Per/Incr)</th>
<th>1986 (forecast)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-Ray (Total)</td>
<td>2,300</td>
<td>3,000 (30%)</td>
<td>3,200 (6%)</td>
</tr>
<tr>
<td>1) Conventional</td>
<td>(1,200)</td>
<td>(1,650) (37%)</td>
<td>(1,700) (3%)</td>
</tr>
<tr>
<td>2) Digital Tomography</td>
<td>(1,100)</td>
<td>(900) (-18%)</td>
<td>(700) (-22%)</td>
</tr>
<tr>
<td>3) Digital Radiography</td>
<td>---</td>
<td>(450)</td>
<td>(800) (77%)</td>
</tr>
<tr>
<td>Digital &amp; Nuclear Imaging</td>
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<td>250 (25%)</td>
<td>200 (-20%)</td>
</tr>
<tr>
<td>Ultrasound Imaging</td>
<td>480</td>
<td>600 (25%)</td>
<td>750 (25%)</td>
</tr>
<tr>
<td>Magnetic Res. (NMR)</td>
<td>---</td>
<td>70</td>
<td>500 (614%)</td>
</tr>
<tr>
<td>General Processing Integrations</td>
<td>10</td>
<td>90 (800%)</td>
<td>360 (300%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,990</td>
<td>4,010 (34%)</td>
<td>5,010 (25%)</td>
</tr>
</tbody>
</table>
APPENDIX 4.2

SOME DEMOGRAPHIC FEATURE IN JULY 1985

CINTEL: Management by Seniority
July 1985

CINTEL: R&D by Seniority
July 1985
CINTEL: Distribution by Age

July 1985

% of tot. population

AGE

21-25  26-30  31-35  36-40  41-45  46-50  51-55  56-60  61-75
Select Bibliography


-- Berger Suzanne (1972), Peasant Against Politics, Harvard University Press.


-- Merton Robert K. (1949), Social Theory and Social Structure, Free Press.


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Streeck Wolfgang (1984), Industrial Relations In West Germany, New York: St. Martin's Press.


