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Constructing and Testing Practical Procedures for Describing a Corporate Culture: The Electric Troublemen

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CONSTRUCTING AND TESTING PRACTICAL PROCEDURES FOR DESCRIBING A CORPORATE CULTURE: THE ELECTRIC TROUBLEMEN

by

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ABSTRACT

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During the 1980s much attention was focused on trying to understand and apply the concept of corporate culture. Scholars and practitioners worked on clarifying the definition of culture as it applies to workplace settings. Scholars adapted the anthropological concepts of culture to fit within the framework of a business organization. Both scholars and practitioners attempted to investigate the cultures of many organizations throughout the business world. Scholars conducted lengthy case studies and used a mixture of qualitative and quantitative techniques. Business world practitioners conducted short studies and used mostly quantitative survey techniques. What was found was that the scholarly approach took too long to perform

and the business world practitioner's approach produced very little information about an organization's workplace culture.

This research project attempted to apply qualitative research techniques in a way that recognizes the practical limits placed on time, talent, and materials in the business world. More specifically, a model of workplace culture and a procedure for describing and profiling a corporate culture were developed and tested. The model consists of three components: one that helps to identify whether or not an organization has a healthy culture, one that describes the characteristics that make up the content of a culture, and one that classifies a culture according to categories that are useful for comparing one culture to another. The procedure consists of three qualitative data gathering techniques: observation, interview, and historical document analysis; and the analysis procedure involves processing thick description data.

The model and the procedure were tested by describing and profiling the subculture of a small group of employees, known as electric troublemen, who work for the San Diego Gas and Electric Company. Data collection and analysis took approximately 360 hours to complete, resulting in a profile that is both interesting and informative.

DEDICATION

This Dissertation is Dedicated to:

My wife, Marsha

Whose patience, understanding, and support contributed greatly to my success in completing this doctoral degree. Marsha, I could not have made it through the program without your help--thanks.

My daughter Amy,

Who has had to do without my attention, but not without my love, for many years. Amy, I hope that I have been a leader for you. I've pointed the way to academic success, now it's up to you to follow.

My parents, Mr. and Mrs. Vonder

Whose encouragement and prayers helped me through all my school years. Mom and Dad, I hope that I've made you proud. Thanks for being great parents.

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CHAPTER I

INTRODUCTION

Background

Prior to 1980, concepts, theories and research procedures related to culture were primarily developed and used by anthropologists and sociologists. Scholars such as Hoebel (1972), Martindale (1962), and Service (1971) found that cultural systems provide members of a group with proven ways to meet their needs for food, shelter, safety, reproduction, relaxation, and psychic security. They believed that through the long-term process of developing and practicing ways and means to adapt and survive that humans shape commonly held values, beliefs, and assumptions about how their world works.

From the early to middle 1980s, following the publication of A. M. Pettigrew's article: On Studying Organizational Cultures (Pettigrew, 1979), leadership and organizational development scholars became very interested in culture concepts as they tried to gain a better understanding of how workplace organizations operate. The idea that a workplace organization, like a society, could have a culture of its own provided scholars with an opportunity to develop a new dimension to organization theory. Scholars such as Bolman and Deal (1985), Deal and

Kennedy (1982), Louis (1981), and Schein (1984), to name only a few, adapted anthropological culture concepts to fit within the framework of a workplace organization. From the anthropological frame, behavioral norms dealing with how to provide for basic human needs were replaced with norms that deal with how to personally survive in a workplace organization and how to help the organization adapt and survive in its environment. Values and beliefs that pertain to societal based philosophy, religion, and ideology were replaced with values and beliefs that reflect what is important to the organization. In other words, macro level concepts used by anthropologists were reshaped into parallel micro level concepts by leadership and organizational development scholars. The long-term nature of a developing societal culture was replaced with a short-term view for the developing workplace culture. The anthropological notion that commonly held values, beliefs, and assumptions are shaped over the long-term by actual behaviors was replaced with the notion that commonly practiced workplace behaviors are developed over time in response to values, beliefs, and assumptions brought to the organization by the organization's founder.

From the middle to late 1980s, scholars refined their understanding of workplace culture, warned practitioners of the powerful impact that workplace culture can have on the success or failure of planned organizational change, and began to develop ways to investigate culture in workplace settings. For example: Kilmann, Saxton, and Serpa (1985) stratified culture components into three levels of depth--behavioral norms on the surface, hidden assumptions in the middle, and values and beliefs at the deepest level; Davis (1984) refined the beliefs component into two types, daily beliefs--which reflect the way things are, and guiding beliefs--which reflect the way things ought to be; and Trice and Beyer (1984) classified rites and ceremonies into six types--rites of passage, rites of degradation, rites of enhancement, rites of renewal, rites of conflict resolution, and rites of integration. Sathe (1985a) and Martin and Siehl (1983, Autumn) warned practitioners that a strong culture can defeat an organizational change intervention; and Walter (1985) and Van Maanen and Barley (1985) found that conflicting cultures can spoil attempts at merging organizations. These scholars advised practitioners to get to know an organization's culture before attempting to carry out an organizational change intervention.

Procedures for uncovering and deciphering corporate culture which were developed by scholars during this period closely resembled the ethnographic techniques used by anthropologists. For example, E. H. Schein (1985a) developed an investigative procedure that relies heavily on conducting formal and informal interviews, preparing thick description, and using informants from the organization to help gather data and decipher its content. Other scholars, such as Albert (1987), Mitroff & Kilmann (1985), and Sathe (1985a, 1985b), to name only a few, each developed their own investigative approach for uncovering certain culture components.

While scholars were busily refining their understanding of corporate culture, organizational development practitioners and other interested analysts were busily trying to apply these new concepts to business world phenomena. A sample of titles from articles published in various professional business journals during this period will help make this point more clear: Corporate Cultures and Effective Planning (Ernest, 1985), Culture and Strategic Planning (Deshpande & Parasuraman, 1986), Organizational Culture as Related to Industry, Position, and Performance: A Preliminary Report (Reynolds, 1986), You Can't Ignore Corporate Culture (Nixon, 1987), and Managing Your Corporate Culture (Plant, 1988).

Practitioners did take heed to the warnings voiced by scholars about the importance of getting in touch with an organization's culture, but the investigative procedures they developed weren't the same as those developed by the scholars. Business world practitioners tended to favor using familiar quantitative techniques such as survey questionnaires over using qualitative techniques such as ethnography. For example, Rollin Glaser's Corporate Culture Survey (Glaser, 1983), Marshall Sashkin's Organizational Belief Questionnaire (Sashkin, 1984), and

Robert A. Cooke and J. Clayton Lafferty's Organizational Culture Inventory questionnaire (Cooke & Lafferty, 1987) are quantitative instruments designed to reveal the espoused characteristics of workplace culture.

A corporate culture study which was done as part of the breakup of the American Telephone and Telegraph Company (AT&T) serves as an example of how business world practitioners rely heavily on the use of survey questionnaires (Tunstall, 1986). Here, an AT&T employee by the name of W. Brooke Tunstall was asked by the president of the company to describe AT&T's corporate culture. Because the company was in the middle of a divestiture process at that time, Mr. Tunstall was asked to carry out the study quickly. The primary method used to investigate AT&T's culture was to administer a survey questionnaire to six thousand company employees. The questionnaire consisted of thirteen questions, twelve of which were designed to be statistically analyzed and one which was designed to elicit a free-form written response. The interesting point is that when the responses were tallied more was learned about the company's culture from the free-form question than from the other twelve. This question was designed more along the lines of a phenomenological inquiry about what the employee's feelings were with regard to the divestiture and its impact on the employee.

Statement of the Issue

It is clear that culture is no longer a concept which is known only to anthropologists and sociologists. Culture concepts have successfully crossed over to the leadership and organizational development discipline, but what has not yet crossed over from anthropology are the methods for studying culture. Qualitative methods such as ethnography, phenomenology, and analysis of an organization's history have not yet been widely accepted by leadership and organizational development practitioners as primary methods for studying corporate culture.

What is at issue now, and is the subject of this dissertation, is how to introduce qualitative analysis to the business world as a practical and effective method for investigating corporate culture.

Purpose and Objectives of the Research Effort

It was the goal of this researcher to conduct a corporate study and to show that a practical qualitative procedure for conducting a corporate culture investigation could be developed. This researcher intended to make a contribution to the study of workplace culture by developing a practical qualitative procedure for describing corporate culture and using it to conduct a corporate culture investigation in a corporate setting.

To effectively accomplish these purposes, the following objectives were addressed in this research project:

1. To identify a conceptual model of culture that is appropriate for describing culture in a specific workplace.

2. To develop a practical qualitative procedure for conducting a corporate culture investigation--one that outlines the steps to follow, suggests methods that can be used to explore and describe the culture, and suggests ways to organize and present the findings.

3. To test the investigative procedure on a San Diego Gas and Electric Company organizational subunit.

Research Questions

This research project addresses the following research questions:

1. To what degree can a conceptual model be developed that adequately describes corporate culture?

2. To what extent can the corporate culture investigative process be generalized and carried out in an efficient and effective manner--relative to organizational needs and constraints?

Significance of This Research Project

This research project builds on the body of literature on corporate culture. Specifically, it provides students of leadership and organizational development and business world practitioners with a model that will enable them to gain a better understanding of the conceptual framework of corporate culture as well as provide a practical procedure for conducting field-based research.

Definitions and Key Terms

Artifacts

Artifacts are those aspects of culture that a person hears, sees, or feels when entering an organization. There are three kinds of artifacts: verbal, behavioral and physical. Verbal artifacts relate to the culture's written and spoken language, behavioral artifacts relate to the overt behaviors of the members of the group, and physical artifacts relate to the technological output of the group and their artistic productions (Dyer, 1985; and Schein, 1985a).

Assumptions

Same as belief.

Attitudes

Attitudes indicate how people feel about particular objects or situations, as distinct from their actual behavior toward those objects or situations (Sathe, 1985a).

Beliefs

Cognitive models of the proper way for members of the culture to perceive, think, feel, and behave while carrying out organizational business.

Ceremony

Episodic occasions when the culture is put on display (Wilkins & Patterson, 1985).

Ethical Codes

Codes that help members distinguish between right and wrong with regard to the attitudes and actions of the members of a group (Enz, 1986; and Toffler, 1986).

Ideology

A set of beliefs about the social world and how it operates. A set of statements about what is right or wrong, good or bad, important or unimportant, and acceptable or unacceptable as it pertains to the members of the group.

Language

A particular manner in which members of a group use vocal sounds and written signs to convey meanings to each other (Trice & Beyer, 1984).

Legend

A handed-down narrative of some event that has an historical basis (Trice & Beyer, 1984).

Myth

A myth is a dramatic narrative of imagined events, usually used to explain origins or transformations of something. Also, an unquestioned belief about the practical benefits of certain techniques and behaviors that are not supported by demonstrated facts (Trice & Beyer, 1984).

Mediatory Myth

A mediatory myth is a belief or set of beliefs that provide members with a cognitive bridge between contradictory elements of the organization's definition of institutional purpose. These myths help members perform their daily activities without having to visit and revisit problematic contradictions (Abravanel, 1983; and Schield-Cook, 1988).

Norms

Standards for expected behavior, speech, and presentation of self (Sathe, 1983, Autumn).

Perspectives

Ways that members of a group define and interpret situations in everyday life. They prescribe acceptable bounds for behavior (Dyer, 1985).

Rite

A relatively elaborate, dramatic, planned set of activities that combines various forms of cultural expressions and often has both practical and expressive consequences (Trice & Beyer, 1984).

Rituals

Rituals are physical expressions of cultural values and beliefs, or a standardized, detailed set of techniques and behaviors that manages anxieties but seldom produces intended, practical consequences of any importance (Trice & Beyer, 1984; and Deal, 1985).

Slogan

A shorthand expression of a deep-seated organizational value (Deal, 1985).

Story

A narrative based on true events, often a combination of truth and fiction (Trice & Beyer, 1984).

Symbol

Any object, act, event, quality, or relation that serves as a vehicle for conveying meaning, usually by representing another thing. The symbol focuses attention and stimulates an individual response based upon each person's memory of appropriate responses. Each symbol, by its very existence, implies its opposite. The only way a symbol can make sense is to know its opposite (Trice & Beyer, 1984; and Martin, 1981).

Value

A combination of thoughts, feelings, and preferences that provides a way of seeing or not seeing the world. They help differentiate as well as integrate. They distinguish between good and bad. They help determine what is important and what behaviors are acceptable. They express the end-state goals of the group. They are normative standards, not too high or out of reach, that reflect the preferences for certain actions or outcomes (Enz, 1986).

Working Alone

A language artifact of the troublemen culture. The term has two meanings, one that pertains to working by oneself and another that pertains to a certain set of personal characteristics that differentiate a troubleman and his work from other employees and their work. This term is discussed further in chapter four.

Organization of the Dissertation

Chapter two presents a review of the relevant literature on corporate culture. First it reviews literature on corporate culture concepts, then reviews literature on ways to investigate culture in a workplace setting, and finally, presents a summary and analysis of the literature.

Chapter three presents a discussion of the site selection, the research design, methodology, qualitative procedures which were developed for investigating corporate culture, and the limitations of the study.

Chapter four describes how the procedures were used to investigate the Electric Troublemen subculture at the San Diego Gas and Electric Company, provides an analysis of the data, and presents a description and profile of the subculture.

Chapter five presents a discussion of what was learned about modeling corporate culture, developing investigative procedures, and describing workplace culture. It also presents conclusions and implications regarding the research questions set forth in chapter one.

CHAPTER II

REVIEW OF THE LITERATURE

A review of the literature on organizational culture was conducted in support of the purposes and objectives of this dissertation. This review seeks to discover how scholars have conceptualized culture, and how scholars and practitioners have gone about uncovering and describing culture in a workplace setting.

A Conceptual Characterization of Culture

Framing the Concept of Culture

Certain terms are used repeatedly throughout the literature to describe culture. Table 1 presents these terms in alphabetical order, without giving any hints of how scholars used them to form a conceptual model.

The main difference in the various ways culture is conceptualized is not in which terms are included in the definition of culture but in which terms are emphasized. A metaphor that may help to visualize how various conceptualizations of culture can differ is to think about the process of combining flour and water. If the two ingredients are combined in proportions that emphasize water and mixed into a soupy consistency, then the result is papier-mache paste. If the same ingredients are

Table 1

Terms Used by Scholars to Describe Organizational Culture

art	legends	rules
artifacts	long-term knowledge	sayings
assumptions	meanings	scripts
attitudes	morals	settings
behaviors	myths	sharing
beliefs	norms	slogans
ceremonies	organizational view	standards
cognitive schemes	orthogonal subculture	stories
collective competence	parables	strength
counter subculture	philosophy	survival-strategy
customs	policies	symbols
direction	practices	taboos
doings	principles	tacit-knowledge
enhancing subculture	procedures	taken-for-granted
ethics	proven ways	technology
feelings	punishments	tools
habits	rewards	trappings
heroes/heroines	rites	understanding
ideology	rituals	values
language	routines	

combined in proportions that emphasize flour, kneaded, yeast added, and allowed to raise, then baked in an oven, the result is a loaf of bread. The parallel here is the idea that end-products will differ when the choice of which ingredient to emphasize differs.

By emphasizing certain terms, organizational culture can be seen as behavioral, cognitive, or both. Thus, the literature bears out three ways to frame the concept of culture: A behavioral approach that emphasizes terms such as norms, standards, practices and proven ways; a cognitive approach that emphasizes terms such as values, beliefs and assumptions; and a combined approach that uses behavioral and cognitive terms in a balanced and fully integrated way.

Conceptual Models of Culture with a Behavioral Emphasis

Some scholars emphasized the behavioral characteristics of culture, claiming that norms, rules, and standards are at the heart of an organization's culture. These scholars tend to follow the behavioral approach. They seem to have an intense interest in observing, documenting, and understanding what the members of a group do to survive in, and adapt to their environment.

Service (1971) viewed culture as the strategy humans use to adapt to their environment. Martindale (1962) believed that culture is a way to master nature through the development of learned behavioral responses to survival problems that must be solved by the members of the group.

Hoebel (1972) claimed that culture is an integrated system of learned behavior patterns that provide members of a group with proven ways to meet their needs. Burke (1982) believed that norms and standards for behavior make up the primary element in the definition of culture. Van Maanen and Barley (1985) saw culture as a set of behaviors devised by the members of a group to deal with specific problems posed by situations they faced in common. And according to Harris (1985) culture is developed as the members of a group learn to adapt to their environment.

Conceptual Models of Culture with a Cognitive Emphasis.

Another group of scholars believed that culture is primarily cognitive. They emphasized values, beliefs, and assumptions in their definition, claiming that values, beliefs, and assumptions are at the heart of culture and all other cultural characteristics are merely manifestations of core values, beliefs, and assumptions. This group seems to have an intense interest in discovering what people value, believe in, and assume.

Bolman And Deal (1985), Davis (1985), Deshpande and Webster (1989), Ernest (1985), Lorsch (1985), and Sapienza (1985) all saw culture as a pattern of beliefs that help members understand how the organization functions, and thus provides them with norms for behavior. Ouichi (1981) and Tichy (1983), both, said values are at the heart of group culture. Schwartz and Davis (1981, Summer) felt that widely held beliefs are at the core of group culture, and not attitudes or behavioral norms. Sathe (1985a, 1985b) claimed that the beliefs people have concerning the way the world works and the values they hold as end-states are at the heart of group culture, whereas behavior patterns that people develop to communicate and justify behavior are merely manifestations of the culture. Siehl (1985) viewed culture as consisting primarily of values and beliefs. According to Smircich (1985) culture is a fairly stable set of taken-for-granted assumptions, shared beliefs, meanings, and values that form a backdrop for action.

Conceptual Models of Culture with a Combined Cognitive and Behavioral Balance.

A third group of scholars, representing the combined approach, chose to avoid the behavioral or cognitive emphasis. They believed that culture is a well integrated amalgamation of the behavioral and cognitive aspects of culture.

Deal and Kennedy (1982) believed that an organization's culture stems from its values and is reflected in "the way we do things around here" (p. 4). Deal and Kennedy included values and assumptions in their discussion of culture but gave equal weight to the cognitive and behavioral characteristics of culture. Pettigrew (1979) viewed organizational culture as an amalgamation of purpose, beliefs, ideology, language, rituals, and myths held by the members of the organization.

Baker (1980) believed that norms and values together make up the essence of culture. Sharon (1983) viewed culture as a manifestation of three interacting components: ideology, technology, and social organization. He saw these three components as interdependent, with each effecting and being affected by the others. Wilkins (1983, Autumn) felt that culture is people's behavior and their "taken-for-granted" ways of seeing the world. And according to Schein (1985a):

> [Culture is] a pattern of basic assumptions--invented, discovered, or developed by a given group as it learns to cope with its problems of external adaptation and internal integration--that has worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems (p. 9).

Here, Schein saw culture as being cognitive at its heart but behavioral with regard to its development and practice.

Fundamental Characteristics of Culture

Schein (1985b) described three levels of understanding and practice to the concept of culture. Artifacts at the most visible level, values at the mid level, and basic assumptions at the deepest and almost invisible level of culture. Dyer (1985) saw culture as having levels much like those identified by Schein (1985b) but he added a level called perspectives between Schein's artifacts and values. According to Dyer (1985), "the term <u>organizational culture</u> refers to the artifacts, perspectives, values, and assumptions shared by members of an organization" (p. 204). Kilmann, Saxton and Serpa (1985) believed that culture is manifested at three levels of depth. On the surface, through behavioral norms; in the middle, through hidden assumptions; and at the deepest level, through human nature. Sathe (1985a) found three levels of analysis leading to the heart of culture. Behavioral patterns at the first level of analysis; communications and other justifications of behaviors at the second level; and ideas and assumptions that govern communications, justifications, and behaviors at the third level. Sathe believed that "culture is the set of important assumptions (often unstated) that members of a community share in common" (p.16).

Organizationally speaking, it is convenient to think of culture as having two levels, an overarching culture that pertains to all of the members of an organization and a subculture that pertains to a subset of the members of the larger organization. There seems to be agreement among scholars that a member of one culture can, and surely does, belong to other cultures (Fawcett, 1984; Gregory, 1983). Thus, it follows that if all of the members of one culture are members of a larger culture, then the smaller culture is a subculture nested within the larger culture. A subculture, therefore, serves to differentiate rather than integrate members of the larger culture. Subcultures tend to foster functionalization and efficiency building in corporate organizations (Barley, 1983).

Martin and Siehl (1983, Autumn), Sathe (1985a, 1985b), and Van Maanen and Barley (1985) all seem to agree there are three types of subcultures: enhancing, orthogonal, and counter. An enhancing subculture adheres to the core values of the larger culture but is stronger than the larger culture, an orthogonal subculture accepts the core values of the larger culture with a separate non-conflicting set of values particular to the subculture, and a counter subculture has core values that challenge the core values of the larger culture.

Kilmann, Saxton, and Serpa (1986) and Sathe (1985a, 1985b) found strength and direction to be two characteristics of culture that can be measured in ways that help to assess a subculture's stability and its impact on the larger organization. According to these scholars, the strength of a culture is a measure of the level of pressure and intensity that the culture exerts on the members of the organization for the purpose of influencing behavior. The direction of a culture has to do with whether the culture is guiding behavior and performance in ways that are consistent or inconsistent with stated organizational goals.

Thickness, extent of sharing, clarity of ordering, and geographic dispersion all contribute to determining a culture's strength. Thickness relates to the number of shared beliefs and values, sharing is measured by the proportion of members who possess and adopt the cultural knowledge, clarity of ordering refers to the relative importance of individual beliefs and values, and geographic dispersion relates to the physical distance between members or subgroups of members.

Strong cultures tend to be thick and pervasive, have clearly defined and well ordered values and beliefs, and have a localized membership. Weak cultures tend to be the opposite in some or all of these aspects.

Both Martin (1985) and Sathe (1985a, 1985b) were quick to point out that strength and direction do not measure quality. That is, a culture that is strong and guides behavior in ways that are consistent with stated company goals is not necessarily good, and a culture that is weak and guides behavior away from stated company goals is not necessarily bad. It depends on the needs of the larger organization. Various combinations of the measurements of these aspects can help to determine if a subculture has a positive or negative impact on the larger organization.

Fawcett's work on cultural knowledge divides the concept of knowledge into two parts, short-term knowledge versus long-term knowledge, and personal knowledge versus widely shared knowledge. Only widely shared, long-term knowledge that is deemed useful to the present and future members of the group is considered to be cultural knowledge (Fawcett, 1984; Wilkins & Ouichi, 1983).

Scholars feel strongly that the notion of sharing is an absolute requirement in anyone's definition of culture. Whether the definition is behavioral or cognitive, the behaviors and ideas that are central to the purpose of the group must be widely shared by the members of the group in order for there to be a culture.

Most scholars agree that culture is taken for granted by its native members. People tend to carry out their culture without being consciously aware of it. Gregory (1983) claimed that culture is only as explicit as people express it, and much of culture is made up of implicit meanings that motivate behavior. Louis (1985a, 1985b) viewed culture as a set of shared understandings or meanings that are largely tacit. Wilkins (1983, Autumn) felt that culture is people's behavior and their taken-for-granted ways of seeing the world. According to Wilkins, culture is applied unthinkingly, never challenged, and taken-for-granted ways are reinforced because others also take them for granted.

While trying to understand the concept of subculture, Wilkins and Ouichi (1983) found that the formation of a clan is the first stage of cultural development, and that clan requirements tend to carry forward to become cultural requirements. Therefore, according to Wilkins and Ouichi, in order for a group to develop and sustain a culture, it must possess the following characteristics: (a) there must be a group of people, one person does not make a culture; (b) the group must have a long history and stable membership so that long-term, useful knowledge can be created and passed from one generation to the next; (c) the group must recognize that another institutional group like itself doesn't exist; and (d) there must be interaction among the members that can lead to the development of shared understandings among members of the group.

Investigating and Profiling Culture in a Workplace Setting

Qualitative Versus Quantitative Research

Straight from the business world and right out of a management review journal, Nordstrom and Allen (1987) described how they assessed the organizational culture of a group of hospital employees. By applying a survey instrument to gather data, and then by using factor analysis, Nordstorm and Allen identified three employee appreciation factors, four job performance factors, and three job satisfaction factors. Other researchers who have developed survey questionnaires for assessing corporate culture are: Rollin Glaser, Corporate Culture Survey (Glaser, 1983); Marshall Sashkin, Organizational Belief Questionnaire (Sashkin, 1984); and Robert Cooke and J. Clayton Lafferty, Organizational Culture Inventory questionnaire (Cooke & Lafferty, 1987). These purely quantitative approaches are very common in the business world. One might say that quantitative analysis is deeply ingrained in the business culture.

Moving away from the purely quantitative approach, Howe (1985), Donmeyer (1985) and Snyder (1985) believed that qualitative and quantitative research techniques can be used together in the same study. Snyder suggested four methods for uncovering corporate culture: (a) direct observation of the culture by an outsider, (b) survey research using questionnaires and interviews, (c) examination of organizational documents, and (d) direct assessment of the organization's culture by its members. Snyder also presented a list of twenty questions that can be used with any of the four methods, which will be listed later. These questions are designed to help identify key behaviors, values, beliefs, and assumptions that are characteristic of the culture under investigation.

Moving toward a qualitative emphasis, Deshpande and Webster (1989) found that ethnography is well suited for discovering an organization's culture and survey instruments are good for measuring organizational climate. They believed that since a survey instrument is usually a product of the culture it is attempting to discover, then all one could expect to receive are data that confirm what was previously believed to be the culture.

Firestone (1987), critically examined quantitative and qualitative research techniques and found them to be very different and incompatible:

1. Qualitative research gives the reader enough detail to show that the researcher's conclusions make sense, whereas quantitative research persuades the reader to accept the researcher's conclusions by diluting the importance of individual judgment and stressing the use of established procedures and statistics.

2. Qualitative research assumes that reality is socially constructed through individual or collective definitions of the situation, whereas quantitative research assumes that there are social facts with an objective reality apart from the beliefs of individuals.

3. Qualitative research is concerned with understanding the social phenomenon from the member's point of view, whereas quantitative research seeks to explain causes of change in social facts, primarily through objective measurement and quantitative analysis.

4. Qualitative research relies on ethnography and phenomenology, whereas quantitative research relies on experimental or correlational analysis.

5. Qualitative research requires the researcher to become immersed in the phenomenon being studied, whereas quantitative research requires that the researcher stay detached to avoid bias.

Firestone concluded that for the above reasons qualitative and quantitative research techniques are not compatible and they should not be used together.

Arriving at a qualitative emphasis, Dyer (1984), Marshall and Rossman (1989), Rogers (1986), Sathe (1985a), and Schein (1984) all believed that cultural investigation requires an in-depth look at the members of the group as well as their work setting. According to these scholars, since the members of a group tend to take their culture for granted they may not be able to interpret and articulate their thoughts, feelings, and actions well enough to respond to a questionnaire. In addition, they also believed that designing a questionnaire prior to identifying all the contextual variables currently operating in the culture is the same as putting the cart before the horse. These scholars prefer to use qualitative research techniques that rely on interviews, observation, and thick description as the primary methods of data collection and analysis. Qualitative techniques such as ethnography and phenomenology enable the researcher to discover the culture's contextual variables from the member's perspective.

Planning the Investigation

The literature points to four things that should not be overlooked when planning to conduct a corporate culture investigation.

First, it is important for the researcher to realize that cultural boundaries may not always lie within the structural boundaries of an organization. Therefore, the researcher must decide which concept will limit the investigation. If the study is to focus on discovering a particular culture, then the researcher should develop a plan that will allow the investigation to go beyond the structural boundaries of the organizational unit. If, on the other hand, the study is to focus on a particular organizational setting, then the researcher should develop a plan that does not require that all aspects of a particular culture be discovered. Louis (1985a) suggested two approaches for studying corporate culture: 1) If the purpose of the study is to seek knowledge about a particular culture, then the researcher should study organizational settings, using comparative analysis techniques that look for commonalities across organizational settings. 2) If, on the other hand, the purpose of the study is to seek cultural knowledge about a particular setting, then the researcher should use analysis techniques that help to figure out what distinctive aspects there are about this organizational setting.

Second, if a cultural investigation is to be carried out as part of the process of planning for organizational change, then the researcher will most likely be faced with constraints on available time, talent, and materials. It may not be practical, or even possible, to plan to uncover all aspects of an organization's culture. Schwartz and Davis (1981, Summer) recommended that the researcher first identify the most critical organizational factors that pertain to the success of the organizational change and then conduct research to uncover those aspects of culture that pertain to these factors. If time, talent, and materials remain, then, of course, continue the investigation. Like Schwartz and Davis, Kilmann also saw the process of uncovering and profiling the culture as one that grows more intensive and time consuming as one attempts to discover the deeper levels of culture. According to Kilmann:

> Defining culture primarily as behavioral norms allows managers and consultants to identify, assess, and change corporate cultures--at least at that level. . . . Thus, although the deeper approaches initially seem to be more penetrating, in practice they seem to be impractical; and although the more superficial approaches at first appear to disregard the more fundamental bases of culture, in practice they appear to offer some specific handles for managing culture. (Kilmann, Saxton and Serpa, 1985, p. 9).

Third, the task of uncovering corporate culture can be made easier by choosing the right time to conduct the investigation. Many important aspects of an organization's culture are difficult to uncover because they are taken for granted by the native members. Wilkins (1983, Autumn) pointed to certain times when these preconscious characteristics tend to surface with only a little encouragement by the researcher. These times are: when employees change roles, when subcultures are in conflict, and when top managers make and implement critical decisions about company direction and style.

Fourth, when planning to conduct culture research it is important not to overlook the feminist critique. Linda Smircich (1985) advises all researchers, especially men, not to concentrate only on male oriented topics and interpretations. She claims there is a female frame to every organization that should be investigated.

How to Carry Out a Cultural Investigation

Whether it was explicitly stated or implicitly demonstrated by the scholars and practitioners who wrote the articles and textbooks reviewed in this dissertation, it is apparent to this researcher that the primary research method used to investigate corporate culture is the case study method. According to Schneider and Shrivastava, if generalizability is not important, then diagnostic and research methods for exploring organizational culture work best when using the case study approach (Schneider S. C., & Shrivastava, 1988).

As pointed out earlier in this chapter, there are three levels of corporate culture: artifacts at the surface level, values at the mid level, and basic organizational assumptions at the deepest level. One would think the most logical and efficient way to investigate a culture is to uncover the surface level of culture first, the mid level of culture second, and the deepest level of culture last. But this is not what was revealed by the literature. The order in which artifacts, values and assumptions are discovered doesn't seem to matter. What does seem to matter is to always be on the lookout for opportunities to collect cultural data, no matter at which level, and to use data collection techniques in ways that will help to triangulate the findings (Nixon, 1987).

The most widely used data collection techniques fall into three general categories: (a) observing the members as they go about their daily routines, (b) interviewing organizational insiders and outsiders who interface with insiders, and (c) conducting archival and site analyses.

Many examples of where the scholars and practitioners suggest to look for culture and the techniques they used to uncover culture in the workplace are presented in the text that follows.

Deal (1985) suggested that the researcher: (a) look for slogans and symbols--they are shorthand expressions of organizational values; (b) speak to or learn about heroes and heroines--they personify organizational values; (c) seek out storytellers--they have a way of passing on cultural information through the stories they tell; and (d) try to observe ceremonies and rituals--ceremonies are occasions the culture is put on display and rituals are physical expressions of cultural values and beliefs.

According to Dyer (1985), the key to understanding an organization's culture is to decipher patterns of tacit assumptions that are shared by the members of the group. Dyer found that information gathered from existing corporate histories, interviews, public records, internal reports, and industry reports helped him decipher the culture of a certain organization. He also gave advice on where to look for verbal, behavioral, and physical artifacts when conducting interviews or searching through printed data. He claimed that artifacts are overt expressions of socially shared perspectives, values, and assumptions that can be seen, felt, heard, and smelled. Verbal artifacts are a culture's language, stories, and myths; behavioral artifacts are often represented by rituals and ceremonies; and physical artifacts can be found in accepted art, work clothes, work furniture, office layout, and technology.

Ernest (1985) suggested some places to look to find the data needed to uncover cultural attributes. For artifacts, look at company policies, employee greetings, employee dress, language, ceremonies, gossip, jokes, and tales about the organization's founder or heroes. For behaviors and relationships, look at day-to-day behaviors by using questionnaires, in-depth interviews, and direct observations.

Harris (1985) presented 12 hints on where to look for organizational culture:

1. Goals, missions, and objectives as expressed in the creeds, charters, and other statements of corporate purpose;
2. Attitudes, beliefs, principles, and philosophies;
3. Priorities, values, ethics, status, and reward systems;
4. Norms, standards, rules, and regulations;
5. Design, structure, organization, and technology;
6. Policies, procedures, and processes;
7. Communications systems, languages, and terminologies;
8. Control, reporting, and personnel practices;
9. Decision making, problem solving, and conflict resolution;
10. Compensations, recognitions, and promotions;
11. Work environment in terms of appearances of people and physical space; and
12. Leadership in terms of behavior modeling and emphasis, teaching, and coaching. (p.56).

Schein (1984) favored a qualitative approach that focuses on using observation, complex interview, and joint-inquiry data gathering techniques. Schein (1985b) believed there are three levels of understanding and practice to the concept of culture. Again, these three levels are: artifacts, values, and basic organizational assumptions. According to Schein, artifacts are usually visible but often not decipherable. To uncover artifacts he recommends using observation, questioning, and investigation. Look at the group's physical space, technological output, written and spoken language, art, and the overt behavioral patterns of the members of the group. At the middle level are the not-so-visible cultural values. Values represent important desired end-states; what ought to be, as compared to what is; or goals to shoot for as compared to standards that are to be met. Values can be identified through the same techniques as used for uncovering artifacts, except the findings from learning about artifacts serve as the basis of inquiry for learning about values. Here, the investigator should ask the member why he does what he does, and in doing so the investigator will elicit values that may surface reasons behind some of the member's behaviors. But Schein cautions investigators that as they work to discover a group's values, what one may find in formal documents or glean from conversations with members may not really represent the group's values. Schein pointed to Argyris and Schon's concept of espoused-theory versus theory-in-use as a way of explaining that what members say they do or believe may not necessarily be what they actually do or believe (Argyris and Schon, 1978). Thus, a group's active values may not be immediately visible to the investigator. At the deepest level of culture are the invisible assumptions about how the organization relates to and operates within its environment. These are the theories-in-use that guide behavior. They provide members of the group with a foundation made up of certain ways to think, feel and act. Basic assumptions are so well learned and practiced so often that members take them for granted, invoke them unconsciously and believe in them so strongly that they become non-confrontable and non-debatable. Basic assumptions go unnoticed by the members and are difficult for the researcher to uncover. Here, Schein claimed that one cannot rely on verbal responses to direct questions about what is assumed. But when one gets answers that treat the question, or line of questioning, as stupid or crazy, then one may be bumping up against a basic assumption of the organization's culture.

Schein also pointed out places to look for culture and presented a few activities for the investigator to perform. First, one way to discover a culture is to look at the ways in which the culture was embedded. Schein presented a list of possible sources of where clues to the development of the culture can be found. These sources include: looking at formal documents, seeking out stories, legends, and myths, observing what people do, and conducting in-depth interviews (Schein, 1983, Summer). Second, another way to uncover a culture is to discover how social learning occurs. By finding out what the members of the organization have learned to avoid or what they get rewarded for, one can discover some of the basic assumptions that are present in the culture (Schein, 1985b). Third, by interviewing the socialization agents within the organization one can identify some important aspects of the culture that point to values and basic organizational assumptions (Schein, 1984). Fourth, when conducting a complex interview try to collect data on critical incidents in the organization's history. For each incident identify what was done, why it was done and what was the outcome. Look for major themes in the reasons given for the actions taken (Schein, 1984).

Sathe's approach to investigating corporate culture requires the researcher to immerse himself/herself in the culture under investigation and directs him/her to observe, read and feel as a way of collecting data on shared things, shared sayings, shared doings, and shared feelings. From these data, the researcher can make inferences about shared meanings, which, in turn, lead to important shared assumptions (Sathe, 1985a, 1985b). Sathe also offered three questions to keep in mind while carrying out the investigation. They are:

1. What is the background of the founder of the organization and the executives that followed? This question helps to uncover the content of the culture.

2. How did the organization respond to crisis situations and what was learned from these experiences? This question helps to understand how members develop

particular assumptions about how the world works; it also helps to see the ordering of values.

3. Who are the deviants in the organization, and how does the organization respond to them? This question helps to define cultural boundaries.

Sathe (1983, Autumn) gave advice on whom to interview. He called attention to three types of individuals: the established member, the newcomer, and the outsider. Choosing the established member comes with the advantage of getting a native point of view, and the disadvantage of not being able to easily collect data on taken-for-granted assumptions. By choosing the newcomer, the researcher has the advantage of getting a point of view that is likely to identify cultural manifestations that are missing from the culture. But interviewing the newcomer also comes with the disadvantage of knowing that the newcomer may not have access to information considered important from the native point of view. By choosing the outsider, the researcher has the advantage of getting more objective information but has the same disadvantage as interviewing the newcomer, except to a greater extent.

Both Sathe (1983, Autumn) and Louis (1980) developed methods to help the researcher understand the member who is to be interviewed. Sathe argued that to get an accurate reading of the culture from a member, the researcher should have some idea of how well the member fits in with the culture. His model is designed to measure the fit between the individual and the organization's culture. His method is to be used as part of an iterative process that involves interviewing the member to uncover the culture, and then assessing the fit between the member and the organization's culture. Louis developed a model and a method for interviewing the newcomer. Her model helps to understand the enculturation process from the newcomer's perspective, and her method helps to understand the newcomer's response by giving the researcher a tool that can be used to pinpoint what stage of the enculturation process the member is in at the time of the interview.

Louis (1985a) understood how difficult it can be for researchers to get at the aspects of organizational culture that are taken for granted by native members and developed two field simulation activities to help researchers draw out this tacit knowledge. Both simulations are to be facilitated by the researcher in a group situation. In the first simulation activity the researcher generates an artificially created instance designed to draw out tacit knowledge and make it explicit. The second simulation is of guided reflections, where a group of individuals from different settings are asked to recall their experiences of various settings and then, as a group, to identify common themes across settings.

Lorsch (1986), in a way very similar to Louis (1985a), gave advice on how to make invisible beliefs visible. He suggested that the researcher ask the members of the organization to put their major beliefs in writing and then, in a group session, to compare and discuss them. Beliefs that are shared among the members can be identified through this process. Lorsch pointed out that this process will take quite a bit of time to complete. The researcher should allow at least three days for the members to think independently about their beliefs and then allow at least three days for group discussion.

According to Sapienza (1985), "managers cannot be asked what they believe . . . they must be observed believing" (p. 69). In doing her research she spent several months with the members of a top management group to observe the managers in the act of believing. She followed them around, went to their meetings, noted their behaviors, and read their memos and letters.

Davis (1984) believed that guiding beliefs shape behavior, and that by carefully investigating behavioral artifacts one can get at the guiding beliefs.

Davis offered advice on how to uncover guiding beliefs. First, he cautioned that a culture is a living and dynamic construct, and because of this fact current values and beliefs may not be manifested in old artifacts. That is, artifacts created in the past may not characterize the current culture. Second, to help get around this dating problem he suggested a way to conduct interviews that will help put things into perspective. When conducting interviews or when researching artifacts, organize the interview around two dimensions, time and activity. Ask the respondents to begin as far back as they can remember, work their way to the present, and then into the future. That is, time date everything and organize the data in a date sequence.

Snyder (1985) suggested four methods for uncovering corporate culture: (a) direct observation of the culture by an outsider, (b) survey research using questionnaires and interviews, (c) examination of organizational documents, and (d) direct assessment of the organization's culture by its members. He also presented twenty questions that can be used with any of the four methods to help identify key behaviors, values, beliefs, and assumptions that are characteristic of the culture under investigation. These are:

1. What does it take to get ahead at this company?
2. What type of people succeed here?
3. What does it take to get fired here?
4. What type of people do badly here?
5. What are the most critical events in the organization's history?
6. What stories are told about those events, who tells them, under what circumstances are they told, and what impact do they have on behavior?
7. When people succeed here, what strategies do they use?
8. When people got in trouble here, what,

specifically, did they do?

9. Why do people leave the organization?
10. In what ways has the organization changed in recent years, and how has it stayed the same?
11. What are the major strengths of the company?
12. What are the major weaknesses of the company?
13. What are your hopes for the future?
14. What are your fears for the future?
15. Who are the heroes of the organization?
16. Who are the villains?
17. What types of offices, furniture, spatial arrangement, etc. exist in the organization, and how do these affect behavior?
18. What types of policies, strategies, and structures are used by the organization, and how do these affect behavior?
19. What topics, if any, are "taboo" in the organization?
20. Which rituals, if any, are obligatory in the organization? (p. 167).

Kilmann (1985) favored looking at behavioral norms as a way of understanding an organization's culture. To surface the norms that are actually in use, he suggested holding a workshop where participants are asked to write out unwritten norms that are currently in use. Speaking from his own experience, Kilmann found that members are usually willing and able to write out such norms if they are given assurances that: "(1) no member will be identified as stating or suggesting a particular norm, and (2) no norm will be documented when members' superiors are present." Further, "the members must believe that the list of norms will not be used against them but will be used to benefit them as well as their organization" (pp.360-361).

Reynolds (1986) pointed to areas of social interaction where things said may point to organizational values. Reynolds encourages the researcher to listen carefully and to pay particular attention to what is said in situations where the boss's boss is present, the boss is present, the boss is alone with the employee, the employee is among only his peers, and when the employee is alone with the researcher.

Smircich (1985) believed that culture is cognitive and the symbols people use and respond to are good indicators of what they think. She stated that researchers can get at the meanings that describe the culture by focusing on the identification and analysis of important symbols that make organizational life possible. For example, she suggested focusing on words, ideas, and constructs that impel, legitimate, coordinate, and realize organizational activity in a specific setting.

Barley (1983), like Smircich, also believed that one can reveal what comprises a particular organizational culture by analyzing signs and symbols. Barley, using semiotic concepts, presented a method for discovering how signs and symbols bind to meanings. In short, binding is accomplished by metonymy, metaphor, or opposition. His method involves mapping signs and symbols to common meanings.

Beyer and Trice (1987) encourage researchers to seek out organizational rites as a way of discovering corporate culture. They identified six forms of organizational rites: rites of passage, rites of degradation, rites of enhancement, rites of renewal, rites of conflict reduction, and rites of integration. Explanations and examples of each form follows:

1. Rites of passage signify separation, transition, or incorporation. Retirement, relocation, promotion, or change of employment status from temporary to permanent are examples of times when an employee would experience a rite of passage ritual.

2. The rite of degradation is a way of calling to the attention of all members of the organization that a fellow member has behaved in a way that is inappropriate for the culture. Depending upon the severity of the infraction, the degradation ritual is usually exercised according to the following four stages: First, focus attention on the person and publicly associate the misbehavior with organizational problems and failures; second, discredit the individual by way of an objective

report; third, publicly remove the person from his or her position; and fourth, choose a successor.

3. The rite of enhancement is way of calling to the attention of all members of an organization that a fellow member has demonstrated he or she has mastered some element of the culture and is deserving of special ceremonial activities that enhance personal status and social identity. A bonus check, recognition plaque, or an academic or professional title are examples of rewards usually given to employees during an enhancement ritual.

4. The rite of renewal is intended to strengthen existing social structures and improve their functioning. For example, to bring in a consultant to help improve a problem situation is an example of applying the rite of renewal.

5. The rite of conflict reduction is carried out to reduce conflict between people or groups of people, within an organization or between organizations. A collective bargaining session, an administrative grievance hearing, a judicial hearing, or an off-site retreat are all examples of rituals of conflict reduction.

6. The rite of integration is designed to unite or reunite subgroups by reviving shared feelings, beliefs, or values. Social functions such as seasonal parties and luncheons are examples of the rite of integration.

According to Albert (1987), corporate stories, whether real or mythical, serve to communicate desired values and beliefs, and provide role models of desirable behavior by teaching members about events and practices that directly support an organization's philosophy.

Albert suggested that managers could create stories to teach a new behavior or change a current one. If one looks backward at Albert's procedure it can also become a technique for uncovering existing corporate stories. The backward procedure would look something like the following:

1. Interview several employees to identify popular corporate stories.

2. Single out the stories that seem to be widely shared.

3. Carefully document each shared story by synthesizing and integrating the information gathered from each contributing employee.

4. Feedback to employees for their conformation and correction.

5. Analyze each story by looking for certain behaviors that will serve as role models for employees to follow.

6. Feedback to contributing employees for conformation and correction.

7. From these documented behaviors, look for links to key corporate values and beliefs.

8. Feedback to contributing employees and others for conformation and correction.

By identifying and analyzing widely shared myths one can surface cultural beliefs that may be in conflict with organizational beliefs. Myths help members structure their experience, organize their behavior and manage organizational dilemmas and ambiguities (Boje, Fendor, and Roland, 1982). Mediatory myths are organizational mechanisms that bridge ideological contradictions. They are beliefs organizational actors hold that provide cognitive bridges between contradictory elements of the organization's definition of institutional purposes (Abravanel, 1983). Mediatory myths can be a very important part of an organization's culture. Not only do they serve to bridge gaps between ideological contradictions from within the organization but they also provide bridges with the organization's external environment, when ideological (belief system) differences exist. These myths allow the members to perform their daily activities without having to visit and revisit problematic contradictions (Schield-Cook, 1988).

Davis (1984) offered a classification scheme that may help researchers understand the data they collect on cultural beliefs. This scheme involves analyzing and sorting belief data into two types, guiding beliefs and daily beliefs. Each type defines a dimension of culture. Guiding beliefs reflect the organization's philosophy and the way things ought to be. There are two kinds of guiding beliefs which are used to plan business strategy, external beliefs about how to compete and direct the business, and internal beliefs about how to manage and direct the organization. Taken together, these two kinds of beliefs form the organization's philosophical foundation. Daily beliefs reflect the way things are and assumptions people have to make to survive from day to day. Daily beliefs are made up of rules and feelings about everyday behavior. They can change from time to time to meet the circumstances. They are the member's survival kit. Daily beliefs are used to implement the business strategy.

Summary and Analysis

This literature review has examined culture concepts and methods for investigating, describing, and profiling culture in the workplace. Three models of culture were presented and discussed: the behavioral model, the cognitive model, and the combined model. The investigative methods which were presented range from purely quantitative to mostly qualitative. The quantitative methods focused on using survey questionnaires and statistical analysis, whereas the qualitative methods focused on using in-depth interviews, observation, and thick description. And lastly, several how-to suggestions for uncovering, describing and profiling workplace culture were pulled from the literature and presented in this review. These suggestions range from simply giving advice on what to look for, where to look, whom to ask, and when to ask, to describing how to carry out the investigative process.

The first objective of this dissertation, as stated in chapter one, was to identify a conceptual model of culture that is appropriate for describing culture in a specific workplace. Such a model has been identified and is presented below.

The second objective of this dissertation, also stated in chapter one, was to develop practical qualitative procedures for conducting a corporate culture investigation. At the outset of this dissertation project this researcher had hoped, but did not expect, to find examples in the literature of scholars and practitioners using procedures for carrying out a cultural investigation that are complete with regard to providing step-by-step instructions on how to uncover all three levels of culture. The literature is rich with techniques for getting at artifacts, or values, or beliefs and assumptions, but almost void of material that deals with the entire process in a practical step-by-step, how-to manner. In keeping with the objective of this dissertation to develop practical procedures for describing workplace culture, much of what was presented in this section was used to develop such a procedure. How this information was used to develop practical qualitative procedures is discussed in chapter three.

A Model of Corporate Culture for this Dissertation Project

For the purposes of this dissertation project, the most appropriate model of culture is one that combines behavioral and cognitive concepts in an integrated and balanced way, does not dwell on any particular theory about how the workplace culture evolved, and provides a suitable framework for planning a cultural investigation. A three-part model of workplace culture was developed from the concepts presented in this review of the literature. This model is summarized in Table 2 and discussed in detail in the text that follows.

First, certain organizational facts will indicate whether or not it is likely that the organization which is about to be investigated has a well developed culture that can sustain itself from one generation to the next. Adapted from the writings of Wilkins and Ouichi (1983) and Fawcett (1984), the characteristics of an organization with a healthy culture are: (a) The organization is composed of a group of people numbering two or more. (b) The group has a stable membership that enables long-term useful knowledge to be passed on from one generation to the next. (c) The group has a history that is long enough and rich enough to have fostered the development of cultural ways. And, (d) there is ample opportunity for the members of the group to interact with each other so that members can practice cultural ways.

Second, the content of culture consists of organizational artifacts, values, beliefs, and assumptions.

There are three kinds of artifacts to be shared by the members of the group, they are: verbal, behavioral, and physical (Dyer, 1985). Drawing from the terms listed in Table 1, verbal artifacts include language, legends, myths, parables, sayings, slogans, and stories; behavioral artifacts include ceremonies, customs, doings, codes of ethics, habits, norms, practices, procedures, proven ways, rituals, routines, rules, standards, and taboos; and physical artifacts include art, acceptable working attire, work settings, technologies, tools of the trade, and trappings.

Values are cognitive constructs that help members of a group evaluate situations, actions, objects, and people in ways that lead to judgments regarding what is good or bad, important or unimportant, and acceptable or unacceptable. This definition is based on the writings of Davis (1985), Enz (1986) and Wilkins and Patterson (1985). Drawing from the terms in Table 1, values are reflected in the attitudes, feelings, morals, and preferences that are shared by members of the group.

Throughout the literature, the definitions offered by scholars and practitioners for the terms <u>belief</u> and <u>assumption</u> are so closely alike that, for all practical purposes, they mean the same. For example, Sathe (1983, Autumn) defined beliefs as basic assumptions concerning the way the world works and Dyer (1985) defined assumptions as core beliefs that underlie artifacts, perspectives, and values. What seems to be a circular argument is, in this researcher's opinion, merely a difference of choice of which term to emphasize when defining the deepest cognitive aspect of culture. Sathe chose to place assumptions at the very heart of culture, whereas Dyer chose beliefs. This flip flop of emphasis is common throughout the literature. Therefore, in keeping with the objective of trying to develop practical procedures for describing corporate culture, this researcher assumed that beliefs and assumptions mean the same.

Beliefs and assumptions are cognitive models of the proper way for members to perceive, think, feel, and behave when carrying out organizational business. Models for perceiving and thinking help members recognize, classify, understand, and deal with whatever situation one might encounter in the course of doing business. Models for behaving and feeling help members choose socially acceptable ways to interact with others and express emotions while working to carry out organizational business. Drawing from the terms listed in Table 1, corporate creeds, ideologies, philosophies, policies, and principles are examples of formal cognitive models and preconscious cognitive schemes; survival strategies, and organizational views are examples of informal cognitive models.

Third, to help understand how a particular workplace culture and its members fit in relative to other groups, it is helpful to profile the culture by measuring certain characteristics of the culture under investigation. There are three characteristics presented in the literature that are useful to this project. They are culture typing, as presented in the writing of Martin and Siehl (1983, Autumn), Sathe (1985a, 1985b) and Van Maanen and Barley (1985); and culture strength and culture direction, as presented in the writings of Kilmann, Saxton, and Serpa (1986) and Sathe (1985a, 1985b). Culture typing is determining whether the culture under investigation is a dominant culture or a subculture, and if it is a sub-culture, then, whether it is enhancing, orthogonal, or counter. Culture strength is a measure of the level of pressure and intensity the culture exerts on its members for the purpose of influencing behavior. Thickness, extent of sharing, clarity of ordering, and geographic dispersion all contribute to determining a culture's strength. Lastly, culture direction has to do with whether the culture is guiding behavior and performance in ways that are consistent or inconsistent with organizational goals.

Table 2

A Conceptual Model of Workplace Culture

I. Organizational Requirements

An organization that has a well developed culture, capable of sustaining itself from one generation to the next, will possess the following characteristics:

A. The group is composed of two or more people.

B. The group has a stable membership.

C. The group has a long and rich history.

D. There is ample opportunity for members to interact with each other.

II. Culture Content

A. Artifacts are at the surface level of workplace culture.

1. Verbal artifacts: language, legends, myths, parables, sayings, slogans, and stories.

2. Behavioral artifacts: ceremonies, customs, doings, codes of ethics, habits, norms, practices, procedures, proven ways, rituals, routines, rules, standards, and taboos.

3. Physical artifacts: art, acceptable working attire, work settings, technologies, tools of the trade, and trappings.

B. Values are at the mid-level of workplace culture. They are reflected in the attitudes, feelings, morals, and preferences of the members of the group.

C. Beliefs and assumptions are at the deepest level of workplace culture. They are reflected in creeds, ideologies, philosophies, policies, principles, preconscious cognitive schemes, survival, strategies, and organizational views.

III. Workplace Profile

To help understand how a particular workplace culture fits in relative to other groups it is helpful to measure the following characteristics:

A. Culture type

1. Dominant culture.
2. Subculture: enhancing, orthogonal, or counter.

B. Culture strength

A level of pressure and intensity exerted on the members of the group for the purpose of influencing behavior.

1. Thickness--number of shared beliefs and values.
2. Sharing--proportion of members who posses cultural knowledge.
3. Clarity of Ordering--relative importance of individual values, beliefs, and assumptions.
4. Geographic Dispersion--the physical distance between members of the group.

C. Culture direction

Measured as the degree to which the culture under investigation is guiding behavior and performance in ways that are consistent with organizational goals.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Introduction

This research project has attempted to discover and describe the subculture of a group of San Diego Gas and Electric employees known as electric troublemen. The process that was developed to carry out the investigation is as important, and as much a part of this project, as discovering the content of the culture. Conclusions about what was learned and about how best to carry out future investigations are presented in chapter five.

Getting permission to do research at San Diego Gas & Electric was a very long and laborious task. It took from May, 1989 to March, 1991 to get final approval to investigate the electric troublemen subculture. This researcher chose to start at the top of the Customer Service Division by first asking the vice president in charge of Customer Service for permission to conduct a cultural investigation on a group of employees within his division. After submitting a draft copy of my dissertation proposal to his office and talking to the vice president by telephone, on May 19, 1989, he gave his permission for me to proceed.

My proposal was forwarded to the Human Resource Department with instructions for them to do what they could to accommodate my request. I then met with a manager in charge of organizational development activities. The employees in this group were working on a Customer Service Division cultural profile project. The manager offered to involve me, but I declined. Their project was interesting but it was their project--not mine, the scope was much too large, and the methodology they were planning to use was strictly quantitative.

While working with the Human Resource Department manager, I was introduced to a Customer Service Division district manager. This manager and I negotiated for more than one year, until, in July, 1989, he gave me a letter of permission to do research. The letter was not specific as to which group within Customer Service I could investigate, so negotiations continued. We had another meeting to discuss which groups within Customer Service were good candidates for my project. Everything seemed to be going well up to this point but somehow negotiations stalled at this meeting and did not resume again for several months. It wasn't until January, 1991 that we got back together again. From January to March, 1991, we explored a few groups, and electric troublemen seemed to be the group that met my research needs and was acceptable to the manager.

The reason I chose electric troublemen as the subject of this study is because this group fit all four of the requirements that Wilkins and Ouichi (1983) and Fawcett (1984) said should be met in order for an organization to have a healthy culture. The first requirement, that the organization have at least two members, was easily met. The second requirement, that the group have a stable membership, was easily met when preliminary research revealed that most full-time troublemen have been troublemen for at least ten years. The third requirement, that the group have a long and rich history, was met when preliminary historical research revealed that the company's newspaper had reported troubleman activity as far back as 1923. And finally, as for the fourth requirement, that there must be ample opportunity for members of the group to interact with each other, I was told that troublemen do speak to each other over the two-way radio and help each other in times of emergency.

Before giving final approval for me to investigate the troublemen culture, this manager asked that I spend a day riding with a troubleman and afterwards we would talk about the experience. My impression at that time was that he wanted to see if I would be accepted by the troublemen. I looked forward to the ride-along because it would give me an opportunity to get comfortable with my choice before having to commit to doing research on this group. As a result of the initial ride-along, the manager and I were both pleased. The last step in getting approval was for me to attend a regular weekly troublemen meeting and explain to them what I intended to do. This meeting also went well. After speaking to the group, the manager asked if anyone had objections and if there were any volunteers. No one objected and everyone said they were willing to allow me to ride with them. Finally, research was off to a good start.

Site Selection and Participants

San Diego Gas & Electric Company is an investor-owned energy management company founded in 1881. It serves 1.1 million electric customers and 700 thousand gas customers, over a service territory that covers 4,100 square miles. Forty-four percent of the energy needed to serve its electric customers is generated by company owned electric plants and fifty-six percent is supplied through purchased power contracts with other electric utility companies. With regard to the electric equipment that must be maintained by company employees, SDG&E has 4 electric generating plants, 167 substations, 1,350 pole miles of transmission line, 20,000 pole miles of distribution line, 130,000 distribution transformers, 6,000 switches, and 21,000 fuses.

Organizationally, the company is composed of two businesses, Utility Operations and Pacific Diversified Capital (a wholly owned non-utility subsidiary that mainly provides environmental products and services worldwide).

This dissertation project is concerned only with the utility side of the company's business.

Within the utility side of the business, SDG&E is composed of organizational units responsible for executive, engineering, and administrative support functions, gas and electric units, and a customer service unit. The gas units are responsible for acquiring natural gas from sources outside of the company and delivering it through large gas transmission pipes to points in the system that connect to smaller gas pipes for distribution to the company's gas customers. The electric units are responsible for generating electric energy, acquiring purchased power and distributing both over large transmission lines to points in the system that connect to lower voltage lines for distribution to the company's electric customers. The customer service unit is responsible for distributing electric and gas energy from the points in the system where transmission lines connect to distribution lines (these points are called substations) to all electric and gas customer meters. Customer Service is also responsible for constructing and maintaining the electric and gas distribution system and for performing all customer contact functions. This dissertation project is concerned only with the Customer Service Division.

Within the Customer Service Division, the company's service territory is divided into districts. Within each district, there are offices to serve customers and equipment yards from which personnel are dispatched to either construct or maintain electric and gas distribution equipment. With regard to the personnel who construct and maintain the company's service lines and equipment, there are those who troubleshoot electric and gas service problems and those who carry out routine construction and maintenance. This dissertation project is concerned only with the group of employees who are responsible for troubleshooting electric service problems. Employees in this group are called electric troublemen.

There are thirty-nine full-time electric troublemen stationed at various districts throughout the service territory. These troublemen spend most of their workday driving San Diego County roads in small trucks as they respond to service problems dispatched to them from headquarters. Electric troublemen work shifts. Some start as early as 6:30 a.m. and some finish as late as 11:00 p.m. After 11:00 p.m., all troublemen are on call throughout the night, until the morning shift takes over. Full-time troublemen are backed up by a crew of twenty-eight relief troublemen. Reliefs fill in for vacationing or sick full-time troublemen or help out whenever there is a major emergency.

During the course of the investigation, eighty-two hours were spent observing and interviewing ten electric troublemen, nineteen hours were spent observing and interviewing six employees who interact with troublemen, and fifty-nine hours were spent searching through historical document data.

Research Design

Following the advice of Firestone (1987), Guba and Lincoln (1985), and Marshall and Rossman (1989), the approach that was used to investigate the electric troublemen subculture emphasized qualitative rather than quantitative data gathering techniques. Qualitative research was conducted within a case study framework, according to the principles of naturalistic inquiry.

The case study method is appropriate for investigating a workplace culture. The advantages that come with choosing this method are: 1) it bounds the investigation to the limits of a particular group or culture, thereby enabling the researcher to collect data that is grounded in the experiences and perspectives of the members of the group; 2) it provides the researcher an opportunity to use qualitative data gathering and analysis techniques that might otherwise be prohibited by a more scientific study design; and 3) it focuses the reader's attention on findings and conclusions that pertain to one particular group or culture without forcing the researcher to make excuses for the study's lack of generalizability to other groups or cultures.

Naturalistic inquiry focuses on discovering multiple realities that nest within, or complement one another. The goal of naturalistic inquiry is to deal with many different views of reality in an attempt to discover how these different views interrelate to form patterns of truth. As the inquiry proceeds in a natural setting, understandings of the phenomena under investigation emerge (Guba & Lincoln, 1985). By following these principles this researcher kept his own values and beliefs in check while carrying out the cultural investigation.

Ethnographic techniques such as observing members as they go about their daily activities, conducting in-depth interviews with insiders and outsiders, and searching through archives to gather historical data were used to uncover cultural artifacts, values and beliefs. Data validity and reliability concerns were addressed by paying close attention to applying these data gathering techniques in ways that cross check and triangulate the findings. Data analysis was performed at the lowest possible level of detail. A conscious effort was made to resist the temptation to summarize the data as a way of doing the analysis. Raw data was sorted, sifted, classified, and mapped until behavioral and cognitive patterns and themes were discovered.

Data Gathering Techniques

Observation

Observation involves systematically describing the events, behaviors, and artifacts in the setting. There are several different ways to observe, each created by combining observer strategies from the following three dimensions.

First, members can be observed as they conduct their daily business in their natural setting or they can be observed reacting to a contrived situation in a controlled environment. Sapienza (1985) followed managers as they went about their daily work related activities in their natural workplace setting. She went to their meetings, noted their behaviors, and read their memos and letters. Louis (1985a) and Lorsch (1986) both developed simulation activities designed to help draw out tacit knowledge and cultural beliefs. These types of simulation activities are to be facilitated by the researcher and completed in a controlled environment as part of a group discussion.

Second, the researcher can choose to be a participant or a nonparticipant while observing. Participation comes with the advantage of being able to get close to what is being witnessed so the researcher can observe with all of his/her senses. That is, observe by seeing, feeling, listening, smelling, and doing (Dyer, 1985; Marshall & Rossman, 1989; Sathe 1985a, 1985b). Observing as a nonparticipant also comes with advantages. For example, by keeping a certain distance the researcher can be more objective, when it is necessary to be objective, and can see things from a broad perspective, when it is necessary to develop an overall or general understanding of what is going on in the setting (Marshall & Rossman, 1989).

Third, the researcher can choose to be covert or overt while observing. To covertly observe the members of a group, the researcher hides from the members the fact that they are participants in the research project. This approach may help gain easy access to cultural data that may not otherwise be made available to the researcher, but, it does pose ethical concerns with regard to the proper way to carry out qualitative research. Most scholars who are expert at conducting qualitative research believe that one should be direct and as clear as possible about the purpose of the research, and the fact that the researcher is about to observe the members of the group as they carry out certain activities (Borg & Gall, 1983; Guba & Lincoln, 1985; Marshall & Rossman, 1989).

For this project, overtly observing members as they went about their daily work related routine in their regular organizational setting, sometimes as a participant but mostly as a nonparticipant, was practical and appropriate.

Nine days were spent riding with ten different electric troublemen as they performed their normal work activities, and two days were spent sitting next to two dispatchers as they dispatched work to the electric troublemen.

There are several ways to record observation data, some are simple and inexpensive, such as taking hand written notes, while others are complex and expensive, such as video taping participants as they go about their business. In keeping with the objective of trying to develop practical procedures for investigating culture, and from what seemed to work well during the initial ride-along, two methods for recording observation data seemed to be appropriate for this project: 1) taking field notes and 2) keeping an experience log (Guba & Lincoln, 1985). Field notes are taken as the researcher is observing. For this project, taking notes by hand or speaking into a microcassette tape recorder was practical and appropriate. An experience log is made up of notes written down after the observation session. Here the researcher develops notes from field notations and thoughts on what transpired throughout the day. There are no rules concerning what the researcher can record or exactly how the notes are to be entered in the log. For this project, recording notes in a spiral notebook and on a personal computer diskette was practical and appropriate.

Structured, Unstructured, and Phenomenological Interviews

The goal of the interviewer is to find out what the members of the group do, how they do it, and what they think it is that makes their organization and its members different from others (Angrosino, 1974).

Any member of a group who provides information to the researcher is called an informant. The researcher will most likely not have the opportunity to get to know everyone in the group, therefore, one should get close to a few members. These special informants are called key-informants. Key-informants should be individuals who are well established members of the group, have detailed knowledge on the crucial aspects of the culture, and are able to communicate effectively with the researcher. The key-informant helps the researcher get acquainted with the organization and its members, points the researcher in directions which can lead to the discovery of cultural information, and helps the researcher develop an understanding of the data (Angrosino, 1974; Edgerton & Langness, 1974; Pelto, 1970).

For this project, it was practical and appropriate to interview both informants and key-informants.

In this study, the informants were troublemen, dispatchers, troublemen supervisors, managers, and a vice president. One of the troublemen supervisors was a key-informant.

There are two types of interview sessions, informal and formal. Informal interviews are usually unplanned. This type of interview is used frequently by researchers who are immersed in the culture. Formal interviews are planned in advance. There are two types of formal interviews, structured and unstructured. Structured interviews require the researcher to have some knowledge about the culture and be prepared to ask a series of questions that have been planned in advance. Here, the researcher is looking for answers that are within bounds set by his own presuppositions, working hypotheses, and hunches. The structured interview is a good tool to use for cross checking information collected from various other sources. In the unstructured interview, the researcher asks open-ended general questions and guides the discussion rather than directs it. The interview begins as a conversation, progresses in a dynamic fashion with the researcher formulating questions on the spot that follow leads to new cultural information, and ends when it is apparent that there is little new information to be gained by continuing. The unstructured interview is a good tool to use for gathering new information, gaining in-depth knowledge about some area of interest, or to discover the meaning of things from the perspective of the respondent (Angrosino, 1974; Edgerton & Langness, 1974; Guba & Lincoln, 1985; Marshall & Rossman, 1989; Pelto, 1970).

For this project, all three types of interviews were practical and appropriate. Informal and unstructured interviews were used to gain new cultural data at all levels, from artifacts to beliefs; structured interviews were used to cross check certain elements of cultural information collected from different sources.

Phenomenology focuses on individual rather than group experience. The goal of the phenomenological interview is to ascertain a rich description of the meaning the respondent gives to the topic under investigation (Tesch, 1984). For example, if a researcher is interested in learning what meaning is attached to a particular cultural value identified during a prior interview session, then a phenomenological interview could be used to guide the respondents through the process of expressing their thoughts and feelings as they pertain to the cultural value under investigation.

Collecting and analyzing phenomenological data is time consuming and involved. Data are collected by administering a protocol of open-ended questions to each respondent. The researcher uses a microcassette tape recorder to capture the respondent's verbal responses and takes handwritten field notes to capture nonverbal responses. The tape recorded data is then transcribed and analyzed along with field notes. Processing the data involves reading the data several times with the objective of identifying patterns of meaning and themes that run through the data. The researcher is then expected to verify their findings by reviewing them with the respondent and by asking a panel of judges, or a fellow researcher, to reprocess a sample of the data to see if the same or similar findings can be found a second time (Hycnyer, 1982; Tesch, 1984). Interviewing and analyzing are usually repeated for as many individuals as it takes for the researcher to determine if there are recurrent meanings and a common theme across the set of members who were interviewed.

For this project, phenomenological interviews were appropriate but not practical. According to Tesch (1984), phenomenology is an approach and an attitude for doing qualitative research that takes years to develop. Phenomenological interviews require a large block of time to be set aside for conducting interviews and analyzing data, and a high level of competence on the part of the researcher and the panel of review judges. These requirements are reasonable for a student doing doctoral level research but difficult for someone outside of academia who may be short on time, talent and funding to do cultural research within a firm. Therefore, since it is the objective of this project to develop practical procedures for investigating corporate culture, this researcher reluctantly chose not to include phenomenological interviews.

Historical Data

Qualitative research involving members of a group can be enhanced by gathering and analyzing historical data prior to or concurrent with interviewing. Historical data often reveal the interplay between the organization's members and the culture. An analysis of these data helps to reveal how the culture shaped the attitudes and beliefs of the members or, conversely, how, over time, the members shaped or changed the culture (Edgerton & Langness, 1974; Marshall & Rossman, 1989).

Interviews, relics, and documents are the usual sources from which historical data are gathered. By interviewing a well established member of the culture one can obtain an oral life history of the member or of the organization. Relics are physical items that often represent cultural tools or symbols, or serve as props to stimulate conversation during an interview session. Documents, formal or informal, record organizational history in ways that reveal cultural values and beliefs.

Borg and Gall (1983) offered two guidelines for judging the value of a document. First, determine if the document is from a primary or secondary source. A primary document is one that was recorded by someone who was present at the time the event which is being described actually occurred, whereas a secondary document is one that was recorded by a person who was not present. Second, subject the document to a line of questioning that will help to establish to what degree the document is genuine and credible. Is the document an original or a copy? Who wrote it, where, and under what conditions? Is it possible, probable, and reasonable to believe that the event occurred? Was there bias in reporting?

For this project, gathering and analyzing historical data was appropriate and practical. Relics and oral histories were gathered mostly during interview sessions and documents were gathered mostly independent of the interview sessions. The oral history data that were collected were mostly stories told by troublemen, dispatchers, troublemen supervisors and managers. The document data that were collected consisted of work order source documents, technical manuals, employee news bulletins, and other miscellaneous documents.

Summary

The data gathering techniques that were appropriate for this project are observing, interviewing and collecting historical data. More specifically, overtly observing members as they performed their daily activities in their regular organizational setting, sometimes as a participant, but mostly as a nonparticipant; conducting informal and unstructured interviews to gather new cultural data and structured interviews to cross check certain elements of cultural information collected from different sources; and gathering historical documents, relics, and oral histories were all appropriate and practical techniques for gathering cultural data.

Using field notes and an experience log were appropriate and practical ways to collect cultural data. Using a pen and paper, a microcassette recorder, and a personal computer were appropriate and practical tools for recording cultural data.

The data gathering procedure is presented in Table 3.

Table 3

A Procedure for Collecting Culture Data

I. Collecting Observation Data

Approach: Use overt participative and nonparticipative observation, carried out in a natural setting.

Tools: Record field notes by hand, in a spiral notebook, and with a microcassette tape recorder. Experience log notes should be recorded by hand, in a spiral notebook, or on a personal computer diskette.

Procedure:

A. Settle in before beginning to record data.

B. Set aside personal biases.

C. Don't let personal knowledge corrupt the observation.

D. Sense by seeing, listening, doing, and feeling (not touching).

E. Pay attention to events, behaviors, and artifacts.

F. Look for data that points to artifacts, values, and beliefs.

G. You can't record everything, so try to be perceptive enough to collect data that is important to the mission.

H. Record data in chronological order, with a time stamp or a sequence number (e.g., 10:24 a.m. or entry 34).

I. If conducting nonparticipant observation, then keep a certain distance and look for the overall or general lay of the land. If conducting participant observation, then observe at a low level of detail but stress quality over quantity.

II. Collecting Interview Data

Approach: Conduct informal, structured, and unstructured interviews.

Tools: Record field notes by hand, in a spiral notebook, and on tape (the tape will be transcribed later). Experience log notes should be recorded by hand, in a spiral notebook, or entered onto a personal computer diskette.

Procedure:

A. Set aside personal biases.

B. Don't let personal knowledge corrupt the interview.

C. Find out what the members do, how they do it, and what they think.

D. Interview insiders (members, and those who are key informants) and outsiders (those who interface with insiders).

E. For informal interviews, gather whatever information you can. Use structured interviews to cross check data collected from other sources. For structured interviews, have a predetermined set of questions to ask. For unstructured in-depth interviews, conduct them as a guided conversation, by asking general questions, and following leads that point toward new information.

F. Keep all questions as open-ended as possible.

G. Look for data that points to artifacts, values, and beliefs.

H. Stress collecting data from the member's perspective.

I. Remain quiet while collecting data. Silence encourages the respondent to give precise responses.

J. Don't encourage the respondent to fill gaps. Assume the respondent is giving important information.

K. Use artifacts to trigger the respondent's memory.

L. Use contrast questions to help get at the meaning, from the member's point of view.

M. Assume that all data being collected is important. Sort and sift the data later.

N. When collecting data, be sure to know whether the response refers to the past, present, or future (e.g., the way it was, the way it is, or the way it ought to be).

O. When collecting historical data, date the information so that all data can be put into chronological order, according to the sequence in which it occurred.

III. Collecting Historical Document Data

Approach: Seek out data sources that contain information about artifacts, values, and beliefs that were active in the past or are active presently.

Tools: The researcher is the data collection instrument. Data can be recorded by copying its contents, developing a narrative to describe the data, or borrowing the physical item (as if it were a library book).

Procedure:

A. Look for data that points to artifacts, values, and beliefs.

B. Look for emerging patterns.

C. Pay attention to whether the data comes from a primary or secondary source and whether it is an original or a copy.

D. Question the accuracy of the data.

E. Question whether the source was biased in reporting.

F. Question the data: Is it believable, is it reasonable, could it have happened that way, is it probable, and so forth.

G. Question the credibility of the source. Who reported the data, and under what conditions was the data produced?

H. Be sure to date the data in a way that will enable you to relate it to other data that was collected by interview or observation.

Data Analysis

Data gathered by the techniques described in the preceding section were analyzed according to the first four steps of Marshall and Rossman's five-step procedure for analyzing qualitative data: 1) Organize the data; 2) generate categories and look for themes and patterns of meaning; 3) evaluate the plausibility of patterns and themes; and 4) search for alternative explanations (Marshall & Rossman, 1989). Marshall and Rossman's fifth step deals with writing the report. The data analysis and profiling procedure is presented in Table 4.

Step 1 involved organizing the data and reading through it thoroughly to become familiar with its content.

All notes were read, tapes were heard, and physical artifacts were inspected several times before any attempt was made to sort these data into categories. Data that, at first glance, looked as if it would lead to the identification of artifacts, values or beliefs were highlighted for careful consideration in Step 2. In addition to highlighting certain data, this researcher also tried to look at the whole picture as he read the interview notes from each respondent.

In Step 2 the data were sorted into categories and analyzed for emerging themes and patterns of meaning. Inductive reasoning, rather than deductive reasoning, played an important role in analyzing collected data. The data were sorted into a topology of categories that represent troublemen job duties, responsibilities and relationships. These data were analyzed to identify themes and patterns of meaning by looking for groupings of artifacts, values, and beliefs. Careful attention was paid to looking for salient facts that seemed to be grounded in categories of meaning.

Step 3 involved evaluating the plausibility of the themes and patterns of meaning that had emerged from these data.

Step 4, the last in this four step procedure, focused on searching for alternative plausible explanations for these collected data. These data were read a final time in an attempt to build logical arguments that would support alternative explanations of the observed phenomena.

Validity and Reliability

To ensure validity and reliability of these qualitative data, this researcher: (a) used more than one informant, (b) cross checked what the informants revealed, (c) attempted to triangulate information among data sources, (d) gathered data in thick description whenever possible, and (e) attempted to select only data that was grounded in the practices of the electric troublemen culture.

Limitations

Most qualitative studies are narrow in scope and do not enable the researcher to make generalizations about a larger population. Because this study was narrowly focused on a small group of electric troublemen at SDG&E, it would be difficult to infer from these study results to other similar groups, either inside or outside of this company. But, since it was not this researcher's intention to make any such generalization, this was a not problem. What may be an important limitation concerning this study is that the procedure which was developed for conducting a cultural investigation was tested on only one organization. Thus, even though the procedure was demonstrated to be useful, there is no assurance that it will be useful when applied to other organizations.

Table 4

A Procedure for Analyzing and Profiling Culture Data

I. Organize the Data

A. Organize raw input data by interview session, observation session, and historical document.

B. Enter the data into a computer text file. Assign a sequence number and a source code to each paragraph or group of related paragraphs (e.g., 123 I, paragraph 123 of the interview data).

C. Print a hard copy of the data. Use a wide right margin to allow room to make pencil notes.

D. Read through the data several times to become familiar with its content. Highlight data that may lead to identifying categories, artifacts, values, or beliefs.

II. Analyze the Data and Profile the Culture

A. Read the data again for purpose of creating a set of categories that group the data into subsets that are pertinent to the culture. For example, if it is a business culture that is being investigated, then job related activities may correspond well to the data that were collected.

B. Add a code to each of the numbered paragraphs to identify which category the data maps to (e.g., 123-I-Coffee means that paragraph 123 of the interview data maps to the coffee break category).

C. Sort the coded data into a category format and create a new hard copy. Use a wide right margin to allow room to make pencil notes.

D. Analyze the data within and between categories. Look for themes and patterns of meaning that surface artifacts, values, and beliefs.

E. Create a profile of the culture by listing the significant artifacts, values, and beliefs identified under each of the categories. Also assess the culture type, strength, and direction.

III. Evaluate the Plausibility of the Profile

Read through the original data again with the profile at hand. If the profile is plausible, then it will explain the original set of data. The artifacts, values, and beliefs contained in the profile should reflect the significant artifacts, values, and beliefs contained in the original data.

IV. Search for Alternative Explanations

Read through the original data a final time. Look for logical arguments that would lead to a different set of categories. If no new categories can be found, then stop here, the culture has been successfully analyzed and profiled.

CHAPTER IV

ANALYSIS OF TROUBLEMEN DATA AND PROFILE OF THE CULTURE

Introduction

It was discovered at the outset of this cultural investigation that a formal description of the electric troubleman's job duties and responsibilities does not exist. Management hasn't prepared a formal job description for any union position. Troublemen duties and responsibilities have been written about, talked about, and demonstrated, but no formal job description for this position has been created.

Data collected from historical documents, interviews, and observations provides a wealth of information from which a detailed description of the troubleman's job related duties and responsibilities could be prepared.

Historical document data revealed that the electric troublemen position existed as far back as 1923. In a lighthearted human interest column in the company's employee news publication, it was mentioned that a certain employee was an electric troubleman and his job was to handle electric system problems ("Emory Sherwin Stars," 1923). Additional accounts of troublemen duties were mentioned in later issues of similar company employee news publications. For example, in a 1926 issue of the News

Meter, the troubleman's job was described as one that includes taking care of no-light complaints, wires down, street lights out, and other emergency electrical repairs ("Trouble Department," 1926). Many years later, in a 1971 issue of News Meter, the troubleman's job was described as one that includes answering customer calls, installing new meters, switching circuits in substations, and inspecting substation equipment ("Our Troubleman," 1971). In a 1978 issue of News Meter, troubleman duties were described as changing and installing electric meters, clearing power lines, switching overhead and underground circuits in substations, inspecting substation equipment, responding to customer requests for assistance, and handling all manner of electric emergencies ("Mitch Covers The Territory," 1978).

Lastly, a search through three days of work order source documents issued to troublemen during February and March, 1991 confirmed that troublemen are asked to carry out the same duties as those described above. For example, there were many orders to investigate electrical problems at residential addresses; orders to install new customer meters; an order to perform a substation inspection; many orders to handle power outages caused by falling tree limbs, lightning strikes, or other acts of nature; and a few orders to respond to emergency situations, one involving wires down caused by a car that hit an electric pole and a few others that involved transformer explosions.

None of the orders asked troublemen to do anything that wasn't mentioned above.

Interview and observation data collected from both troublemen and those who interact with them revealed the same duties and responsibilities as did the historical document data, except these two sources contained much more detailed information about how troublemen do their job and their attitudes and feelings toward their work and the people they interact with each day. Interview and observation data account for the majority of data collected on the troublemen's culture. As it will be demonstrated in the text that follows, these data provided this researcher with an excellent view of the troublemen culture.

Analysis of the Data

This chapter presents the analysis of the data collected through interviews, observation, and historical document search. First, all data were entered into a computer and printed out. The printed copy was organized by interview, observation session, and document. All data were read several times, each time looking for ways to arrange these data into categories that would lead to uncovering characteristics of the troubleman culture. The categories that were immediately visible were the activities and tools related to the troubleman's work: 1) routine work activities such as setting new meters, responding to calls for customer assistance, inspecting substation equipment, and switching electric circuits; 2) outage related activities such as customer outages, circuit outages, and emergency situations; and 3) tools that troublemen use, the territory they cover, and the shift schedules they work. Other categories that emerged from this analysis are: 1) how one becomes an electric troublemen; 2) troublemen's relationship with management; and 3) data that point toward uncovering cultural type, strength, and direction.

After creating these categories, the elements of all of the collected data were sorted into these categories and a new printout was generated. This new printed copy was then analyzed to identify cultural artifacts, values and beliefs. The analysis of category data follows.

Routine Work

Setting Meters

Setting meters involves connecting new customers to the company's electric system. Troublemen carry a supply of meters in their trucks at all times. Each morning, before they leave the operating center they make sure they have enough meters to last through the day. Then, armed with a handful of printed work orders for new meter sets, the work day begins.

From the data collected from troublemen, it was revealed that being prompt about setting meters is important to them. For example, from the interview data, one troubleman commented that he likes to set meters as early as possible during the day so that the meter can begin spinning, thereby generating revenue for the company. Other troublemen and individuals who interact with troublemen made similar comments regarding the importance of setting meters as early as possible in order to help maximize company revenue. The observation data confirmed this practice. As I rode with troublemen, I noticed that they do try to set new meters as soon as they possibly can.

It was also discovered that troublemen don't like to set meters after dark. There is no written rule that prohibits setting meters after dark, it's simply a practice that has evolved. Troublemen feel strongly about this, and this attitude is revealed in the data and confirmed by all three sources.

Someone who interacts with them said he/she doesn't ask troublemen on the late shift to do meter sets after dark. Another said that he/she occasionally issues meter set work orders to be done after dark and then finds that they need to be re-issued the next morning.

The most striking example of the troublemen's reluctance to set meters after dark was revealed by the observation data.

It was near to the end of the normal work day when a call came over the radio for the troubleman and I to go to an apartment complex to set one more meter. When we arrived, we found there were twelve families living in newly constructed apartments without electricity. The apartment complex had just passed final city inspection earlier that day, but, these twelve families had moved into their apartments a few days earlier. The troubleman knew immediately that it was unacceptable to make these families wait until the next day to get connected but he also realized that it would require working late to connect all twelve meters.

The troubleman called the dispatcher to tell her there were twelve apartments without electricity. She called the troubleman back and said they represented twelve of forty meter sets that were on his schedule to be done the next day. After hearing this, the troubleman did not ask for permission to set the meters, did not specifically say that he was about to set the meters, he simply requested that she not try to call him for approximately one hour. The troubleman worked hard for an hour to connect these twelve apartments. When the job was finished he called the dispatcher and told her that he had turned on twelve customers. The message was very short and to the point. It was communicated in a way that made it obvious the troubleman didn't want other troublemen, who might overhear the two-way radio communication, to pay any attention to the fact that he connected meters after the regular day shift was over. The dispatcher returned the troubleman's communication with an equally short message, "good job."

Customer Assistance Calls

Customer assistance calls occur as a result of customers calling the company to report electrical problems at their personal residence or business. These problems usually involve only one customer and many times are caused by something going wrong on the customer's side of the meter box. Customer assistance calls occur frequently and are dispatched to troublemen over the radio throughout the day or night. Troublemen try to respond to these calls as quickly as possible, but, it should be noted that these data revealed that customer assistance calls do not take priority over all other activities. Other routine activities such as switching seem to be more important than customer assistance calls.

Three things were discovered about the troubleman culture: 1) If the problem is on the customer's side of the meter box, then it's okay to help the customer diagnose the electrical problem and, if it's only a minor problem, it's okay to make repairs for the customer; 2) also, if the problem is on the customer's side of the meter box, then it's okay not to help the customer and advise the customer to hire an electrician to make the repairs, even if it's only a minor problem; and 3) troublemen believe they are company ambassadors and while they do their work they should behave in ways that project a good company image.

All three sources of data revealed that customer assistance calls are equally split between problems on the company side of the meter box and problems on the customer's side of the meter box. It was pointed out by a dispatcher that only troublemen are qualified to diagnose electrical problems. Therefore, whenever a customer calls the company to report an electrical problem a troubleman will be sent to the customer address to investigate. No matter how simple or routine the problem seems to be, a troubleman will always be sent to investigate.

One of the strongest themes that run through these data is that the company has empowered troublemen with the authority to decide whether or not to help the customer diagnose and repair electrical problems that occur on the customer's side of the meter box. These data also revealed that in conjunction with empowering troublemen with this authority, the company has, upon occasion, assumed responsibility and liability for personal property damage claims against the company if a troubleman had worked on the customer's side of the meter box.

Someone who interacts with troublemen said in an interview that going beyond the meter is a customer problem, not a system problem, and the company is not required to solve customer problems. But, if the problem is minimal, and the troubleman feels good about the situation, and he has enough time to work on it, then he will usually make repairs for the customer; otherwise, he will advise the customer to hire an electrician. It was also pointed out that this has been the practice since the troubleman position was created--whenever that was.

In another interview, a troubleman told a story about another troubleman who had responded to a customer assistance call and found the problem to be a loose wire on the customer's side of the meter box. The troubleman tightened the screw and left. Sometime later, the customer filed a claim against the company for damage to his personal computer, caused by the loose wire. In this case, since the troubleman had worked on the customer's side of the meter, the company paid the claim, even though the damage was not caused by anything the troubleman did.

While riding with troublemen I observed this meter box practice several times. On one occasion we answered a no-lights call and found the problem to be a loose wire and a blown fuse on the customer's side of the meter box. The troubleman discussed it with the customer, made the repair, and said good-bye. On another occasion we responded to a residential customer call for assistance and found the problem to be an electrical short somewhere inside the walls of the customer's house. The troubleman traced the circuit that was failing and then advised the customer to hire an electrician to make the repairs.

The most poignant example of a troubleman exercising his authority to decide whether or not to go beyond the meter box was revealed by the observation data.

Early one morning, at 3:15 a.m., a troubleman and I were dispatched to a large shopping mall to handle a no-lights problem at a major department store. When we arrived a security guard informed us that half the mall was without power, not just one department store. The troubleman tested all of the equipment leading to the mall and found that the problem was not on the company's side of the service connection. He then began to investigate on the customer's side of the connection. After visually inspecting the mall's meter room equipment, the troubleman suggested to the security guard that he inform the mall manager that the problem is on their side of the service connection and that he should call a private electrician. The security guard called the mall manager at approximately 4:00 a.m. The mall manager's response was to ask the troubleman if he would assist. The troubleman's response was "yes", but only if the mall manager would assume all responsibility for any damage that may have already occurred or may occur as a result of testing. The mall manager agreed to assume all responsibility and the troubleman continued with his investigation. By 4:40 a.m. the troubleman had restored power to the mall.

As for being a company ambassador, all three sources of data seemed to reveal this practice. There were several examples of troublemen conducting themselves in ways that project a good company image. In the historical document data, for example: 1) excerpts from letters to the company expressing customer satisfaction with troubleman service were found in several issues of the company's employee news publication, from 1923 through 1991; and 2) survey results from the company's quarterly Customer Service Management survey show that ninety-five percent of the customers who were contacted by the company after a troubleman had responded to their call for assistance were "very satisfied."

There were also examples of troublemen showing concern about projecting a good company image, as revealed by the observation data. For example, one morning a troubleman and I were sent to a residential customer address to investigate a potential problem concerning tree branches entangled in the company's electric wires. After investigating the problem, the troubleman said he would report it as a tree trimming job to be done at a later date. Up to this point we had not seen the customer. As we started to drive away, the troubleman saw the customer watering his garden. He stopped the truck and told the customer he rang the doorbell, but no one answered. The troubleman and the customer looked at the problem together and the troubleman explained that it wasn't anything to worry about now and he would schedule a tree trimming.

The troubleman and the customer entered into a conversation about using hawks to hunt small prey. Following this friendly conversation, the troubleman fetched his tools from the truck and cut away the branches.

As we drove away, the troubleman commented that when a customer treats him nice, he does things for the customer that he is not obligated to do. He then said that it is important to him to leave the customer with a good image of the company, whenever possible.

Switching

Switching is intentionally taking high voltage lines out of service for a period of time so that line crews can work on them or troublemen can test them.

High voltage lines form the backbone of the company's electric system. They stretch between substations or between points in the system where substation equipment has been installed. Each section of line between substation equipment is call a circuit. Low voltage power lines feed off these circuits to deliver electricity to customer meters. The backbone system is composed of a network of circuits and the flow of electricity through these circuits can be controlled by switches. Because the backbone system is a network, most customers can be served by more than one circuit, it's just a matter of switching.

Electric troublemen are the only employees qualified to work on energized high voltage equipment. No one else in the company is authorized to handle live high voltage electricity. Whenever switching is required it must be done by an electric troubleman.

Three things were discovered about the troublemen culture as a result of learning about switching: 1)

Switching has not always been a troubleman duty. 2) Troublemen regard the backbone system as their primary responsibility. Nothing short of a life threatening emergency is more important to troublemen than keeping the backbone system up and operating properly. 3) There is a certain switching procedure that all troublemen must follow. No deviations are allowed.

Both interview data and historical document data revealed that switching duty was added to the troubleman's scope of work sometime between the late 1960s and the early 1970s. One participant who interacts with troublemen said it happened during 1969, and the earliest mention of this duty in the historical document data was in a 1971 employee news publication that included switching as an element of the troubleman's job. Others who were interviewed pointed to the late 1960s as being the last time the troubleman's job had changed.

This information is important to the cultural study because it marks the last time the troubleman's job duties and responsibilities changed, thereby contributing to a collection of facts that point to the troublemen culture being stable.

Both the observation and interview data revealed that the backbone system is very important to troublemen. For example, a troubleman and I were driving to a residential address to handle a customer assistance call when we received an order from the dispatcher to do switching at a substation. The troubleman changed direction immediately and headed for the substation. After performing the switching operation we continued driving to the customer's house. On another occasion a troubleman and I were driving to a substation to do switching when we received a call from the dispatcher to assist another troubleman at a residential address where a transformer on a pole had exploded and started a ground fire. The troubleman changed direction immediately and went to assist the other troubleman.

From these two examples, doing switching is more important than responding to customer assistance calls but not as important as tending to an emergency situation.

From the interview data, someone who interacts with troublemen described them as being system oriented rather than customer oriented. According to this person, their main concern and their pride is maintaining SDG&E's electric system. They consider the electrical system to be theirs. They are responsible for it. They want to keep it going. If a customer has a problem, then the troubleman will take care of the customer if it doesn't interfere with servicing the main line. Interviews with troublemen confirmed this view.

The observation data revealed that troublemen have a certain procedure for doing switching at a substation. This procedure was followed by every troubleman I rode with: 1) the troubleman radios the dispatcher that he is about to enter the substation to take circuit 999 out of service; 2) the dispatcher acknowledges and repeats the circuit number; 3) the troubleman enters the substation, double checks the circuit number and switches off the circuit; 4) the troubleman puts a red tag on the switch handle to let others know the circuit has been purposely turned off and not to touch it; 5) the troubleman makes an entry in the substation log book to document the fact that he took circuit 999 out of service; 6) the troubleman radios the dispatcher that he has successfully taken circuit 999 out of service; and 7) the dispatcher acknowledges the troubleman's radio call by repeating what the troubleman said. This procedure is also used to put a circuit back in service.

It was pointed out by troublemen that switching circuits on and off is a very serious matter. Since the troubleman can't see the circuit he is switching from the substation, he doesn't know for sure if anyone is standing close to the power line. Therefore, if switching weren't done according to this precise and well coordinated procedure, someone could be electrocuted.

Substation Inspections

Substation inspections involve visiting every substation on a regular basis to visually inspect the equipment and the grounds. If everything is in good repair and operating properly, the troublemen will indicate on an investigation order document that everything is fine;

otherwise, they will make note of the problems and schedule repairs.

Not much was revealed in the historical document data or the interview data about this activity, other than substation inspections are done on a regular basis and troublemen are the only employees qualified to perform this duty. The observation data confirmed both of these facts. Culturally speaking, no additional information was obtained.

Outages and Emergencies

Outages and emergencies are not considered routine work, even though they occur frequently.

Electric outages (also called power outages) are situations where a circuit fails for some reason and the customers who are fed by that circuit lose power. Outages involve the backbone system and can affect a few customers or an entire city, depending upon which circuit failed. The way the company usually finds out that a circuit has failed is when many customer calls start coming in from the same area. A dispatcher displays a circuit map on a computer screen and plots the customer's location as the calls arrive. This helps the dispatcher identify the location of the failed circuit. Once it has been determined that an outage has occurred and the circuit number is identified, the dispatcher will notify a troubleman and send him to investigate.

Emergencies are situations where the company's electric equipment has either failed or has been damaged, and has created a dangerous situation for life and/or property. What makes emergencies different from outages is that they may involve only one customer address rather than many, and, of course, they put life or property at risk. The company usually finds out about an emergency when a customer, or someone from the local fire department or police department, calls the company. Occasionally, a troubleman will be monitoring a local emergency radio frequency and hear about it himself. As soon as the dispatcher has basic information concerning the emergency, he/she determines which troubleman should handle the call and then uses a special radio calling code to get his attention. The information is passed on to the troubleman and he is then expected to cut short whatever he is doing and tend to the emergency situation.

There was not much information in the historical document data concerning how troublemen respond to outages or emergency situations but the interview and observation data was rich with such information. Many things were discovered about the troubleman culture from these data, in summary they are: 1) troublemen do not usually work alone when tending to an outage or an emergency; 2) both company management and troublemen believe the proper metaphor to use to describe the characteristics of a troubleman and his work is that of a fireman and his work; and 3) troublemen view outage and emergency work as their value to the company.

A cultural characteristic that will be discussed later in this chapter is the notion that troublemen work alone. This investigation has found that "working alone" is a cultural language artifact that has two different meanings, one that pertains to working by oneself and another that pertains to a certain set of personal characteristics that differentiate a troubleman and his work from other employees and their work. For this discussion, "working alone" shall pertain to working by oneself.

The interview data revealed there are no written rules that require the dispatcher to assign two or more troublemen to any situation, but it is a well accepted practice that for certain situations two troubleman must be assigned. One of these situations is whenever a troubleman needs to locate an electrical fault in the company's underground electric system. In this case, if a troubleman must enter an underground electric vault, then two men are required for safety reasons. In addition, testing underground circuits is more easily handled when there is one person at each end of the circuit. Sometimes three troublemen are used to test an underground circuit, one at either end of the circuit and one at the substation to do the switching. Tracing overhead electric lines to locate an overhead line fault also goes smoother when two troublemen work together. These are times when the dispatcher will usually assign two troublemen to the job. For other outages, such as wires down or a failed transformer, or for most emergencies, troublemen usually volunteer to assist each other.

One comment made by everyone who was interviewed, and also heard said by a supervisor at a troublemen safety meeting, is that if a troubleman feels that he needs help, he is encouraged to call the dispatcher and ask for assistance. Company management supports this practice one-hundred percent. The bottom-line concerning outages and emergences is that troublemen don't usually work alone.

The observation data confirmed that troublemen usually together. Two examples follow, the first is an emergency situation involving downed power lines and the second is an outage situation involving overhead electric lines.

One rainy day, a troubleman and I were driving the roads in his territory when he overheard the dispatcher call another troublemen. The other troubleman was instructed to go to a location where electric lines had fallen across a heavily traveled road. This was clearly an emergency situation. Without hesitation, the troubleman I was riding with called the dispatcher and told her that he was going to drive to the scene and help the other troubleman. We drove approximately ten miles to get to the scene, and when we arrived we saw that a large tree had fallen onto a pair of primary and secondary electric lines. When the lines came down they fell across the road and created a dangerous condition. Someone from the fire department had been sent to the scene to cone off the road so that no cars would drive over the fallen electric lines. The cable television company also sent someone to reconnect their lines after the electric crew re-established electric service.

The two troublemen worked together to first make the scene safe, then to isolate the problem and put as much equipment as possible back into service, and then the troubleman I was with called the dispatcher to report that the job was done and placed an order for a crew to come out and do the repairs. After the job was done the three of us went to a drive-in restaurant for a hot cup of coffee.

On another rainy day, a troubleman and I were on our way to a residential address when the dispatcher called and ordered us to respond to a transmission line outage. We immediately turned the truck around and headed for the substation where the circuit began. Another troubleman was sent miles away to the other end of the circuit. The plan was for the two troublemen to open and close switches in a well coordinated manner as they worked toward each other to converge on the section of transmission line that caused the fault. The two troublemen used hand-held two-way radios to communicate to each other and to the transmission switching center. Eventually the problem was found, wet eucalyptus tree branches had come in contact with the high voltage lines. The tree branches were cut away and the problem was solved.

Only the interview data contains information that reveals that both company management and troublemen believe that the proper metaphor to use in describing the characteristics of a troubleman and his work is that of a fireman and his work. There is nothing in the document data to support this notion and it wasn't until late in the investigation that I realized this metaphor was being used repeatedly, so I didn't make an attempt to define fireman characteristics and compare them to troubleman characteristics while collecting observation data. Although, when reading through the observation data, some similarities are apparent.

Here is what someone who interacts with troublemen said in an interview, "When a firefighter is in the station house, the community is safe. When the firefighter is out of the station house, the community is at risk." He then went on to say, "When a troubleman is sitting in his truck, everything is fine. When the troubleman is responding to an outage, the community may be at risk and the company isn't making money." Another person who interacts with troublemen indicated that he/she believes that troublemen see themselves as firefighters. He/she also commented that troublemen are the company's first line of emergency response. In an interview, one troubleman compared the work practice of taking his truck home at night to a fireman's cultural requirement of always having to be ready to respond to an emergency situation. Another was complaining that management wants troublemen to always "be busy." He felt that troublemen need to have control over their free time. His reasoning was that, like a fireman, one never knows when an emergency situation will require working long stretches of overtime.

What is important is not how much a troubleman is like a fireman but that troublemen are different than most electrical workers. I believe that both management and troublemen are using this metaphor more often to differentiate troublemen from other groups of electrical workers than to point out the similarities between the two professions. What they are implying is that troublemen are a special group of employees and they should be treated differently than other groups of electrical workers. This will be discussed later in this chapter.

All three sources of data (interviews, observations and historical documents) revealed that the troubleman's highest value to the company is his ability to respond to outages and emergencies quickly and effectively. Troublemen have a very long track record of saving lives and restoring service. One troubleman wouldn't discuss the details concerning an incident when he had pulled energized wires off a car that was on fire so that firemen could get to the person inside, but he did mention that he felt that he had earned an entire year's pay that day.

The same sentiments were reflected in interviews with those who interact with troublemen. For example, one person said:

> In any major crisis (outage or emergency), . . . troublemen respond exceptionally well. They are relied upon, given blanket authority and coverage, and have always done what they are expected to do in a major crisis. That's been their value and that's where supervisors tend not to worry about the minor things.

Tools, Territories, Shift Schedule and Overtime Work

All three data sources revealed information about the tools troublemen use, the way the company's service territory is divided into troubleman territories, and rolling shift schedule they work.

Tools

Troublemen tools are specialized, but simple. Nothing I saw or read was sophisticated, electronic, or large and complex (except the troubleman's truck). All of the troubleman tools are designed as hand tools. No tool requires more than one person to operate it. In addition to the tools needed for working on electric equipment, troublemen also have a special set of circuit maps, safety gear and protective clothing, and a battery of communication devices.

The troubleman's most important tool is his trouble truck. Each troubleman has a truck of his own. A truck is issued to a troubleman just like a pair of shoes. The truck is his to use and his to maintain. He doesn't have to repair it himself (the company has a fully staffed garage for that purpose), but he is responsible for requesting maintenance checks and repairs. The troubleman takes his truck home at night.

A trouble truck is a three-quarter-ton pickup truck, modified especially to suite a troubleman's needs. There are lights for illuminating the cab, the cargo area, and the electrical equipment that is being worked on; there is a two-way radio mounted in the cab; there is a large power wench and an electric power generator with electric outlets on the front, back and sides of the truck; there is a make-shift work bench with a vise; and there are many storage cabinets and racks to store tools and supplies.

Inside one of the cabinets on the side of the trouble truck is a shelf for storing maps and manuals. Each truck is equipped with a complete set of circuit maps for that troubleman's territory, but not for the entire SDG&E service territory.

Troublemen have special clothing: shirts, pants and jackets coated with fire retardant; a hardhat; a complete set of rain gear; and rubber insulated safety gear for working on high voltage equipment.

Troublemen also have a battery of communication equipment. All troublemen have a two-way radio mounted in their truck and a hand set to take with them when they leave the truck; some troublemen have a cellular car radio; and all troublemen have pagers and a telephone calling card to use to make calls from a public telephone.

Three interesting things concerning tools were discovered about the troublemen culture: 1) troublemen acquire tools differently than other electrical workers; 2) there is a language for using the two-way radio that is specific to the troublemen culture; and 3) the two-way radio is used for monitoring the activities of other troublemen, as well as for communicating with the dispatcher.

These interview data revealed that other electrical workers such as linemen have a set of procedures to follow and forms to complete whenever they order a tool from supply or request the company to open a purchase order for a new tool. For this group of employees, the company has a tools committee that processes all requests for new tools. For troublemen, there is no committee and there are no forms or written procedures. All troublemen have to do is ask their supervisor to acquire the new tool for them. In this case, the troublemen supervisor acts as a one-man tools committee. This difference was mentioned by both troublemen and those who interact with them. But there were additional comments from the troublemen that seem to indicate there are disadvantages as well as advantages associated with this procedure. The advantages are that troublemen don't have to fill out forms and they don't have to wait long for a response. The disadvantages are the troubleman must convince his supervisor the tool is needed, the expense must be paid out of the supervisor's budget, and just because the troublemen in one district get the new tool doesn't guarantee that it will be made available to troublemen in other districts.

The interview and observation data revealed that there is a special two-way radio language that is used by troublemen and dispatchers to communicate to each other over the radio. The language is deeply rooted in the culture, so deep that the troublemen use it now, even though it's technically obsolete. This language is composed of a series of numbers in the 800s. Each numeric code serves two purposes, first as shorthand for a particular standard message and second, as a way of concealing the message from anyone outside of the company who may be monitoring radio calls over the public airways. More specifically, these codes are: 800, message received and acknowledged; 801, routine assignment; 802, urgent assignment; 803, any assignment? give location; 804, nothing for you; 805, cancel last assignment; 806, what is your location?; 807, repeat message; 808, not used; 809, call by phone; 810, stand by; 811, in service--give location; 812, out of service--give location; 813, job progress; 814, radio difficult to read--change location; 815, radio loud and clear; 816-819, not used; 820, possible release of contaminated oil; and 888, emergency code.

In 1990 the company installed a new radio system that offers more channels and complete privacy from listeners outside of the company. As the radio system was being installed, training sessions were given on the features of the new system and how to use it. Trainers told the troublemen that it was no longer necessary to use the codes. Since there is now plenty of channel capacity, there isn't any longer a need to keep the communications short; and since all conversations are now private to the SDG&E radio system, no one has to worry about people outside the company listening to their conversations.

It is now 1992 and the troublemen have not stopped using the radio codes. They refuse to stop using them. The interview and observation data confirmed this. One troubleman said that he has been using these codes for years and he is not going to stop. Another troubleman said that he didn't believe the trainer when he said that people outside the company couldn't listen in.

While attending a safety meeting, a supervisor offered to have a representative from the radio company come to hear the troublemen's concerns about the radio system. The troublemen weren't interested. Bottom-line, radio codes are an artifact of the troublemen culture and the culture seems to be very resistant to change.

Both the observation data and the interview data revealed that troublemen use the radio system to monitor the activities of other troublemen. There are two reasons for doing this: 1) so troublemen can stay abreast of the electrical problems that are occurring throughout the system, and 2) so troublemen can monitor each other's behavior and scold one another when actual behavior goes beyond the bounds of acceptable rules of conduct. The second point will be discussed later in this chapter.

One example of monitoring other troublemen's radio calls for the purpose of staying abreast of what's going on in the system is when a troubleman and I were driving the roads in his service territory and he overheard the dispatcher call another troubleman. The dispatcher ordered the other troubleman to go immediately to the scene of an accident. The troubleman I was with radioed back that he could assist.

Another example is one that involves monitoring the activities of another troubleman. It occurred one night when I was riding with a relief troubleman. We had just been ordered to go to a major department store in a large shopping mall to respond to a lights-out call. As we were heading toward the store, another troubleman called the dispatcher and requested that he be allowed to speak directly to my relief troubleman. The dispatcher gave permission, and then the other troubleman called my relief troubleman to ask if he knew exactly where to go to find the transformer that serves the department store. My relief troubleman wasn't sure where the transformer was located and was pleased that the other troubleman could offer assistance over the radio.

Territories.

The company's service territory is divided into districts. Most districts are further divided into troublemen territories. All troublemen are permanently assigned to work out of a district office, and most choose to work only one troubleman territory. It's not unusual for a troubleman to work the same territory for his entire troubleman career. The amount of electric trouble that is expected to occur, and the type and vintage year of the electrical equipment in a certain area, are factors that are considered when setting territory boundaries.

All three data sources have revealed that troublemen territories exist, but only the interview data revealed how important territory boundaries are to troublemen.

Troublemen are territorial. These data show that troublemen unite and defend what they believe to be their privilege to not be required to cross territory boundaries. They believe strongly that if a situation requires more than one troubleman, then, unless it is an emergency, the dispatcher should do everything possible to first call a troubleman or relief troubleman who is permanently assigned to the district that would normally be expected to respond to the situation, even if it requires calling someone who is not on duty at that time. These data also revealed that this is the practice.

Some who interact with troublemen said that one thing troublemen and management agree on is that during an emergency situation it's okay to call troublemen from whichever district can respond the quickest. But for all other times, the practice must be followed or the troublemen will complain. In support of this statement, one person who interacts with troublemen pointed out that there are no written rules, but there are letters of agreement and there are grievances filed right now on this very subject. Dispatchers who were interviewed confirmed this is the practice.

Interview data collected from troublemen revealed that there are practical reasons for wanting to be territorial. Some of these reasons are: 1) It takes years to learn the streets and the equipment in your territory; 2) Each troubleman has circuit maps for only his territory; and 3) Only troublemen assigned to the district know what's going on in their district, that is, where line crews are working, which circuits have been switched off, or which equipment is acting up.

A story about a troublemen, told by someone who interacts with them, exemplifies the concerns that they have about other troublemen crossing territory boundaries. This story follows.

A dispatcher was notified that an antenna at a residential address had fallen into a 12,000 volt power line. This was clearly an emergency. The dispatcher put a call out to all troublemen, asking if there was anyone close who could respond quickly. The troubleman whose territory included this address was temporarily out of radio contact range and didn't hear the dispatcher's call. While waiting to hear from the troublemen, the dispatcher received a call from the local fire department indicating that the roof of the house where the antenna had fallen was smoking and was about to catch fire. A contract crew working close by the substation that contained the switch that controlled the circuit on which the antenna had fallen overheard the dispatcher's call to all troublemen. Someone from the crew truck called the dispatcher, informed him/her that there was a crewman who was qualified, and offered to assist. Because danger was imminent, the dispatcher asked the crewman to switch off the circuit. The circuit was switched off and the antenna was removed.

Meanwhile, the troubleman whose territory it was discovered that someone else had switched a circuit in his territory. Without knowing the circumstances, he called the dispatcher and expressed his anger over the radio. The dispatcher then gave him an 809 (call by phone). When he called from a public phone, everything was explained to his satisfaction. It was said that other troublemen who were listening to the conversation let the angry troubleman know they heard him over the radio and that he was obliging to the dispatcher the following day.

The cultural messages in this story are: 1) troublemen do become very concerned and upset if someone else crosses over into their territory, and 2) expressing anger over the radio is not an acceptable troublemen behavior.

Shift Schedules and Overtime Work

The company provides electric trouble service 24 hours per day, 365 days per year. Coverage for this service is provided by scheduling troublemen to work staggered 8-hour shifts between 6:30 a.m. and 11:00 p.m. From 11:00 p.m. to 6:30 a.m. of the following day, troublemen are on call to provide trouble services for outages and emergencies, but no routine work is performed during these hours. There is some degree of overlap with the beginning and ending of each troublemen shift. Troublemen shifts start at: 6:30 a.m., 10:30 a.m., 1:00 p.m., and 2:30 p.m. The time period during the day with the highest level of schedule overlap happens to coincide with the time of day when customers are consuming the greatest amount of electricity. I'm sure this is not merely a coincidence. Troublemen work a straight 8-hour shift, with no coffee break or lunch period. If a troubleman works beyond his regular shift or is called in to work before he starts his next regular shift, then he is paid overtime for those hours.

Company management has developed a scheme for balancing the troublemen work schedule with work loads, while minimizing total labor cost to the company. Each troubleman works an equal number of shifts starting at each of the different starting times. For example, a troubleman will work one week starting at 6:30 a.m. each day, then work the next week starting at 10:30 a.m., the following week at 1:00 p.m., and the last week starting at 2:30 p.m. Then, the cycle starts again. Therefore, by rotating shift work in this manner, the company balances the work load among the troublemen and everyone shares the burden equally.

Troublemen, with help from their union, have developed a scheme for balancing the amount of overtime worked by all troublemen. The scheme is detailed and almost guarantees that each troubleman will have an equal opportunity to work as many overtime hours as any other troubleman in his district.

Each district keeps track of exactly how many overtime hours each troubleman in the district works, by pay period (every two weeks) and year-to-date. This list is updated once every two weeks and posted on the troublemen's bulletin board for all to see. Each district also keeps two lists of names from which calls are made to off-duty troublemen when overtime work is available. One list of names is for a type of overtime work called "pre-arranged" and the other list is for a type of overtime work called "call out" or "emergency."

Pre-arranged overtime is work that has been scheduled in advance. For example, if an engineer had determined that the best time to perform maintenance work on circuit 999 is on Sunday morning between 4:00 a.m. and 7:00 a.m., then a troubleman would need to be scheduled to work overtime to do the switching for the line crew. This is called pre-arranged overtime work. Call out overtime is outage or emergency work that occurs at random. For example, troublemen can expect to be called out late at night whenever it rains in San Diego.

Both of the overtime lists sequence the names in order of the number of overtime hours each troubleman has worked year-to-date. The troubleman with the least amount of overtime will appear at the top of the list and the one with the most will appear at the bottom of the list. These lists are given to the dispatcher to use for calling off-duty troublemen to return to duty, whenever the need arises. The dispatcher will start with the name at the top of the list and work his/her way down the list, until someone is located who can work the overtime.

Troublemen, with help from their union, have also developed a written rule concerning how often a troubleman can turn down an offer to work overtime. The rule states that a troubleman must take one out of every five calls. That is, the troubleman must say, "yes", one out of every five times the dispatcher calls to ask if he can work overtime. If a troubleman doesn't accept his share of the overtime work load, then company management has the right to discipline the troubleman.

All three sources of data describe troublemen work schedules but only these interview data revealed how important work schedules and overtime work are to troublemen. The rules mentioned above are an important artifact of the troublemen culture. The strong attitudes expressed by troublemen, and those who interact with them, clearly show that keeping to a schedule and following a call out procedure, combined with adhering to the territory boundary practice mentioned earlier is important to troublemen.

From the interview data, one who interacts with troublemen said, "Boundaries and shift schedules are the current issues. Anytime we make a change, these are the two things that cause the most trouble." Someone else who interacts with troublemen said, "One of the strongest battles troublemen will wage is any change in their schedule. It's embedded in concrete. If you mess with a troublemen schedule, then you're going to have a lot of heartache and problems." Later in the same interview and concerning the same issue, they said, "It's cheaper to pay the overtime than to take on the battle."

In another interview, a dispatcher tied the boundary issue, shift schedules, and the call out procedure together when he/she indicated that when calling from the call out list, the most important dispatcher taboo is not to send a troubleman out of his district on your own; it's not only a safety issue, it's an overtime issue also.

Interview and observation data collected from troublemen rang loud and clear with the same readings as did interviews with others. While waiting one morning to go out with a troubleman, I saw a supervisor pass out paychecks. Then I saw the troublemen compare paychecks and comment to each other about the amount of overtime each had worked during the last pay period. I also heard a story from a troubleman that tied boundary issues and overtime pay issues together. The story follows.

On a cold and stormy morning, this troubleman was driving to work in his trouble truck when he heard the dispatcher call another troubleman in another district to give him an order to handle an outage caused by a failed transformer on a pole. The pole was located off the road in a very muddy area. This was not the troubleman's territory but he decided that since he was close to the outage, he would call the dispatcher and volunteer to handle the problem. He was then instructed to go to the other end of the circuit to help the troubleman who was initially ordered to respond. As it turned out, he spent twelve hours working on the outage and never made it in to his district that day. This led to a complaint that was filed by the troubleman from the other district who would have been called out on overtime to help the troubleman who was given the initial order. According to the troubleman telling the story, the lesson to be learned was that it's not wise to interfere with the call out procedure.

Becoming a Troubleman

There are three steps to become a troubleman: 1) bid on the job, 2) making it through the initial training period, and 3) work as a relief troubleman until a troubleman's position is open.

Bidding on the Job

There are a few major decision points along the electrical worker's career path that require employees to make career decisions based on, in part, whether they want to be a specialist or a generalist, how much risk they are willing to take, and how hard they are willing to work. The branch leading to the electric troubleman position is one of these decision points. To arrive at this point, one must have previously chosen to advance along the electric line worker path. One starts as an apprentice lineman, advances to lineman, and arrives at the end of the path by advancing to journeyman lineman. From journeyman lineman, one can choose a new path leading to crew foreman, or the path leading to electric troubleman. By choosing the crew foreman path, one would desire to become a generalist, will be somewhat adverse to risk, and usually prefers only a moderate amount of overtime work. By choosing the electric troubleman path, one must desire to learn more about electricity and electrical equipment, be willing to take on risky situations, and be comfortable with working a great amount of overtime.

To advance along any electrical worker career path, one must first be technically and physically qualified to perform the new job and then compete with others for the job by bidding on it. Choosing among bidders is quite simple; whomever has the most seniority is the winner.

To qualify to bid on an entry level troubleman position, one must be a journeyman lineman and must be physically able to perform the strenuous work. Again, the bidder with the most lineman seniority will be chosen to become a relief troubleman. Once a person advances to relief troubleman, the seniority clock starts over again. To qualify to bid on the second and final level troubleman position, one must be a relief troubleman. Again, seniority is key, and the person with the most relief troubleman seniority will be chosen to fill the troubleman position.

Being chosen to become relief troubleman is the first step of this three-step process, and being chosen to become troubleman is the end of the third step.

The Relief Troubleman's Four Week Training Period

During the relief's first four weeks on the job, he will ride with troublemen to learn about what they do. The interview data revealed what takes place during this time: 1) For the first few days he just rides with a troubleman to observe. 2) Over the next few days he learns about metering and relays. 3) During the second week he learns about switching and does routine or made-up switching by himself, fully supervised, of course. If the trainee doesn't pass switching, then he's dropped from the program immediately. 4) If he passes switching, then he rides with several other troublemen over the next two weeks. This time he does the work and the regular troublemen watch. He does whatever comes up on those days. 5) Management is given feedback on the relief's performance and if everyone is satisfied, then he is permanently assigned to a district.

Working as a Relief Troubleman

On average, it takes five years for a relief to work his way to the top of the relief troublemen seniority list. During this time he's both a lineman and a troubleman. His primary responsibility is to work as a lineman and his secondary responsibility is to fill-in for any troubleman in his district who is temporarily off duty, or to help whenever an outage or emergency situation requires extra troublemen.

When he takes over for a troubleman he uses the troubleman's truck and tools. Other than personal items such as clothing and safety gear, relief's don't have their own equipment.

The interview and observation data revealed that the time a person spends as a relief is the time during which he is brought into the culture and taught how to behave, feel and think. This is the enculturation period. Along with learning troubleman duties, the relief learns what it means to work alone, how to work around energized power lines and equipment, and what attitudes to have toward the work and toward the people who interact with troublemen.

As mentioned earlier, "working alone" is a cultural language artifact that has two different meanings, one that pertains to working by oneself and another that pertains to a certain set of personal characteristics that differentiate a troubleman and his work from other employees and their work. For this discussion, "working alone" shall pertain to a certain set of personal characteristics that differentiate a troubleman and his work from lineman and his work.

As one person who interacts with troublemen said, "When a person chooses to be a troubleman, they choose to be alone over working with a crew. Troublemen like being their own boss. They don't like anyone telling them what to do. They like to feel they're in charge. They want to be independent." Being independent from supervision and management, having the freedom to structure their day and travel freely throughout their territory, and knowing that they are in charge of how to carry out their work are all very important to troublemen.

To be a good troubleman, the relief troublemen must develop these personal characteristics. Linemen are never unsupervised, their work day is always planned in advance, and they are not free to bend rules or methods when deciding on the best way to carry out their work. Making the transition from lineman to troubleman is difficult. Relief troublemen must learn to "work alone."

As relief's learn to "work alone", they get plenty of coaching from senior troublemen. They listen carefully for radio calls made to relief troublemen and quite often offer assistance if it looks like the relief needs help. Reliefs also learn quickly that it's okay to make a mistake every now and then, or to ask for help, or not to do something if they're not comfortable with the situation. They also learn that it's not okay to bluff their way through a situation or to hide the fact they made a mistake. The observation data confirmed this learning process.

One day, while riding with a senior troubleman, we were sent to assist another troubleman handle a power outage at a large multi-story office building. The troubleman who got the initial call had just been promoted to troubleman a few weeks earlier.

When we arrived, we were greeted by the other troubleman, the security guard and the building owner's private electrician. The two troublemen inspected the transformer that served the building and devised a plan for testing it. The two troublemen put on their safety gear, opened the transformer box, and proceeded to move the hot high voltage cables with hotsticks. After moving the hot cables to dead posts, they removed and tested the fuses within the transformer box. They found that a fuse had blown. The two troublemen replaced the old fuse with a new one and then put everything back together. The senior troubleman instructed the building electrician to bring the building's electric load back on line slowly, first the lights and then the motors. It took a while to bring the building back on line. The troublemen stayed for a while to make sure the problem wouldn't happen again. The building load came up and stayed up, the job was done. The two troublemen put away their tools, completed the necessary paperwork and called the dispatcher to let him/her know that the job was finished.

What was interesting about this particular outage situation was that the senior troubleman was coaching the junior troubleman through the entire job. The two troublemen worked well together. It was clear that the senior troubleman was teaching and the junior troubleman was pleased to have him nearby.

The interview data also confirmed this learning process. Two stories follow, both are about making mistakes.

The first story is about a relief troubleman who was doing routine switching.

While trying to switch off circuit 999 the relief accidentally switched off circuit 998. This mistake cut off approximately 100 customers for about five minutes. The relief felt very nervous when this happened, and within seconds he called the dispatcher to tell him/her about the mistake. When he made the call he knew that all of the other troublemen would hear him tell of the mistake he made. Needless to say, he was embarrassed but he said that it really was the best way for all of the other troublemen to find out about the mistake he had made.

After it was over, there were no adverse consequences to follow. It wasn't written up and no one reprimanded him for doing what he did. He said it was as if it never happened. He believed that if he hadn't dealt with the problem immediately, and admitted to making a mistake over the radio for all to hear, that he would have had to suffer consequences.

The second story is about a senior troubleman who had to scold a relief for not being ready to work.

A troubleman overheard a radio conversation between a relief troubleman and the dispatcher. The relief told the dispatcher that he couldn't climb the pole because he didn't have the proper shoes that day. The troubleman got on the radio and told the relief that he had to climb. The troubleman drove to the scene and told the relief again that he had to climb. This relief was not fit to climb, and was sent home.

The lesson the relief was expected to learn was that when you're being paid to handle electric trouble you're expected to be ready to do it.

The interview data revealed many of the dos and don'ts that are passed on to relief troublemen as they learn the troubleman job. Culturally speaking, these are rules:

1. Safety is most important. If you don't believe you can do it, then don't.

2. Don't do anything you're not qualified to do.

3. Assume that all wires are hot (energized).

4. You're expected to be able to do the work alone but if you don't think the task you're doing is a one-man job, then call for help.

5. Be flexible enough to bend the rules when it's correct to do so.

6. Take pride in your work. Always try to do your job in a way that will make it easier for the next worker to do his.

7. The job requires that you take a certain amount of authority. Know what authority you have and exercise it.

8. Keep a close watch over other troublemen.

9. Don't tie up the radio with unnecessary conversation.

10. Don't cross district boundaries unless there is an emergency or an outage.

11. Don't be intimidated by a customer.

The interview data also revealed who the troubleman heroes are, and why. Culturally speaking, they call attention to values:

1. Don Riley. He always did good work. He always tied up loose ends before he left a job.

2. Gordy Robotta. He is very good technically and is well respected for his knowledge and his ability.

3. Leon Chenault. He is respected for his knowledge and skill. He stands behind his work. He gives 110%.

4. Steve Boulter. Everything he does is perceived to have an aura of danger about it, even if what he did wasn't dangerous.

5. Mike Ivory. He never complains. He always follows the rules in a quiet sort of way.

6. Max Schmidt. He was very organized. He kept every scrap of paper that was ever given to him. He didn't throw anything away. He had an extensive filing system. Whenever there was a dispute about the facts, he'd always produce a letter or something that had to do with the subject. He was considered the expert in that area.

The Troublemen's Relationship with Management

Troublemen and management are adversaries. Management has designed the troubleman job in a way that emphasizes working alone (by one-self) and working overtime. Troublemen are accustom to working alone (by one-self and being independent) and working overtime. The area of conflict between the two groups is regarding who has control over making changes to the design of the job (working alone). Management believes they have the authority to make efficiency changes, and troublemen believe they have a certain independence that gives them the authority to perform their work the way they see best.

Both the interview and observation data revealed the constant tension between these two groups over this issue. As a group, troublemen don't trust management. Troublemen are always suspicious that the changes management wants to make are more involved with cost control than improving the way the work is done.

Here are four anonymous quotes from the interview data:

1. Management always tries to get troublemen to do more with less.
2. Troublemen are very independent and always cautious with regard to dealing with management. Basically, troublemen believe that management will always try to find a way for troublemen to do more with less.
3. Troublemen like the freedom to carry out their job without having to follow efficiency standards set up by engineers. They expect to have control over how to do their job. They fight management whenever management tries to impose work standards on them.
4. Troublemen are independent. They make decisions without allowing what's important to management to get in the way of what they think is best.

The interview data also revealed a story that exemplifies this relationship, the story follows.

As a result of a study that showed more electric outages occur between 4:00 p.m. and 6:00 p.m. than during any other time of the day, a new troublemen shift was created that starts at 10:30 a.m. Since all of the meter set orders are given to troublemen who start earlier, troublemen who work this shift don't usually do meter sets. Management, in an effort to fill in the troublemen's work load, tried to add a new activity for troublemen on this shift to perform. That activity is called patrolling. Patrolling involves doing a drive-by inspection of the company's electric lines, which may require a troubleman to drive off of the road in order to follow the line. The troublemen revolted. They claimed that having to leave the road to inspect electric lines would lengthen the time it would take them to respond to an emergency or outage situation. The troublemen told management that troublemen don't do patrols and suggested that management reinstate the patrolman position that was cut from the budget.

Culture Strength

The troublemen culture is a strong one. The members work hard at keeping the group together and at keeping each other's behavior in line with cultural ways.

The troublemen group is small in number, relative to the entire body of electrical workers, but very strong. There are approximately 40 troublemen and 30 relief troublemen, compared to a total of approximately 2,000 electrical workers.

The interview data revealed that for the past twenty years, electric union leaders (president, office manager, and assistant office manager) have all been troublemen. They get elected because troublemen are well organized. The union contract says that when someone is elected to a union position, then he/she will go on leave of absence and return to their old job when their term is over. This has happened, it's not unusual. In 1989, the assistant business manager returned to the troublemen ranks after his union term ended.

During an interview with someone who interacts with troublemen, it was pointed out that during the 1950s and 1960s union contract language favored the electric production workers, but that starting in the late 1960s through the present the troublemen have had a large part in developing the work rules for the electric workers. The business manager seems to pay attention to troublemen issues. This is one way the troublemen culture resists change.

The interview data revealed that troublemen have formed an organization that is not associated with the company or the union. It is known as "TroubleNet." TroubleNet was formed approximately five years ago. The group has elected officers from the troublemen ranks and membership is open only to SDG&E troublemen and relief troublemen. No one from management or the union (non-troublemen union members) can belong to or attend any

TroubleNet function. The group meets at least twice a year, usually for dinner or a summer day picnic. The group's purpose is to provide troublemen with a forum and an opportunity to meet away from the company to socialize and discuss troublemen issues. Troublemen can bring up any issue they want at these meetings. They can discuss issues that relate to management or they can discuss issues that involve other troublemen. It was pointed out during a troubleman interview that they use the meetings as an opportunity to insure other troublemen stay in line and to reach unity among troublemen on issues that involve them as a group.

Morning meetings and safety meetings are other times when troublemen get together to discuss how things are going. Each morning, prior to hitting the road in their trouble trucks, troublemen have an opportunity to talk over current events and issues as they load their trucks with supplies. Safety meetings are weekly meetings arranged by troublemen supervisors. The interview data revealed that sometimes troublemen will meet as a group prior to coming to a safety meeting and agree to take a certain unified position on a particular safety issue. This is how they exercise their strength.

Troublemen monitor each other's radio calls throughout the day or night to keep abreast of the electrical trouble occurring throughout the service territory and to make sure that no one does something differently, or not according to the norms for proper troubleman behavior. According to one person interviewed, "They don't want people doing it differently, they train their own people to do it in acceptable troublemen ways." The troublemen interview data revealed that troublemen police themselves, they try not to involve management or the union. As one troublemen said, "we try to do it ourselves through humiliation and embarrassment, or by taking the troubleman aside and giving him a good talking to." Troublemen are a very close group. They care about their image and they police themselves as a way to uphold it. Troublemen have a motto, "All for one and one for all" According to one troubleman, "This is the code that troublemen follow".

All three sources of data revealed that the troublemen culture has been successful at resisting change. For example, the last time the troubleman's job duties changed was in the late 1960s, when troublemen picked up substation switching (the jury is still out as to whether or not troublemen will do patrolling as a recognized troubleman activity). It was also pointed out by someone who interacts with troublemen that there were virtually no changes to the troublemen job or to their territories as a result of the last Customer Service reorganization. Other groups changed but not the troublemen. As another person who interacts with troublemen said:

> There have been more attacks on the troublemen culture as our business has changed over recent years but none

of these attacks have been successful. They are being attacked more often now. I believe that it will have an affect on the culture but not yet. I really haven't seen much of a change in the culture.

Type and Direction of the Troublemen Culture

All three sources of data revealed that the troublemen culture is an orthogonal subculture that is guiding the behavior of its members in a direction that is consistent with the overall goals of the company. Orthogonal, because the troublemen's job is to keep the system up and running. Troublemen activities are concerned with maintenance, not with design or the construction of new facilities. Everything they stand for and everything they do is related to helping the company provide good service to its customers. With regard to which direction the troublemen culture is guiding its members, it is in the same direction as is the company's latest set of company-wide strategic goals. Two of the goals that all employees are expected to work toward achieving are to improve electric system reliability and improve customer service. Maintaining system reliability is clearly the troublemen's job and, as for customer service, their current rating is 95%, as measured by the company's Customer Service Management system.

A Profile of the Electric Troublemen Culture

The following is a profile of the significant artifacts, values and beliefs that comprise the electric troublemen's culture. The profile is organized first by job related topics (levels I through V) and then by cultural classification topics (levels VI and VII).

I. Routine Work Activities

A. Setting Meters

Practice: Install new customer meters as early as possible during the day.

Rule: Don't install new customer meters after dark.

Value: Helping the company maximize revenue is important.

B. Responding to Customer Assistance Calls

Rule: Work on the customer's side of the meter box if you feel comfortable about the situation, the repair work is minor, and you have enough time in your schedule to do the work; otherwise advise the customer to hire an electrician.

Value: Serving the customer well is important.

Belief: Troublemen are company ambassadors.

Belief: Troublemen have the authority to decide whether or not to work on the customer's side of the meter box.

Belief: The company will stand behind the troubleman if something goes wrong while working on the customer's side of the meter box.

C. Doing Substation Switching

Rule: Only troublemen can do switching.

Rule: All of the steps in the substation switching procedure must be followed precisely, no deviations are allowed.

Value: Keeping the backbone system operating properly from substation to substation is important.

Belief: Keeping the backbone system running is the troublemen's first responsibility, serving the customer is second.

D. Doing Substation Inspections

Rule: Only troublemen can perform substation inspections.

II. Outages and Emergencies

Practice: Responding to an emergency or an outage takes priority over responding to switching in support of crew work or customer assistance calls.

Practice: Troublemen don't usually work alone (by oneself) when responding to an outage or an emergency.

Value: Handling outages and emergencies is the troublemen's highest value to the company.

Belief: Troublemen are special. The metaphor that best describes the troubleman and his work is the fireman and his work.

Belief: Troublemen have blanket authority and coverage when handling outages and emergencies.

III. Tools, Territories, Shift Schedules, and Overtime

A. Tools

Physical

Artifact: The troubleman truck, hand tools, protective clothing and safety gear, circuit maps and street guide, and a battery of communication devices.

Practice: New tools are obtained by asking your supervisor to acquire them.

Language

Artifact: A radio language consisting of numerical calling codes in the 800 series.

Practice: Troublemen use the two-way radio system for communicating with the dispatcher and for monitoring calls made to or from other troublemen.

Rule: Keep radio messages short and

business-like.

Belief: Using the 800 series codes is the only way that two-way radio conversations can be kept private to SDG&E and concealed from the public.

B. Troublemen Territories

Rule: Don't cross territory boundaries unless you are asked by the dispatcher to respond to an outage or an emergency.

Belief: Troublemen are afforded the privilege of expecting that no other troubleman will be instructed to perform work in their territory, unless it is related to an outage or an emergency.

C. Shift Schedules and Overtime

Physical

Artifact: The shift schedule, pre-arranged and call out overtime reports and associated name lists.

Practice: The dispatcher calls troublemen on the pre-arranged and call out overtime name lists in top-down order.

Rule: All troublemen must take at least one in every five calls to work overtime.

Value: Sharing overtime equally among troublemen within the district is important.

Value: It is important to troublemen that dispatchers adhere to territory boundary agreements when dispatching trouble work.

Belief: All troublemen are expected to share the district's trouble workload equally.

IV. Becoming a Troubleman

A. Bidding on the Job

Rule: One must be a journeyman lineman in order to bid on a relief troubleman position and one must be a relief troubleman in order to bid on a troubleman position.

Rule: Relief troubleman or troubleman positions are awarded to the candidate who is physically and technically qualified, and has the most seniority. Lineman years count for relief troubleman and relief troubleman years count for troubleman.

Belief: To be a troubleman one must: 1) have a desire to learn more about electricity and electrical equipment; 2) be willing to work in risky situations; and 3) be comfortable with having to work long hours of overtime frequently.

B. The Four Week Relief Troubleman Training Period

Ritual: The relief troubleman will ride with a troublemen for four weeks to learn about troubleman duties and responsibilities and to give the troublemen an opportunity to assess the relief's ability to do troubleman work.

Rule: If it is apparent that the relief can't perform switching satisfactorily, then the relief will be automatically dropped.

Value: Being able to perform switching correctly is important.

C. Working as a Relief Troubleman

Practice: A relief troubleman fills in whenever a troubleman is sick, on vacation, or unable to work for some other reason, and whenever extra troublemen are needed to handle an outage or an emergency. When a relief troublemen is not filling in, he works as journeyman lineman on a line crew.

Practice: When filling in for a troubleman, the relief will drive the troubleman's truck and use the troubleman's tools.

Practice: Troublemen coach relief troublemen as they learn the troubleman culture.

Norms: Troublemen offer the following advice to relief troublemen: 1) If you don't believe you can do it, then don't. 2) Don't do anything you're not qualified to do. 3) Assume that all wires are hot (energized). 4) If you don't think the task you're doing is a one-man job, then call for help. 5) Be flexible enough to bend the rules when it's correct to do so. 6) Always try to do your job in a way that will make it easier for the next worker to do his. 7) The job requires that you take a certain amount of authority. Know what authority you have and exercise it. 8) Keep a close watch over other troublemen. 9) No unnecessary conversations over the radio. 10) Don't cross district boundaries unless there is an emergency or an outage. 11) Don't be intimidated by a customer.

Value: Safety is most important.

Value: Taking pride in your work is important.

Value: Having technical knowledge is important.

Value: Following troublemen rules is important.

Belief: It is okay to make a mistake every now and then, if you acknowledge it promptly.

Belief: Troublemen work alone, they are in charge. As a group, troublemen have the privilege of being independent from supervision and management with regard to knowing how best to perform their work, and troublemen are free to structure their day and travel their territory freely.

V. Troublemen's Relationship with Management

Practice: Troublemen and management are adversaries.

Attitude: Don't trust management.

Belief: Troublemen believe that management believes they have the authority to make changes to the design of the troubleman job.

Belief: Management will always try to find a way for the troublemen to do more for less.

Belief: Troublemen have the authority to perform their work in ways they believe is best.

VI. Culture Type and Direction

The troublemen culture is an orthogonal subculture that guides the behavior of it's members in a direction that is consistent with the overall goals of the company. Orthogonal, because the troublemen's job is to keep the system up and running. Everything troublemen stand for and everything they do is related to helping the company provide good service to its customers. With regard to direction, the troublemen culture is guiding its members in the same direction as are the company's strategic goals for 1992. Two of the goals that all employees are expected to work toward achieving are to improve electric system reliability and improve customer service.

VII. Culture Strength

The troublemen culture is a strong culture. The members of the group work hard at keeping the group together, keeping each other's behavior in line with cultural ways, and preserving the culture. The culture is thick; there are a large number of shared values and beliefs. Sharing is wide; that is, cultural knowledge is spread widely throughout the entire membership. Artifacts, values and beliefs are clearly ordered with regard to their importance to the membership. Geographic dispersion is wide but yet close; that is, troublemen are widely distributed throughout the service territory but they are brought close together through their communication network.

CHAPTER V

DISCUSSION, CONCLUSIONS, SIGNIFICANCE AND IMPLICATIONS

Discussion

A Conceptual Model of Workplace Culture

The conceptual model of workplace culture that was developed is presented in chapter two.

The first objective of this project was to identify a conceptual model of workplace culture that is suitable for students of leadership and business world practitioners to use as a guide for profiling workplace culture. The model that was developed was created by combining information gathered during the literature review phase of the project into a three-part model of culture. The first part outlines the characteristics of an organization that has a well established healthy culture; the second part addresses the content of organizational culture; and the third part presents a classification scheme to help researchers understand how the culture fits, relative to the culture of the larger organization, or how it compares to other cultures that may have been studied at another time. The organization of the model lends itself to application.

The first part of the model addresses the first question a researcher should ask. That is, does the organization that is about to be investigated have a healthy culture that can sustain itself from one generation to the next? I found this section very useful when I was searching for a subject organization within SDG&E. I turned down other organizations before choosing electric troublemen because they didn't meet all of the requirements set forth in this part of the model. It should be noted that it isn't necessary for all of these requirements to be met in order for an organization to have a culture, it simply means the better the fit, the more likely it is the organization will have a healthy culture. The electric troublemen group did meet all of these requirements, and the investigation did reveal that the electric troublemen culture was healthy and capable of sustaining itself from one generation to the next.

If an analyst in a business world situation was asked to profile the culture of a certain organization, this section of the model would be used to conduct preliminary research. It would help determine whether or not it would be profitable to proceed with an investigation into the content of the culture.

The second part of the model addresses the content of culture. In order to make this part of the model practical and easy to use, I made two important decisions. First, I decided that it wasn't necessary to determine how the culture developed. That is, a profile should be concerned only with the current state of a culture, not how it evolved or where it's heading. For example, a company's balance sheet is a profile document. It provides a manager with information about the current financial condition of the company and completely ignores how that condition came about or where it's heading. There are two other financial documents that answer those questions, the income statement and the business forecast. The company balance sheet is analogous to what I'm calling a culture profile and the company income statement and business forecast are analogous to finding out how the culture evolved and where it is heading.

Second, I found that it was practical to simplify the definition of culture by combining two of the components I found in the literature into one. I combined beliefs and assumptions into a single category rather than addressing them separately. My reason for doing this was presented in chapter two, but in summary, it was because I found that scholars who wrote about culture weren't clear on the distinction between the two terms. Some scholars defined assumption in terms of beliefs and other scholars defined beliefs in terms of assumptions. My concern was that if scholars don't agree on non-circular definitions for these terms, then it is not practical to assume that students or business world practitioners could identify the distinguishing characteristics when sorting data into categories. Therefore, my model describes the content of culture as having only three components: artifacts, values, and assumptions and beliefs. When I analyzed the electric troublemen data, I found that it was easy to sort data into these three categories, and I was quite pleased.

The third part of the model helps researchers put the content of the culture into perspective. Describing the culture in terms of its type, strength, and direction adds a dimension to the analysis that may help evaluate questions pertaining to the reason for doing the research. For example, if the reason for profiling the culture is to determine how resistant to change a particular organization may be, then information pertaining to the strength of its culture would be helpful. If the question is whether or not it is wise to try to merge two organizations, then information pertaining to the type and direction of both organizational cultures would be helpful.

One of the shortcomings of the model, and the procedure, is that there isn't a criteria for determining how many values and beliefs a culture must have in order to be "thick," or how different from other organizations its values and beliefs must be in order to be classified as a "counter culture." It is a matter of degree and personal judgment. Neither the literature nor this dissertation addressed this issue.

The electric troublemen culture was classified as orthogonal, strong, and same direction because, based on my personal judgment, the facts seemed to sort well into these categories. It was classified as strong because it appeared that the values and beliefs are numerous, widely shared, clearly ordered in terms of importance, and the members of the group are tightly linked. The data also shows that the culture has not changed much over its long history, and has survived recent attempts to change it. How compatible the electric troublemen culture is with other cultures can't be addressed by the results of this study but it is interesting to know that the electric troublemen culture is not damaging to the rest of the company (orthogonal) and it is guiding the behavior of its members toward the same strategic goals as all the other organizations in the company are expected to do (same direction).

A Procedure for Gathering and Analyzing Culture Data

The procedure that was developed for gathering and analyzing culture data is presented in chapter three.

The procedure for gathering culture data used three data gathering techniques: observation, interview, and analysis of historical data. The procedure for analyzing collected data had four steps: organize the data; generate categories and look for themes and patterns of meaning, and create a profile; evaluate the plausibility of the findings; and look for alternative plausible explanations.

The techniques used to collect and analyze culture data are strictly qualitative. A discussion of why I chose to only use qualitative techniques was presented in chapter two. In chapter three I mentioned that one of the ways I had planned to insure that the qualitative data were valid and reliable was to gather electric troublemen data in thick description, from more than one informant, and from multiple data sources. I was surprised at how well this went. While analyzing these data, I found that the informants were giving the same or similar responses to questions asked, the observation data confirmed the interview data, and the historical document data was consistent with what I was collecting from the other two sources. Overall, there was an abundance of redundant information throughout the entire population of data.

Addressing the issues of sample size and participant selection would have been a simple task if this project were a quantitative research project. For quantitative projects, these decisions are made prior to starting the data collection activity and are only a matter of knowing how to apply statistical techniques. But for naturalistic qualitative research projects, as this project was, sample size was estimated prior to beginning the data collection activity but not strictly held to, and the determination of whom to invite to participate was random at first but then turned to following leads, in some cases.

The literature revealed that the time to stop collecting qualitative data is when one starts to get the same response repeatedly. In other words, when the amount of new information obtained from each additional interview, or observation session, or trip to the library dwindles to a level that no longer makes it worth the effort to collect additional data, then it's time to stop collecting data. For this project, by the eighth time I rode with a troubleman it was apparent that I was getting the same responses repeatedly, and the ninth and tenth sessions produced very little new information. The same phenomena occurred with the interview data and the historical document data. As for choosing participants, they were chosen at random most of the time but some were chosen as a result of following leads.

With regard to the instruments that were used to record the data during the data collection period, there are a few interesting points that can be made. Collecting interview and observation data from troublemen went well using a pencil and paper but not so using a microcassette tape recorder. Troublemen didn't feel comfortable being taped. Conversely, collecting interview data from those who interact with troublemen went better with the microcassette tape recorder than it did using a pencil and paper. Dispatchers, supervisors, and managers felt comfortable with the tape recorder; I felt uncomfortable taking notes with a pencil and paper. The company copying machine does work well for making copies of the historical document data.

As for which data source contained the greatest amount of cultural data, the interview data and the observation data were both excellent sources, the historical document data contained the least amount of detail, and the experience log data revealed nothing about the culture.

The interview data provided details into what troublemen do and how they do it, whereas the document data glossed over important issues. The stories that were collected from troublemen, as well as from those who interact with troublemen, helped to uncover values and beliefs. Most stories seemed to have a lesson to teach or a point to make.

Observing troublemen, and those who interact with troublemen, in their natural work setting helped this researcher understand the interview and document data that had been collected. Observation data was collected by using most of the human senses. I remember how I felt when we connected new meters for twelve families that had been living in their apartments for days without electricity. I remember what I saw and heard, and how I felt when we finally discovered the source of a major transmission outage, while standing in the rain in the bottom of a canyon at 2:00 a.m. I remember the look of pleasure and relief on the faces of everyone, when we restored electric service to the shopping mall. These experiences added extra quality to the observation data. Observing is more than merely seeing. Remembering these experiences as I wrote chapter four helped put everything into its proper perspective.

The experience log was used somewhat like a diary. It was a good place to record thoughts about what to do next, or notes on how well an interview went, or personal problems I was having with managing my time. It didn't help reveal the troublemen culture but it may be useful the next time I make plans to do a project as large as this one.

It took approximately 160 hours to collect the data, 80 hours to enter it into the computer, and 120 hours to perform the analysis and create the profile, for a total of 360 hours, spread over 12 months.

Collecting the data was challenging, I believe that I enjoyed this phase of the investigation the most. Entering the data into the computer went well. I found that it took approximately five hours to transcribe a 2-1/2 hour interview tape and approximately 4 hours to enter handwritten data from one interview or observation session. The analysis went smoothly, except that my personal computer died in the middle of performing the analysis. I quickly purchased a new computer and paid a technician to move the data from the hard disk in the old computer to the hard disk in the new computer.

There are a few things worth mentioning about analyzing data and creating the profile. First, "God bless all computers, for without them what would researchers do."

At first I had no idea about how to use a computer to help with the task of analyzing qualitative data. No plan was made prior to the start of the data collection phase for exactly what software was going to be used to process the data. I considered using data base software but that idea was dropped when I discovered that using fixed length data records wouldn't work well for processing data that must be entered as thick description. I settled on using a standard word processing software package but I took time to code each paragraph of the data with a sequence number and a special character that identified it as interview, observation, or historical document data.

The first step of the analysis went well. I printed a copy of the data for each interview session, observation session, and historical document summary. I then read through all of the data several times to become familiar with its content. Data that looked as if it might lead to the identification of artifacts, values, or beliefs were highlighted for careful consideration in the next step.

The second step of data analysis also went well. Categories that had emerged from the first step were used to establish a new format for sorting the data. The data were read again, this time each coded paragraph was tagged with a category label. Then all of the coded data were sorted into the new format, by category, and a new printed copy of the entire set of data was generated. It should be noted that the right margin was widened to allow for pencil notes that were to be made next. Next, all of the data were read again, this time looking for themes and patterns of meaning. Many notes were made in the margin of the printed copy. From these data and the notes in the margin, a profile of the culture was created. I was quite surprised at how smoothly the process went.

Once that categories were developed and all of the data elements were sorted into this format, the culture emerged from this large volume of data. For example, "working alone" appeared repeatedly, and seeing the words grouped closely together in the printed copy made it easy to identify this as a cultural artifact. Creating the profile from category data and the margin notes went quickly and smoothly.

The next two steps involved evaluating the plausibility of the profile and searching for alternative plausible explanations in the printed copy of the original unsorted data. This process went quickly. I found it to be a very pleasurable experience to go back through the original data again. The profile of the troublemen culture seemed to match up well with the original data. No better alternative explanations were found.

Conclusions

This dissertation project had three objectives and two research questions.

The first objective was to identify a conceptual model of culture that is appropriate for describing culture in a specific workplace, and the first research question asked to what degree that objective was met.

The first objective was met. The literature was reviewed, but, a complete and sufficient model of culture was not found in any one particular article or textbook. The model most appropriate for investigating a culture had to be created. It was created by piecing together various concepts that were found in the literature.

With regard to the first research question, I believe the electric troublemen culture was described well using this model. Whether or not this model will adequately describe other workplace cultures has yet to be determined.

The second and third objectives were to develop a practical qualitative procedure for conducting a workplace culture investigation and to test it on a San Diego Gas and Electric Company organizational subunit. The second research question asked how efficiently and effectively was the investigation and is the procedure general enough to be applied to other organizations.

The second and third objectives were met and I believe the investigation went well. Once the investigation was underway, then it was performed in an efficient and effective manner. As to whether the same procedure can be applied to other organizations, I believe that it can. There is nothing in the procedure that specifically ties it to the electric troublemen culture. It can be applied to any organization.

Getting permission to do research at SDG&E was a long and involved process. One reason for this is SDG&E is a large company and it seems to be the nature of large companies to require many levels of approval prior to starting a new and involved project. I believe there was an additional reason why it took so long for this investigation to get underway, it was the methodology that was going to be used.

When I explained that my method was purely qualitative and involved using ethnographic research techniques, no one seemed to understand this method of research. At SDG&E we use survey questionnaires with boxes to check and items to rank. Gathering data without a predefined set of specific questions was strange to those who work at SDG&E. When I presented my research plan to managers, they seemed to say, "Well, this is nice but how are you going to do the investigation and what are the questions you're going to ask?" The point is, qualitative research is new to most who work in the business world, and I believe it will be some time before the business culture accepts qualitative research methods as a preferred method. I hope this study will help to pave the way.

Was the procedure performed efficiently? Yes it was. As mentioned earlier, I spent approximately 360 hours to collect the data and profile the culture. In business terms, this is approximately 45 person-days. That is not out of range for a project this size. It is common for a quantitative survey project to take 30 to 40 person-days to complete. Therefore, I believe that the procedure was shown to be efficient.

As to whether or not this project was effective, I would also say, yes, but within an academic context. I was successful at executing the procedure in a way that did not embarrass or offend anyone, and I was successful at describing and profiling the electric troublemen culture. Therefore, I believe that I achieved my academic objective. But from a business world perspective, the test of whether or not the effort was effective depends on how valuable the information presented by the profile was to the requestor. There are three business reasons for conducting a cultural investigation, they are presented and discussed in the section that follows. If the profile had presented useful information, relative to the needs of the requestor, then it could have been said the effort was effective. Since this project was not done at the request of SDG&E management, nor were the results made part of any organizational study, it cannot be determined whether or not this project was business world effective.

The Significance of this Project

The results of this research project provides students of leadership and business world practitioners with a model and a procedure for describing and profiling workplace culture. For students, the model can be used as a learning tool for studying organization theory, and the procedure can be used to help carry out field-based research. For business world practitioners, the model can be used to help gain an understanding of workplace culture concepts, and the procedure can be used to gather information pertinent to making business decisions. First, if someone is new to an organization, then a cultural profile of that organization could be used to acquaint the new member with cultural ways. Second, if management was planning an organizational change intervention, then a profile of the organization's culture, done prior to implementation of any changes, may help identify potential problems areas concerning how well the members will accept the proposed changes. Third, if management was interested in merging two organizations, then a cultural profile of both organizations could provide valuable information concerning how compatible the organizations are.

Since, in most cases, organizational cultures change constantly, but slowly, an organizational culture profile could be updated much like any other organizational study. For example, a quantitative climate study could be conducted to determine if there is a need to update the cultural profile; if there is such a need, then the qualitative procedures presented in this dissertation could be used to update the original cultural profile.

Implications for Further Research

It was mentioned in chapter two that the feminist critique should not be overlooked when planning to conduct a cultural investigation. It was not done for this project. It didn't seem applicable to the electric troublemen culture. There never has been a female electric troubleman at SDG&E; there aren't any now; and because there are no female journeymen linemen at this time, there most likely won't be any female electric troublemen at SDG&E at any time in the near future. The electric troublemen culture is currently an all male culture (maybe this should have been included in the profile). I would like to suggest to whoever chooses to conduct further research using this, or any other, procedure, that they should plan to include the feminist critique.

At an earlier point in this chapter I mentioned that I chose to make two simplifying decisions when I created my model of workplace culture: 1) I chose to ignore the questions of how the culture evolved and where it is heading, and 2) I combined the concept of beliefs and assumptions into a single concept that has the same meaning. I would like to suggest to whoever chooses to conduct further research in this area, that they consider perfecting these two aspects of the culture model.

Earlier in this chapter I also mentioned that a shortcoming of the model is that there is no objective criteria or procedure for determining the type, strength, and direction of a culture. That is, it's up to the researcher to decide which way the scale has tipped. I made these evaluations based on my knowledge of the subject and the years of experience I have working at SDG&E. I would also like to suggest to whoever chooses to conduct further research in this area, that they consider perfecting this shortcoming.

Lastly, using phenomenology as a method for gathering and analyzing culture data was discussed in chapter two. In chapter three I pointed out that it wasn't practical to include it in a procedure that was being designed for the business world practitioner. I reasoned that it was a complex method that requires skills that are not currently possessed by people in the business world. I would like to suggest to whoever chooses to conduct further research in this area, that they consider new ways to introduce phenomenology to analysts in the business world.

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APPENDIX B:

PARTICIPANT CONSENT
FORM C

PARTICIPANT CONSENT
FORM C

You are invited to participate in Tim Vonder's doctoral dissertation project. The goal of this project is to profile the culture of Electric Troublemen at the San Diego Gas and Electric Company. The University of San Diego is sponsoring this project and because it is a university project certain rules must be followed regarding the protection of the rights and welfare of all participants. Please read the following and sign you name if you would like to participate.

I, ____________________, acknowledge that 1) Tim Vonder, the researcher, has informed me of my rights as they apply under the University of San Diego's policy regarding the protection of the rights and welfare of an individual who participates as a subject in research and that 2) Mr. Vonder has given me ample opportunity to ask questions about the research procedure.

I understand that:

1. The purpose of this research is to discover and profile the prevailing culture of Electric Troublemen.
2. The information that I may give will be given voluntarily.
3. If, at some time after my participation begins, I should wish to withdraw from the research project, then Mr. Vonder will allow me withdraw and he will destroy any and all of the data that has been collected from me.
4. All of the data collected from me will be used without mention of my name and, after the project has been completed, Mr. Vonder will keep the data confidential and will not release it to anyone, for any reason.
5. In addition to an all-day ride-along, this research project will require approximately three hours of my time for a follow-up interview.
6. There is no agreement, written or verbal, beyond that expressed in this consent form.

I understand the above explanations and, on that basis, I voluntarily consent to participate in this research.

______________________________ Date:____________________
Signature of Participant

____
Location (e.g., San Diego, CA)

______________________________ Date:____________________
Signature of Researcher

APPENDIX C:

INTERVIEW QUESTIONS

INTERVIEW QUESTIONS

The following list presents most of the interview questions that were used to stimulate conversation and to probe for general and specific information. This list does not define the entire scope of information that was gathered during the interview process. Troublemen and those who interact with troublemen had much more information to offer than was asked for by these questions.

General Questions

1. Tell me about yourself.
2. What do troublemen do?
3. What is a troubleman's primary responsibility?
4. How is the troubleman position different than a lineman?
5. What makes troublemen different than linemen?
6. How would you characterize a troubleman?
7. How has the troubleman job changed over the years?
8. Tell me about tools and equipment?
9. Tell me about becoming a troubleman.
10. How does one become a troubleman?
11. How does one learn to be a troubleman?
12. How does a relief troubleman start? Tell me about the

enculturation process?

13. What seems to be most important to troublemen?
14. What advice would you give to a new troubleman?
15. What do you tell a relief troubleman is important?
16. What are some of the unwritten rules troublemen follow?
17. What are some of the troublemen dos and don'ts?
18. Are there any taboos?
19. How do troublemen get in trouble?
20. What is your most memorable experience as a troubleman?
21. Are there any stories?
22. Are there any slogans?
23. Who are the heroes?
24. Tell me about the troubleman/management relationship.
25. What about the relationship between troublemen and the other employees?
26. What are the current troublemen issues?
27. How does management decide when to hire more troublemen?
28. Characterize the troubleman culture.
29. I noticed that you did..., why? Tell me about that.
30. How long have you been working with troublemen?
31. What does a dispatcher do?
32. What are the dispatcher dos and don'ts?
33. Is there anything else you would like to say?

Specific Questions

1. Tell me about your truck.
2. How do you get new tools?
3. What about troubleman tools? How do they get them?
4. Tell me about doing paperwork.
5. What about time sheets?
6. It's 12:00 noon, is it lunch time?
7. Tell me about safety meetings.
8. Do you know any thing about red rules and blue rules?
9. Tell me about the work schedule?
10. Tell me about overtime.
11. How much overtime does a troubleman work?
12. Troublemen work lots of overtime, why?
13. What kind of work do troublemen do on overtime as compared to regular time?
14. Tell me about the call out procedure.
15. Tell me about the call out lists.
16. You said that troublemen police themselves, tell me more.
17. Tell me about "working alone"?
18. What does it mean when troublemen say they "work alone"?
19. Is "working alone" a myth?
20. Tell me about one-man trouble crews and two-man trouble crews.
21. You said troublemen are territorial, tell me about that.

22. Tell me about crossing territory boundaries.
23. Tell me about how troublemen respond to an emergency or an outage?
24. Tell me about going beyond the meter box.
25. Tell me about the transition process from lineman to troubleman.
26. As a group, troublemen seem to have a lot of political power. Tell me about that?