

**OVERT AND COVERT ORGANIZATION CULTURE:  
A CASE STUDY OF THE OFFICE OF TECHNOLOGY ASSESSMENT**

by

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Dissertation submitted to the Faculty of the  
Virginia Polytechnic Institute and State University  
in partial fulfillment of the requirements for the degree of

**DOCTOR OF PHILOSOPHY**

in

Public Administration and Public Affairs

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May, 1990

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(ABSTRACT)

The purpose of this study is to determine (1) whether current conceptual frames for understanding organization culture are adequate. This question is approached first by reviewing and categorizing organization culture literature. A case study of the Office of Technology Assessment (OTA) is presented so as to provide a detailed empirical picture of an actual organization culture. This study revealed three separate arenas of culture at OTA: an overt, or official culture; a covert, or unacknowledged culture testified to by a majority of OTA staff; and an area between these two that can be termed ambivalent or marginal.

The overt culture was composed of the objective "company line" values and was characterized as "technoscience" culture, while the covert culture, characterized as reflexive science culture, was made up of deeper level motives or attitudes held implicitly at the personal level and that derive from the dynamics of the longer term developmental life cycle of individual OTA professional staff. The ambivalent arena

contained both of these elements and constituted a kind of quasi-conscious awareness that both the other arenas of culture exist. The majority of OTA staff testified to the covert culture, indicating that a reflexive science approach was the one that actually energizes their research practice, rather than the traditional technoscience approach espoused officially by analytical research organizations such as and including OTA. The covert culture seems to be a major factor in OTA's success as a research organization in that it facilitates the meshing of the staff's personal development cycle with the agency's mission.

## ACKNOWLEDGEMENTS

A research effort such as this requires the cooperation and assistance of many individuals. I would like to express my appreciation to those who made this research effort a success.

My committee chairman, Dr. Orion F. White, Jr. has been an invaluable asset during the entire research effort. It was Dr. White who introduced the research topic during an advanced level course. His participation in the research process from initial introduction to final completion has ensured that a potentially difficult task could be enjoyed and managed. Thanks for your support, guidance and encouragement - it will always be remembered!

The committee members include Dr. Jim Wolf, Dr. Charles Goodsell, Dr. Ron Boster, and Dr. Shirley Fiske. Each committee member provided significant contributions to the research effort. Their helpful suggestions, editing, and support which entailed hours of review and discussion illustrates their involvement in the project. Many thanks to each of you for making the research effort a success!

The Office of Technology Assessment employees participating in the interview process provided an invaluable resource, which if not contributed, would have doomed this research effort from the beginning. To each employee who

willingly gave of their time and energy, when they were short of both, I say many thanks! I would also like to express my appreciation to the OTA director, Jack Gibbons for his interest and approval to conduct my research effort; to Bill Norris who provided initial introductions to the OTA staff; and to Tom McGurn who contributed historical information relating to OTA's legislative and organization formation.

Throughout the course of any educational endeavor there are certain individuals who assist either directly or indirectly with the process. To these individuals I would like to express my sincere thanks. These individuals include Ed Lewis, Dave Sink, Pat Cowles, Becky Bartelt, Peggy Hurley, Sherry Lancaster, Joyce Blount, John Myers, and my many friends of the First Baptist Church of Alexandria, Virginia. Your support and encouragement provided the necessary incentive to complete the educational goal. Thanks for your investment in my life!

This dissertation is dedicated to my parents

William Mason Beale, Sr.

Gaynell Ruth Crutchfield Beale

'Thanks for a lifetime of love and support'

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CHAPTER I  
INTRODUCTION

Both theorists and managers are increasingly recognizing the importance of understanding organization culture. The uncertainty in economic and political environments requires more than simply being concerned with adapting to change. Normal adaptation measures such as altering organization structure and work processes no longer provide sufficient means for adjusting organizations to changing environments.

The weight of change caused by uncertainty requires senior leadership to move beyond traditional organization and management initiatives. New requirements, necessitated by these changes, are forcing leaders to consider such aspects as organization culture. As changing circumstances require higher levels of performance, organizations are focusing beyond concerns with solely motivating people to perform their "job." Instead, organizations are demanding that their employees contribute superior performances.<sup>1</sup> The emphasis on greatly enhanced performances by employees requires that

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<sup>1</sup>John K. Clemens, "A Lesson From 431 B.C.," FORTUNE, 13 October 1986, pp. 161-164.

organizations, and especially top management, understand the organization's culture and its role in releasing, directing and even inhibiting employee energy. The effort required by superior performance is controlled by variables that are defined within the boundary of organization culture. That is why "smart executives are becoming as concerned about their organization's culture as they are about next quarter's earnings."<sup>2</sup> Evidence of the emerging interest in organization culture can be seen in the recent experience of two major corporations.

The recent break-up of the American Telephone and Telegraph Company (AT&T) serves as a prime example. The restructured telecommunication industry required the "new" AT&T to engage in new business mode, namely competition. A primary focus for the "new" AT&T necessitates more of a competitive strategy for enticing the public to continue using and in a new sense begin purchasing their product. Previously, AT&T did not have to compete (as such) because it had a virtual monopoly in the telecommunication industry, nor did customers actually "buy" their products, as they were only leased or rented from AT&T. Now, however, AT&T must compete in the expanding telecommunication industry.

The uncertainty created by the AT&T restructuring caused

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<sup>2</sup>Ibid.

the president of AT&T to ask for a study to identify the effects of the restructuring upon AT&T employees.<sup>3</sup> The study revealed that the president and leadership of AT&T should be sensitive to cultural variables. The sensitivity to cultural variables, such as security and personal issues, provided stability for employees during the turbulent transition.

AT&T is not alone in experiencing externally induced changes that directly affect core structures as well as methods of doing business. The recent experience of Delta Air Lines, Inc. closely corresponds to that of AT&T.

During the early 1980s Delta Airlines was facing tough times. In 1982, and for the first time in over twenty years, Delta experienced a net operating loss.<sup>4</sup> The loss resulted because Delta had been slow to seize opportunities presented by airline deregulation.<sup>5</sup> As a result the number of routes and the number of passengers dropped. These realities startled a heretofore relatively stable Delta. Part of Delta's problem was the lack of automated pre-boarding and seat assignment, procedures already implemented by other major

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<sup>3</sup>Brooke Tunstall, "The Breakup of the Bell System: A Case Study in Cultural Transformation," California Management Review, 2 (Winter 1986):110-124.

<sup>4</sup>"Airline Woes Catch Up With Delta," Business Week, 8 November 1982, pp. 131-133.

<sup>5</sup>Ibid.

carriers.<sup>6</sup> Delta was still utilizing the old method of gate seat assignments which prevented early seat accommodations.

Throughout the airline industry, Delta had been known for its ability to conduct orderly change and provide management stability when faced with new situations or turbulent environments.<sup>7</sup> The net operating loss caused Delta to re-evaluate its core structure and operations. For Delta to regain its previous share of the market, immediate changes had to be made. In the process, some of Delta's most basic values surfaced. Some of the values had their inception in the founders of the airline. The re-evaluation also brought to the forefront several aspects of Delta's "culture." Current and past policies regarded by Delta as essential for business success were being scrutinized. The internal focus enabled Delta to assess its current predicament and, by drawing on its strong employee loyalty, began to take corrective action. The employees of Delta adjusted to the required strategy of attack and proceeded once again to a competitive position in the airline industry. During the internal review, a senior Vice President stated that, "Delta was not changing its basic nature, only responding to the intensity of the competition."<sup>8</sup>

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<sup>6</sup>Ibid.

<sup>7</sup>Ibid.

<sup>8</sup>Ibid.

The ability to respond to changing economic environments illustrates Delta's culture.

Changes caused by external business and political environments are forcing managers and organizational theorists to pay special attention to the effect these factors have upon organizations. Delta and AT&T examined basic policies and procedures seeking to understand the culture these factors were engendering and effects of this culture upon employees. The actions taken by AT&T and Delta are indicative of the recent experience of many organizations in which internal reviews prompted significant changes. This is especially true for organizations encountering highly fluctuating environments characterized by disequilibrium. Heifetz and Sinder perceive this type of environment to be the cutting edge where effective leadership is valued most.<sup>9</sup> Whether induced by external or internal forces, internal analyses such as these are creating a new focus on organization culture.

During the mid to late 1970s concern was growing within major corporations of America. The concern centered on the perception that Japanese companies were out-performing their

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<sup>9</sup>Ronald Heifetz and Riley Sinder, "Political Leadership: Managing The Public's Problem Solving," in The Power Of Public Ideas (Cambridge, MA: Ballinger Publishing Company, 1988), pp. 198-199.

United States counterparts.<sup>10</sup> Some have argued that the Japanese successes resulted directly in decreasing profit margins and investor dividends for American corporations. This discovery thrust American business into a virtual state of panic.<sup>11</sup> Executives began groping for ways to put people back into the excellence equation by reassessing organization structure and productivity levels in order to determine what actions were needed. The internal reassessment identified problems facing corporate America, which Turner conceptualizes as being how to, "cope with the major challenge to its own central and distinctive industrial competence posed by successful Japanese industrial expansion."<sup>12</sup> Stewart expands on this dilemma as he, "linked American loss of business 'edge' with the slowing of growth in American productivity since the 1960s, with the decline in American standards of manufacturing quality, with changes in the work ethic in America and with challenges to the American image of itself as the 'Number One' nation."<sup>13</sup> Accompanying the corporate

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<sup>10</sup>Craig Hickman and Michael Silva, The Future 500: Creating Tomorrow's Organizations Today (New York: NAL Penguin, Inc., 1987), pp. 36-37.

<sup>11</sup>Ibid., p. 37.

<sup>12</sup>Barry Turner, "Sociological Aspects of Organizational Symbolism," Organizational Studies 2 (1986):101-115.

<sup>13</sup>Ibid.

dilemmas, and no doubt contributing to them, were inflation and high interest rates.

Within the business community efforts were initiated to determine ways for improving consumer relations with the hope of regaining consumer confidence and product loyalty. This effort required internal reviews to identify and implement appropriate changes. The reviews also sought to understand what effect, if any, these changes would likely have on corporate personnel. One suggestion for assisting with the review was determining the basis for the apparent success of Japanese companies. It was during this time that fascination with the Japanese style of management peaked. Such interest had grown to almost a cult level in some quarters. Interest in the Japanese management style continues today, though the level is much lower.

Reviews of Japanese corporations identified employee loyalty as one essential factor for corporate success. Loyalty appears to be nurtured generally by Japanese work culture and specifically by a company's provision for lifetime guarantees of employment with large corporations.<sup>14</sup> Coupled with lifetime guarantees of employment, Japanese employees attribute further company loyalty to unique performance

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<sup>14</sup>William G. Ouchi, Theory Z: How American Business Can Meet The Japanese Challenge (New York: Addison-Wesley Publishing Company, Inc., 1981), p. 15.

evaluations and career paths.<sup>15</sup> So, in essence, Japanese companies provide lifetime employment to employees while employees in return make lifetime commitments to companies. Recognizing that life time guarantees for employment would be difficult to fulfill, American corporations sought to better understand how to encourage higher degrees of employee loyalty. Executives began the effort of matching their employee's personal goals and ambitions to the corporate mission.<sup>16</sup> This matching would achieve incredible levels of organizational productivity and high levels of personal satisfaction and fulfillment.<sup>17</sup> Improving employee loyalty to this level would allow companies to out perform their competitors.

Recent efforts by corporations to demonstrate employee concern focused on employee tenure. This action emphasized corporate sensitivity to the work force. Employees' desire for permanency appears to supercede the usual wage and benefit negotiation which is normally central during contract bargaining. Management recognition that wages and productivity were out of balance triggered work force

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<sup>15</sup>Ibid., p. 32.

<sup>16</sup>Hickman and Silva, The Future 500: Creating Tomorrow's Organizations Today, p. 38.

<sup>17</sup>Ibid.

reductions. Employees began to realize that seeking increased wages and benefits were insignificant to the worker if he or she were dismissed from work. So, instead, work permanency began to take a central place in employee bargaining. Perhaps this shift was induced not by management, but by rank and file employees, as management simply treated "tenure" issues as another negotiated item. Corporations realizing the importance of maintaining a quality work force began emphasizing the significance of employee contributions. With renewed emphasis on company performance, research efforts were initiated to improve corporate America.

The focus of Ouchi's research concerned identifying ways and methods for improving productivity through better management.<sup>18</sup> His work was instrumental in producing the "Theory Z" style of management which emphasized, "involving workers," as the, "key to increased productivity."<sup>19</sup> The focus of Pascale and Athos' research was to determine the basis for Japanese successes over the United States in industrial competition.<sup>20</sup> The research efforts of Pascale and Athos

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<sup>18</sup>William G. Ouchi, Theory Z: How American Business Can Meet The Japanese Challenge, p. 4.

<sup>19</sup>Ibid.

<sup>20</sup>Richard Pascale and Anthony Athos, The Art of Japanese Management: Applications For American Executives (New York: Warner Books, Inc., 1981), p. 24.

determined that a major reason for the success of the Japanese was their managerial skill.<sup>21</sup> The research efforts directed by Peters and Waterman focused on identifying and understanding the various components of organizations who contributed solid performances in the market place and with their own employees.<sup>22</sup> In their book, In Search of Excellence, Peters and Waterman discuss the various components of an organization identified from their research as being prime contributors to a company's excellent performance. One specific component they found in each of these companies was the importance of organization culture.<sup>23</sup> Similar discoveries were echoed by Ouchi, Pascale and Athos in their research. Peters and Waterman identify the importance placed on organization culture by top management when they state that, "without exception, the dominance and coherence of culture proved to be an essential quality of the excellent companies. Moreover, the stronger the culture and the more it was directed toward the market place, the less need was there for policy manuals, organization charts, or detailed procedures and rules. In these companies, people at the lower levels of

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<sup>21</sup>Ibid.

<sup>22</sup>Thomas Peters and Robert Waterman, In Search of Excellence: Lessons from America's Best-Run Companies (New York: Warner Books, Inc., 1982), p. 19.

<sup>23</sup>Ibid., p. 75.

the organization know what they are supposed to do in most situations because the handful of guiding values is crystal clear."<sup>24</sup> The importance these corporations ascribe to culture indicates the elevated role the study of organizations has assumed with current senior management emphasis.

The other significance related to organization study is that of seeking a clearer understanding of culture's role within the organization. The emphasis on identifying and understanding all components of a corporation and how they interact is a solid basis for rejuvenating the study of organizations and especially its culture. The study of organization culture, states Alverson, "promises to provide a new view of how organizations really work."<sup>25</sup>

The emphasis on understanding organization culture and its relation to company performance is creating dialogue and research opportunities. Opportunities have mushroomed as corporations seek to identify and better understand their own culture and its relation to company performance. As emphasis on organization culture grew within the business community, a corresponding increase in articles addressing organization culture are appearing in professional journals. One indicator

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<sup>24</sup>Ibid., pp. 75-76.

<sup>25</sup>Turner, "Sociological Aspects of Organizational Symbolism," p. 103.

of the increase in academic interest and understanding of organization culture was a special issue of Administrative Science Quarterly in the Fall of 1983.

This stirring of activity has also aroused the attention of the business press and popular media to the new business focus on organization culture. Such interest was stimulated within the business community that business schools at Stanford, Harvard and others began courses in organization culture. The University of Pittsburgh created a Program in Corporate Culture within its Graduate School of Business.

In 1984, the Program in Corporate Culture sponsored a conference on the topic of "Managing Corporate Cultures."<sup>26</sup> Prior to the conference a call-for-papers was announced which featured the issue of promoting understanding of organization culture and its impact on organizational effectiveness.<sup>27</sup> Eighty-four papers were submitted covering a wide range of topics addressing the issue. During the conference panel discussion topics ranged from identifying organization culture to methodologies for managing organization culture.<sup>28</sup> A direct result of the conference was the publication of Gaining

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<sup>26</sup>Ralph Kilmann, Mary Saxton, Roy Serpa and Associates, Gaining Control of the Corporate Culture (San Francisco: Jossey-Bass Publishers, 1985), p. x.

<sup>27</sup>Ibid.

<sup>28</sup>Ibid.

Control of the Corporate Culture, by Kilmann, Saxton, Serpa, and Associates. The book contains refined versions of the issue papers presented during the conference in addition to papers contributed by each of the book's authors. All of these events reflect and contribute to the burgeoning interest organization culture is receiving from varied sections of society.

To the extent it has arisen as the direct result of events in the market place and the real world of organizations the interest in organization culture is distinctive. Academic interest has developed as a result of these events. In this area development of theory is being directly reactive to practice rather than developing externally to practice as theory usually does. It is this way that the interest in organization culture has developed that might raise some concerns as to whether or not it is being adequately conceptualized.

In the haste to understand organization culture so that organizations can adapt to these tremendous changes, are we adequately conceptualizing the phenomenon of organization culture and therefore applying the appropriate research to the topic? Has the literature comprehensively touched the full spectrum of what organization culture is and elucidated it clearly?

I begin by reviewing the literature with an eye to assessing its comprehensiveness in understanding the various aspects of organization culture. Next, a theoretic model will discuss the conceptual foundations of an adequate account of organization culture. Then the organization that is the object of the case study will be described in detail. Next, the findings of the field investigation will be presented and reflected against the picture of organization culture found in the literature and against the theoretic model. This analysis serves as preparation for answering explicitly the central question: whether the current conceptual frames for understanding organization culture are adequate.

## CHAPTER II

### LITERATURE REVIEW

The literature on organization culture contains a wide range of perspectives. These perspectives reflect the variety of theoretical development which is normal to a nascent area of study. The theoretical understanding of organization culture is gradually growing and developing with the assistance of real world organization experiences. The sharing of information between real world experience and theoretical understanding is assisting with further conceptualization of organization culture. However, in the process of attempting to understand organization culture and form a theoretical basis from which to comprehend its various aspects, are we adequately conceptualizing it, or is our theoretical lens limited in some way? The literature presents a varied conglomeration of ideas expressing what authors believe organization culture is and does and what can be done with it. The literature will be reviewed here from the viewpoint of how comprehensive is the perspective on organization culture that is afforded by the literature. It will be consolidated into three broad headings based on the

level or depth that each approach to culture reflects. The review will begin by first addressing pertinent ancillary and background literature and then proceed to the literature addressing organization culture proper.

#### DEFINITIONS OF CULTURE FROM ANTHROPOLOGICAL LITERATURE

The word culture is borrowed from cultural anthropology, where diverse and complex theories have been proposed characterizing particular "assumptions, slants and emphases."<sup>1</sup> The theories appear divided into two distinct points of view, referred to as "ideational" and "sociocultural." The ideational theory views culture as conceptually separate from the social realm that is manifested in cognitive structures or processes.<sup>2</sup> The sociocultural theory views culture as meshed with the social system where behavior is manifested as a product of the social realm.<sup>3</sup> The metaphor of organizations as little societies is the concept of culture most useful to understanding organizations.<sup>4</sup> Anthropologist Clifford Geertz conceives culture as, "the

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<sup>1</sup>Yvan Allaire and Mihaela Firsirotu, "Theories of Organizational Culture," Organizational Studies 3 (1984):193-226.

<sup>2</sup>Ibid., p. 198.

<sup>3</sup>Ibid., p. 195.

<sup>4</sup>Ibid., p. 193.

fabric of meaning in terms of which human beings interpret their experience and guide their actions."<sup>5</sup> Geertz further relates to this experience by stating that it is a, ". . . source of information in terms of which human life can be patterned, . . . providing a template or blueprint for the organization."<sup>6</sup> If organizations are miniature societies, then they should show evidence of distinct cultural traits. Eldridge and Crombie state that, "while the uniqueness of individuals is expressed in their personality, the individuality of organizations may be expressed in terms of their differing cultures'."<sup>7</sup>

#### BACKGROUND OF ORGANIZATION CULTURE

The interest in organization culture can be traced to what has been called the functionalist paradigm -- the paradigm that came into predominance in the social sciences beginning the late 1930's. The core of Functionalism is the notion that society is held together by a normative order or framework of values, and that societies perpetuate themselves through processes of socialization, whereby oncoming

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<sup>5</sup>Clifford Geertz, The Interpretation of Culture (New York: Basic Books, Inc., 1973), p. 145.

<sup>6</sup>Ibid., p. 216.

<sup>7</sup>Allaire and Firsirotu, "Theories of Organizational Culture," pp. 193-194.

generations are taught and become committed to these values. It is from this tradition that influential organization theorists have drawn a picture of organizations as essentially "value sets." Barnard, for example, speaks of leadership values as the, "elements of conviction that mean identification of personal codes and organizational codes . . . that carries convictions to the personnel of (the) organization (and to) that informal organization underlying all formal organization(s)."<sup>8</sup> Selznick also views the "values" of a leader as an important characteristic for managing and relating to people and giving an organization coherence and identity. Selznick states that, "certain organizational practices can enter the critical experience of leadership. . . these practices and the attitudes associated with them help to shape the key values in the organization, and especially the distribution of the power to effect these values."<sup>9</sup>

As the 1960s proceeded, the dominant middle class culture in American society began to disintegrate. Concurrently, there was also a change in the dominant Functionalist

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<sup>8</sup>Chester Barnard, The Functions of the Executive (Cambridge, Massachusetts: Harvard University Press, 1982), p. 281.

<sup>9</sup>Philip Selznick, Leadership in Administration: A Sociological Interpretation (Berkeley, California: University of California Press, 1984), p. 57.

orthodoxy in the social sciences, with new perspectives being brought into political science, history, psychology, public administration, and sociology. The influence of sociological relativism or interpretivism in organization theory was especially important. One visible evidence of this is the publication of Silverman's, The Theory of Organisations, and later Weick's, The Social Psychology of Organizing. Drawing from Berger and Luckmann's work, Silverman's main theme is that, ". . . people's action may not lie in a combination of 'objective' and 'subjective' factors, but in a network of meanings."<sup>10</sup> Hence, "organizations do not react to their environment, their members do. People act in terms of their own and not the observer's definition of the situation. The members of different organizations may attach separate meanings to what has occurred and hence react in different ways."<sup>11</sup> Silverman uses an interpretivist perspective to illustrate that values do not cause action, but that instead a network of meanings is created by on going interaction within an organization and action flows out of this context of meaning.

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<sup>10</sup>David Silverman, The Theory of Organisations (New York: Basic Books, Inc., 1971), p. 37.

<sup>11</sup>Ibid.

Similarly, Weick describes organization life from a perspective he calls "enactment."<sup>12</sup> Enactment refers to the more active role members play in creating the environments which impinge on them within organizations. Because of enactment by members within an organization, spontaneous changes occur that capriciously affect the function and flow of the organization's life. The function and flow of an organization are defined as the process by which activities are designed to accomplish tasks. The task design of the organization should be such that activities, information, and decisions move smoothly through the organization. Weick identifies one characteristic of enactment as "bracketing."<sup>13</sup> Bracketing refers to the process individuals use to isolate information from their environment in order to conceptualize their uniqueness from the multitude of events encountered daily.<sup>14</sup> The bracketing enactment allows members of an organization to attribute meaning to a specific event or occurrence which is relevant to those involved. The bracketing perspective moves the consideration of organizational performance from mere structure and function

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<sup>12</sup>Karl Weick, The Social Psychology of Organizing (New York: Random House, Inc., 1979), p. 147.

<sup>13</sup>Ibid., p. 153.

<sup>14</sup>Ibid., p. 154.

to involvement and meaning as attributed by the organization's members.

Silverman's and Weick's works illustrate the implications of the shift in paradigmatic perspective from functionalism to interpretism for understanding organization culture. The shift from functionalism to interpretivism is based on the realization that functionalism's emphasis on values as objective determinants of people's behavior does not adequately explain the variety of subjective perspectives created by the organization's members. As such, functionalism views organization process too much from the point of view of the organization as an objective entity. Functionalism does not permit understandings of the variety of perspectives that individuals bring into and create within the organization and how this variety of perspectives affects an organization's identity.

#### LITERATURE OF ORGANIZATION CULTURE

A review of the organization culture literature that has appeared rapidly over the past few years reveals that it is organized around three distinct levels of focus. Each level is differentiated by the degree to which it reaches into the depths of organizational reality. The first level of literature addresses organization culture from a surface or

superficial perspective. This level perceives culture in terms of "climate." The second level of literature views organization culture from what I have termed as an intermediate perspective. The intermediate level requires research that sees culture as the "values" of the organization. The third level of literature goes to the organization's conceptual - affective core and is best termed paradigmatic. This level of perception sees organization culture as containing the elements of the perceptual frame by which reality is defined and responded to in the organization's day-to-day life.

#### Climate Level Literature

The first level of depth at which the literature reviewed perceives organization culture, sees it as a surface level phenomenon. The designation of "climate" to describe this sector of the literature illustrates the nature of this perspective. Robbins states that, "the most popular term used to describe an organization's personality (culture) is probably 'organizational climate.'"<sup>15</sup> Robbins' reference to organization culture as "climate" is later defined as personality or ambiance. Goodenough, writing from this

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<sup>15</sup>Stephen P. Robbins, Organizational Behavior: Concepts, Controversies, and Applications (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1983), p. 450.

perspective, states that organization culture is, "a set of standards for perceiving, believing, evaluating, communicating and acting."<sup>16</sup> Taken for granted assumptions about employee interactions and performances are associated with this perspective. Wilkins, expressing a similar view, states that organization culture is, "the taken-for-granted meanings that people assign to their social surroundings."<sup>17</sup> These assumptions are further expanded by Akin and Hopelain when they state that organization culture is, "the acquired knowledge people use to interpret experience and generate social behavior."<sup>18</sup> Elaborating further on this view Louis states that organization culture is, "the expression of social ideals and beliefs that organization members come to share."<sup>19</sup> Closely aligned with this view, Gross and Shickman understand organization culture as, "the interaction of the organizations

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<sup>16</sup>Ward H. Goodenough, Culture, Language and Society (Reading, MA: Addison-Wesley Publishers, 1971), p. 15.

<sup>17</sup>Alan L. Wilkins, "The Culture Audit: A Tool for Understanding Organizations," Organizational Dynamics (Autumn 1983):25.

<sup>18</sup>Gib Akin and David Hopelain, "Finding the Culture of Productivity," Organizational Dynamics (Winter 1986):20.

<sup>19</sup>Meryl R. Louis, "A Cultural Perspective on Organizations: The Need for and Consequences of Viewing Organizations as Culture-Bearing Milieux," August, 1980, National Academy of Management Meetings, Detroit, MI.

formal and informal aspects,"<sup>20</sup> while Merron states that organization culture, "is just one way of looking at what makes an organization tick."<sup>21</sup> This view is succinctly stated by Linder as, "how we do things."<sup>22</sup> The significance attributed to sharing common experiences is revealed as a central theme contributing to the vitality of an organization.

The common experiences of organization members stated by Uttal in a business periodical refers to organization culture as, "the soft, bewildering human underpinnings of business."<sup>23</sup> Uttal voices a common perception of the surface literature that identifies organization culture as the soft thread underlying business performance. Martin, writing from a related perspective, attempts to identify an organization's culture by dissecting it into specialized categories. With this effort in mind Martin states that, "when management wants to strengthen existing values (official company policy) and beliefs . . . executives should consider the impact of recruitment and selection systems, and the degree of

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<sup>20</sup>Warren Gross and Shula Shickman, "How to Grow an Organizational Culture," Personnel 64 (September 1987):52.

<sup>21</sup>Keith Merron, "Corporate Culture: A Concept Out of Control," Training (July 1986):70.

<sup>22</sup>Jane C. Linder, "Computers, Corporate Culture and Change," Personal Journal (September 1985):49.

<sup>23</sup>Bro Uttal, "The Corporate Culture Vultures," Fortune, 17 October 1983, p. 66.

compatibility between the organization's culture and existing environmental conditions. Specialized cultures may be better suited to environments where fundamental changes have low probability of occurrence due to the effort required to maintain specialized cultures as is required to create them."<sup>24</sup> Martin highlights the external environment's impact on organization life through internal decisions directed toward strengthening the organization. Davis, recognizing the significance of leadership action, states that all employees should be included when making decisions. Davis states that, "while management may have an obvious interest in new ideas that can improve performance, such ideas often receive a different reception at the lower levels of the organization, partly due to the fact that an entirely different culture exists at the lower levels. People at the bottom who actually do the work often view both their jobs and the experience of working quite differently from those in managerial positions."<sup>25</sup> Davis states further that, "management needs to keep a close eye on organizational culture at the lower levels

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<sup>24</sup>Harry J. Martin, "Managing Specialized Corporate Cultures," Gaining Control of the Corporate Culture, ed. Ralph Kilmann, Mary Saxton, Roy Serpa and Associates (San Francisco: Jossey-Bass Publishers, 1986), pp. 148-149.

<sup>25</sup>Tim R. V. Davis, "Managing Culture at the Bottom," Gaining Control of the Corporate Culture, ed. Ralph Kilmann, Mary Saxton, Roy Serpa and Associates (San Francisco: Jossey-Bass Publishers, 1986), pp. 163-164.

for its effect on overall corporate performance."<sup>26</sup>

Remarks such as those mentioned in the first level review identify organization culture as being an organization component and performing some general role. The surface level perception indicates a cursory level understanding of organization culture as being some matter-of-fact way an organization does business. The failure to move beyond the matter-of-fact understanding of organization culture is illustrative of this type of treatment.

#### Values Level Literature

The second category of literature casts organization culture at an intermediate level where it is viewed as involving more than the mood and tone of a work place. The term "values" best describes this literature. The use of the term "values" as descriptive of this literature is not intended to negate the other aspects contained within each definition. The intent of the "values" emphasis is presented to highlight the central focus of this literature.

Speaking from this perspective, Meyerson and Martin state culture to be the, "patterns of meaning, values and

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<sup>26</sup>Ibid., p. 180.

behaviors,"<sup>27</sup> within an organization. Echoing this understanding, Meares states that organization culture is the, "shared values, beliefs, and ways of doing things."<sup>28</sup> Expanding upon Meyerson, Martin and Meares perspective, Pascale understands organization culture as, "a set of shared values, norms and beliefs that get everybody heading in the same direction."<sup>29</sup>

The importance of the term values is further realized because it identifies and interprets symbolism and stories giving insight into an organization. Depicting culture as a rational commitment implies that it is based on a decision or set of decisions to view and understand organization activities from a certain perspective. This view indicates normative commitments as central to organizations. Pettigrew, speaking from this viewpoint, states that organization culture is a, "system of publicly and collectively accepted meanings operating for a group at a given time, whereby this system of terms, forms, categories, and images interprets a people's own

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<sup>27</sup>Debra Meyerson and Joanne Martin, "Cultural Change: In Integration of Three Different Views," Journal of Management Studies 24 (November 1987):623.

<sup>28</sup>Larry B. Meares, "A Model for Changing Organizational Culture," Personnel 63 (July 1986):8.

<sup>29</sup>Richard Pascale, "Fitting New Employees Into The Company Culture," Fortune, 28 May 1984, p. 28.

situation to themselves."<sup>30</sup> The importance of a collectively accepted way of life is essential for organization cohesiveness. Echoing the importance of group cohesiveness, Kilman, Saxton, and Serpa state that organization culture is, "the shared philosophies, ideologies, values, assumptions, beliefs, expectations, attitudes, and norms that knit a community together."<sup>31</sup> Understanding the community essence of an organization, Sathe states that organization culture is, "the set of important understandings (often unstated) that members of a community share in common."<sup>32</sup> The sharing of values which hold together and sustain communities, such as organizations, enhance its life. The underlying substance of organization culture is more than glue, because it comprises a full range of values held by the organization. Kilman, Saxton, Serpa and Sathe clearly recapitulate the intermediate level by stating that organization culture comprises ideologies, values, and norms which are essential for sustaining organization life.

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<sup>30</sup>Andrew M. Pettigrew, "On Studying Organizational Cultures," Administrative Science Quarterly 24 (December 1979):574.

<sup>31</sup>Ralph Kilmann, Mary Saxton and Roy Serpa, "Issues in Understanding and Changing Culture," California Management Review 2 (Winter 1986):89.

<sup>32</sup>Vijay Sathe, "Implications of Corporate Culture: A Manager's Guide to Action," Organizational Dynamics (Autumn 1983):6.

A related perspective to Sathe's is voiced by Salmans when she states that organization culture is, "the amalgam of beliefs, mythology, values and rituals that, even more than its products, differentiates it from other companies."<sup>33</sup> To further elaborate this viewpoint Tunstall states that organization culture is the, "amalgam of shared values, behavior patterns, mores, symbols, attitudes, and normative ways of conducting business."<sup>34</sup> The significance of shared values by organization members is further expressed by Denison. Denison understands organization culture to be, "the set of values, beliefs, and behavior patterns that form the core identity of an organization."<sup>35</sup> Ouchi joins Denison by stating that organization culture is, "a set of symbols, ceremonies, and myths that communicate the underlying values and beliefs of that organization to its employees."<sup>36</sup> Continuing this perspective Gregory states that organization culture is, "a system of meanings that accompany the myriad

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<sup>33</sup>Sandra Salmans, "New Vogue: Company Culture," New York Times, 7 January 1983, p. D1.

<sup>34</sup>Brooke Tunstall, "The Breakup of the Bell System: A Case Study in Cultural Transformation," California Management Review 2 (Winter 1986):110.

<sup>35</sup>Daniel R. Denison, "Bringing Corporate Culture To the Bottom Line," Organizational Dynamics (Autumn 1984):5.

<sup>36</sup>William G. Ouchi, Theory Z: How American Business Can Meet The Japanese Challenge (New York: Addison-Wesley Publishing Company, Inc., 1981), p. 35.

of behaviors and practices recognized as a distinct way of life."<sup>37</sup> Lorsch, speaking from a related perspective, states that, "culture is viewed as shared beliefs by top managers concerning how they should conduct their business. These beliefs are often invisible to top managers but have a major impact on their thoughts and actions. These invisible thoughts provide the action for revealing goals of the organization and affect strategic changes."<sup>38</sup> Building upon Gregory's understanding, Lorsch couples behavior and practices by illuminating how top corporate leadership decisions significantly affect organization members. Gagliardi understands organization culture as, "a coherent system of assumptions and basic values which distinguish one group from another."<sup>39</sup> Gagliardi further states that culture is, "a dynamic learning process, which sometimes serves to solve current problems but which, at other times, acts to avoid corporate anxiety."<sup>40</sup>

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<sup>37</sup>Kathleen L. Gregory, "Native-View Paradigms: Multiple Cultures and Culture Conflicts in Organizations," Administrative Science Quarterly 3 (September 1983):364.

<sup>38</sup>Jay W. Lorsch, "Managing Culture: The Invisible Barrier to Strategic Change," California Management Review 2 (Winter 1986):95.

<sup>39</sup>Pasquale Gagliardi, "The Creation and Change of Organizational Cultures: A Conceptual Framework," Organizational Studies 2 (1986):119.

<sup>40</sup>Ibid., p. 120.

The organization's critical asset of shared values should be understood as a force which penetrates all layers of the organization. Schneider and Shrivastava express their understanding of organization culture as being a system of shared meanings which, "stress the way in which such shared views generate a common mode of interpretation, of perception, of thoughts, of feelings and of action."<sup>41</sup> Turner expands this idea further by stating that organization culture is, "the shared set of meanings which is acquired, demonstrated and utilized in acts of communication within organizations, and which serves to create and perpetuate the distinctive social settings of the organizations concerned."<sup>42</sup> Schall expands Schneider, Shrivastava and Tunstall's perspective by concluding that organization culture is, "a relatively enduring, interdependent symbolic system of values, beliefs, and assumptions evolving from and imperfectly shared by interacting organizational members that allow them to explain, coordinate, and evaluate behavior and to ascribe common meanings to stimuli encountered in the organizational context; these functions are accomplished through the mediation of

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<sup>41</sup>S. C. Scheider and P. Shrivastava, in "Sociological Aspects of Organizational Symbolism," by Barry Turner Organizational Studies 2 (1986):109.

<sup>42</sup>Barry A. Turner, "Sociological Aspects of Organizational Symbolism," Organizational Studies 2 (1986):101.

implicit and explicit rules that act as cultural warrants."<sup>43</sup>

Guiding behavior and providing insight into the events of an organization, enables one to better comprehend culture's significance. One attempt to improve the understanding of culture's significance was through the metaphorical use of myths. This method emphasizes the significance a person or event occupies in an organization's history. Smith and Simmon writing from this perspective state that, "the function of myths are as much a part of an entity's system integration as are its goals and corporate strategies. The individual's consciousness depends on both the metaphors chosen to represent experiences and the contexts in which they are embedded."<sup>44</sup>

A common theme expressed by the intermediate level literature identifies shared values as a common bond among organization members. The impact of shared values among organization members is evidenced by behavior that is generally observed as acceptable to organization members, which exhibits internally held beliefs. Proponents of the

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<sup>43</sup>Maryan S. Schall, "A Communication-Rules Approach to Organizational Culture," Administrative Science Quarterly 28 (December 1983):557.

<sup>44</sup>Kenwyn K. Smith and Valerie M. Simmons, "A Rumpelstiltskin Organization: Metaphors on Metaphors in Field Research," Administrative Science Quarterly 28 (September 1983):377.

intermediate level literature recognize organization culture as a significant part of an organization's existence, yet it does not occur to them to identify organization culture as being paradigmatic. Within the intermediate level Beyer and Trice move toward paradigmatic understanding when they state that organization culture, "is more than a network of shared understandings, norms and values that are taken for granted and that lie beneath the surface of organizational life."<sup>45</sup> These aspects says Beyer and Trice must be, "affirmed and communicated to an organization's members in some tangible way," which they call, "cultural forms."<sup>46</sup> Beyer and Trice understand these cultural forms as, "occasions in which underlying, unstated understandings are brought to the surface."<sup>47</sup> Identifying "cultural forms" or any other aspects of an organization as providing evidence that culture composes the core existence of an organization, moves toward an understanding closely aligned with the paradigmatic perspective. The paradigmatic perspective is the deepest and broadest in comprehending the phenomenon of organization culture and is discussed next.

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<sup>45</sup>Janice M. Beyer and Harrison M. Trice, "How an Organization's Rites Reveal Its Culture," Organizational Dynamics 4 (Spring 1987):6.

<sup>46</sup>Ibid.

<sup>47</sup>Ibid.

### Paradigmatic Level Literature

The last level of the literature is termed "paradigmatic" because it addresses the axiological assumptions that define the reality mediating processes of the organization. Axiological assumptions involve such basic items as time, truth, space and relationships, which are all essential components of all organization's conceptual foundation.

The idea of paradigm was brought into social science discourse by Thomas Kuhn in his book, The Structure of Scientific Revolution. Reviewers and critics of his have pointed out that Kuhn used the idea of paradigm in a multiplicity of ways. Even though it may be a difficult term to define, it is nonetheless one of the most common terms in social science discourse. The term paradigm has come generally to be used as the very core, basic, foundational axiological assumptions that guide people's perception of reality. Kuhn states that, "paradigms consist of attracting an unprecedented number of adherents and is sufficiently open-ended to allow for all sorts of problems to be resolved. The combination of these two characteristics are referred to as paradigm."<sup>48</sup> Kuhn states further that paradigms "provide

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<sup>48</sup>Thomas S. Kuhn, The Structure of Scientific Revolutions (Chicago: The University of Chicago Press, 1970), p. 10.

models in order that particular coherent traditions can develop where fundamental assumptions are understood. These fundamental assumptions are the basis of commitment by the theorist as rules and standards for practice."<sup>49</sup>

Paradigmatic commitments reflect a sense of life or deep seated dispositions toward reality. The individual disposition is not amenable to choices because each individual has a sense of life which reveals a paradigmatic commitment, but they may be aware of it.

The most noted theorist of organization "culture paradigm" is Edgar Schein. Schein understands organization culture to be, "the pattern of basic assumptions that a given group has invented, discovered, or developed in learning to cope with its problems of external adaptations and internal integrations - a pattern of assumptions 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."<sup>50</sup> Schein's perception touches the depth of organization culture by identifying the implicit, shaping assumptions that characterize the organization's approach to reality. Schein has an accurate sense of what

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<sup>49</sup>Ibid., p. 11.

<sup>50</sup>Edgar H. Schein, Organizational Culture and Leadership (San Francisco: Jossey-Bass Publishers, 1985), p. 9.

paradigmatic commitments are, and implies that we choose these paradigmatic commitments. Schein states that these are the principle way of looking at people, time, truth, space, nature and relationships from the point of view of the organization. The depth of the assumptions for dealing with people and problems illustrate the paradigmatic nature of Schein's understanding. Indeed it would appear that were one to obtain information using Schein's categories the other two levels of organization culture discussed here could also be described. Mood and values, after all, certainly would appear to be derivative from the axiological frame by which an organization's members construct reality. Hence, to an initial examination, it would appear that Schein's scheme is comprehensive.

Schein's scheme penetrates an organization as far as the literature allows and the question then of whether or not current conceptualizations of organization culture are adequate in their literature, really amounts to the question of whether or not Schein's scheme goes far enough. If we observe things in organization culture that go beyond Schein's scheme, then that answers the first question of whether or not current conceptualizations are adequate, because Schein's scheme is the bench mark and ends at this point.

A new perspective emerging within the field of organizational studies, organizational transformation (OT), places heavy emphasis on the flow of energy within an organization. This body of literature is most interesting because it explicitly and strongly makes the claim that organization culture can be managed. The picture that OT presents, as we shall see, is that the culture of an organization is highly pliable and can be transformed by paying attention to ritual and the creation of myths inside organizations. It is this perspective that will provide the main backdrop against which we can judge the question of whether or not organization culture can be managed.

#### ORGANIZATIONAL TRANSFORMATION (OT)

Organizational transformation, which has come to constitute a movement, argues that organization culture can be managed or manipulated by top leadership. The reason that it bears special scrutiny is that it has to do with the ambitiousness of the claim that the OT people make to being able to bring about cultural change in organizations. The OT perspective focuses on establishing a vision of what is desired within an organization and then working to create that vision without having to become involved, as traditional organizational development methodology did in the process of

creating changes at the level of the individual. Rather OT seeks to create large scale macro cultural changes from the top. From this perspective OT emphasizes the energy and flow of the organization.<sup>51</sup> Three prominent OT theorists, John Adams, Roger Harrison and Harrison Owen have been influential in articulating the OT perspective.

John Adams states that, "OT will help a given organization explore its purpose and charter in relation to the larger environment and facilitate the necessary fundamental realignments."<sup>52</sup> The emphasis upon alignment within the organization as mentioned by Adams is further elaborated by Roger Harrison. Harrison defines alignment as, "the voluntary 'joining-up' of individual members of the organization and finding fulfillment in the larger purpose of the organization."<sup>53</sup> Harrison further states that, "alignment occurs when organization members act as parts of an integrated whole, each finding the opportunity to express his or her true purpose through the organization's purpose."<sup>54</sup> The presence

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<sup>51</sup>John D. Adams, ed., Transforming Work (Alexandria, VA: Miles River Press, 1984), p. vii.

<sup>52</sup>Ibid.

<sup>53</sup>Roger Harrison, "Strategies for a New Age," in The Planning of Change, ed. Warren Bennis, Kenneth Benne and Robert Chin (New York: Holt, Rinehart and Winston, 1985), p. 129.

<sup>54</sup>Ibid., p. 130.

of alignment alone is not sufficient to enhance the quality of an organization. Also, the presence of alignment must be accompanied with attunement for the total organization to be enhanced. Harrison describes attunement as, "the support of the individuals by one another and by the larger whole which comes about through a sense of mutual responsibility, caring and love."<sup>55</sup> The presence of attunement allows individuals within the organization to become more receptive to the subtle energies that they feel connect people to each other. Harrison states that, "alignment channels high energy and creates excitement and drive, while attunement tames and balances the daimonic qualities of our quest by opening us to each other and to the messages from our hearts."<sup>56</sup> As Adams and Harrison address the "energy and flow" of the organization, Harrison Owen focuses on myth and ritual as essential for transforming organizations. Owen states that, "those who are concerned with the facilitation of organizational transformation will carefully attend to the realm of myth and rituals."<sup>57</sup> Owen further states that, "the

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<sup>55</sup>Ibid., p. 129.

<sup>56</sup>Ibid., p. 137.

<sup>57</sup>Harrison Owen, "Facilitating Organizational Transformation: The Uses of Myth and Ritual," in Transforming Work, ed. John D. Adams (Alexandria, VA: Miles River Press, 1984), p. 223.

role of myths and rituals in organizational transformation is critical, for they shape and form the culture which in turn provides the power, purpose and values of the organization."<sup>58</sup> Owen encourages one to, ". . . look to the 'depths' of an organization which support the technology and structure, in order to facilitate the emergence of new organizational forms."<sup>59</sup> Adams, Harrison and Owen stress the importance of the transforming aspects of an organization as essential for organizations to remain healthy and stable. This emphasis highlights the importance of organization culture and its impact on the success of an organization. The study of organization culture has moved from its anthropological heritage through the interpretist perspective to the Organizational Transformation movement. From the work of Harrison Owen we can see especially the emphasis upon the management of culture and the belief that culture can be managed. This is of course central to one of the main questions of the study.

The literature pertaining to the various levels of organization culture and the significant ancillary areas has been reviewed. Now, the framework presented by the literature review will be used as a standard against which we will fit

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<sup>58</sup>Ibid.

<sup>59</sup>Ibid.

the culture of a real organization. The process will enable us to determine whether the way culture has been conceptualized to this point is comprehensive and adequate.

### CHAPTER III

#### THEORETIC MODEL

The preceding literature review showed that organization culture is currently being understood from a variety of superficially different perspectives. The review revealed that all descriptive approaches predominantly used by theorists are rationalistic. In order to gain additional perspective on the theories, they were categorized by the level or degree of comprehensiveness and depth that each classification provides. Three such levels were identified. The narrowest, most superficial level is the climate level, followed by the values level, with the paradigmatic level as the most comprehensive and the "deepest."

The paradigmatic level of organization culture includes such elements as time, space, truth, plus assumptions about the nature of reality, human activity and relationships. These foundational elements illuminate an organization's ways of dealing with internal and external events by penetrating its core composition. Since the paradigmatic level permits observation of an organization's core assumptions, a more detailed understanding of the idea of a culture paradigm and

its origination can illustrate its significance. To pursue this question, Schein's formulation of organization culture is selected. Schein's viewpoint reaches the paradigmatic level, and serves well as a basis for inquiry on this topic.

Schein understands organization culture as originating with the organization's founder.<sup>1</sup> Since organizations do not form accidentally or spontaneously, someone must have served as an agent or process in uniting their components into a whole. In Schein's view it is the founder who serves as the agent for accomplishing this function. This task of course would be impossible to accomplish by an individual acting alone. Schein states that, "founders often start with a theory of how to succeed; they have a cultural paradigm in their heads, based on their experience in the culture in which they grew up."<sup>2</sup> It is the founder's attitudes and actions in the course of daily interaction that set processes the organization will adopt for similar occurrences. The steps involved with culture formation, as described by Schein, include: the founder's original idea for the new enterprise, the initial accumulation of individuals to accomplish the enterprise, and the inclusion of additional individuals when

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<sup>1</sup>Edgar H. Schein, "The Role of the Founder in Creating Organizational Culture," Organizational Dynamics (Summer 1983): 16.

<sup>2</sup>Ibid., p. 14.

necessary for continuing the organization's function.<sup>3</sup> As Schein states it is the, "organization's founder simultaneously creates such a group and, by force of his or her own personality, begins to shape the group's culture."<sup>4</sup> The organization's culture emerges as shared solutions to problems that are taken for granted, so that they drop out of awareness, become unconscious assumptions, are taught to new members as "reality" and are understood as the correct way to view things.<sup>5</sup> It is the founder who initiates the process of how the group will solve its problems of external survival and internal integration. "The culture," states Schein originates, "in the founder's head."<sup>6</sup>

Even though Schein goes to the paradigmatic level, his explanation is inadequate because it simply asserts that through some force of will or influence on the part of the founder, all subsequent members and generations of the organization come to see the world in the same paradigmatic terms as the founder. The processes by which these influences work on the others in the organization is insufficiently specified. What Schein seems to have in mind is a process of

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<sup>3</sup>Ibid., p. 17.

<sup>4</sup>Ibid., p. 13.

<sup>5</sup>Ibid., p. 15.

<sup>6</sup>Ibid., p. 14.

social reality construction by which a common set of taken-for-granted assumptions about the world and how the world should be responded to are developed and come to be held in the minds of organization's members. Because these processes are unspecified in Schein's scheme, it becomes clear that there is more to the dynamics of organization culture than his scheme can encompass. Much must go on outside of or beneath the culture paradigm, as he defines it, than he specifies. To help with comprehending the next level, the subparadigmatic level of organization culture dynamics will be explored by looking at the work of Berger and his colleagues.

Berger understands human development as essentially socio-cultural.<sup>7</sup> The specific shape into which humanness is molded is determined by the types and variations of socio-cultural formations an individual encounters.<sup>8</sup> Through this process each individual constructs their own identity. Berger labels this process as, "a social enterprise."<sup>9</sup> Berger states that, "since it is impossible for individuals to develop fully in isolation, it is also impossible for

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<sup>7</sup>Peter L. Berger and Thomas Luckmann, The Social Construction of Reality (Garden City, New York: Anchor Books, 1967), p. 49.

<sup>8</sup>Ibid.

<sup>9</sup>Ibid., p. 51.

individuals in isolation to produce a fully human environment."<sup>10</sup> From this statement Berger proposes that a social order must precede any individual development. Individual development is made possible, according to Berger, by "a world-openness, intrinsic to an individual's biological make-up."<sup>11</sup> It is the world-openness of individuals which always pre-empts the social order,<sup>12</sup> existing as human activity products. The social order, then, provides a stabilizing force for human activity and individual interactions.

The human organism seeks stable environments. This need for stability requires individuals to habitualize their action. Berger insists that habitualized actions allow individuals to retain the character meanings associated with these activities, even though the meanings involved become embedded as routine in the general stock of individual knowledge.<sup>13</sup> This routinization allows habitualized actions to become taken for granted and remain available for immediate application for future events.<sup>14</sup> Berger continues by stating that, "by habitualizing these actions, the individual is freed

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<sup>10</sup>Ibid.

<sup>11</sup>Ibid.

<sup>12</sup>Ibid.

<sup>13</sup>Ibid., p. 53.

<sup>14</sup>Ibid.

from the burden of making 'all those decisions,' and thereby provides psychological relief. The habitualization process has its basis in the individual's undirected instinctual structure and makes it unnecessary for each situation to be defined anew, step by step."<sup>15</sup>

The processes of habitualization precede any institutionalization.<sup>16</sup> "Institutionalization," as defined by Berger, "is the process where a reciprocal typification of habitualized actions occurs by various types of individuals. The reciprocity of institutional typifications is stressed not only by the actions of the institution, but also by the individuals within the institution. That is why institutions always have a history, of which they are the product."<sup>17</sup> The institution's history, which can be viewed as existing tradition, can provide the character of objectivity, permitting individuals to perform certain institutionalized actions within the framework of their individual history. Every organization has a grocery-list of transmitted recipe knowledge that provides an appropriate guide of organizationally accepted conduct.

The basic nature of an organization's existence dictates

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<sup>15</sup>Ibid., pp. 53-54.

<sup>16</sup>Ibid., p. 54.

<sup>17</sup>Ibid.

that they control individuals by establishing acceptable patterns of conduct.<sup>18</sup> These established patterns provide organization members with the flexibility of choosing various appropriate channels for individual expression. The meanings attributed by organizations to the rules of conduct are impressed powerfully and unforgettably upon the consciousness of the individuals.<sup>19</sup> This occurs through symbolic objects and/or symbolic actions taken by the organization.<sup>20</sup> The use of the symbolic emphasizes the importance of organization roles used for controlling the organization's character. The character of organization roles is utilized as a mediator for specific sectors of the organization's common stock of knowledge.<sup>21</sup> By virtue of the various organizational roles performed, the individual is inducted into specific areas of social knowledge. Berger states that the inducted knowledge, "is not limited to the narrow subjective cognitive sense, but to the 'knowledge' of norms, values and even emotions associated with the organization."<sup>22</sup> Berger provides the basis for presenting the idea that culture develops within the

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<sup>18</sup>Ibid., p. 55.

<sup>19</sup>Ibid., p. 70.

<sup>20</sup>Ibid., p. 71.

<sup>21</sup>Ibid., p. 76.

<sup>22</sup>Ibid.

individual, is carried into institutions and it is upon this basis that culture is viewed as developing with people.

Does this mean, however, that culture can take any shape or form? To assist with understanding this question, it is useful to recount Bergers general theory of institutions which he developed by drawing upon the work of Gehlen.

Gehlen considers that institutions are substitutes for reliable instincts, which are lacking within man as compared to other mammals.<sup>23</sup> "The function of institutions," states Gehlen, "is to provide reliable programs that individuals can follow at a low level of awareness - automatically, unthinkingly, 'spontaneously.'"<sup>24</sup> To assist with conceptualizing this idea, Gehlen developed two strategic concepts for understanding human relations to institutions. The strategic concepts are termed "background" and "foreground."<sup>25</sup> The background encompasses firmly programmed activities providing stability and firmness for human society, while the foreground encompasses activities open to innovation by individuals. Gehlen states that it is the, "purpose of institutions to 'fill in' the background. Items that were

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<sup>23</sup>Peter L. Berger and Hansfried Kellner, Sociology Reinterpreted (Garden City, New York: Anchor Books, 1981), p. 155.

<sup>24</sup>Ibid.

<sup>25</sup>Ibid.

previously in the foreground -- those fully attended to and deliberately performed -- are transposed into this background of automatized programs."<sup>26</sup> Gehlen offers an example that illustrates "background" moving to the "foreground" within an individual. His example involves two men approaching each other and shaking hands. Western history has established a certain manner for transaction of friendly acquaintances. Probably the hand shake transaction goes back to the days of knightly combat where two knights, perhaps totally armed, met and clasped their fists. During this brief encounter each disarmed himself in a show of nonhomicidal intentions. Such an encounter in the days of knighthood was presumably one of foreground activity. Those who performed it, one would think, were very attentive to their actions and could easily have explained the meaning of their action. However, somewhere through time, perhaps even before knights disappeared forever from the stage of history, this handclasp became an automatic, unthinking gesture, a cultural ritual performed automatically on certain predefined occasions -- such as strangers being introduced to each other. "In other words," as states Gehlen, "the gesture became institutionalized."<sup>27</sup> If any activity can become institutionalized, does this indicate that

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<sup>26</sup>Ibid., p. 156.

<sup>27</sup>Ibid.

institutionalization -- or as Gehlen calls it "filling in" the organization -- can take any shape? This is the type of concern about the school of sociological thought within which Berger's work falls that critics such as Donald Carveth has voiced.

Carveth takes issue with Berger concerning human development and human nature. Carveth confronts Berger when Burger states that, "man lacks species-specific reality and must arbitrarily fabricate a social and symbolic system of orientation, a socially constructed reality, from which to derive the direction, order and security necessary to life."<sup>28</sup> And when Berger further states that, "since man lacks a 'built-in' nature, man must arbitrarily create a social nature to replace it. The arbitrarily created nature of man then is a human product, which has a social nature.

The social nature is a historical and cultural construct, which rather than repressing any human reality, merely fills the void constituted by absence of such a reality."<sup>29</sup> Carveth's opposition with Berger's view of human development is predicated on the fact that Berger's theory allows for human development to take any shape or form, including

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<sup>28</sup>Donald L. Carveth, "The Disembodied Dialectic: A Psychoanalytic Critique of Sociological Relativism," Theory and Society 4 (1977):77-78.

<sup>29</sup>Ibid., p. 78.

pathological ones. Carveth states that, "at least in the later Freudian theory of instinctual depravity, our animality is sufficiently respected to be regarded as dangerous."<sup>30</sup> Carveth perceives Berger's theory as lacking in this regard. If Berger's assumption is correct, states Carveth, then the nature of man provides an almost infinitely malleable foundation for cultural elaboration, establishing wide limits for cultural improvisation, and therefore, lacking sufficient independent reality for opposing any specific social or cultural pattern or identity for man.<sup>31</sup>

It is with the idea of a completely malleable foundation for society that Carveth takes issue. Carveth states that the inherent danger with Berger's view is the possibility of creating ultimately a totalitarian state or else a condition under which society would not be viable.<sup>32</sup> Carveth states that Berger's view would allow society to be able, "to shape behavior in whatever directions it wants because there is no cultural pattern or social identity which can be said to be incongruent with a human nature that does not exist."<sup>33</sup> Carveth asserts that even though man's development could take

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<sup>30</sup>Ibid.

<sup>31</sup>Ibid.

<sup>32</sup>Ibid., p. 79.

<sup>33</sup>Ibid.

the form set forth by Berger, human repression would serve to diffuse the socially inhibited inclinations.<sup>34</sup> Carveth states that, "most of the impulses which succumb to repression are expressions of diffuse inclinations which have received their aims and objects from social learning - but which come to be inhibited by further social learning. Not only is nature repressed by culture, but nature as shaped and channelled by culture is repressed by culture."<sup>35</sup> Carveth perceives that such factors as the Oedipal conflict, castration anxiety, and other Freudian concepts do not refer to simple expressions of universal human nature, but to the forms that nature assumes under conditions of a virtually universal patriarchal human order.<sup>36</sup> Therefore, Carveth opposes Berger's view that the innate absence of personal identity presupposes a pliable reality capable of assuming any form associated with the individual's social environment.<sup>37</sup>

Berger responds to Carveth by stating that, "man actively interacts with his environment and appropriates those elements deemed beneficial for his development,"<sup>38</sup> allowing for personal

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<sup>34</sup>Ibid., p. 80.

<sup>35</sup>Ibid.

<sup>36</sup>Ibid.

<sup>37</sup>Ibid., p. 78.

<sup>38</sup>Ibid., p. 83.

choice. Berger accomplishes this by asserting a model of human nature. Berger suggests that to assist with the understanding of man's development, we should, "seek out what might be called signals of transcendence within the empirically given human situation."<sup>39</sup> Coupled with the signals of transcendence Berger includes prototypical human gestures that constitute these signals.<sup>40</sup> The signals of transcendence are defined by Berger as phenomena, "found within the domain of our 'natural' reality, but appear to point beyond that reality."<sup>41</sup> Berger does not infer a purely technical meaning of transcendence, but literally an experience which transcends the normal everyday world.<sup>42</sup> Berger defines prototypical human gestures as, "certain reiterated acts and experiences that appear to express essential aspects of man's being, of the human animal as such."<sup>43</sup> Berger insists, however, that he is not referring to Jung. Berger states that, "I do not mean what Jung called 'archetypes' - potent symbols buried deep in

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<sup>39</sup>Peter L. Berger, A Rumor of Angels (Garden City, New York: Anchor Books, 1970), p. 52.

<sup>40</sup>Ibid., p. 53.

<sup>41</sup>Ibid.

<sup>42</sup>Ibid.

<sup>43</sup>Ibid.

the unconscious mind that are common to all men."<sup>44</sup> Berger insists that this transcendence, "belongs to ordinary everyday awareness,"<sup>45</sup> and not to the unconscious where deep experiences need to be resurrected. A fundamental aspect of human transcendence, Berger believes, is man's need for and ability to establish order.

Berger views society throughout history as establishing a protective structure of meaning, an order to combat the forces of chaos.<sup>46</sup> The establishment of structure permits, "the life of the group and the life of the individual to make sense," because, "without this structure, both group and individual are threatened with the most fundamental terror, the terror of chaos."<sup>47</sup> To avoid chaos, throughout history man established ordered societies, sensing that an underlying order of the universe supported man's attempt to order his existence. Berger states that, "human faith in order as such, a faith closely related to man's fundamental trust in reality, . . . is experienced not only in the history of societies and civilizations, but in the life of each individual."<sup>48</sup> So in

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<sup>44</sup>Ibid.

<sup>45</sup>Ibid.

<sup>46</sup>Ibid.

<sup>47</sup>Ibid.

<sup>48</sup>Ibid., p. 54.

a fundamental sense, all ordering gestures represent signals of transcendence, signifying in the process of full human development our trust in the reality of a universal order.<sup>49</sup> Therefore, man's ability to establish order signifies a, "transcendent order with each ordering gesture as a signal of the transcendence."<sup>50</sup> Hence, Jung's theory of archetypes can serve as a grounding for Berger's approach, a grounding that meets the critique such as Carveth's.

The process of human development indicates that man's experience is not dominated by myriad unrelated happenings, as Carveth asserts about Berger's statements, but instead is fashioned by structured world encounters. Berger's response to Carveth is weak on this point because he does not specify with clarity what controls the process of social reality construction. Berger denies allegiance with Jung's idea of transcendent archetypes and asserts that there are aspects of man that operate always at the conscious level that will keep the process of social reality construction from veering off in a pathological direction.

Berger would have been better served by relying on Jung's notion of archetype or some idea like archetype because it does provide clearly a conceptual grounding his scheme is

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<sup>49</sup>Ibid.

<sup>50</sup>Ibid.

lacking. Perhaps Berger wanted to avoid utilizing Jung's idea of archetype because it is generally considered to be an unscientific, metaphysical construct. This charge is unjustified. A recent work by Shelburne addresses this issue. Can the Jungian idea of archetype be reconciled with the scientific frame of mind? Shelburne's book convincingly documents that it can and as such rescues the idea of archetype as a useful construct for application in social science theory. Jung postulates a theory of a "collective" unconscious, often referred to as the theory of archetypes, which contains both instincts and archetypes.<sup>51</sup> Jung understands instincts and instinctive action to be, "that mode of behavior of which neither the motive nor the aim is fully conscious and which is prompted only by obscure inner necessity . . . Thus instinctive action is characterized by an unconsciousness of the psychological motive behind it, in contrast to the strictly conscious processes which are distinguished by the conscious continuity of their motives."<sup>52</sup> Jung perceived the psyche to be, "conceived as equivalent to consciousness or awareness in opposition to the psychoid functions, the distinguishing feature of which is their

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<sup>51</sup>Walter A. Shelburne, Mythos and Logos in the Thought of Carl Jung (Albany, New York: State University of New York Press, 1988), p. 37.

<sup>52</sup>Ibid., p. 26.

incapability of full consciousness and hence relative autonomy from the will."<sup>53</sup> Even though it appears that Jung is speaking of an unconscious aspect of the psyche, it is necessary to define the meaning Jung gives to "unconscious." Jung states that, "since we perceive effects whose origin cannot be found in consciousness, we are compelled to allow hypothetical contents to the sphere of the non-conscious, which means presupposing that the origin of those effects lies in the unconscious precisely because it is not conscious. Thus . . . everything in the personality that is not contained in the conscious should be found in the unconscious."<sup>54</sup> Jung's statement indicates that everything not present immediately in our awareness would reside in the unconscious.

Shelburne, commenting on Jung's idea of the unconscious, states that, "memories can be said to be unconscious contents that can be brought into consciousness at will. Other unconscious contents such as repressed experiences or subliminal perceptions may also be brought into awareness, although a special effort or technique is needed. Since the latter is not as easily recoverable to awareness as the former, they are said to belong to a deeper level of the unconscious. The analogy of depth then amounts operationally

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<sup>53</sup>Ibid., p. 27.

<sup>54</sup>Ibid.

to a function of energy. Contents with a certain critical energy stay in consciousness and lacking it become unconscious."<sup>55</sup> Shelburne states further that, "the boundary or dividing point between conscious and unconscious is thus an energy threshold."<sup>56</sup> The energy threshold represents individual need for maintaining a conscious level of recall and utilization for certain aspects of cognitive activity.

Jung introduces the collective unconscious to differentiate the personal unconscious described earlier. Shelburne, commenting on Jung's collective unconscious, states that it, "is the common, universal element of the psyche which has foundations in the structure of the brain that are common to all people."<sup>57</sup> Continuing, he comments that, ". . . the contents of the collective unconscious are in fact psychic contents which come into awareness but are not the direct consequences of the individual's own personal experiences."<sup>58</sup> The unconscious can invent memories from the past with new thoughts and creative ideas which were not apart of the original memory. "The collective consciousness has its ultimate source in the collective unconscious," states

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<sup>55</sup>Ibid.

<sup>56</sup>Ibid.

<sup>57</sup>Ibid., p. 30.

<sup>58</sup>Ibid.

Shelburne, "where generally accepted truths, that is beliefs, values and ideals that are supposedly held in common by members of a community, and that serve as a sort of common ideological basis or cultural ideal for the community."<sup>59</sup> In other words, therefore, the collective unconscious introduces the concept of archetype.

"Archetypes," states Shelburne, are "dispositions in the collective unconscious which produce images in individual consciousness."<sup>60</sup> The conscious images are distinguished by Jung. Jung distinguishes between the actual image, which he terms "archetypal image," and the archetype, which, as a disposition of the unconscious, is unobservable in principle.<sup>61</sup> The contents of the archetypal that emerge into awareness assume a form that is a reflection of individual consciousness. Shelburne states that the archetypal tendency is to, "structure awareness of unfamiliar phenomena so that they resemble familiar forms of experience."<sup>62</sup> Shelburne, quoting Jung, states that, "the unconscious supplies as it were the archetypal form, which in itself is empty and irresponsible. Consciousness immediately fills it with

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<sup>59</sup>Ibid.

<sup>60</sup>Ibid., p. 36.

<sup>61</sup>Ibid.

<sup>62</sup>Ibid.

related or similar representational material so that it can be perceived. For this reason archetypal ideas are locally, temporally, and individually conditioned."<sup>63</sup>

As Shelburne inferred earlier, archetypes are detected only through the effects they produce and in principle are unobservable.<sup>64</sup> Since the unconscious is known only through its (indirect) effects on consciousness, no possibility exists for direct perception of unconscious contents.<sup>65</sup> Therefore, archetypes are not products of an individual's personal experience, as Shelburne states, for, "they must then be the result of inheritance. Rather than inherited experiences or inherited images, however, the archetypes are transmitted as the disposition to form images and ideas."<sup>66</sup> Shelburne continues by saying that, "there are close parallels here with the instincts, which rather than being inherited behaviors are instead inherited dispositions to produce certain behaviors when activated by the appropriate environmental releasing stimuli."<sup>67</sup> To emphasize the behavior aspect of archetypes

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<sup>63</sup>Ibid.

<sup>64</sup>Ibid., p. 37.

<sup>65</sup>Ibid.

<sup>66</sup>Ibid.

<sup>67</sup>Ibid.

Jung often refers to archetypes as patterns of behavior.<sup>68</sup> Jung states that archetypes, "prove to be typical attitudes, modes of action -- thought-processes and impulses which must be regarded as constituting the instinctive behavior typical of the human species. The term I chose for this, namely 'archetype,' therefore coincides with the biological concept of the 'pattern of behavior.'"<sup>69</sup> Shelburne expands Jung's definition by stating that, "archetypes understood as patterns of behavior emphasizes, then, their biological aspect and their continuity with naturalistically understood processes."<sup>70</sup>

Archetypes are also viewed from cognitive points of reference, as inherent categories of apprehension.<sup>71</sup> These reference points permit perceptions of both patterns of behavior and 'a priori conditioning factors. Shelburne states that, "man's characteristic pattern of behavior is to develop consciousness that can act at variance with or in relative independence of the instincts understood as drives of the body."<sup>72</sup> Through this process archetypes can be viewed as

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<sup>68</sup>Ibid.

<sup>69</sup>Ibid.

<sup>70</sup>Ibid., p. 38.

<sup>71</sup>Ibid.

<sup>72</sup>Ibid.

forms of thought, perception and imagination.<sup>73</sup>

"The archetypal images," states Shelburne, "are always the partial result of the individual traits of the embodying consciousness, with aspects of personal history and cultural background being always associated with their appearance, . . . archetypes can be said to be unavoidably anthropomorphic."<sup>74</sup> To understand archetypes one must be careful to distinguish subjective from objective truth concerning one's environment. That is, in the words of Jung, the function of the mythos must be distinguished from that of the logos.<sup>75</sup> Shelburne states that, "archetypes have a psychological validity and are psychologically true in the sense that it is impossible to interpret them in a subjectively meaningful way. The validity of the archetypes in terms of applicability to the human situation must then be acknowledged even in the absence of the possibility of a scientific validation of statements based on them."<sup>76</sup> Jung characterizes the distinctive psychological validity of the archetypes by emphasizing the symbolic nature of the archetypal images.

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<sup>73</sup>Ibid.

<sup>74</sup>Ibid., p. 42.

<sup>75</sup>Ibid.

<sup>76</sup>Ibid.

"The symbol," states Shelburne must be, "sharply distinguished from the reference function of signs."<sup>77</sup> Signs represent objects, while symbols extend beyond themselves. Jung states that, "a word or an image is symbolic when it implies something more than its obvious and immediate meaning. It has a wider 'unconscious' aspect that is never precisely defined or fully explained. . . . As the mind explores the symbol, it is led to ideas that lie beyond the grasp of reason."<sup>78</sup> Symbols are perceived as connecting the individual conscious and the collective unconscious.<sup>79</sup> The connection occurs through the archetype, in order that in a representable form symbolic action may be brought into consciousness. Emphasis on symbols illuminates the archetype's intensity within the individual.<sup>80</sup> Archetypal images are not abstract intellectual concepts, but rather symbols that are not transparent to reason and intellect.<sup>81</sup> A characteristic symbol quality is that of evoking emotion, which is termed "numinosity,"<sup>82</sup> by Shelburne with the numen

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<sup>77</sup>Ibid., p. 43.

<sup>78</sup>Ibid.

<sup>79</sup>Ibid.

<sup>80</sup>Ibid.

<sup>81</sup>Ibid.

<sup>82</sup>Ibid., p. 44.

being the specific energy of the archetypes. With the description of archetypes, as essentially patterns of behavior, a clearer understanding is required for determining archetype origination.

The origin of archetypes one should first consider the relationship archetypes share with mythological motifs. Shelburne states that, "myths and fairytales are one of the most characteristic ways in which the archetypes manifest themselves, and the mythological motifs (mythologems) are paradigm archetypal images."<sup>83</sup> So myth composition and origination offer assistance with determining archetype origination. Shelburne, elaborating on the role of myth, states that, "the myth (in contrast to the mythologem) is a cultural product and a phenomenon of the collective consciousness. The myth, then, is the end product of a conscious elaboration of an original unconscious content that often involves the efforts of many generations of storytellers."<sup>84</sup> Shelburne, in conjunction with Jung, recognizes the importance of understanding the myth you are living, because as Shelburne states, "myths are often used as vehicles of the most symbolic and numinous manifestations of

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<sup>83</sup>Ibid., p. 49.

<sup>84</sup>Ibid.

the unconscious."<sup>85</sup> "Mythological statements," says Shelburne, "are not really about the external physical world but are actually psychological statements and . . . have a psychological validity and accurately depict the nature of the human situation."<sup>86</sup> How then does the archetype function with regards to consciousness?

"The unconscious supplies the contents," states Shelburne, "that compensate the conscious attitude by representing features of the person's total situation which are overlooked, repressed, or undervalued by the conscious personality. The appearance of the archetype thus usually indicates the need for a collective compensation."<sup>87</sup> The archetypal manifestations then, are unconscious responses to individual encounters, with the responses representing patterns of autonomous human action.<sup>88</sup> Shelburne further elaborates on Jung's idea of the autonomous nature of archetypes.

Shelburne understands Jung's view of archetypes with the, "spontaneous phenomena which are not subject to our will, and we are therefore justified in ascribing to them a certain

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<sup>85</sup>Ibid., p. 50.

<sup>86</sup>Ibid.

<sup>87</sup>Ibid., p. 60.

<sup>88</sup>Ibid.

autonomy . . . having laws of their own."<sup>89</sup> Shelburne continues his comments on Jungian archetypes by stating that, "we have to admit that they (archetypes) possess spontaneity and purposiveness, or a kind of consciousness and free will."<sup>90</sup> However, by describing archetypes as autonomous, Shelburne implies that we should recognize, "the distinction between complexes as contents of the personal unconscious and the archetypes of a collective unconscious."<sup>91</sup> The significance between complexes and archetypes is that the former's autonomous contents develop ontogenetically, while the latter is inherited.<sup>92</sup> Commenting on this difference Shelburne states that, "complexes appear to have an archetypal component and the archetypes are always manifested in images made up of combinations drawn from the individual's store of experience. . . . However, the personification that the archetypal images manifest are typical of autonomous contents which exist in the unconscious without being integrated with the conscious personality."<sup>93</sup> Shelburne further states that, "since the archetypes are symbolic, numinous factors that do

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<sup>89</sup>Ibid., p. 61.

<sup>90</sup>Ibid.

<sup>91</sup>Ibid.

<sup>92</sup>Ibid.

<sup>93</sup>Ibid., p. 62.

not originate from one's personal experience, the ability to integrate them into one's personality has definite limitations. They are, in fact, wider than the individual; they have a universal, collective meaning that the individual can only participate in but cannot hope to completely assimilate."<sup>94</sup> If, therefore, archetypes are larger than the individual, how then are archetypes characterized and displayed?

The most common archetypes displaying distinct personalities are termed shadow, anima and animus.<sup>95</sup> Shelburne describes the shadow as a, "representation of the personal unconscious as a whole and usually embodies the compensating values to those held by the conscious personality. Thus, the shadow often represents one's dark side, those aspects of oneself that exist, but which one does not acknowledge or with which one does not identify. In dreams it usually appears as a figure of the same sex as the dreamer."<sup>96</sup> The anima and animus archetypes are also described. Shelburne states that, "the anima archetype appears in men and is his primordial image of woman. It represents the man's biological expectation of women, but also is a symbol of a man's feminine

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<sup>94</sup>Ibid.

<sup>95</sup>Ibid.

<sup>96</sup>Ibid.

possibilities, his contrasexual tendencies. The anima often appears in dreams as a strange or unknown woman. The animus archetype, the analogous image of the masculine that occurs in women, may appear as a series of strange men."<sup>97</sup> Other personified archetypes include the Wise Old Man, the Great Mother, the Earth Mother, the Divine Child, and the archetype of the Self.<sup>98</sup> However, there are many archetypes that do not appear in personal form. Shelburne provides an example to illustrate the non-personal archetype. "The Self," states Shelburne, "may be manifested as a stone, diamond, flower, or as a four-sided figure."<sup>99</sup> "In fact," states Shelburne, "there is no determinate condition regulating what form an archetype must assume. This is not to say, however, that there are not definite conditions an image must satisfy in order to count as archetypal. But these conditions depend more on the function of the image in the overall context of the manifestation than they do on the specific form."<sup>100</sup> It seems though in delving into the esoteric realm of archetypal reality, we have moved far away from the lived, practical experience of daily organization life.

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<sup>97</sup>Ibid., pp. 62-63.

<sup>98</sup>Ibid., p. 63.

<sup>99</sup>Ibid.

<sup>100</sup>Ibid.

How could the extremely metaphysical timeless forms, which archetypes constitute, actually come into play in the world of organizational activity? Mitroff, in his study, Stakeholders of the Organizational Mind, establishes a linkage between the notion of archetype and the world of practical organizational experience by providing evidence of how archetypes manifest themselves in organizational activities.

Mitroff states that, "a person's personality can be viewed as a miniature, internal social system . . . understood in terms of the characteristic properties and interactions between a small set of internal stakeholders."<sup>101</sup> Mitroff suggests that it is archetypes that lie deep within the formation and operation of the psyche, which has profound influence on human affairs. The archetypal affect upon individuals is almost completely unseen or unacknowledged.<sup>102</sup> Mitroff states that, "archetypes are the most basic, universal human symbols through which humans experience the world (and themselves) and order the world of phenomena so that they are able to have experience."<sup>103</sup> The basic purpose of archetypes, Mitroff asserts, is to assist individuals in developing an

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<sup>101</sup>Ian I. Mitroff, Stakeholders of the Organizational Mind (San Francisco: Jossey-Bass Publishers, 1989), p. 83.

<sup>102</sup>Ibid., p. 84.

<sup>103</sup>Ibid., p. 85.

emotionally satisfying picture of the world.<sup>104</sup> Everything encountered by an individual provides the potential of being experienced as an archetypal symbol. In fact, each individual's existence can be identified with a corresponding mythological character for every part of a person's psyche and social structure.<sup>105</sup> Each archetype is characterized as having an idealized image, more pure and extreme, and larger than life, to help individuals cope with and understand the complexities of life.<sup>106</sup> Mitroff states that, "the historical context of the vast majority of archetypes is now so far removed from our direct experience and daily lives that ancient traditional forms have little if any contemporary meaning for us."<sup>107</sup> Archetypes should not be regarded as literally "real," but instead should perceive their function as normally occurring social activity for increasing self understanding.<sup>108</sup> Such understanding is not limited to the self. Archetypes can present themselves in organizations, where they provide different ways of understanding the

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<sup>104</sup>Ibid.

<sup>105</sup>Ibid., p. 86.

<sup>106</sup>Ibid., p. 88.

<sup>107</sup>Ibid., p. 89.

<sup>108</sup>Ibid.

organization and its impact on individuals.<sup>109</sup> And if archetypes can manifest themselves in organizations, what constitutes their properties?

One major function, states Mitroff, is that, "archetypes mirror experiences external to the individual as much as they filter and organize the internal experiences. There is an overlap between the inner structure of one's internal psyche and the outer structure of external organizations that influence the mind."<sup>110</sup> Mitroff continues by stating that, "there is a constant and strong interplay between the structure of the internal personality of an individual and the structure of the external environment."<sup>111</sup> This perception leads Mitroff to conclude that institutions exert influence on people's personalities, allowing new archetypes to form in consonance with images of the time period.<sup>112</sup> In addition, Mitroff suggests that organizational symbols represent complex mixtures of archetypal images composing organization structure and organization members. This composition provides the basis for organization stories. Archetypal images have deep mind appeal as each story determines the degree each image or

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<sup>109</sup>Ibid.

<sup>110</sup>Ibid., p. 90.

<sup>111</sup>Ibid.

<sup>112</sup>Ibid., p. 98.

character is considered an ally for the individual. Each archetypal image possesses tremendous dynamism capacities. To illustrate the dynamic capabilities Mitroff offers a few examples.

Mitroff uses the phrase "archetypes in action"<sup>113</sup> when describing potency and divides selected archetypes into categories by function and number. Examples of individual and functional archetypes include Cinderella, Superman, Excalibur, and Batman. Examples of many and functional archetypes include groups, computer games and corporate takeovers. Occupying a bridge between individual and group functional archetypes, Mitroff places the story of the Three Little Pigs. As example of dysfunctional individual and group archetypes, Mitroff suggests Difficult People.<sup>114</sup> The example of Cinderella portrays detailed phases of emotional development, which individuals must attain, illustrating archetypal potency.

The story of Cinderella presents personality development stages required for experiencing a fulfilling life. Mitroff states that Cinderella presents the development stages, "in a fairy-tale fashion so that every person can understand what

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<sup>113</sup>Ibid., p. 100.

<sup>114</sup>Ibid., p. 102.

is required of him to become a full human being."<sup>115</sup>

The first stage is basic trust, which is firmly implanted by Cinderella's experience with the good mother. The next stage is autonomy, where Cinderella accepts her unique role and adapts to it. The next stage is initiative, where Cinderella plants a twig and makes it grow with her personal feelings, tears, and prayers. The next stage is industry, where Cinderella labors hard by sorting out the lentils. The last stage is identity, where Cinderella insists that the prince accept her negative identity before she accepts the positive aspects of her new identity as his bride.<sup>116</sup>

The Cinderella story describes individual stages for mature development. Mitroff suggests the story of the Three Little Pigs as speaking directly to adult concerns. The story of the Three Little Pigs illustrates the importance of strategic planning.<sup>117</sup> This story presents how adults survive in a simple and unusual form. Adult survival is accomplished through hard work and not taking the easy way out when facing problems. The story reveals how intelligent planning and foresight combined with hard work can make us victorious over

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<sup>115</sup>Ibid., p. 112.

<sup>116</sup>Ibid.

<sup>117</sup>Ibid., p. 113.

our most feared enemy.<sup>118</sup> The younger pigs display a lack of interest in future events or potential problems. Instead they live in accordance with the pleasure principle seeking immediate gratification. The middle pig, even though it enjoys immediate gratification to some degree, does reveal partial personal development as he builds a slightly more stable house than the younger pigs. The third pig, revealing maturity and planning skills, postpones leisure activity by focusing his time and ability on potential future events before indulging in carefree activity. The personal development of the third pig represents a matured adult's ability to overcome opposition through proper planning. The wolf, viewed as the opposition, stands for all unsocial, unconscious, distracting and devastating hinderances which adults must prepare themselves, if one is to succeed in life.<sup>119</sup> Success comes only to individuals whose personal development has reached this level. The process which operates in individuals for development has been reviewed and now the same process will be considered, which operates in small groups or organizations.

As the human experience moves from the single individual to the organization level differences in degree but not in

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<sup>118</sup>Ibid.

<sup>119</sup>Ibid., pp. 113-114.

kind explain the types of human behavior witnessed in organizations.<sup>120</sup> A small group develops a "character" similar to those of a single individual.<sup>121</sup> This character pattern can be either real or imagined and actual or symbolic. As groups develop stories and myths like individuals, they provide insight to the meaning of their existence and structure relationships.<sup>122</sup> Character structure provides individuals with mechanisms, such as identification, introjection and projection for dealing with life.<sup>123</sup> In the process, groups develop split characters, like individuals, especially when dealing with separate feelings of goodness and badness inherent within organizations.<sup>124</sup> This process provides the basis for various groups composing an organization to develop mythological and myth-like assumptions about the organization as interaction among groups intensifies.<sup>125</sup> Individuals within these groups use conscious fantasy productions, rituals and ritualistic activity and invent beliefs prompting zealous type behavior to act or react in response to group stimuli. An

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<sup>120</sup>Ibid.

<sup>121</sup>Ibid.

<sup>122</sup>Ibid.

<sup>123</sup>Ibid.

<sup>124</sup>Ibid.

<sup>125</sup>Ibid., p. 115.

example of this action can be seen through an event such as a hostile corporate takeover.

Corporate takeovers provide an excellent picture of archetypal images and behavior from a concrete business world perspective. Each corporate takeover has certain types and levels of expressive language used by the taker and takee. Such powerful language indicates the high level of emotion, often associated with potential big winnings or devastating losses. High emotion and great uncertainty set the stage for archetypal image activation, which assists with coping and containing high emotions. Mitroff suggests that, "a fundamental purpose of the language is . . . to insulate both parties, takers and takee, from the intensity of their feelings."<sup>126</sup> As apart of the corporate takeover process, investment houses are often hired by potential takers and are viewed as paid assassins to destroy the takee's defense. Throughout the takeover, acquiring executives are referred to as "macho," while target companies are portrayed with feminine characteristics. Such references of the feminine gender include sleeping beauty, the bride brought to the altar and even rape.<sup>127</sup> These archetype examples provide behavioral insight into daily life experienced by organization members.

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<sup>126</sup>Ibid., p. 116.

<sup>127</sup>Ibid.

Mitroff perceives that archetypes not only reflect individual assumptions but can also assist with understanding the organization's culture.

Mitroff states that, "the concept of organization culture is a sticky and elusive one. Indeed, there may be no more stickier concept in the field of organization studies than that of the culture of the organization."<sup>128</sup> To understand organization culture components, Mitroff suggests certain elements to be illustrative of the culture. The elements include rules, special language, jokes, history, myths, rituals, special awards and rewards, ceremonies and symbols.<sup>129</sup> Each element states Mitroff would, "compose an organization's culture. At the same time, it is also true that at the deepest levels, an organization's culture is made up by the special set of characters it consciously and unconsciously selects to represent 'it.'"<sup>130</sup>

#### The Conceptual Frame and the Research Hypothesis

The bulk of conceptualization of organization culture are superficial, going no further than to assert that cultures are value sets. A few theorists have pushed beneath this level

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<sup>128</sup>Ibid., p. 120.

<sup>129</sup>Ibid.

<sup>130</sup>Ibid.

to the level which I call culture paradigm, with Schein being the primary theorist of this content. Schein fails, however, to specify the source of paradigms. He relies too heavily on the role of the founder. Schein asserts simply that paradigms originate in the founder's mind, which is an insufficient explanation of how paradigms influence others and through successive generations of organizational members. In order to ground Schein, we then moved to an exploration of Berger's interpretivist theory of social reality construction because this provided a means to understand how paradigms are established in organizations, viz., through a process of social construction that results in institutionalization. However, while exploring Berger's conceptualization, we saw that it too lacks sufficient grounding in that it is vulnerable to the charge the social construction process is completely open ended. Berger, as with Schein, leaves the foundation of social contexts insufficiently specified. Berger simply refers to signals of transcendence, a hopelessly metaphysical idea.

By recounting Shelburne's analysis of Jung's idea of archetypes, we observed that the idea of archetype does have status as a respectable social science concept, and that it can be employed to provide the needed foundation. Mitroff has provided examples of how archetypes manifest themselves in

organizational life and in ways that frame or ground organizational events.

These perspectives lead us to the tentative conclusion that there is much more to organization culture than even the schemes that treat it at the paradigmatic level. There is a dimension to organization culture that can be called archetypal, that is carried in the unconscious side of organizational life.

By looking at the culture of an actual organization, this research proposes to determine how the archetypal dimensions come into play as an aspect -- a fundamentally important dimension -- of organization culture. By doing this we will see that the current organization culture literature does not comprehend the deepest level of culture, and that because it does not it leads managers to a distorted conclusion regarding the question of whether culture can be managed. This is why we introduced the topic of archetypes. Because the OT literature sees organization culture as ultimately pliable, managing it seems feasible within that frame of reference. Archetypes, however, as we have seen from the foregoing description are not pliable, but can be powerful and autonomous forces. Hence, if we see the operation of an archetype in organization culture this will provide strong evidence to the question of whether or not culture can be

managed, because archetypes can not be controlled.

One approach to determining whether unconscious material is present and at work is language patterns. Mitroff says that when people are using metaphors that have linkage to archetypal constructs, this indicates that archetypes are active -- as evidenced through the metaphor of incest and rape used during corporate takeovers. Another approach is the expressed patterns of unconscious material observed in the organization in items spontaneously displayed physically inside the organization and in the spontaneous development of rituals. If these patterns can be discerned and shown to be congruent with archetypal patterns, then this would indicate that archetypes are active in shaping these behaviors.

CHAPTER IV  
THE ORGANIZATION

THE HISTORY

The Office of Technology Assessment (OTA) was established on October 13, 1972, through Public Law 92-484. The law states that OTA's purpose is to, "provide early indications of the probable beneficial and adverse impacts of the applications of technology and to develop other coordinate information which may assist the Congress."

Background for OTA's Creation

The requirement for such an agency as OTA, was driven by emerging technologies and their potential applications in society. How to utilize, apply and even control the emerging technologies were questions which Congress, at the time, lacked in-house resource capabilities to address in a timely manner. The inadequacy of Congress to address the emerging technologies was recognized during discussions with the Executive branch on such technologically important issues as the Supersonic Transport (SST) and the Anti-Ballistic Missile

(ABM) treaty.<sup>1</sup> The lack of knowledgeable individuals in the Legislative branch to address adequately these emerging technologies were few, if not non-existent. Previously, Congress sought help from outside scientific experts to assist with understanding and clarifying highly technical issues. In doing so, Congress discovered that scientists and other experts often disagreed, frequently to the extent that their testimony, allegedly with respect to the facts, was flatly contradictory.<sup>2</sup> From these experiences, many in Congress learned quickly that technical information can be diffuse, judgmental, uncertain, and confusing to technical experts as well as to policymakers.<sup>3</sup> In addition to this revelation, the Congress also determined to reduce their overt reliance on the Executive branch to provide understanding and insight into complex scientific and technological issues. By eliminating this reliance, the Congress could critically review Executive branch proposals without relying solely on the Executive's expertise. The Congressional Budget Office (CBO) was created for this review concerning the federal budget.

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<sup>1</sup>John H. Gibbons and Holly L. Gwin, "Technology and Governance," Technology In Society 7 (1985):334-335.

<sup>2</sup>Ibid., p. 335.

<sup>3</sup>Ibid.

The level of technological recognition expanded to such proportions that in 1967 the Congress initiated debate concerning the creation of a foresight mechanism. During this time, "the term technology assessment was coined."<sup>4</sup> Gibbons and Gwin further state that, "the stakes were rising in technological gambles - billions of public dollars were spent on the SST before Congress decided to abandon it; the nation's security was at risk in the consideration of the ABM treaty - and this promoted a great deal of Congressional concern about the legislature's level of scientific sophistication. Congress wearied of governing technology by muddling through."<sup>5</sup> The Congressional debate and weariness provided the impetus for Congress to create, "a non-partisan, analytic staff that," according to Gibbons and Gwin, "could: (1) provide expert analysis independent of the Executive branch; and (2) convert complicated technical information accurately into a form easily used by Congress." Gibbons and Gwin further state that, "reports by the National Academy of Engineering (NAE) and the National Academy of Sciences (NAS) articulated the need for this type of impartial governmental analysis of new technologies, and indicated that Congress would be an appropriate body to house an agency to perform

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<sup>4</sup>Ibid.

<sup>5</sup>Ibid.

technology assessments."<sup>6</sup> OTA was created with these endorsements and Congressional resolve.

#### Purpose for OTA's Creation

The enabling legislation indicated that OTA would, "be within and responsible to the legislative branch of the Government. . . and shall consist of a Technology Assessment Board which shall formulate and promulgate the policies of the Office (OTA), and a Director who shall carry out such policies and administer the operations of the Office (OTA)."<sup>7</sup> The functions of OTA are articulated clearly in the enabling legislation.

The enabling legislation stated that the function of OTA is to, "identify existing or probable impacts of technology or technological programs; where possible, ascertain cause-and-effect relationships; identify alternative technological methods of implementing specific programs; identify alternative programs for achieving requisite goals; make estimates and comparisons of the impacts of alternative methods and programs; present findings of completed analyses to the appropriate legislative authorities; identify areas

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<sup>6</sup>Ibid.

<sup>7</sup>Public Law 92-484, 92nd Congress, H.R. 10243, October 13, 1972.

where additional research or data collection is required to provide adequate support for the assessments and estimates described (previously); and undertake such additional associated activities as the appropriate authorities . . . may direct."<sup>8</sup>

The legislation also specified the process by which assessments would be initiated. The legislation states that, "assessment activities undertaken by (OTA) may be initiated upon the request of the chairman of any standing, special, or select committee of either House of the Congress, or of any joint committee of the Congress, acting for himself or at the request of the ranking minority member or a majority of the committee members; the Board; or the Director in consultation with the Board."<sup>9</sup>

The enabling legislation also dictates how OTA information will be disseminated. The legislation further states that, "assessments made by (OTA), including information, surveys, studies, reports, and findings related thereto, shall be made available to the initiating committee or other appropriate committees of the Congress. In addition, any such information, surveys, studies, reports, and findings produced by (OTA) may be made available to the public except

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<sup>8</sup>Ibid.

<sup>9</sup>Ibid.

where to do so would violate security statutes; or the Board considers it necessary or advisable to withhold such information in accordance with one or more of the numbered paragraphs in section 552(b) of title 5, United States Code."<sup>10</sup> The information produced by OTA is owned totally by its only client, the Congress. The composition of OTA's governing body, the Technology Assessment Board (TAB), is enumerated in the enabling legislation.

#### Governing Bodies and Authorities of OTA

The legislation states that the TAB, "shall consist of thirteen members as follows: six Members of the Senate, appointed by the President pro tempore of the Senate, three from the majority party and three from the minority party; six Members of the House of Representatives appointed by the Speaker of the House of Representatives, three from the majority party and three from the minority party; and the Director, who shall not be a voting member."<sup>11</sup> Congress' intent was to ensure OTA's governance by a non-partisan body.<sup>12</sup> The TAB leadership is determined by enabling

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<sup>10</sup>Ibid.

<sup>11</sup>Ibid.

<sup>12</sup>Current TAB members include Chairman, Edward M. Kennedy (MA); Vice Chairman, Clarence E. Miller (OH); Senators Ernest F. Hollings (SC), Claiborne Pell (RI), Ted Stevens (AK), Orrin G. Hatch (UT) and Charles E. Grassley; and Representatives

legislation stating that, "the chairmanship and vice chairmanship shall alternate between the Senate and the House of Representatives with each Congress."<sup>13</sup>

The legislation also provides special authorities to the TAB. Congress sought to ensure that OTA received all available information necessary to complete its assigned task by providing subpoena power in order to gain truthful information through administering oaths and affirmations. The enabling legislation authorizes the TAB, "to sit and act at such places and times during the sessions, recesses, and adjourned periods of Congress, and upon a vote of a majority of its members, to require by subpoena or otherwise the attendance of such witnesses and the production of such books, papers, and documents, to administer such oaths and affirmations, to take such testimony, to procure such printing and binding, and to make such rules respecting its organization and procedures as it deems necessary, except that no recommendation shall be reported from the (TAB) unless a majority of the (TAB) assent."<sup>14</sup> Additionally, the enabling legislation instructs the Executive branch to fully cooperate

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Morris K. Udall (AZ), George E. Brown, Jr. (CA), John D. Dingell (MI), Don Sundquist (TN) and Amo Houghton (NY); and John H. Gibbons, OTA Director (Nonvoting).

<sup>13</sup>Ibid.

<sup>14</sup>Ibid.

with OTA.

The legislation states that OTA, "is authorized to secure directly from any executive department or agency information, suggestions, estimates, statistics, and technical assistance for the purpose of carrying out its functions."<sup>15</sup> The legislation also states that, "each such executive department or agency shall furnish the information, suggestions, estimates, statistics, and technical assistance directly to (OTA) upon its request."<sup>16</sup> This provision enables OTA to request any information deemed necessary to complete its work without having to pursue formal channel requests through Congressional committees to the Executive departments and agencies. The authority to communicate directly with the Executive branch reduces any time delays which might accompany a Legislative branch requests of the Executive branch. A council of individuals external to government employment and recognized as experts in their respective disciplines is also created by the enabling legislation for assisting OTA with its mission.

The legislation established a Technology Assessment Advisory Council (TAAC), to function upon the TAB's request, to "review and make recommendations to the (TAB) on activities

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<sup>15</sup>Ibid.

<sup>16</sup>Ibid.

undertaken by (OTA) . . . ; review and make recommendations to (TAB) on the findings of any assessment made by or for (OTA); and undertake such additional related tasks as the (TAB) may direct."<sup>17</sup> As the legislation indicates, the role of the TAAC is advisory, and serves as means for technical experts in the general public to assist the TAB with performing its official duties.

The TAAC is composed of twelve members,<sup>18</sup> ten of which are private citizens, who are, "persons eminent in one or more fields of the physical, biological, or social sciences or engineering or experienced in the administration of technological activities, or who may be judged qualified on the basis of contributions made to educational or public activities."<sup>19</sup> The additional two members of the TAAC are, "the Comptroller General and the Director of the Congressional Research Service of the Library of Congress."<sup>20</sup>

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<sup>17</sup>Ibid.

<sup>18</sup>Current members of the TAAC are David S. Potter, Chairman; Chase N. Peterson, Vice Chairman; Earl Beistline; Michel T. Halbouty; Neil E. Harl; James C. Hunt; Henry Koffler; Joshua Lederberg; William J. Perry; Sally Ride; Charles A. Bowsher, Comptroller General and Joseph E. Ross, Director of the Congressional Research Service.

<sup>19</sup>Ibid.

<sup>20</sup>Ibid.

In effect, OTA was created to study the potential benefits and adverse impacts of current and emerging technology application and coordinate the development of information to assist Congress relating to these technologies. To govern the OTA, Congress created the TAB which formulates and promulgates policies. To assist the TAB in an advisory capacity, Congress established a predominantly private citizen's council called the TAAC, which acts on the TAB's direction to review and make recommendations concerning activities and assessments by OTA or other related tasks assigned by the TAB. The combination of these groups, the individual members of OTA, and those identified by the OTA as possessing pertinent information necessary for contributing to a technology assessment, enable the OTA to perform its legislative mandate.

#### Influential Individuals for OTA Existence and Leadership

Instrumental in Congressional recognition that technology assessment information be provided was Representative Emilio Q. Daddario, then Chairman of the House Subcommittee on Science, Research, and Development and Senator Edward M. Kennedy, then Chairman of the Senate Subcommittee on Health of the Senate Select Committee on Nutrition and Human Needs. Daddario was contacted in 1970 by Charles Lindbergh who warned

that, "the Earth was heading for disaster unless the balance between science and the ecology were carefully controlled."<sup>21</sup> The information provided Daddario by Lindbergh contributed to House momentum, while Kennedy's concern with childrens' lead poisoning was the initial moving voice in the Senate. During this time, Kennedy learned that about 400,000 children suffered from lead poisoning, and that each year about 200 children were dying because of ingestion of 30-year-old lead-base paint. Kennedy wondered whether Congress could have anticipated this problem and enacted legislation which would have spared thousands of children the effects of this poison.<sup>22</sup> The action initiated by these men, especially with the subcommittees they chaired, initiated serious considerations for the establishment of some mechanism to provide the Congress with information assessing potential good and bad implications of technology from scientific discovery.

After legislation creating OTA was passed in 1972, the task of appointing its first director began. The selection process ended with Emilio Quincy Daddario being appointed as the first director of the OTA in 1974.

Daddario's original involvement with OTA's legislative

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<sup>21</sup>Kathi E. Hanna, "Patterns of Use of Technology Assessment" (DPA dissertation, George Washington University, 1987), p. 10.

<sup>22</sup>Gibbons and Gwin, "Technology and Governance," p. 334.

inception was a key consideration in his appointment as director. He initiated the task of assembling individuals who would form the new agency's core, by selecting individuals possessing skills in science disciplines. A major problem confronting Daddario was the presence of Congressional staffers on the OTA payroll. The staffers reported OTA activities to their Congressmen, creating a difficult working relationship. With this activity, Daddario faced continued difficulties with managing and controlling the functions of OTA. With several political employees at OTA, it appeared that OTA had several directors, one of which was Daddario. After a period of three years and eight months, Daddario, resigned to reenter private law practice. The next director of OTA was Russell Wilbur Peterson, appointed in January, 1978.

Peterson, a chemist, worked 26 years for the Delaware based Dupont Company. When leaving the Dupont Company, Peterson held the office of the Director of the Research and Development Division within the Development Department. Peterson had served as Governor of the State of Delaware from 1969 to 1973 and later founded New Directions, an organization focusing on global environmental issues. His selection as OTA director was apparently prompted by his management abilities, political acumen and active participation in a technology and

science-based industry.

Peterson wasted little time exerting immediate control. Since OTA's inception, Congressional staffers were paid by and possessed offices at OTA. Peterson confronted the TAB demanding all political staffers be removed from OTA and its payroll. If OTA was to perform its legislative mandate of non-partisan, objective assessments, the individuals would have to leave. In addition, Peterson demanded that the OTA director be allowed to hire and fire personnel. The previous practice required the director to submit all personnel actions for TAB approval. After TAB discussion, the director was granted personnel action authority without prior TAB approval. Even though Peterson was establishing OTA with a strong management foundation, producing some positive results, his personal style with Congress proved to be his undoing. Peterson perceived his director's role to be that of an initiator concerning what OTA would study and the direction OTA should take. In fact, Peterson appeared to view his director's role as authorizing projects for OTA, which are reserved only for members of TAB. With this perspective in mind, Peterson developed and presented to Congress a 50-item project issue list which he perceived OTA should investigate and pursue in the coming years. Peterson's action and attitude did not sit well with Congress. The members of TAB

were annoyed with Peterson's attitude of attempting to dictate what he wanted done instead of recommending to Congress what would be appropriate for OTA to do. Peterson's actions were in contrast to the supporting role delegated to OTA by Congress. Since OTA's basic function is to provide Congress with helpful information, Peterson's philosophy conflicted with its defined legislated role. Peterson's actions began his demise as director. During this time, the presidency of the National Audubon Society became vacant, a position Peterson desired for many years, especially with his interest in global environmental issues. After sixteen and one-half months as director, Peterson resigned from OTA to assume the Presidency of the National Audubon Society. The next OTA director was John Howard Gibbons, who was appointed in June, 1979.

Gibbons came to OTA from the Oak Ridge National Laboratory, where he was Director of the Energy, Environment and Resources Center and Professor of Physics at the University of Tennessee. Gibbons' education and employment as a physicist provided him with unique research perspectives and was OTA's first true manager. As a trained scientist, Gibbons understood the management style conducive to exacting research prior to his appointment as director. Gibbons' prior knowledge provided a greater appreciation for analyst research

problems, leading to reductions of internally induced problems. Gibbons' selection as director has proved extremely beneficial. Gibbons' relaxed manner and low-key managerial style contrasts with the previous director's hard driving style, and came as a welcome relief to the OTA staff. However, much needed to be done at OTA and in a short time. In fact, "When Gibbons joined the OTA," says van Dam and Howard, "one TAB member slapped him on the back, wished him luck, and told him he was OTA's last chance."<sup>23</sup> This realization may have indeed been a major incentive for Gibbons to rigorously guide, nurture and protect those under his control.

#### THE PHYSICAL SETTING

The OTA is located four blocks southeast of the Capitol building at 600 Pennsylvania Avenue. The building occupies a corner lot at the Sixth Street intersection with "C" Street as its north boundary. A grass median on Pennsylvania Avenue provides a buffer from OTA's across street restaurant and business neighbors. The colonial brick structure covers almost half a city block sharing the remainder with a bank, varied businesses, and several restaurants. The "C" Street

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<sup>23</sup>"How John Gibbons Runs Through Political Minefields: Life at the OTA," Technology Review October 1988, p. 47.

side of the building faces private townhomes, circa 1920.

The structure contains five above ground floors and two sublevel garage floors. The Pennsylvania Avenue entrance is located in the middle of the building providing easy access to the Eastern Market Metrorail station. However, OTA is not the only building tenant.

### Building's Tenants

The building's non-OTA tenants occupy half of the northwest first and second floors. The non-OTA first floor tenants are the Citicorp Savings, All In One Travel Agency and the Colorfax Photo Store. The second floor tenants are physician and business association offices. The remainder of the first and second floors and the entire third through fifth floors are OTA occupied. The OTA occupied third through fifth floors have Capitol Hill Police stationed at the elevator entrances, and in the conference center on the first floor, while the remainder of the first and second floor are police patrolled. During OTA sensitive meetings on the first floor, Capitol Hill Police are used to restrict access, but only to the meeting area.

At the 1976 OTA relocation, the third floor was occupied by other business and physician offices. An OTA condition for moving to the Pennsylvania Avenue location was a first refusal

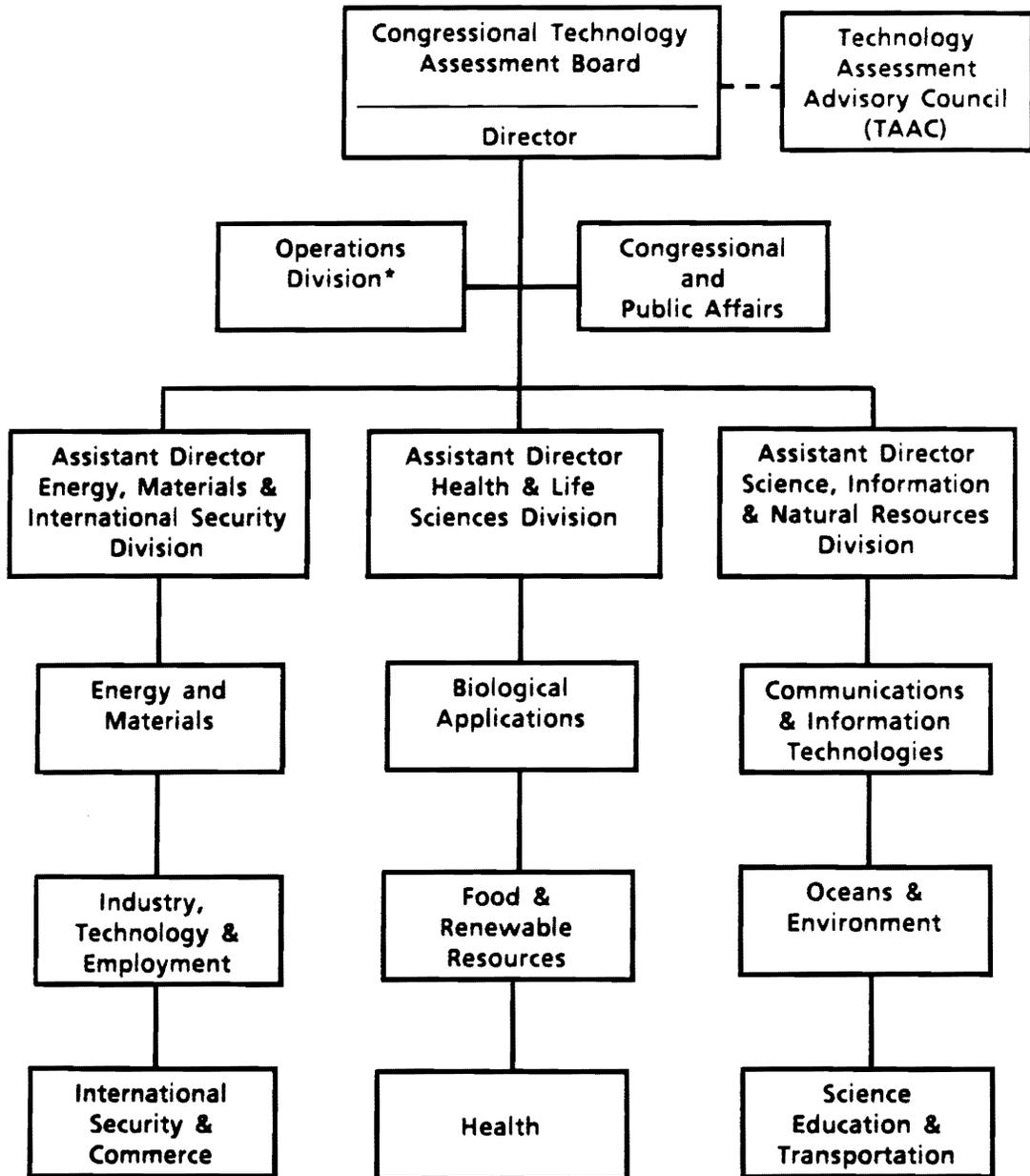
stipulation of current tenant office space when their leases expired. Gradually, non-OTA third floor tenants departed, leaving only the current first and second floor tenants. Prior to the Pennsylvania Avenue address, OTA was housed in several locations on the House and Senate sides.

The first OTA location was in the Ante or side room of the House Science and Technology Committee meeting room. Additional rooms for OTA were then added in the House Annex. Later, OTA moved to the first and seventh floors of the old Immigration Building on "D" Street, which had recently been renovated. From the "D" Street location, OTA expanded to offices in the Plaza Hotel and other smaller hotels located behind the current Hart Senate Office building. This location is now a parking lot. Offices were then added on the fifth floor of the old Immigration Office building. During this period, OTA was housed in seven different locations creating a major headache for management and coordination. OTA's organization attempted to match the program design with that of its floor occupation.

#### Organization Design and Floor Occupation

As noted above, the permanent OTA professional and support staff offices are housed at the Pennsylvania Avenue location. An OTA organization chart is provided in Table 1.

**TABLE 1**  
**OTA ORGANIZATION CHART**



**\*Operations Division consists of the following units :  
Administrative Services, Budget & Finance Office,  
Telecommunications and Information Systems,  
Information Center, Personnel Office, & Publishing Office**

The OTA organization is managed by a Director. The Director is assisted by an Operations Division Manager, who is responsible for the administrative support functions, and a Director of Congressional and Public Affairs, who is responsible for correspondence and liaison activities with Congress, the press and the general public. The OTA Director is also assisted by three assistant directors responsible for the programs under their control. The authorizing legislation provides for a deputy director to assist the director; however, in practice the deputy director position was made into three assistant directors. The performance of technology assessment is accomplished within a three division framework.

The three divisions are Energy, Materials and International Security; Health and Life Sciences; and Science, Information and Natural Resources with each division managed by an Assistant Director. Each division contains three programs directed by a Program Manager. The Energy, Materials and International Security Division includes the programs of Energy and Materials; Industry, Technology and Employment; and International Security and Commerce. The Health and Life Sciences Division include the programs of Biological Applications; Food and Renewable Resources; and Health. The Science, Information and Natural Resources Division include the programs of Communication and Information Technologies;

Oceans and Environment; and Science, Education and Transportation. It is within the program level that professional staff conduct analytical assessments.

A section of OTA's first floor space contains a conference center with seven conference rooms and the ability to divide a large meeting room into two meeting rooms, making, potentially, eight rooms. The conference center also contains a small kitchen for preparing meals during workshop or panel meetings and is used during special occasions, such as Christmas or employee departure parties. In addition to the kitchen, the Conference Center when not in official use is used as an employee lounge where small gatherings or individual lunches are eaten. A part of the front lounge area contains "Gretchen's Bar", named for a charter OTA employee, desiring to provide an in-house after work gathering place for OTA employees before heading home.

OTA's second floor space contains the Personnel Office, Publishing and members of the Energy and Materials program. The third floor contains the programs of Science, Education and Transportation; Biological Applications; and part of Industry, Technology and Employment. Also, the third floor contains the Information Center and Service Center. The fourth floor contains the programs of Energy and Materials; Oceans and Environment; Food and Renewable Resources; and

Industry, Technology and Employment. The fifth floor contains offices of the Director and Assistant Directors, Congressional and Public Affairs, Budget and Finance, Contracts, the Nurse, Travel, and Telecommunication and Information. The program of International Security and Commerce is also located on the fifth floor. The staff is OTA's chief resource and is discussed next.

#### THE ORGANIZATION'S STAFF

##### Types and Description

The total number of employees averages about 195-205. This includes the separate levels of permanent and temporary employees. Permanent staff positions are limited by law to 143, as stated in yearly appropriation language. The low personnel ceiling may be the result of earlier OTA struggles for existence during its political nascence. It appears that during this early period, as OTA became fully operational and political employees removed, it is perceived by some, that a parting political move capped the total permanent positions. The limit has slightly increased over the years to the current 143 and appears stabilized at this level for the next several years. The permanent employees exist throughout the professional analytical, administrative and support areas of OTA. The temporary employees number about 55 yearly.

Temporary employees function in similar, if not identical capacities, as permanent employees. Position limitations has forced OTA to utilize temporary employment on an ongoing basis. Temporary employees are not eligible for retirement benefits, but do receive other benefits normally associated with permanent status. The length of time usually required for permanent status conversion is up to 2 years. However, the majority of temporary employees who come for specific assessment related assignments average 1 to 2 years at OTA and leave before permanent status is achieved.

In house contractors, who are not OTA employees, average about 25 yearly. They are hired for specific assessment requirements and end their OTA association after task completion. In addition to assessment activities, special types of contractors are employed in Budgeting and Finance, the Service Center, Publishing, facilities management, and the Travel Office. By all accounts the contractor expertise has proved to be invaluable and cost efficient for OTA. The use of contractor employees appear to be a permanent fixture at OTA.

#### Selection, Evaluation and Promotion

The process of selection, evaluation and promotion indicates the professional analytical staff's high quality.

One primary professional analytical staff employment selection tool involves the Congressional Fellows program. Each year, over one-hundred applicants from major universities and other institutions attempt to secure one of the 4 to 6 available one-year fellowships. Applicant credentials are of such high caliber that only twelve are selected to receive interviews with permanent OTA staff, marking the final hurdle in the selection process. After final Fellow selections and appointment as temporary employees, each selectee is assigned to a program for a project assessment. A high percentage of Fellows remain at OTA beyond the Fellowship year. The Fellow's program provides a few new employees yearly, but is not the only means by which OTA employment can be obtained. Another means for employment is through referral and normal personnel department processes.

As assessments move toward completion, temporary staff recognize that OTA employment termination is approaching, especially if no new assessments are anticipated in the employee's related discipline. Termination occurs if employment extension is not granted to temporary employees. However, if a new assessment requiring their skills is anticipated and OTA desires to retain their services, an employment extension is offered. If not offered or accepted, then program managers and staff usually inquire with

university officials regarding the disciplines where individuals are needed. Often this process proves fruitful. The evaluation process and requirements are the same for all programs.

The performance evaluation process involves completing an OTA tailored form distributed by the personnel office. The process including a self-assessment phase evaluates such factors as job knowledge, quantity of work, quality of work, judgment, creativity, cooperation, meeting deadlines, oral communication, written communication, analytical execution and organizational representation. Additional evaluation criteria are required of management and supervisors. These include establishing goals and priorities, directing operations and developing and counseling employees. Using these factors the employee and evaluator provide comprehensive comments relating to the employee's significant accomplishments, areas for development/improvement, expectations for the coming year and finally, total job performance. Once the comprehensive comments are completed, an overall performance rating is assigned. The performance rating scale contains five levels. The scale ranges from one, which is outstanding, to a five, which is unacceptable. The quality of OTA personal performances reveal that rarely do professional analytical staff receive ratings below the satisfactory level. The

performance of some analytical staff members is of such quality that a one-plus is given, indicating exceptional performance. The process includes an individual session where performance is discussed between the employee and evaluator. The evaluation form provides opportunity for employee comments and signature blocks indicating results were shared with the employee. Signing by the employee does not indicate agreement with evaluation, only that the evaluation was discussed. In addition to the employee's, other signatures required for the form include the supervisor's, the reviewer's (the next level of supervision) and the assistant director's. Performance evaluation is the basis for determining annual pay increases. Next, the promotion process and position structure is discussed.

The relatively small size of OTA compared to other federal organizations providing similar services creates promotion problems. The promotion problem is compounded with the presence of talented individuals with few opportunities for advancement. Depending on which level the individual enters OTA determines the base pay and accompanying future pay increases received. The professional analytical staff positions include research assistant, research analyst, analyst, senior analyst and senior associate. Each position has a corresponding salary which may increase to the maximum

level for warranted performance. The professional analytical staff salary range is composed of nine levels, which extend from a low of \$19,520 to a high of \$79,640 per year. Senior associate positions were created to acknowledge superior performance, identifying individuals as senior advisors. Recognition as such provides individual opportunity to participate in senior management planning and dialogue. To further illustrate the highly qualified and competent OTA individuals, the educational background and training will be discussed next.

#### Education Level

OTA contains a concentration of educationally advanced and research trained individuals for technology assessments. The staffs' combined education and training provides expertise for encountering challenging issues. Doctor of Philosophy degrees are held by fifty-one percent of the professional analytical staff, while thirty-one percent of the remaining staff hold master's degrees or have done post graduate studies. Sixty-six percent of the professional analytical staff have degrees in political science, science policy or environmental areas, while thirty-three percent hold degrees in engineering, physics and biology. Other disciplines such as sociology, law, economics and computer science are

represented on a smaller scale. Each discipline provides insight from its own distinctive perspective. Discipline integration during assessments provide varied potential implications for specific technologies being reviewed.

### ORGANIZATION'S TECHNOLOGY ASSESSMENT PROCESS

#### Background and Types

The OTA's enabling legislation specified that the agency would provide, "early indications of the probable beneficial and adverse impacts of the applications of technology and to develop other coordinate information which may assist the Congress."<sup>24</sup> Since the legislative mandate directed OTA to provide Congress with technology impact information, the types of assessments were clarified. The assessments OTA performs are divided into the categories of full assessments, background papers, technical memorandums and case studies. The full assessments are indepth analysis of specific technologies, which take from ten to twenty-four months to complete. During each year, approximately twenty-five to thirty full assessments are in progress or nearing completion. The background papers serve a slightly different Congressional need.

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<sup>24</sup>Public Law 92-484, 92nd Congress, H.R. 10243, October 13, 1972, Section 3(c).

The background papers are short informational digests prepared by staff analysts in response to a special Congressional inquiry. Usually a single Congressional member, or his staff, requests through the appropriate committee chairman, this information instead of pursuing the normally involved process of committee and TAB approval for full assessments. Background papers can evolve into full assessments, requiring the full assessment process to be followed.

### The Process

Technology assessment (TA) is a multi-step process involving Congressional members, the TAB, Advisory Panels, the OTA Director, OTA staff, OTA contractors, OTA requested reviewers and interested stakeholders, interacting regularly to ensure an accurate assessment. The TA timeframe from initial conception to final hardcopy production can take from eighteen to thirty months.

A standard TA process does not exist at OTA. The basis for this non-standardization process appears to ensure that the element of creativity is not stifled. Since creativity plays a major role in all TAs, it is imperative that project directors be allowed as much flexibility as possible. Yet, even with adequate flexibility, there occurs generally

recognizable steps or stages of the process. One such published TA model involves a fifteen step process. Fred Wood identifies the fifteen step process to include, "consultation with committee members and staffs, proposal preparation and internal review, TAB review and approval of proposal, staffing, planning, selecting and convening an advisory panel, ensuring public participation, data collection and analysis, contracting, report writing, review and revision, OTA Director and TAB approval of report, publishing, follow-up and close-out."<sup>25</sup> Each step and participants will be described briefly.

The TA process initiates normally when the appropriate committee or subcommittee chairman requests information concerning a science or technology issue. Currently, the Congressional committees and subcommittees having science and technology jurisdiction total over seventy, indicating that each of these committee chairmen are potential requestors of the TA process.

The first step involves Congressional committee members and staff consulting with OTA on assessment issues. The discussion enables Congress and OTA to stay abreast of potential TA issues.

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<sup>25</sup>Fred B. Wood, "The Status of Technology Assessment: A View From The Congressional Office of Technology Assessment," Technological Forecasting and Social Change 22 (1982):212.

The second step of TA proposal preparation permits Congressional and OTA staffers discussion opportunities concerning current potential TA issues. The discussion enables clarifying the TA issue before final TAB proposal submission.

The third step of TAB review and proposal approval involves satisfying specific guidelines established by TAB prior to project approval and fund allocation. According to Wood the criteria are, "is this now or is it likely to become a major national issue; can OTA make a unique contribution, or could the requested activity be done effectively by the requesting committee or another agency of Congress; how significant are the costs and benefits to society of the various policy options involved, and how will they be distributed among various affected groups; is the technological impact irreversible; how irreversible is the impact; is there sufficient available knowledge to assess the technology and its consequences; is the assessment of manageable scope--can it be bounded within reasonable limits; what will be the costs of the assessment; how much time will be required to do the assessment; what is the likelihood of congressional action in response to this assessment; and would this assessment complement other OTA projects."<sup>26</sup> If in TAB

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<sup>26</sup>Ibid., pp. 213-214.

estimation each criteria is sufficiently satisfied, then a proposal vote is taken and if passed, is given TA project status.

The fourth step of staffing involves TA project assignment. The assignment process enables the OTA Director in consultation with the Assistant Directors to determine which division and program should perform the TA. Sometimes assignment discussions are unusually intense -- when the proposal carries national or international prominence and/or political significance. After determining the TA division and program, a project director is assigned who, in consultation with the program manager chooses OTA staff and identifies potential contractors to assist with the TA. In addition, the program manager, in consultation with the director and assistant directors, identifies with the project director individuals to compose the advisory panel. The panelists provide project directors with technical assistance and objective direction throughout the TA process.

The fifth step of planning involves identifying the substantive scope of the assessment. Usually, scope definition, states Wood, "requires several iterations once a study has been initiated, and is normally a major agenda item for the first project advisory panel meeting."<sup>27</sup> Finalizing

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<sup>27</sup>Ibid., p. 215.

scope definition ensures that requested technologies and potential impacts are addressed and report submission occurs simultaneously with Congressional need.

The sixth step of selecting and convening an advisory panel involves extending individual invitations to prior designees and with acceptance determine an initial convening date. The panelists provide a wide array of backgrounds from academia, industry, government, public interest groups and concerned citizens, who are selected to ensure objectivity, accuracy and comprehensiveness of potential technology impact.

The seventh step involving public participation ensures all stakeholders the opportunity to express personal views related to the issues. Public participation throughout the TA process occurs during informal staff meetings, workshops and panel meetings and through draft report review.

The eighth step, of data collection and analysis, involves research methodology selection and policy analysis considerations from a technology perspective. Data collection boundaries are established allowing narrow project focusing.

The ninth step, of contracting, permits OTA research utilization of worldwide acknowledged specialists in their related disciplines. The contracting provision is intended to ensure that the highest possible research level of information will be obtained and utilized during the project.

The tenth step, report writing, involves data integration with a focus on Congressional interests concerning the technological impacts of the issue studied. Reports are written internally, reflecting OTA style and serving as a quality trademark.

The eleventh step is distribution to fifty to two-hundred individuals for review and revision. Individual comments are seriously considered from the internal and external OTA respondents when completing the final project report.

The twelfth step involves OTA Director report approval, after which is forwarded for TAB approval. The TAB review during Congressional sessions takes approximately ten working days and, if the report has no objections, is approved pending final editorial revisions.

The thirteenth step signals final report approval, allowing official data dissemination. Reports are published by the Government Printing Office (GPO) under OTA instructions and carry OTA distinctive emblems. Interested individuals may purchase report copies through GPO distribution centers.

The fourteenth step of project follow-up concerns how the report will be publicly released or presented by requesting individuals. Often reports are publicly released during committee or subcommittee hearings pertaining to the report issue. Following report release, OTA staff is often requested

to provide committee testimony concerning report summaries and further questions prompted by report release.

The fifteenth and final step involves memorandum preparation concerning project activities and public report reaction. The memorandum also reflects OTA contribution to the technological disciplines studied and identifies new additions to OTA's expanding internal base of knowledge. The fifteen steps serve as benchmarks for the staff throughout the TA process. Since the TA process is OTA's major function, certain internalized activities have developed in relation to the process. Some activities have become OTA rituals which developed in relation to the TA process, while others developed independently of the TA process. These rituals are discussed next.

#### ORGANIZATION RITUALS

Rituals are a part of all organizations and are faithfully observed by its members. Deal understands rituals as possessing unique qualities when he states that, "rituals are physical expressions of cultural values and beliefs."<sup>28</sup> Deal further states that, "rituals arise around the boundaries

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<sup>28</sup>Terrence E. Deal, "Cultural Change: Opportunity, Silent Killer, or Metamorphosis?" in Gaining Control of the Corporate Culture (San Francisco: Jossey-Bass Publishers, 1985), p. 310.

of the unknown,"<sup>29</sup> which permit us to, "experience a transpersonal bonding essential to the human species."<sup>30</sup> Rituals possess several properties identified as significant, which Deal identifies as, "repetition, acting, stylized behavior, order, evocative presentational style, and collective dimension of shared meaning."<sup>31</sup> With this understanding, several OTA rituals will be presented.

#### "All Hands Meeting"

The "all hands meeting" was established in 1986 by the OTA Director to provide an opportunity for the entire agency to gather for business and socializing. The meetings occur usually every three to four months and are held in the OTA conference center. The meeting offers coffee and pastries, and this encourages social interaction and attendance. Usually the meeting provides information on the latest TAB meeting. After business is completed, the director requests that each employee meet three new people. The meetings provide staff with a relaxed environment to meet and interact with other employees within the total organization.

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<sup>29</sup>Ibid., p. 324.

<sup>30</sup>Ibid., p. 325.

<sup>31</sup>Ibid.

### Softball Bake Sale

The softball bake sale is held annually at the beginning of spring to provide resources for the OTA team. The primary need for revenues is for field rental where the majority of OTA games are played. The bake sale involves both team members and team supporters bringing cakes and pastries for purchase. The items for sale, however, are not limited to pastries alone. Personal items and services are also auctioned as charitable means to raise money. The sale, held in the conference center, has generally good attendance.

### Christmas Party

The main OTA Christmas party is an internal affair usually held in the Conference Center where lunch is provided. OTA staff bring their favorite "sweets and goodies" and place them on tables for consumption. Christmas music is played with some caroling by the staff. During Christmas party day, individual programs provide "goodies" for program staff. Also, during the morning pastries are enjoyed in the Information Center where staff informally gather.

### The "WYE"

The "WYE" managed by the Aspen Institute is the location of the past Fall retreats for senior OTA management. The WYE

is a "island" plantation located in Maryland. The 2-day retreat's purpose is to provide OTA senior members with an uninterrupted setting for planning and discussion. Discussion includes current projects, important activities, personnel issues, future studies and management suggestions and initiatives. Negative and positive aspects of the year's work are elaborated with potential improved management actions resulting from the discussion. One contention from non-Senior Associate project directors concerning the WYE retreat involves their non participation. These project directors, who are not invited, feel that their comments with senior level management are needed and should be included in the WYE retreat.

#### Awards Ceremony

The awards ceremony originated in October 1987. A room in the Capitol was selected with the second ceremony held in the Senate Caucus Room on March 17, 1989. Awards were provided to individuals designated by the Awards Committee as contributing exceptional performances. The recipients number from 4 to 5 each year and receive Steuben glass figurines and plaques commemorating their selection. Also, service recognition awards for 5, 10 and 15 years were presented. Members of the TAB attend and make appropriate remarks.

During the ceremony a reception is held in their honor. Award ceremony attendance is extremely high.

### Program Retreats

Some programs have Fall retreats after the WYE retreat. The program retreats vary from a two to three weekday event to a one day weekend marathon. The retreats' purpose is to provide opportunities for relationship building among program members. This is especially important given the project format utilized for the TA process. Individuals within the same program may know other members only superficially, because the TA process within their program requires that highly concentrated time and energy be directed toward project completion. The highly focused energy and time required from individuals working on a project leaves little opportunity for interaction with others, even those within the same program. The retreats attempt to remove this social integration barrier by providing all program members with the opportunity to acquaint and reacquaint themselves with fellow program members. The retreats also serve as planning vehicles for current and future years' projects and activities. They provide a pleasant change of pace from the normal hectic workday experience and allow new sources for information from fellow program members.

### Director's Summer Picnic

The Director purchased a farm in middle Virginia a few summers ago and has used the site for a picnic. The previous year's experience was most enjoyable. The culinary skills of most OTA members were challenged as requests for special cooked dishes came forth. Square dancing was a main attraction with many members displaying exceptional footwork. The picnic serves a special purpose of permitting the entire OTA organization to enjoy business friendships in a relaxed setting. Organization members acquaint and reacquaint themselves with new and current OTA members. Division and program interaction is desired by senior management and the picnic accomplishes this purpose especially well.

### Special Occasion Parties

Most programs look forward expectantly for opportunities for special gatherings. The gathering's purpose may be for a birthday, wedding, birth, major accomplishment or recognition, and even for farewell goodbyes. The goodbye gatherings can be especially significant. If the individual departing OTA is leaving in good standing, a special gathering is held for him or her. A members departure on less than good terms, in management's view, usually receive no goodbye gathering. Often these individuals gather their materials and

leave the office with little fanfare and few goodbyes. Sometimes these individuals are treated to lunch by a few close friends, yet nothing elaborate is done. However, a departing member in good standing experiences an entirely different farewell.

The gathering for this person is normally held in one of the conference center meeting rooms at the conclusion of the workday. The departing staff's program initiates the gathering's process by assigning food and drinks, organization invitations, and entertainment. A special part of the gathering is a director presentation to the departing staff with a citation. The citation is written by a fellow program staff member outlining most significant accomplishments and recognitions the individual received during OTA tenure. The citation is crafted in the OTA publication office and is indeed a special treasure for the departing staff member. Also, a gift is provided signifying in a personal way the program's sentiments toward the member. The gathering allows OTA members to collectively say their goodbyes as well as permit the departing member to address the entire organization. The longer the tenure of the employee, the larger the number of people who attend the gathering. The gatherings are enjoyable events with much interaction, while at the same time they are sad occasions due to the departure

of a beloved friend and colleague. The gathering is a fitting OTA closure to a job well done and creates anticipation for those who one day hope to experience a similar OTA going away party. Next, the research methodology utilized during the study is discussed.

#### METHODOLOGY

During the spring of 1987 I requested and was granted access to OTA to do organization culture research. My initial OTA visit was with Bill Norris, the personnel director. We discussed what I planned to accomplish and the process for completing the task. Once the plan and process was accepted, Bill Norris began establishing initial interview appointments for me with the OTA professional staff. After the initial interviews were completed I was permitted to contact other individuals in the programs where previous interviews were conducted.

The research model used during the interviews, called an Interview Protocol, is an adapted or modified version of Edgar Schein's research instrument for identifying organization culture. Schein's research instrument is located in Organizational Culture and Leadership. A copy of the Interview Protocol is in the appendix. The seven major divisions in Schein's instrument are retained in the Interview

Protocol. The question content of each division retained their basic emphasis, yet some modification occurred to suit OTA's particular situation. Discussion questions within Schein's instrument either were deleted or partially incorporated into question content in the Interview Protocol.

Within OTA's structure there are three distinct levels of professional hierarchy. The levels can generally be divided into top management, middle management, and the professional analyst level. The top management level includes the director, the assistant directors, the operations director, and the Congressional and Public Affairs director. The second level includes the program managers of the nine programs. The third level includes the professional staff performing the analytical work from the project directors to the research analysts. Each level has its own emphasis and responsibility.

The interviews were conducted at OTA within the professional staff's offices. The interviews lasted from one hour to one and one-half hours with most interviews requiring two visits. After initial introductions and a brief synopsis of what my project entailed, the Interview Protocol was given to the professional staff member. I asked that the staff member be as open and honest as possible with their question responses. I advised each member that I would record their

responses in writing instead of using a tape recorder, so as to limit any potential hesitancy for response. Also, the staff member was assured anonymity with their responses.

The interview proceeded with each staff member appearing to seriously engage the questions. On several occasions, I observed the staff member's struggling to express their thoughts and feelings in relation to certain questions. The struggle indicated to me the deep level of culture which the questions directed the staff member's thoughts to vocalize. I sensed from their willingness to speak openly with me was in part because they did not perceive me as a "threat" to their work or job security. The gathering of relevant project information was similar to their process of issue inquiry which contributed to their openness.

The interviews were conducted at various times during the work week, ranging from 9:00 A.M. to 6:00 P.M. Upon arrival at OTA, I used the elevators to reach the staff member's appropriate floor. When exiting the elevator, I was greeted by a Capitol Hill Policeman, who controlled access to the building's top three floors. The policeman asked who I wished to visit and then would telephone the staff member with whom I had an appointment to make them aware of my presence. After several visits to the floors and becoming acquainted with the policemen, their questions to me upon arrival became limited

to only who I was visiting today and whether I knew where the staff member's office was located. My presence became so frequent that one of the policeman asked me when I was going to locate an office in the building. After speaking with the policemen, I then proceeded to the reception area of the staff member I was visiting. My initial visits experienced the secretary greeting me upon arrival and then informing the staff member that I was in the reception area. Once the secretaries became acquainted with me, their response upon arrival was that of directing me to proceed to the staff member's office. On several occasions the staff member met me upon arrival in the reception area. From the reception area we proceeded to the staff member's office. I was provided a chair which I placed facing the staff member's desk with my back to the door in order that I could view the staff member's entire working area. After a brief introduction the Interview Protocol was given to the staff member and the interview began. At the conclusion of the day's interview, I requested a continuation visit to complete the interview process. My request was usually granted and another appointment was made 1-2 weeks from the original interview date.

The research goal was to schedule two interviews per day, two to three days a week. I was able to maintain this

schedule for several concentrated periods of time. Since each interview was conducted during the work day, I had to plan the interviews in accordance with my work schedule. Because of my own busy schedule there were times when I did not visit OTA physically, yet maintained telephone contact with the staff members.

My arrival time for interviews was targeted for 10-15 minutes prior to the scheduled interview appointment. The purpose of the early arrival was to record the placement of furniture, wall objects, bulletin board items, and the flow of traffic within and among program staffs. Often I would be allowed to sit in the staff member's office prior to our interview by myself. From my chair I had the opportunity to observe and record office furnishings, personal wall placements, and desk items.

The interviews, which began in April of 1987, were completed during August of 1989, covering a period of twenty-eight months. The total number of people interviewed was 44, which represents 25% of the total work force and roughly 33% of the permanent OTA staff. The interviews were conducted with the director, two assistant directors, five operations and support personnel, each of the nine program managers, and three staff members from each of the nine programs. The interviews were conducted with permanent and temporary

employees and with staff members who had been at OTA from its beginning to staff members who had only been aboard for six months. More than 100 on-site visits were made to OTA. The staff member's interview selection provided an excellent sampling of the horizontal and vertical layers of OTA. The information received concerning the staff was not limited to only interviews.

During my OTA visits I was permitted to observe staff member's interaction with other members of their own program and with the entire organization during several OTA wide gatherings. Two such OTA wide gatherings of importance were a farewell party for a highly respected and liked couple and the second awards ceremony.

The farewell party was an extremely festive event with staff members bringing home cooked "goodies" in addition to various types of beverages being provided. The farewell was attended by approximately half the permanent employees. Words were written to a well known tune in honor of the departing couple and was sung by all in attendance. The words and tune appeared to be an appropriate expression of the staff's concern and provided insight into their creative ability. After the song a writing citation prepared by a fellow staff member was read and presented by the director in honor of the departing professional staff member. Then personal gifts were

presented to both staff members following the citation.

The awards ceremony is to provide an opportunity to reflect on past accomplishments and recognize those identified as performing in an outstanding manner. The second awards ceremony was held in the Senate Caucus room. Various types of food and drink were provided for this event. During the ceremony several awards were presented by the director for 5, 10, and 15 years of staff member service. Also, three distinguished service awards were given. The staff's reaction to each recipient appeared to heartily approve those being honored.

These two events provided especially keen insight into staff interaction. The nature of OTA's work is scientific and analytical requiring individual isolated work or interacting with individuals external to OTA. When opportunities to gather with fellow OTA staff in an organization wide event, usually it is a welcomed request. Observed behavior and personal relationships exhibited, enabled me to visualize the content of many responses provided earlier during the interviews.

Additional staff observations included chance meetings in OTA hallways, luncheon visits, and meetings within the Information Center. During these visits questions were usually asked concerning the progress of my research, who I

was visiting next, and the number of interviews remaining prior to interview completion. Also, new tidbits of information were exchanged during these meetings concerning current happenings within the organization. These small pieces of significant information provided an opportunity for further investigation concerning the person relaying the information and the person to whom the information was focused. This information exchange further assisted with visualizing the culture of OTA.

#### ORGANIZATION SUMMARY

In summary, the OTA legislative history has been described, identifying the background, purpose, governing bodies and authorities, as well as individuals influential for OTA existence and leadership. The physical setting was also described identifying current building tenants, prior OTA locations, and organization design and floor occupation. Next, the staff descriptions were presented, identifying the different types and levels of each. The selection, evaluation and promotion process was described, including the employee educational level. Then the technology assessment (TA) process was presented, identifying the works aspects. Next, some formal OTA rituals were described identifying their relative importance to overall organization performance.

Finally, the research methodology utilized during the study was discussed. With the organization in focus, we now proceed to analyze the culture of OTA with a view toward probing the question of whether or not it reflects elements not accounted for by currently available models of organization culture.

CHAPTER V  
CULTURE OVERVIEW

The central focus of this study is the question of whether or not the current conceptualization of "organization culture" is adequate for understanding its complex dynamics, and, consequently, whether this literature can support the assertion that culture can be managed. We have seen that the present literature shows organization culture as occurring at a number of levels, from the more superficial "climate" layer, to the "values" layer to the relatively deep "paradigmatic" layer described by Schein. In the overview of the history, structure, mission, and functioning of OTA presented so far, we have seen evidence of all three. Moreover, the study revealed that Schein's methodology was inadequate to identify other layers of culture that appeared during the investigation.

The levels of climate, values and paradigmatic, identified from the literature, constitute collectively what I wish to call the overt culture of the organization. By this we mean the culture that people in it consciously subscribe to as their official "value set" and standard (albeit

informal) operating procedures. In this chapter data will be presented that was gained from personal interviews and observations. The next chapter will describe the personal interviews and observations.

The overt level is direct and intimate and includes the previously mentioned levels, and then points to the existence of another, still deeper layer of culture, a layer that exists and operates beneath the conscious awareness of the organization's members. Because it is so implicit, I call it the covert culture of the organization. Between these two levels was observed another layer of culture. I call this layer ambivalent because it contains aspects of both overt and covert culture and as such represents a sort of intermediate sub-conscious (rather than unconscious) dimension of the culture. After looking at the findings from the interviews and observations, we will be in a position to assess what can be said in answering the focal research question by weighing how important a role the covert culture plays in this organization's day-to-day life.

Before the research data depicting the overt, ambivalent, and covert levels of culture are presented, I discuss the levels of culture identified in the literature as they can be observed in OTA. The levels it will be recalled, are "climate," "values," and "paradigmatic" and will be discussed

in turn. We begin with the OTA climate level of culture.

#### RESEARCH LITERATURE CATEGORIES OF CULTURE

##### Climate Level of OTA Culture

Definitions of the culture as climate point to the generalized feeling tone and mood aspects of the organization. These are usually expressed in generalized, even vague, terms. Nearly the entire staff expressed to me that OTA was "a nice place to work." The "friendly people" with whom the staff interacts and the "challenging environment" provided by OTA's mission requirement are mentioned as contributing to this general sense. Some staff enjoy their work at OTA because it is "low key" and has an absence of most "strong emotion" outbursts displayed usually among co-workers at other places of employment. Other staff members emphasize OTA's "caring" attitude and the willingness to provide assistance when requested. Still others stress the "collegial atmosphere" which provides for "lively conversation" that enhances staff life. The "Information Center" is viewed as a positive aspect of OTA because it affords the staff with unlimited resource capabilities without their having to leave the building. Even the few extra curricular activities of Christmas, birthday, birth, engagement and departure parties at OTA add to the "nice atmosphere." Each of the staff statements is

representative of an overall perception that OTA is a pleasant place to work.

The analytical staff's offices are filled with various types of project materials, journals, books, files and correspondence pertaining to past and current studies. Often these documents and materials are so numerous that they are placed or stacked in any available space. This means stacking items on the floor, in chairs and on top of file cabinets which already overflow. Every analytical staff member's desk observed was covered with documents and materials with limited space for work. A constant rearranging of materials is necessary for daily project progress.

The office furnishings are government issue and follow a pattern of non-matching accessories. A few analytical staff have couches and an extra chair. Most staff however, have only one additional visitor chair. In fact, before several of my interviews began different types of materials were removed from staff member's extra chair for a place to sit. This action was necessary because the extra chair served a dual role as a storage place.

The analytical staff's offices normally contain a desk and chair, a computer for word processing, an extra chair for visitors, a bookcase, and a file case. The office walls contains various framed and unframed pictures, posters, hand-

made crafts and other types of memorabilia. The distinctive emphasis of the program and person is illustrated through the various artifacts placed on the office walls and within the individual offices.

The hallways within programs and connecting programs are narrow and sometimes confusing. A person can easily be misdirected from one area to another by the confusing hallways. Once you arrive in a program area, you may lose your directed path because hallway entrances often appear identical to office doorways. During initial visits to OTA, I entered what I thought were hallways to suddenly discover I had entered someone's office. This type of office layout, primarily dictated by optimum space utilization, contributes to a "low key" environment enjoyed by OTA staff. A staff member can retreat to their office and not be disturbed, if they so choose. The office layout certainly does not facilitate social interaction. A screening device that helps create OTA's "low key" feeling is the presence of the Capitol Hill Police. The police are located outside the elevators and stairways leading into the third through fifth floors. They monitor access carefully. Any unwanted or unwarranted interruptions are reduced to a minimum. The location of the building itself is a factor contributing to the organization's climate. The location provides easy access by metrorail and

metrobus. Staff members who wish to commute by personal vehicle are permitted to park under the building in rented spaces. The building is not owned but leased -- making OTA a tenant like other businesses and associations located within the building. Leasing office space instead of purchasing space means that OTA is a resident and not owners of their location. Hence there are no distinguishing emblems outside the building indicating OTA's presence. The only distinguishable sign of its presence, as with most government activities, is the flying of the American flag on top of the building. Hence, the building provides a sense of sanctuary.

The climate level of OTA culture provides only a routine or superficial sense of this multi-faceted organization. While the climate level provides only a perfunctory view of the organization, the next layer of organization culture -- the values level -- reveals more.

#### Values Level of OTA Culture

The organization culture as "values," as noted earlier, is the definition most frequently used in organization culture research. This definition encompasses the explicit normative expressions concerning the roles and characteristic attitudes of staff member's work and relationships with the organization. As such the organizations values communicate

the way the staff assesses and guides the work they do and their relations to each other and the organization.

An important value at OTA is "respecting professional viewpoints." The staff state that, "viewpoints are respected" here from the youngest and newest employee to the oldest and most senior employee. This value allows open discussion of ideas from differing perspectives. Without this "openness," contrary opinions from a newer or less senior employee might otherwise be stifled. The "mutual respect" value highlights the integral part each staff member is seen as contributing within the organization. Each member's contribution is essential for successful project completion and hence is valued and appreciated.

Another value voiced is that of "friendly competition" within and among programs. Such competition is viewed as contributing to obtaining quality work in the allotted time and within budget constraints from the staff. The importance of doing well in this competition, pushes the project team to enhance their work and effort. Personal interest concerning a wide array of issues is another motivating factor for producing quality work.

The analytical staff's personal interest in a wide array of policy issues provides self motivation for producing quality work. Such comments by the analytical staff as, "I

am very interested in my work," "I am continuing a personal long term project in a similar area" and "I have been concerned with this area for sometime" are indicative of personal values related to their work.

Another value is that of continuing a persistent research activity toward identifying or focusing on the real/basic issue(s) of the project topic and then interpreting the data to determine the available alternatives. The persistent effort is highly reflective of the analyst's desire to follow the information's direction wherever it may lead, and identify those options developed from the research.

#### Paradigmatic Level of OTA Culture

The model of organization culture as a paradigm goes past the values level and penetrates further toward the organization's core identity. The "organizational mind set" described by the paradigmatic level provides a clearer focus on the organization's deep seated assumptions. An organization's paradigm is revealed in its sense of mission, its relation to its external environment, and the axiology it uses to define the nature of truth, reality, space, time, human activity, and relationship. These basic aspects of an organization's cognitive frame provide a lens through which we can see how an organization sees itself and the world. All

dimensions of an organization's paradigm interact with each other, together forming a complete, self contained whole.

As we analyze the interview evidence at the paradigmatic level, a critically important ambiguity appears. Specifically, the OTA staff respondents speak in three different ways (overt, covert, and ambivalent) about the paradigmatic assumptions of OTA as an organization culture. One of these ways (overt) seemed to be identifying an official paradigm to which OTA is publicly committed. Since OTA's mission is to provide Congress with objective analysis of scientific and technological issues, responses were given from this perspective.

Another theme or "line" of response ran counter to this official paradigm (covert) and showed personal commitments much more centered in individuals. A third type of response (ambivalent) fell between these two.

#### THE RESPONSE CATEGORIES

The information received during the interviews has been assigned to corresponding categories of overt, ambivalent, and covert. The overt category contains responses which are objective in nature and represent a spontaneous response to direct inquiry. Usually, the response is short without elaboration. The overt response could be identified as the

"company line" when responding to organization actions questioned by outside parties.

The covert category contains responses that are subjective and calculated. The responses reveal the inner framework of the organization and provide significant glimpses into the meaning of the employee's work environment to him or her. The covert response does not recite the "company line," instead it responds to direct inquiry by illuminating the organization from an internal perspective. The covert response brings to light what is happening within the organization with its resultant effect upon the employee and the employee's response to organization decisions.

The ambivalent category moves beyond the overt to more calculating responses, containing degrees of both objective and subjective information. The ambivalent response may initially be spontaneous and objective, yet its contents are tempered with the subjective and calculated. The ambivalent response may be identified as presenting the "company line" with illuminating comments providing partial understanding behind organization actions.

A full and complete description of precisely what the overt, covert, and ambivalent categories mean will be presented after the research data are described. The research responses to the Interview Protocol are presented next. The

first dimension presented is the relationship to environment.

#### CATEGORIES OF THE PARADIGMATIC DIMENSION

##### Relationship to Environment

The major divisions of this category include the core mission of the organization, important relationships to environments, constraints and opportunities poised by the environment, significant events created by the environment, and management relationships history.

##### Core Mission.

A key aspect of an organization's paradigm is its assumptions about its core mission. The concept of mission reveals much about how it sees itself as relating to its environment. The mission of OTA, as presented in its information pamphlet, is to provide Congress with analysis of complex technological issues. In the interviews 62 percent of the total content of the interview responses described OTA's culture in a manner classified as overt, i.e., a response grounded in the "official" mission concept of OTA. Illustrative of the overt responses are statements such as, "provide scientific and technical advice to Congress," "respond to the needs of Congress," and "help Congress make decisions."

Nineteen percent of the total content of the interviews described OTA's culture in a manner classified as covert, i.e., a response reflecting the inner framework of the organization. Indicative of the responses are statements such as, "provide long range synthesis of scientific and technical issues which affect society in complex ways so that you can bring order out of chaos;" "as servants of Congress you must recognize your obligation and relationship to society by contributing positive elements for assistance as well as literature to be effective;" and "as an agent of Congress, access wisdom which is not advocacy feedback to raise the level of debate for all those involved."

During the interviews 19 percent of the total content of the interviews described OTA's culture in a manner classified as ambivalent, i.e., a response residing between the overt and covert responses. Illustrative of the ambivalent perspective are statements such as, "guide committee to major issue," "provide Congress with comprehensive information," and "assist Congress with assimilating information."

#### Important Relationships.

Another dimension of the organization's relationship with its environments is the set of groups and individuals with whom it interacts to accomplish its mission. The highly technical and complex work of OTA requires, according to OTA's

literature, that private sector professional resources be widely utilized. This environment relationship was pursued with the total content of the interview responses describing OTA's culture as overt being 51 percent. Illustrative of the responses are replies such as, "interest and business groups, the media, and various professional associations;" "federal agencies, industry, law firms and interested citizens;" and "academia, various lobbying groups, and TAB."

A covert content response was offered by 21 percent of the respondents. Illustrative of their responses are comments such as, "there is a variety of networks which provide different people and places who offer significant scientific and technical contributions;" "travel to any place you need to ascertain the information requested which relates to the issues currently facing the Congress;" and "deal with all aspects of business and society in order to function as a clearinghouse, so that people can relate to other people on the same issue who are not aware of the others existence."

An ambivalent content response was provided by 28 percent of the responses. Examples of the comments are replies such as, "the quality of people is important;" "knowledgeable individuals in academia, business and professional groups;" and "stakeholders of the current issue."

Constraints and Opportunities.

Inherent to the organization's relationship with its environment are constraints and opportunities. During the process of daily interaction with various external professional and vested groups creates challenging situations with these relationships. When these issues were presented during the interviews, a 44 percent overt content response was received with regard to constraints and 13 percent overt content response with regard to opportunities. Examples of such responses are comments such as, "Congressional restrictions," "time to work with people involved," and "resources." The opportunities responses are statements such as, "endless and worldwide," "view all sides of the issue," and "meet people at different authority levels."

A covert content response was received from 47 percent of those answering this question and a 74 percent overt content response was received with regard to opportunities. Examples of the constraint responses are replies such as, "must not appear to be an advocate of any issue or group, but instead must function as an honest broker which means all personal feelings about an issue must be scrubbed from the research;" "move through the many people with whom you interact, who have a special agenda, to ensure that you receive accurate information relating to the issue;" and

"since we operate in a political environment, you can not directly say what you think as an individual, only what the options of the study provides." The opportunities responses are comments such as, "we provide the only unbiased information to Congress in Washington, D.C. because we have no axe to grind;" "we are able to speak with individuals at all levels, serving as a conduit to Congress from the technical world, because our results are in great demand from the business world;" and "OTA acts as a mediator with the various groups external to government, as we carry policy messages to various people and groups beyond Congress."

Nine percent of the ambivalent content responses were received in regard to constraints. Thirteen percent ambivalent content responses were received with regard to opportunities. Illustrative of constraint responses are comments such as, "sometimes hard to get information from people," "allow outside groups use OTA information," and "some groups have vested interests." The opportunities responses are statements such as, "deal with people and issues from all avenues of life," "present both sides of the issue," and "say what you think about the issues."

#### Significant Events.

Continuing with this dimension of the organization's relationship to the environment is the professional staff's

remembrance of an historical event as being significant. The relatively recent founding of OTA in 1972 and subsequent development to its current design, provides a brief history for significant events. During the interviews 8 percent overt content response were received to this question. Indicative of the responses are statements such as, "the 1980s energy crisis," "the law creating OTA," and "OTA's sequence of directors."

During the interviews 89 percent covert content responses were received. Indicative of the responses are statements such as, "the arrival of the current director removed the spotty quality of the work being done, which resulted in major changes of perception by the outside world especially when changed work practices and quality employees moved outside OTA enhancing a good OTA reputation to their new employer;" "the former director's move to establish independence from closely held congressional overview allowed OTA to be more of an independent think tank;" and "the basis of OTA's forming which resulted from a technological backlash of Congress for not being prepared to handle highly complex issues requiring technical expertise which was not resident or available on Capitol Hill."

An ambivalent content response was given by 3 percent of those answering this question. The response stated that,

"during the reorganization of 1984, programs changed while others were realigned completely."

Management Relationships.

Another dimension of the organization's relationship to the environment is management's relationship with Congress, TAB, and Congressional staffers and committees. The enabling legislation identifies Congress as OTA's boss, TAB as OTA's guiding mechanism, and congressional committees and staffers as regular participants during the assessment process. These issues were explored in the interviews and a 74 percent overt content response was received in relation to Congress, a 75 percent overt content response was received in relation to TAB, and a 76 percent overt content response was received in relation to Congressional staffers and committees. Illustrative of the statements relationship with Congress are replies such as, "serve Congress," "they are the boss," and "the director takes the lead." Illustrative of the TAB responses are comments such as, "keep things running smooth," "front-line reviewers of our work," and "build creditability to the study." Illustrative of the Congressional staff and committee responses are replies such as, "interact almost daily," "work closely on aspects of the study," and "keep informed on study happenings."

A covert content response was received by 21 percent of those answering in relation to Congress, a covert content response was offered by 5 percent of those answering in relation to TAB, and a covert content response was given by 21 percent of those answering in relation to Congressional staffers and committees. Illustrative of the statements about Congress are comments such as, "a strong management oversight assuring that the research process works well in relating to a diverse Congress," "ensure that all areas of OTA relate well to Congressional needs, while attempting to identify areas where the political process may infringe on the work at hand," and "the role varies with each program and the subject of the study, and especially with the confidence the assistant directors and director have in you." Illustrative of the TAB responses are statements such as, "ensure that reports are well thought-out and represents the various views of all interested stakeholders in the issue," and "assists with selecting panel members for projects and providing the background material for the panel meetings." Illustrative of the Congressional staffer and committee responses are replies such as, "be attuned to the perceived needs of the staffers which means listening closely to what they say in order to provide what they need;" "keep staffers informed of what is happening with the project and be alert to staffers

who want only to further an agenda instead of the real substance of the study, this requires smoothing allot of staffer's feelings at times;" and "solicit the needs of the staffers in relation to studies or papers and begin with the process of assisting with framing the questions that OTA will be faced with answering at a later date."

During the interviews 5 percent provided an ambivalent content response in relation to Congress, 20 percent volunteered an ambivalent content response in relation to TAB, and 3 percent offered an ambivalent content response in relation to Congressional staffers and committees. Illustrative of Congress responses are statements such as, "satisfying their real concerns" and "following the broad issue." Illustrative of the TAB responses are comments such as, "do not get caught in the political process," "the role varies with each program," and "all employees take care of congressional needs." Illustrative of the Congressional staffer and committee response is a comment stating that, "they are our only client and basis for support."

### Reality and Truth, Basis for Decisions

The major categories for this dimension include truth determination, decision criteria, conflict resolution, and final decision conflict.

Truth Determination.

An essential element of the dimension of the paradigm involving reality and truth and its use for making decisions, is how something is determined to be real or true. The legislative mandate for OTA is to ensure that the highest quality of detailed analysis is employed throughout each research project. During the interviews 10 percent gave a overt content response. Examples of their responses are comments such as, "ways that are reproducible," "the scientific method," and "hard core analysis."

During the interviews 71 percent provided a covert content response. Examples of the responses are statements such as, "utilize the process of distillation, which means that if you hear the answer often enough and long enough, it is accepted;" "the judgment of the analyst is important, because perceptions can be valid and many have often tested as truth and reality when measured scientifically;" and "through an ad-hoc fashion, because science is incremental changes in directions of truth and reality."

An ambivalent content response was offered by 19 percent of those answering this question. Some examples of their responses are comments such as, "seek consensus and clarify differences" "seek compromise and options," and "weight of evidence reveals real truth."

### Decision Criteria.

Another dimension of "reality and truth" assumptions concerns the criteria used when making a decision. The scientific research process requires that precise methodological measurements be applied in consonant with any additional information prior to reaching a final decision. This question was explored during the interviews where 25 percent gave a overt content response. Indicative of the responses are replies such as, "weigh the alternatives," "talk to many people," and "logic and evidence."

A covert content response was provided by 67 percent of those answering this question. Indicative of the responses are comments such as, "all decisions regarding the report are made under allot of uncertainty;" "this depends on the program manager as they attempt to keep disasters from happening and Congress from being inundated with questions from the media;" and "there is no set way of making decisions, yet you always use the test of reasonableness to base your decision."

Only one respondent offered an ambivalent content response to this question. Indicative of this response is a reply that states, "discussion, then followed by compromise."

### Conflict Resolution.

The dimension of reality and truth concerns the issue of conflict when making a decision. During the research process

discrepancies arise which create situations where scientific results appear to conflict. Utilizing any available means necessary for scientific inquiry, OTA is charged with attempting to resolve apparent conflicts. During the interviews 16 percent provided a overt content response. Illustrative of the responses are statements such as, "discuss and reach a consensus," "compromise and negotiate," and "debate the issues."

During the interviews 79 percent volunteered a covert content response. Illustrative of the answers are comments such as, "identify the range of consensus which is a good basis for a decision, and then educate those involved and negotiate;" "touch base with the various brokers of the issue, but do not accept their position or advocacy because the conflict you want resolved may never be resolved;" and "through endless talking of issues with various people, and then hopefully a consensus will be reached, however, the essential elements of a study are rarely disputed."

An ambivalent content response was given by 5 percent of those answering the question. Illustrative of the responses are statements such as, "allow for reflection to understand the technical issues" and "permit different opinions to be expressed and heard."

Final Decision Conflict.

Another dimension of reality and truth concerns the identification of a situation where a final decision was reached involving high emotion or conflict. The highly technical and complex issues OTA confronts provides ample opportunity for protracted discussions with industry, research organizations, and private citizens. At times the issue in question provides the basis for intense discussions. During the interviews 25 percent offered a overt content response. Examples of the responses are comments such as, "receiving final approval for a classified study," "an agricultural study," and "the release of a study being a political issue."

A covert content response was given by 72 percent of those answering the question. Examples of the responses are statements such as, "most of the decisions on Capitol Hill are emotional because socio-technical decisions involve human values which require tradeoffs and therefore make decisions very difficult;" "a top management official at the Food and Drug Administration (FDA) did not like OTA's criticism of a particular issue and began opposing OTA in various ways until the director became involved and encouraged Congress to write a letter to the FDA Commissioner to stop the top management's harassment;" and "OTA attempts to move away from issues which will stir high emotions because OTA does not want or seek any

type of conflict which brings undue attention to the agency."

Only one respondent provided an ambivalent content response. The response stated that, "address the issue thoroughly and then move-on with the process."

### Time

The major categories in this dimension include time pressures, decisions related to time, deadline flexibility, and attendance records.

#### Time Pressures.

A major aspect of this level of the culture paradigm is the identification of main time pressures. The main task of OTA is to provide Congress with expert objective analysis of highly technical issues. The purpose for the analysis is to provide congressional members with the pros and cons of particular issues for use in the legislative process. For utilization in the legislative process, certain time schedules and deadlines are inherent. The question was pursued during the interviews with 33 percent providing a overt content response. Examples of the responses are statements such as, "not enough time to do your work," "finishing the study," and "meeting congressional schedules."

During the interviews 60 percent volunteered a covert content response. Examples of the responses are comments such

as, "staying up-to-date with the changing science and technology issues that will become the complex questions for Congress in the days and years ahead;" "the pressure of the issue at hand with the report being finished while the issue is still hot, as Congress prepares to take action on it;" and "attempting to contact as many experts in their field as possible for review, because OTA has limited in-house expertise, requiring that heavy reliance on outside experts takes place."

An ambivalent content response was given by 7 percent of those answering this question. Examples of the responses are comments such as, "decentralize the process," "analyze the issues and meeting all deadlines," and "face few pressures with most being self imposed."

#### Decisions Related To Time.

Another element involving the organization's relation to time is the identification of a decision where importance was placed on past, present, or future activity. The myriad issues encountered throughout OTA's existence, provided a basis for confronting new issues. Explored during the interviews 29 percent gave a overt content response. Indicative of this response are comments such as, "past issues which are now important," "the appropriation process," and "the process of starting a study."

A covert content response was contributed by 66 percent of those answering this question. Indicative of this response are statements such as, "the Graham-Rudman-Hollins reduction really hurt programs' ability to do work, that OTA now has the opportunity to turn down studies due to a lack of money;" "be sensitive to legislation that surfaced in the past which may come-up again and determine how OTA can help Congress with rapidly changing priorities;" and "there is much emphasis placed on not compromising OTA's non-biased position with the work accomplished, because creditability is the most essential element for OTA's existence."

Only 6 percent provided an ambivalent content response. Indicative of the response are statements such as, "use past experiences to establish present and future agendas," and "determine whether congressional deadlines are the actual ones you need to meet."

#### Deadline Flexibility.

Still another aspect involving the organization's relation to time is the allowance of flexibility around deadlines and the handling of deadline variations. The OTA research efforts are directed toward providing Congress with useful products in the legislative process. Certain time schedules are established for legislative impact to occur with the OTA provided information. The question was pursued during

the interviews with 71 percent providing an overt content response. Indicative of the answers are replies such as, "yes, flexibility is allowed;" "yes, to some extent;" and "yes, a lot of flexibility."

During the interviews 10 percent provided a covert content response. Indicative of these statements are replies such as, "flexibility depends on the congressional client, sometimes a verbal response for information can suffice when a deadline is missed concerning a specific issue;" "the director does not like many deadlines and allows things to slide which are not important;" and "there is reasonable flexibility, but need to address whether you are contributing to the congressional agenda and this will determine if flexibility can be extended."

An ambivalent content response was offered by 19 percent of those answering this question. Indicative of the statements are replies such as, "pressure of the deadline, yet maintain the study quality;" "depends on the congressional hearing schedule and being crucial;" and "continued slipping of deadlines means paying dearly later."

#### Attendance Records.

Another dimension involving the organization's concept of time is the use of instruments for recording daily attendance and the instruments regular use. The

organization's method for recording the professional staff's work activities is required for compensation and forwarded to the Congressional Research Service (CRS) for processing. During the interviews 67 percent gave an overt content answer. Examples of the responses are statements such as, "the program manager assigns the responsibility to the administrative assistant," "there is none really," and "do not need timesheets because we know where everyone is."

A covert content response was volunteered by 19 percent of those answering this question. Examples of the comments are replies such as, "there are no time clocks and none needed, because the internal peer discipline ensures that work activity and productivity is the measure of the person and not the amount of time you put in at OTA;" "there is an informal agreement among the staff which expects people to be here, because congressional contacts on a daily basis are important;" and "a staff assistant keeps the attendance records, but good work by the professional analytical staff will cover any absences by them."

During the interviews 14 percent provided an ambivalent content response. Examples of the responses are statements such as, "joy of working at OTA is not being evaluated on daily attendance," "people place notes on bulletin boards to identify where they are," and "no interest with punching a

time clock, this is recorded by an assistant."

### Space

The major categories for this dimension include adequacy of space, allocation of space, space as a symbol, symbolization of space, physical distance norms, and observation of physical norms.

#### Adequacy of Space.

A central feature of this dimension of the paradigm involving the organization's idea of physical space is the issue of whether the organization has enough space. The ability of OTA to perform its legislative mandate requires that each analyst possess sufficient office space to adequately apply the research and analytical tools necessary to complete their task. This issue was pursued during the interviews and 65 percent gave a overt content response. Indicative of the responses are statements such as, "yes, enough;" "yes, just right;" and "no, always can use more."

During the interviews 19 percent offered a covert content response. Indicative of the responses are statements such as, "yes, but still crowded since the work expands to meet the available space and reflects a greater productivity for the space provided;" "the space is adequate for those having a one person office, where as prior to our current situation when

we had cubicles and modular furniture which created noise and meeting problems;" and "not really, but we make due with what we have and constantly try to find additional space especially with the addition of computer terminals which were not originally apart of the office space lay-out."

An ambivalent content response was provided by 16 percent of those responding to this question. Indicative of the responses are statements such as, "some people are really crowded," "office space is very constrained with few windows," and "most programs are desperate for more space."

#### Allocation of Space.

Another dimension of the organization's space is the allocation of office space. The efficient utilization of OTA office space, when office space is at a premium, requires that employee participation is essential for continued harmonious working conditions. Questioned during the interviews, 82 percent provided a overt content response. Illustrative of the answers are statements such as, "programs divide-up space," "by seniority," and "by rank and responsibility."

A covert content response was given by 10 percent of those answering this question. Illustrative of the answers are statements such as, "attempt to give more office space to senior analysts, recognizing that each program does not have an equal amount of space;" "not sure how it is allocated, yet

the in some office locations it is too loud, has poor lighting and ventilation;" and "allocation of space is still a mystery, but having an advanced degree will get you a window."

During the interviews 8 percent volunteered an ambivalent content response. Illustrative of the answers are statements such as, "program managers with consultation of the people involved," and "each program receives an equitable amount of space and divides it accordingly."

#### Space as a Symbol.

Still another dimension of the organization's space is the potential use of physical space as a symbol. A standard perception throughout government activities, reveals that office size is often equated with personal importance. Explored during the interviews, 28 percent offered an overt content response. Examples of the responses are comments such as, "reflects seniority and status," "indicative of the management level," and "seek to display overall fairness."

During the interviews 67 percent provided a covert content response. Examples of the responses are comments such as, "there are many strong indicators, but senior members have outside windows;" "yes, office space is a symbol because this is one of the few discretionary items a professional staff member has at OTA;" and "the first week a new program manager arrived, everyone complained about their office space, which

identified office space as affecting the staff's thinking and represents a person's privacy."

Five percent gave an ambivalent content response. Examples of the responses are comments such as, "do not think so, do not allocate space based on symbolism" and "the symbolism of space is important to the organization as a whole."

#### Symbolization of Space.

Continuing with this dimension of the organization's space, is how space functions as a symbol. The location and size of office space by individuals may be perceived as the means to accomplish certain goals within the organization. During the interviews 43 percent gave a overt content response. Indicative of the responses are statements such as, "the Director's office," "none really," and "the Assistant Directors and Program Managers' offices."

A covert content response was volunteered by 57 percent of those answering this question. Indicative of the responses are statements such as, "after my predecessor left, the staff pushed me to move into the vacated office as a symbol of my new position and authority;" "an analyst brought to OTA by a panel member for employment was being forced out of the agency and was placed into a two person office on a lower floor representing the person's demotion and immanent departure;"

and "the director divided his office space in half, as a symbol that space would not be important to him."

The professional staff provided no ambivalent content response.

#### Physical Distance Norms.

Another dimension of the organization's paradigmatic commitment about space is the practice of personal physical distance. The personal access of professional staff to each other and the personal distance observed during interactions are necessary for information exchange. Pursued during the interviews, 30 percent gave a overt content response. Illustrative of the answers are comments such as, "standard social norms;" "not aware of any norms practiced;" and "people are accessible and informal."

During the interviews 65 percent offered a covert content response. Illustrative of the answers are comments such as, "this varies with each program because there is not much hierarchy here, yet there is some physical touching and substantial mutual respect which produces a very comfortable atmosphere;" "not very much interaction with each other in programs or between programs, usually people keep to themselves mainly because professional conflicts have lead to personal conflicts;" and "not sure, but have observed many people waiting for others to inform them of what is happening

at OTA and then complain for not knowing what is actually happening."

An ambivalent content response was given by 5 percent of those responding to this question. Illustrative of the answers are comments such as, "it varies from program to program and it is not clear" and "people are friendly and close, but not too close."

Observation of Physical Norms.

Indicative of this dimension is the staff's recalling of a situation where various norms of personal distance were practiced. When confronted with a significant interaction, the professional staff sought to identify the personal distance practiced during the information exchange. Questioned during the interviews, 46 percent offered an overt content response. Examples of the statements are replies such as, "none really," "does not seem to be any," and "not aware of any."

A covert content response was given by 54 percent of those answering this question. Examples of the statements are comments such as, "learn to see my program as 'us' and the other programs as 'them;'" "the physical norms are practiced all the time across desks or tables which reflect the personality of the individuals and their part in the discussion or negotiation;" and "during staff meetings these

distances are easily observed, where some people never talk and others talk incessantly."

The professional staff provided no ambivalent content response.

### Human Nature

The major categories of this dimension include views of human nature; heroes and villains; recruit, select, and promote; performance appraisal; and rewards and incentives.

#### Views of Human Nature.

A key element of this dimension of OTA's paradigm concerns how OTA views the mutability (or lack thereof) of human nature. The requirement of OTA to provide analysis of complex issues to Congress indicates that the issues under investigation contain the potential for harmful affects upon society. Explored during the interviews, 61 percent gave a overt content response. Illustrative of the responses are statements such as, "views change and develop over time," "no certain view," and "open question to a certain degree."

A covert content response was volunteered by 31 percent of those answering this question. Illustrative of the responses are statements such as, "a charitable view of human life and rights of the individual with an optimistic perception of groups and individual improvement;" "call this

a 'shrink tank' because most analytical staff perceive themselves as prima donnas and exceptional;" and "each program manager sets the tone for the work to be accomplished and the project director establishes a social system for the particular project at hand."

Eight percent provided an ambivalent content response. Illustrative of the responses are statements such as, "a positive view, that things are changeable;" "things are changeable reflecting that OTA is a diverse group of people;" and "fixed at birth with the potential for achievement."

#### Heroes and Villains.

Another dimension of the organization's human nature perception is the identification of heroes or villains and their roles at OTA. Confronting new and technically complex issues and processes, certain OTA individuals may be remembered as making significant contributions. During the interviews 12 percent provided a overt content response concerning heroes and 27 percent gave a overt content response concerning villains. Indicative of the hero responses are comments such as, "none agency wide," "a program manager," and "only top-notch people in their disciplines are here." Indicative of the villain responses are statements such as, "none per se," "partially program managers," and "too many people coming and going to really identify villains."

During the interviews 85 percent provided an covert content response concerning heroes and 73 percent gave a covert content response concerning villains. Indicative of the hero responses are comments such as, "the current director is viewed as a hero since he is able to combine his scientific background with leadership to bring creditability to OTA;" "senior analysts who have done good work for 10 years have built a constituency for OTA, while sacrificing themselves and their families to do a good job for the country;" and "analysts who can maintain their objectivity, while they finish one report at the same time they are beginning another project." Indicative of the villain responses are statements such as, "any analyst or person who would threaten the integrity of OTA by pursuing self-interest or allowing biased judgments to be included in a report;" "analyst who do poor analytical work and the individuals allowing them to continue, decrease the quality of OTA work and its reputation;" and "anyone using OTA as a stepping stone to other things, by either misrepresenting the facts, the agency or themselves can discredit what OTA represents and the information they provide."

An ambivalent content response was offered by one respondent concerning heroes and no ambivalent content response was received concerning villains. The hero response

stated that there is, "none per say; many models which help maintain a sense of community."

Recruit, Select, and Promote.

Still another dimension of the organization's beliefs about human nature are the criteria used to recruit, select and promote individuals. The OTA director has authority from the enabling legislation to hire competent professional employees and establish their compensation. During the interviews 47 percent provided a overt content response for recruiting, 26 percent provided a overt content response for selection, and 43 percent provided a overt content response for promotion. Examples of the recruiting responses are replies such as, "from the Congressional Fellows program," "sometimes advertise," and "for particular projects." Examples of the selection statements are comments such as, "networking," "qualitative ability," and "use your best guess." Examples of the promotion comments are statements such as, "productivity," "good writing skills," and "no consistent standard."

During the interviews 53 percent provided a covert content response for recruiting, 74 percent provided a covert content response for selection, and 54 percent gave a covert content response for promotion. Examples of the recruiting responses are comments such as, "there is really no systematic

way to recruit, fortunately many good people apply for positions whether any positions are currently available or not;" "this varies among programs mainly due to a lack of published criteria which illustrates the hap-hazard way recruiting is handled and usually the recruiting evolves around a particular project initiation;" and "very little advertising is ever done and on occasion when it is, it usually appears in journals or papers, when most of the time a call is made to a university professor asking for recommendations among the best and brightest in the area of need." Examples of the selection statements are comments such as, "possess the necessary qualitative skills with the facility to express oneself while working within a team environment, as they seek to help Congress integrate scientific and technical information to solve problems;" "be productive, intelligent, cooperative and have a sense of diplomacy that allows them to interact at all levels;" and "having an interest and commitment to public policy which requires that you write clearly, utilize good social skills, possess a willingness to be open to other opinions and think tough while you pleasantly address a difficult person or situation." Examples of the promotion responses are replies such as, "not sure how one is promoted, primarily due to OTA being top heavy which restricts the number of individuals who

can move into a highly regarded position;" "not much upper level promotions, because the senior associate level is becoming too degraded by individuals who are too young and immature to do the work which serves as an illustration that the same standard is not being applied in each division;" and "it is difficult to see how it works, yet when someone does good work on a project they usually are assigned more responsibility, such as heading a project and a new title but no extra money."

No ambivalent content response was provided for recruiting or selection, and one respondent provided an ambivalent content response for promotion. The promotion comment stated that, "personal appearance is irrelevant to the work or advancement."

#### Performance Appraisal.

Continuing the dimension of the organization's human nature perception is the criteria used for performance appraisal. A standardized performance appraisal is conducted yearly on each employee with the appraisal being returned to the personnel department for filing. This issue was explored during the interviews and 45 percent provided a overt content response. Illustrative of the staff's responses are statements such as, "use a standard form," "not sure - difficult to understand," and "accomplished in a positive

way."

A covert content response was provided by 50 percent of those answering this question. Illustrative of the staff's responses are statements such as, "it is a formal procedure which gauges the quantity and quality you produce, yet it is burdensome, anxiety producing, and can be a real waste of time for senior members;" "it is a standard form which you tinker with year after year and is generally fair; however, the project director may be the only input received by the program manager and can boil down to a what have you done for me lately attitude;" and "most people are troubled with the appraisal process and wonder about its usefulness, since most write extremely well, they perceive the questions to be irrelevant for the analytical staff."

Five percent provided an ambivalent content response. Illustrative of the staff's responses are statements such as, "a formal appraisal focusing on creativity," and "a standard form used as a conscious of what you have done."

#### Rewards and Incentives.

Another dimension of the organization's human nature perception concerns rewards and incentives and the basis for the award. Unlike executive federal agencies, OTA does not provide a financial bonus program for its employees. During the interviews 5 percent provided a overt content response.

Indicative of the responses are comments such as, "merit increases" and "no incentives."

During the interviews 95 percent provided a covert content response. Indicative of the responses are statements such as, "formal merit increase with the delivery of a project, yet the real rewards are opportunities to speak at conferences, still rewards are a major problem at OTA especially with how to reward good work;" "the rewards are all psychic because OTA does not provide the financial rewards of other agencies, yet the excellent environment at OTA is a major reward, especially when bureaucracy is kept to a minimum further assisting creativity;" and "there is no formal reward per se' except to direct a project, which allows you to work on things you like, provides you with opportunities to travel and speak to various groups, and be recognized by your peers as contributing to the world of knowledge."

The professional staff provided no ambivalent content response.

### Human Activity

The major categories of this dimension include outside dependence, problems with constraints, external problems resolved, future adaptation, continued utilization, and differing problem resolution.

Outside Dependence.

A major aspect of this dimension of the paradigm involving the organization's human activity perception is the extent OTA relies on external groups and how this is expressed. The research effort relies extensively, as indicated by OTA's information pamphlet, on the private sector for professional assistance. This is required because OTA does not possess sufficient in-house capability to handle the myriad issues OTA encounters and therefore to utilizes external professional resources to accommodate this need. Pursued during the interviews, 67 percent provided an overt content response. Examples of the responses are statements such as, "completely," "very much," and "many outside groups."

A covert content response was offered by 33 percent of those answering this question. Examples of the responses are statements such as, "work closely with Congress and the panels to ensure a high correlation of effort and at various times acts as a broker for Congress;" "with Congress as boss, the review process includes outside groups from industry, government, academia, and experts and use the panels as advocacy of the report;" and "OTA relies very heavily on all outside groups, and the process will fail if OTA gets outside its area of technical competence and becomes insulated from differing opinions."

The professional staff provided no ambivalent content response.

Problems with Constraints.

Another dimension of the organization's human activity perception concerns common problems encounter when external forces attempt to constrain OTA. Congress provided OTA through the enabling legislation the authority to pursue any technological issue with any means necessary to issue resolution. This issue was explored during the interviews with 27 percent giving a overt content response. Illustrative of the responses are replies such as, "budget problems," "no constraints," and "no additional ones."

During the interviews a 73 percent covert content response was volunteered. Illustrative of the responses are replies such as, "external groups or events have put pressure on Congress to act, and when this happens OTA gets nervous and attempts to restrict the flow of information to these groups until the report is complete, usually this starts problems for OTA;" "when external individuals challenge the creditability of any OTA report, this is hard for OTA to handle at times and is sometimes viewed as a powerful tool against OTA;" and "money for recruiting and hiring the best in the field for projects, usually limits our ability to hire only the young or mid-level person instead of hiring the best."

The professional staff provided no ambivalent content response.

External Problems Resolved.

Still another dimension of the organization's human activity perception involves identifying a problem situation with the external environment and how it was resolved. While pursuing research information various groups and situations are encountered where there are impasses between individuals or groups that require resolution. During the interviews this question was pursued and 37 percent gave a overt content response. Indicative of the answers are statements such as, "when OTA was critical of HHS," "a national security study," and "needing and not receiving more resources."

A covert content response was offered by 63 percent of those answering this question. Indicative of the answers are statements such as, "when advocates for a certain type of procedure discussed in a study went to the TAB and asked for OTA to fire professional staff members by name, requiring that extra workshops and panel meetings be held with the director attending all of the meetings;" "when the media asks for information about a subject or study and then misquotes you, this action creates allot of work for the professional analyst as they attempt to provide a response to the program manager which then moves to an assistant director and then to the

director;" and "a financial disclosure statement is now required because an OTA top administrator owned stock in a company utilizing a certain procedure, which could benefit from a study in his division identifying the procedure as one of the best offered."

The professional staff provided no ambivalent content response.

#### Future Adaptation.

Continuing with the dimension of the organization's human activity perception concerns the approaches taken to resolve external problems and the approaches future use. Continuing difficulties with certain issues and associated groups or individuals require that previous successful resolutions should be regarded as having future utilization. During the interviews 40 percent gave a overt content response. Examples of the answers are comments such as, "be careful," "down play study bias," and "maintain the research process."

During the interviews 60 percent volunteered a covert content response. Examples of the answers are comments such as, "the lesson learned from a painful and drawn-out experience, is that Congress does not want OTA dealing with Department of Defense issues;" "there is no really systematic approach to resolve issues, usually OTA tends to side-step them instead of facing them head-on;" and "most approaches are

adapted during the review process where accuracy and integrity are the central focus and where negotiation often takes place."

The professional staff provided no ambivalent content response.

Continued Utilization.

Another dimension of the organization's human activity perception involves the adoption of approaches taken to resolve problems with the external environment and their continued use. Any past issue resolution should be identified and retained for potential future application. Explored during the interviews, 75 percent provided an overt content response. Illustrative of the comments are statements such as, "not sure," "too soon to tell," and "listen to all groups."

A covert content response was offered by 25 percent of those responding to this question. Illustrative of the comments are statements such as, "the former director used an iron-fist in his relations with Congress and suffered because of his own agenda, whereas the current director understands the political process and relates well to Congress;" "take care with the process of investigation and review, and allow the panel members to assist with your work to ensure that sufficient review has occurred;" and "since the TAB does not

like surprises of any kind, make sure all valid approaches are taken to verify the accuracy of your work."

The professional staff gave no ambivalent content response.

#### Differing Problem Approaches.

Indicative of this dimension of the organization's human activity perception concerns former leaders different ways of tackling problems in contrast to those currently used. Institutional memory of former leader's method for handling problems can be helpful where applicable. Pursued during the interviews, 32 percent gave a overt content response. Indicative of the responses are replies such as, "not sure," "work well with TAB," and "consistency of the current leadership."

During the interviews 68 percent volunteered a covert content response. Indicative of the responses are replies such as, "the first director wanted to be totally responsive to Congress and had a problem being objective, the next director did not want to be associated with Congress, while the current director attempts to follow a middle of the road pattern which provides a stable institution;" "the first director chose topics that were important to Congress, the next director developed issues important to him, and the current director provides a style conducive to a harmonious

relationship with Congress;" and "the first director would solicit from Congress to do anything, the next director attempted to form his own agenda as he perceived the needs of the country, and the current director views OTA's relationship as a client oriented one using the intellectual muscle inherent at OTA."

The professional staff offered no ambivalent content response.

#### Human Relationships

The major categories of this dimension include handling relationships, growth and development, relationships encouraged, group/individual power, story or legend, and authority violations.

#### Handling Relationships.

An essential aspect of this dimension of the paradigm involves the organization's human relationships and how personal relationships are handled. Successful completion of OTA's mission to provide quality analysis necessitates the professional staffs interaction for gleaning additional expertise from fellow employees. This issue was explored during the interviews and 57 percent gave a overt content response. Examples of the responses are statements such as, "collegial," "same as any organization," and "professional."

During the interviews 43 percent provided a covert content response. Examples of the responses are statements such as, "make offices more personal and collegial by integrating musicians and artists and encourage criticism which identifies the need for interdependence;" "management does not step into personal relationships and illustrates this by keeping a program team together for a minimum of two years without causing any problems;" and "not required to do anything from a management standpoint, even though nepotism is not allowed, close personal friendships can cause things to happen more than nepotism."

The professional staff gave no ambivalent content response.

#### Growth and Development.

Another dimension of the organization's human relationships concerns whether OTA allows these relationships to grow and develop. The relatively small size of OTA almost dictates that harmonious relationships are necessary for smooth organization functioning. Pursued during the interviews, 74 percent volunteered a overt content response. Illustrative of the answers are comments such as, "encourage them;" "seek inter program activity;" and "attempt to get each other acquainted."

A covert content response was offered by 26 percent of those answering this question. Illustrative of the answers are comments such as, "professional relationships are emphasized with a focus on scholarship has made OTA better, because you have to be fairly secure as a person to handle all the criticism;" "these relationships are allowed to grow independently of what is happening in a program, which creates cliches' and in one program there are the 'in' people and the 'out' people, with the 'in' people determining who works on a particular project;" and "there is not enough done to encourage relationships to develop within programs or with other programs, primarily because individual work is accomplished here and there is no central place where the staff can get together and visit for a short while."

The professional staff provided no ambivalent content response.

#### Relationships Encouraged.

Still another dimension of the organization's human relationships involves the types of relationships encouraged. The emphasis upon utilizing in-house professional expertise stresses the importance of staff interaction. The issue was explored during the interviews where 54 percent offered a overt content response. Indicative of the responses are statements such as, "all types," "cohesiveness in groups," and

"collegial."

During the interviews 46 percent gave a covert content response. Indicative of the responses are statements such as, "professional relationships are encouraged with some enthusiasm placed on fun, which allows other personal friendships to develop outside of work;" "groups and program interaction is encouraged, which has permitted a close bonding of people who worked here for 10 years or more;" and "the director encourages interaction especially during the 'all hands' meetings and 'brown bag' luncheons and attempts to get people out of their offices or hiding places."

The professional staff provided no ambivalent content response.

#### Group/Individual Power.

Continuing with the dimension of the organization's human relationships, concerns the identification of a situation where power was exercised by a group or individual while making a decision. As internal OTA professional interaction increases, the potential for group or individual power usage escalates. During the interviews 24 percent provided a overt content response. Examples of the comments are replies such as, "assigning projects," and "the direction a study will take," and "being directed to follow certain guidelines."

A covert content response was volunteered by 76 percent of those responding to this question. Examples of the comments are replies such as, "the computer system has caused problems necessitating that a task force be formed to identify the problems and decide on one particular system for OTA, resulting in the computer shop being restructured;" "turf battles between programs to determine who does a projects emphasize that not all programs are equal and do not receive proportional amounts of resources;" and "in one program the program manager is indecisive about what to do and usually allows group decision to prevail."

The professional staff gave no ambivalent content response.

#### Story or Legend.

Another dimension of the organization's human relationships concerns identifying a story or legend involving a hero or villain. The relatively brief history of OTA requires that the professional staff consider all former and current participants as potential selectees. Pursued during the interviews 42 percent offered a overt content response. Illustrative of the responses are statements such as, "not sure of any," "a former director's activity," and "nothing new."

During the interviews 58 percent gave a covert content response. Illustrative of the replies are statements such as, "the current director is determined to keep OTA from becoming a tool of any member of Congress and has dealt with situations accordingly;" "stories about an inept program manager who allowed firings to take place when it is too late to resolve the problem;" and "when former employees have used OTA's good name as a stepping stone, while taking more from OTA than they gave, prior to their departure."

The professional staff provided no ambivalent content response.

#### Authority Violations.

Indicative of this dimension of the organization's human relationships concerns how violations of authority are handled. Confronting staff authority violations is not an easy task especially when relating with professionals. The practice followed by OTA management is echoed throughout the organization. Explored during the interviews, 17 percent gave a overt content response. Indicative of the answers given are comments such as, "deal with them directly," "gingerly," and "do not see any outright violations."

A covert content response was provided by 83 percent of those answering this question. Indicative of the answers given are comments such as, "reprimands are low key with very

little embarrassment, yet wonder why there is high turn-over in some programs and very little in others;" "the authority lines are not clear and when analyst do overstep the bounds, there is not allot done which indicates that there is a reluctancy to confront people;" and "not allot of authority to violate, but you will be reprimanded if you speak for OTA without permission or make an agreement on a project with Congress without going through the normal process for approval."

The professional staff offered no ambivalent content response.

In this chapter the three major levels of culture have been presented. The dimensions of overt, covert, and ambivalent with illustrative comments by the analytical staff have revealed the distinct levels of OTA culture. The next chapter presents a summary of the culture interviews and their implication for determining whether an organization's culture can be managed.

## CHAPTER VI

### SUMMARY AND CONCLUSIONS

As the preceding review indicates the OTA staff manifested three discernable responses when characterizing how they experience their organization's culture. The overt type responses carried a large loading of objective content and a clear commitment or at least homage to the norm of "positive science serving democratic political process." The covert level clearly showed more content centered in the psychological life of the individual and that implied a view of science that differs markedly from the traditional model. The ambivalent responses went down a middle road, having some content of both types and hedging the traditional commitments. How might we conceptualize the alternative covert model? We can begin our approach to this question by reviewing the main tenets of the traditional positive science model. The main assumptions of this model as it appears to a policy process are:

- 1.) The external world operates by a set of fixed law like regularities.

2.) These regularities can be known through a process of objective experimentation and when known, they constitute "facts."

3.) Policy issues can in principle be reduced to issues of scientific law as applied to specific of situations.

4.) The role of the researcher is to assemble known facts and laws and apply them to policy issues, such that alternative lines of action, and the consequences of such, can be made known to policy makers. The researcher is above all to eschew all subjective involvement in the process.

#### SUMMARY OF OTA CULTURE

The research findings from the interview responses are summarized in Table 2. The summary displays the data according to the Interview Protocol's major divisions and by the appropriate overt, ambivalent, and covert level of culture. The overt summary of OTA culture is presented next.

##### Summary of Overt Culture

The overt level of OTA culture focuses on Congress as their main environment, which includes interaction with the business community, industry, and academia. The research issues pursued by OTA generates position papers by these

TABLE 2

## SUMMARY OF OTA CULTURE

	OVERT	AMBIVALENT	COVERT
RELATIONSHIP TO ENVIRONMENT	Respond to Congress and work with business, industry, and academia.	Guide Congress to major issues and include in the discussion process vested stakeholders.	As an agent of Congress access wisdom through a variety of networks and then function as a clearinghouse by scrubbing all group biases from the research in order to present accurate information.
REALITY AND TRUTH	Talk to different people about the information.	Weigh the evidence of the data and then compromise.	Decisions are made under much uncertainty. The judgment of the analyst is important and especially by applying the test of reasonableness.
TIME	Normal deadlines established for completing work in a rigorous manner.	Meet various deadlines while maintaining work quality.	Understand that deadlines are tied to the legislative process. For the research to have impact upon the issues under congressional review, deadlines must be met.
SPACE	Physical space is the place where work is accomplished.	Physical space is limited and serves to remind the agency of its importance.	Physical space represents the staff's only discretionary item and is perceived as a symbol of educational level and seniority.

TABLE 2  
(Continued)

SUMMARY OF OTA CULTURE

	OVERT	AMBIVALENT	COVERT
HUMAN NATURE	No particular view was presented.	Viewed as changeable reflecting the agency's diversity as a group.	Understand the tone for social interaction is conditioned by project directors. High regard is held for analysts who maintain their objectivity while continuing to produce quality work for many successive years.
HUMAN ACTIVITY	Opportunity to work with outside experts from various disciplines	(No response)	The research process will fail without the technical assistance of competent outside experts from a wide variety of disciplines which ensures that agency creditability is maintained.
HUMAN RELATIONSHIP	Encourage collegial relationships among the entire professional staff.	(No response)	Professional relationships focus on scholarship requiring a strong sense of personal security and identifies the need for staff interdependence.

groups for agency consideration. The papers in conjunction with OTA research makes considerable environment interaction. Apart of the research effort is the dimension of reality and truth.

Included in the decision making process is how reality and truth can be ascertained. The overt culture of reality and truth recognize that talking with different people about the research issues and accompanying findings to be essential, and, then after the discussion make a decision.

Another part of the research process involves focusing on the issue of time and its importance.

The overt culture of time is acknowledged as significant, because every project establishes staff deadlines. The deadlines are staff milestones for identifying when various project parts are to be completed. The research process is effected by the work location which emphasizes the physical space dimension and its role in the total research effort.

The overt culture of space is perceived that physical space is adequate and recognizes that space is distributed by seniority. The physical space dimension recognizes that space is the place where you work. Associated with the work location is the dimension of human nature.

The overt culture of human nature and its impact on the research process was viewed as providing no particular

assistance to the research effort. No significant affect occurs in relation to the aspect of human nature. Involved in all research efforts is the human activity dimension which assists with developing scientific discoveries into full-blown projects.

The overt culture of human activity perceives that OTA provides the staff with opportunities to work with experts from all disciplines throughout the country and in some instances throughout the world. The human nature dimension views the organization as possessing staff opportunities to explore issues related to projects of interest. Closely aligned with this aspect of the overt culture is the dimension of human relationships.

In overt culture of human relationship is understood to be a significant contributing factor to OTA's mission. The overt culture acknowledges that collegial relationships are enjoyable and encouraged by OTA. The dimensions of the overt culture have been summarized according to the Interview Protocol's major divisions. Next, a summary of the ambivalent level culture is presented.

#### Summary of Ambivalent Culture

The ambivalent level of OTA culture recognizes Congress as the primary environment in conjunction with vested

stakeholders. The perceived role within this environment is that of a Congressional guide to the major issues involved with myriad technological questions. Associated with the environment aspect is the dimension of reality and truth.

The ambivalent culture of reality and truth recognizes that the process utilized to make decisions involving major issues is to weigh the evidence received from various external and internally produced sources and then reach a conclusion. After all of the information has been digested, then staff must begin to compromise with the various stakeholders who hold vested interests in the issues.

The ambivalent culture of time perceives time as deadlines to meet with accompanying requirements. Inherent with the dimension of time as meeting deadlines is the requirement of not compromising the research product's quality. The time dimension as deadline indicates that the research efforts focus is toward concluding the project with quality emphasized.

The ambivalent culture of space is understood as physical space and is very limited. The physical space limitation serves as a OTA reminder of the importance that physical space maintains. Working under less than adequate physical space coupled with time pressures restricts movement, creates bottlenecks, and tends to stifle creativity. Related to the

ambivalent culture of space is the dimension of human nature.

The ambivalent culture of human nature understands human nature to be changeable as human beings adapt to current situations and environments. The recognition of this understanding appears to be directly related to the extreme diversity of individuals comprising the staff. The wide array of personalities, skills, and backgrounds stress the significance of the staff's diversity and this perspective of human nature as changeable. The ambivalent culture of human nature also closely aligns the dimension of human activity and human relationships.

The ambivalent culture of human activity and human relationships was not evident through the interview process. No responses falling within this category occurred.

#### Summary of Covert Culture

The covert culture of external environment perceives OTA's relationship with the environment as that of an agent of Congress. As an agent of Congress, OTA seeks to access wisdom through a variety of professional networks previously established. The agent role permits OTA to function as a clearinghouse for the enormous amount of information received from worldwide contributors. Inherent with the agent role is the requirement to "scrub" all personal and professional

biases from the information received in order to present Congress with accurate, reliable, and unbiased information for debating the issues. This process permits Congress to raise the level of debate to ensure all viewpoints are considered prior to final Congressional action. A part of the covert culture agent role is the process of how decisions are made relating to the issues raised.

The covert culture of reality and truth involves the process of making decisions and the associated aspects of the decision making process. The staff understands that when confronting highly technical and complex issues, there will always be uncertainty relating to an issue and sometimes the uncertainty will be greater than at other times. The uncertainty requires that staff analysts use their best judgment and with this judgment, apply the test of reasonableness to their findings. The "sanity" mechanism ensures that potential options are viable/feasible and indicate the ability to perform as an projected.

The covert culture of time is acknowledged as meeting deadlines tied to Congressional hearings. The importance of deadlines is understood as milestones of the legislative process. For research to have its full impact, as originally intended, meeting time deadlines are essential for ensuring legislative impact. To conduct a lengthy research effort,

which provides significant options for law makers, while failing to complete the final report during the time period when the issue is being discussed and legislation finally passed is counterproductive to Congress' initial request for the study and the ultimate function of OTA. Time is an essential dimension of OTA as revealed through the covert culture. In conjunction with the dimension of time is the covert culture of space.

The covert culture of space emphasizes a significant aspect of OTA's culture. The staff acknowledges that one of the only discretionary items they possess is their personal offices and the physical space it contains. The lack of personal control over aspects of the research effort, as many voices are heard and reviewed, indicates the research process is not an individual effort. The analyst's cannot claim total ownership to the product. The analyst claim is that of consolidating the data from various sources with varying degrees of original contribution. In view of this fact, personal ownership tied with personal identity is linked with the physical office spaces. The physical office space often reflects the analyst's education level and seniority status. Especially does this apply with regards to office windows. Not all staff members have office windows and their possession is indeed prized.

The covert culture of human nature is revealed through the research process. As a research project begins, the project director indirectly sets the tone for the type and amount of social interaction that will occur during the research effort. The project director's involvement and personality is viewed as revealing of the human nature perception. Throughout the research effort opportunities are provided for interaction, support, and providing assistance to analysts who encounter unusual predicaments. During and upon completion of the research, analysts who continually maintain quality work are held in high regard by their peers and senior management. Often these analysts are requested to participate in new research efforts or to direct the research effort. The value of these individuals as skilled analysts in that they serve as examples of continued success. Their value is measured more than simply by the quantity of projects produced. The contribution these successful analyst provide is a standard by which the new and mid-level analysts strive to emulate.

The covert culture of human activity recognizes the importance of maintaining and utilizing competent technical assistance provided by experts outside OTA. The agency constantly recognizes the importance of involving these outside experts in the research process and understands the

experts' involvement as providing an essential contribution. The outside experts are from a wide variety of disciplines, which ensures that OTA's most valued and essential characteristic is not compromised - its creditability. The importance of maintaining a credible voice in an area saturated with vested interests, requires that OTA always uphold and treasure its creditability. If OTA fails to maintain its creditability, it will fail in its primary mission and not meet the purpose for its creation. The enabling legislation clearly implies that OTA will provide unbiased research findings to a Congress that must depend on competent professionals providing accurate information.

The covert culture of human relationships is focused on professional scholarship. The focus on professional scholarship requires individuals to possess a strong sense of personal esteem and security. The constant review and critique of personal ideas by peers can damper agency relationships. In some instances professional encounters becomes so intense that conflict results and continues into the personal side of the relationship. The relatively small size of OTA creates interdependence and requires that staff interaction takes place so as to utilize fully all professional expertise available within OTA. The focus of scholarship and interdependence mandates that interpersonal

differences which result in continued conflict be minimized. The free exchange of ideas and personal cooperation is the backbone of the OTA staff.

THE OVERT CULTURE OF TECHNOSCIENCE AND THE  
COVERT CULTURE OF REFLEXIVE SCIENCE

The official or overt culture of OTA has been characterized as "technoscience" while the covert culture was labeled "reflexive science." What does this mean? In technoscience the researcher is a cog in the scientific machinery. The researcher's role is to operate and apply appropriate research tools and then record the results. Strict adherence to procedural accuracy and personal objectivity is always maintained. Personal motivation or involvement is virtually absent. The development of knowledge is preeminent to the development of the scientist as a person.

In reflexive science the researcher's work is energized by a personal commitment to and involvement with the scientific issues they are exploring. The researcher's role is more than operating and recording scientific results, it is a passion for learning and identifying all aspects of the issue with a personal investment to resolve, alleviate, or correct the issues problems. This passion derives from the fact that a direct link develops in reflexive science between

the development of knowledge and development of the scientific analyst as a human being. The researcher's subjective influence is recognized and encouraged as being essential for completion of the work.

### Technoscience

The overt, technoscience model has as its core the methodical, qualitative, and verifiable process used to conduct scientific inquiry. Illustrative of the technoscience response is the quick, short answered statement to direct inquiry concerning an issue under review. Technoscience's primary focus is that of stating the facts, which reflects a structured scientific environment. The technoscience perception identifies scientist as acting and responding accordingly. The associated behavior displays cursory views not pertinent to research and is highly objective, even with personal issues. The technoscience response seeks to restrict other aspects, which may adversely affect a project, by tempering one's attitude or personal agenda. Reflexive science, on the other hand, provides a different perspective.

### Reflexive Science

The term reflexive science has its roots in Alvin Gouldner's writings -- he coined the term "Reflexive

Sociology" and while the term is modified here, it is intended to denote the same meaning Gouldner defined.<sup>1</sup> Reflexive sociology to Gouldner is concerned, "with what sociologists want to do and with what, in fact, they actually do in the world."<sup>2</sup> Gouldner further states that, "there is no knowledge of the world that is not a knowledge of our own experience with it and our relation to it."<sup>3</sup> The scientist does more than just report findings, for in the process the scientist is changed by what he discovers. Gouldner indicates that, "the character and quality of such knowing is molded, not by a man's technical skills or even by his intelligence alone, but also by all that he is and wants, by his courage no less than his talent, by his passion no less than his objectivity. It depends on all that a man does and lives."<sup>4</sup> Gouldner refers to man's relation and understanding of himself as giving evidence and insight to the individual's quality of life. For scientists to enjoy life, they must find fulfillment in their work. In the process of discovery, the scientist is both professionally and personally affected.

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<sup>1</sup>Alvin Gouldner, The Coming Crisis of Western Sociology (New York: Basic Books, Inc., 1970), p. 488.

<sup>2</sup>Ibid., p. 489.

<sup>3</sup>Ibid., p. 493.

<sup>4</sup>Ibid.

With new scientific advancements or discoveries the scientist also senses within himself a corresponding new awareness. This is a development/growth process. As scientists broaden their understanding of issues, they must correspondingly understand the change the new discovery has created within themselves. Gouldner states that, "in the last analysis, if a man wants to change what he knows he must change how he lives; he must change his praxis in the world."<sup>5</sup>

The direction of reflexive science is to understand the various influences impacting the scientist's research efforts. Gouldner perceives this direction as allowing external influence to be understood in research, instead of being totally eliminated. This process requires, as Gouldner states that one "must become aware of himself as both knower and an agent of change. He cannot know others unless he also knows his intentions toward and his effects upon them; he cannot know others without knowing himself, his place in the world, and the forces - in society and in himself - to which he is subjected."<sup>6</sup> In conjunction with Gouldner's view of science, Roger Jones agrees with the personal involvement in the scientific process.

Jones in Physics As Metaphor presents as his main theme

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<sup>5</sup>Ibid.

<sup>6</sup>Ibid., p. 497.

the subjective side of science. Jones states that his, "book is an exploration of the subjective side of the metaphor of physics -- their metaphysics, psychology, and ethics -- with the dual purpose of illuminating the human quest for meaning and reevaluating the role of science."<sup>7</sup> Jones and Gouldner voice for many, who perceive work not as tasks to be performed, but as a means to unite organization mission and function with personal development and fulfillment.

The researcher's role in reflexive science is sustained through the fact that deep sources of personal energy are tapped by the work at hand. The personal investment of the analyst with the research issue provides the sustaining momentum for the research effort. The perspective of reflexive scientists is that they enjoy, are interested, and seek to improve or alleviate the effect on society of the issues they research. The essential quality of reflexive science is the researcher's personal involvement with their work. There are no routinized or mechanical activities involved in reflexive science process. Science is pursued with the passion that is evoked when personal identity is at stake.

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<sup>7</sup>Roger Jones, Physics As Metaphor (New York: Meridian Books, 1982), p. 11.

### RECAPITULATION OF DATA COLLECTED

The interview protocol instrument contains within its seven divisions, questions that explored matters related to personal involvement in work. As the responses were recorded, some covert type responses occurred where not anticipated. In sum, two-thirds of the OTA organization identified elements of their culture as reflexive science when an opportunity was provided. This illustrates the vigor and viability of the covert culture. The covert culture, as indicated from the interview protocol results, is active and vibrant within OTA.

### ORGANIZATION DESCRIPTIONS

The data collected reveals that the technoscience and reflexive science cultures exist and operate simultaneously. In order to better understand their expression, a brief narrative description of a technoscience organization and a reflexive science organization is helpful to illuminate their similar, but differing perspectives. The narrative description focuses on three areas. The focus areas are the physical setting in which scientists work, the professional emphasis of their work, and the personal elements associated with their work.

Technoscience Organization: Ideal Type

The physical setting of the technoscience organization emphasizes research as the focal work. Office space is designed to ensure adequate research areas. Small office cubicles serve as data storage and narrative compositions for dissemination. The furnishings provide the best available research tools and composition facilities. Since research is the focus, limited space is not conducive for visits. Even time constraints restrict availability for telephone conversations and correspondence. When meetings are required, usually small gatherings are held in or around a superior's office. With no central meeting location, the importance of assigning available space for research purposes is emphasized. With the physical setting housing research activities, the importance of maintaining an antiseptic environment is stressed.

The antiseptic environment requires restricting floor design, wall and ceiling color, and furniture and accessory placement. Additional restrictions are expanded to wall accessory placements, such as type, design, and color. The restrictions are in character with the organization's basic research purpose and seeks to enhance concentration toward the organization's purpose.

The professional emphasis of the technoscience organization is on current research issues. The scientist seeks to apply their professional skills in order to ascertain quantitative and verifiable information useful in their research efforts. The information produced is analyzed, providing conclusions with suggested recommendations. In order for this work to be completed successfully, the work is usually accomplished in isolation. The isolation serves as a buffer, reducing external influences. The isolation requirement is considered a scientific necessity and is accepted professionally as a part of the scientific process.

Scientists view their work as contributing to the world of scientific knowledge generally and advances in technological and scientific areas specifically. A scientist's primary concern relates to how the findings can best be applied to accomplish the assigned task. The motivation for continuing their professional efforts appear to reside in skill utilization and accomplishment recognition. Scientists prefer to work with limited supervision, while receiving only general tasking for goal accomplishment.

Scientists are personally affected by the technoscience organization through the physical environment and the research effort's professional emphasis. A scientist's personal problem is perceived as not appropriate and having no place

in the work environment. The design and lay-out of the organization is usually accomplished without any concern for its effect upon the researcher. External requests for visits, telephone conversations, and correspondence are perceived by the researcher as intrusions and are held to a minimum. Scientists view the work as income producing and providing recognition of their contribution. Also, the work location is understood as the environment where tools of research are applied. Sustaining motivation is produced through work satisfaction and recognition for research discovery. Interaction with co-workers is limited and sometimes viewed as merely taking-a-break from work. The researcher's personal investment in the effort is normally restricted to understanding and unraveling the issues with the major focus on accomplishing the assigned task.

The technoscience organization is an organization where the physical setting, professional emphasis, and personal elements all focus on objective inquiry. The technoscience organization is primarily viewed as operating outside the sphere of the person -- people are simply the operators of its methods. The critical personal element of scientific effort is denied and thus is a key distinction from the reflexive science organization.

### Reflexive Science Organization: Ideal Type

The reflexive science organization understands the importance of the physical setting and professional emphasis within the scientific research process. The reflexive science organization is similar, if not identical, to the technoscience organization in many ways. However, the physical setting of the reflexive science organization shows understanding of individual differences and allows for these innate expressions by varying lay-out design, floor and wall coloring, and unrestricted wall placements. Also, office space is arranged to permit limited visitation with correspondence mechanisms easily accessible.

The reflexive science organization's professional emphasis is directed toward understanding and pursuing issues with an open-ended approach. In opposition to the technoscience organization, the reflexive science organization pursues information without restriction. This access permits scientists to conduct inquiry for science's sake and not from a predetermined mandate to prove or disprove an hypothesis.

The reflexive science organization's personal element is closely linked with the aspect of conducting scientific research for science's sake. The scientist is understood to have a personal investment in the research issues. The scientist's efforts are not toward proving or disproving an

hypothesis, but toward understanding the fundamental basis of the issue and then seeking solutions. It is the personal interest in solving or improving the issue that motivates continuing research. The personal investment is the key element that taps the scientist's energy and motivates them to endure family and personal hardships, all for the purpose of improving or eradicating the problem. Understanding the personal elements of the research process is essential for sustained research efforts. The reflexive science organization provides this environment emphasis and extends this importance to all employees. Developing and sustaining the reflexive science organization is a major element contributing to OTA's success.

CONCLUSION: CAN ORGANIZATION CULTURE BE MANAGED?

OTA has enjoyed success in recent years because it has escaped the dominant technoscience culture of normal scientific research efforts. Even though the technoscience organization is in existence at OTA, the reflexive science organization operates right beneath the surface of the visible organization.

On the question of whether or not the current conceptualization of organization culture is adequate for understanding the phenomenon, we have to conclude on the basis

of this present case study of OTA that current theories do not comprehend the entire scope of the phenomenon of organization culture. While all of the categories of organization culture that have been set out in the literature can be observed at OTA, there was an important dimension of culture -- indeed one might say the most important dimension -- revealed as existing beneath the paradigmatic level, which of course is the deepest category that currently exists in the literature. So, we must conclude that, using only the lenses afford by the present literature, if this case study is generalizable at all, that we would not see all the dimensions of culture that exist at OTA. Hence, it seems we must expand and deepen our theoretic perspectives.

We might also reflect on the basis of the OTA case whether or not organization culture is amenable to conscious management on the part of an organization's leadership. OTA is a good case for looking at this question because it has a strong official culture, that is to say as a scientific and technical organization its culture, in fact, is ready made by the larger context of science and technology in the society as clearly set out in the mission statement of the organization. There has been an attempt to explicitly manage the organization's culture, indeed to fix it, at the founding. What we observed was that this attempt to manage the culture

has to some extent worked, but we also witnessed important signs that this effort was not completely successful. We saw a strong covert culture that goes beyond the paradigm of the official culture to which many people responded. They documented this culture in such a way that we can see that it is a very important dimension of the OTA culture to them. What energized or evoked this covert culture? Again we see something that ties back to the theoretic frame. What we saw is that the individual development needs that are inherent to the human life cycle in people expressed themselves in this organization. Therefore, what we saw in operation as creating the covert culture was the archetype of the self or individuation that operates through the self. We saw the presence of an archetype creating a culture that goes beyond the official overt culture of the organization, because archetypes operate beyond human control and set the limits and the grounding or foundation for the overt culture. We can observe from this case study that there are limits to the extent to which an overt culture of technoscience can be imposed on these individuals. The limit was the archetype of their own individuation.

Early OTA struggles with assessment clarification and quality project completion did not deter those seeking to enhance the assessment process. It is the allowance for

personal expression and development, which taps the individual's energy, that has sustained the effort for quality project development. The personal energy generated for continued research efforts is not energized by strong leadership. Instead a different leadership approach is required.

Warren Bennis in his recent book on leadership says that the key to evoking commitment and organization success is the visionary leader who can draw people along to organization goals. What this study shows, on the contrary, is that a leader who can allow connections to develop for people between their personal development and the organization's task is the one who will truly tap the deepest sources of their commitment and energy. The culture of reflexive science shows that at the basic reality of any human grouping is the developmental agenda of the people who compose the group. This is archetypal. All a leader can do is create conditions that at least do not stand in the way of this archetype and at most that allow a reflexive relationship between the worker and the work. Because of the reality of archetypes as the grounding of organizational life, a leader is not free to set a culture for an organization. This can only be done partly -- at the official level. Any attempt to go further will run afoul of archetypal reality. There must be a match between where a

person is in their lives and the opportunity a reflexive science organization provides. This match can only be made at the individual and small group level.

Bob Denhardt broadens our thinking about the reflexive science organization's recalcitrance to manipulation by leaders. Denhardt in The Shadow of Organization turns our thinking about organizations upside down. Instead of putting the organization's goal paramount, he places the individual's development as paramount. The organization's goal is made secure as employees pursue their own development. Using Jungian psychology as his theory frame, Denhardt relies on the dynamics of the archetype to make the connection between the organizational goal and individual development. Too often employees perceive organizations as not appreciating this vital link. Beverly Potter feels that it has become critical for organizations to open their eyes to this aspect of work life.

Potter in The Way of the Ronin emphasizes the perception of work as the way of self-realization for employees. Potter urges managers to realize that modern employees "work through the company, not for it."<sup>8</sup> Potter continues by stating that these employees, "integrate their personal goals with company

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<sup>8</sup>Beverly Potter, The Way of the Ronin (Berkeley, CA: Ronin Publishing, Inc., 1988), p. 27.

goals,"<sup>9</sup> and stress that employees, "like comfort and the good things that money can buy, (yet) obtaining these is not their primary motivator. Instead, they are propelled by the quest for self-development."<sup>10</sup> What propels their quest is the process of individuation set in motion when the archetype of the self configures in the work setting.

The archetype operating at OTA clearly is the archetype of the self, the archetype that drives individuation. This archetype, given that OTA management has been flexible, has expressed itself through the staff of OTA to create a covert culture of individuational reflexive science. The mistake that people who want to manage organization culture make is that as managers they attempt to shape culture in a specific direction defined by a set of values that they hold as a vision for the organization. This line of thought about managing culture is probably motivated by a lack of understanding that there is a structure to the psychological side of the organization beneath the paradigm. A person like Berger, who does not believe that there is a structure beneath the paradigm but instead believes it is all dynamic and exists at the social level, would lead one to think that if the culture is not managed, it may get out of control or move in

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<sup>9</sup>Ibid.

<sup>10</sup>Ibid.

a different direction than what one desires. However, if one understands that the individual's psyche is indeed structured by archetypes as was documented earlier, then the task of leadership becomes that of seeking ways to allow these archetypes to find expression. Especially is this true with the archetype of individuation, which is the primary governing archetype of all archetypes. If an organization can offer employees an opportunity to develop personally as they pursue the organization's goals, they have done all they can do in the way of managing their culture effectively.

The success of OTA is an example of how personal development and organization goals and commitment to them can be synonymous. This study has illustrated how the reflexive science culture has produced a successful organization. To accomplish this success, OTA leadership has employee personal development to become linked with the organization's mission. Personal involvement and concern with the research issues and their ramifications provide the opportunity for both personal and professional development to occur hand-in-hand while the research effort continues with technically complex issues. This has produced impressive results.

The best leaders allow the space for people to find connections between their personal life story and the work they are doing. Letting the covert connection occur between

the individual and the mission of the organization is a much more sensible way of approaching the idea of organization culture, than the idea of comprehensively manipulating the organization's culture. In taking this more moderate approach the leader will encourage employees to perform the tasks that really interest them instead of making them do what the leader perceives as important. Cultural issues will take care of themselves if management does not attempt to manipulate them, because there is a natural motive in people to find meaningful lives -- both at work and in their personal endeavors!

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## APPENDIX A

### INTERVIEW PROTOCOL

#### RELATIONSHIP TO ENVIRONMENT (External Organizations, Advisory Panels, Groups, Institutions, Individuals)

1. What is OTA's core mission?
2. What are the outside groups or individuals in your environment with which you have to interact?
3. What constraints or opportunities are involved?
4. Does any historical event of OTA stand-out as being significant?
5. What is management's role in regards to each of these groups? (a) Congress (b) Panels (c) Staffers and Committees

#### NATURE OF REALITY AND TRUTH, BASIS FOR DECISIONS

1. How is something determined to be real or true?
2. What criteria are used when making decisions?
3. How is conflict resolved when making a decision?
4. Can you identify a situation(s) where a final decision was reached involving high emotion or conflict?

#### THE NATURE OF TIME

1. What are OTA's main time pressures?
2. Can you think of any recent decisions where prime importance was placed on either past, present or future activities?
3. Is there flexibility allowed around deadlines and how are variations handled?
4. Can you identify a situation(s) where a final decision was reached involving high emotion or conflict?

**THE NATURE OF SPACE**

1. Does OTA have enough space?
2. How is office space allocated?
3. Is space used as a symbol, and if so, how and what does it symbolize?
4. Can you think of a situation where space was used as a symbol?
5. What norms of physical distance are practiced?
6. Can you remember a situation where various norms of distance were practiced?

**THE NATURE OF HUMAN NATURE**

1. How is human nature viewed by OTA? (Fixed at birth, Changeable, etc.)
2. Can you identify any heroes or villains within OTA and what role they play(ed)?
3. What criteria are used to recruit, select and promote individuals?
4. What criteria is used for performance appraisal?
5. Are rewards and incentives given, and if so, how are they determined?

**THE NATURE OF HUMAN ACTIVITY**

1. To what extent does OTA depend on outside groups (Congress, Panels, Institutions, Individuals, etc.) and how is this expressed?
2. What common problems occur when constraints are placed on OTA by external forces?
3. Can you identify a situation where problems arose with the external environment and how the problems were resolved?
4. Were the approaches taken to resolve the external problem adopted for future problems, and if so, what are they?

**THE NATURE OF HUMAN ACTIVITY (Continued)**

5. If the approaches were adopted for future use, do they remain valid today?
6. Did former leaders or heroes tackle problems different from current methods?

**THE NATURE OF HUMAN RELATIONSHIPS**

1. How are personal relationships handled within OTA?
2. Does OTA allow these relationships to develop and grow?
3. What types of relationships are encouraged by OTA?
4. Identify a situation where power was exercised by a group or individual while making a decision?
5. Can you recall a story or legend involving heroes or villains of OTA?
6. How are violations of authority handled by OTA?

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