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Challenging Gaia: The Ecology of Organizational Restructuring in a Federal Agency

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ABSTRACT

Challenging Gaia: The Ecology of Organizational Restructuring in a Federal Agency

by Nicole A. Birmingham-Witucki, DPA

Purpose. The purpose of the study was to reinvigorate the theory of organizational ecology and use the metaphorical relationship between themes in ecology as a way to model structures or reorganizations in the federal government, challenging traditional bureaucratic tactics for decisions leading to a reorganization effort. In addition, updated models of the politics–administrative dichotomy were compared to its original construct in order to examine fitness for a modern federal environment.

Theoretical Framework. The theoretical framework utilized general systems theory, specifically organizational ecology, niche, environment, and Gaia theory.

Methodology. A qualitative phenomenological case study of a federal organization was performed by conducting elite interviews in order to explore and assimilate ecological themes to the lived experiences of restructuring or reorganizations by 3 senior-level executives in a federal agency. Face-to-face interviews were conducted with each participant in a semistructured style using 7 interview questions.

Findings/Conclusions. The participants' individual approaches to decisions, rationales, perceptions of outcomes, awareness of impacts, use of theories, lessons, and metaphorical assimilations were examined for collective expressions. Their responses revealed 4 themes: ecosystem, bureaucratic environment, cybernetics, and niche. A multidisciplinary metaphorical abstraction was developed using these concepts, and an ecological model for abstract thinking about organizational structures is presented for

consideration. The traditional politics–administrative dichotomy was challenged and a

new model proposed.

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DEDICATION

This is dedicated to Randy Witucki, my best friend and ever supportive husband. Thank you for your constant encouragement and patience through this experience. I said I would promise you a few things: no more degrees; when we go on vacations, I will leave the hotel room, and there will not be an extra suitcase stuffed with books and papers.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

The intent of this study was to reinvigorate the use of an ecological perspective and the use of metaphorical analysis to reflect on organizational structural change in a federal agency. The topic explores how disciplines of knowledge from the ecological sciences and metaphorical extrapolation are used as a tool for analysis and a catalyst for change. Based on ideas presented through James Lovelock (1973) and Howard and Eugene Odum (1959), a holistic, ecological model for analyzing structural change was developed. Developing a clear understanding of the holistic attributes within the organizational structure was established through Lovelock's (1973) Gaia hypothesis and Odum's (1959) ecological niche theory.

This was a qualitative phenomenological case study using oral histories to explore the potential relatability of the "elite" federal government employee to a holistic, ecological Gaian method for deciding upon and executing structural change. A model of the elements of structural change was developed based on a metaphorical extrapolation of concepts from Lovelock and Margulis (1974) and Howard and Eugene Odum (1959), using a federal government initiative for structural change as a framework. Phenomenology is used when the intent of the researcher is to grow an area of specific knowledge and create a deeper understanding of the topic through the lived experiences, as described through personal recollections and interpretations of an event and outcome relevant to the research topic. Using phenomenological interviews and narrative examination, the researcher attempted to uncover the logic, relationships, and elements or themes of the experience and related this to the theories in order to justify the proposed resurrection of an ecological Gaian model for structural change management (Conklin,

2007). A case study of reorganization in NASA serves to frame a theoretical construct for this ecological perspective.

Extrapolating metaphors from theories associated with other disciplinary fields is an accepted way to create new applications while assessing relevant organizational states. There is a predictive attribute to this method, which may alter the course of critical decision points (Marshak, 1996).

Background of the Topic

There is a vast library of literature related to all aspects of organizational change. Theories of organizational structural change tend to revolve around management functions, structural size, hierarchy, population, economics, communication, community/social relations, and stakeholder analysis. Variants are conceptual and relative to the organization, whether it be a public bureaucracy, military organization, or a private or public business (Lynch & Cruise, 2006). This study used a growing trend in U.S. federal government organizations: the abandonment of theories traditional to the public sector, substituting practices that are most often exercised by the private sector. By focusing the research on one organization that has undergone an organizational restructuring, there is an opportunity to look at similar historical practices and consider options from a theoretical perspective.

Theories of change in organizations are centered on organizational theory. Conventional organizational theories in public administration fall into three primary categories: classical organizational theory, neoclassical organizational theory, and modern organizational theory. The major categories and primary subcategories are depicted in Figure 1.

Classical: 1800s-1950s	Neoclassical: 1920s-present	Modern/Contemporary: 1950s-present
•Scientific Management •Bureaucratic Theory •Administrative Theory	•Human Relations Movement	•Contingency Theory •Systems Theory •Other theories involving management, culture or leadership

Figure 1. Organizational theories: Categories and subcategories. Adapted from "Organization Theory: An Overview and an Appraisal," by W. G. Scott, 1961, *Academy of Management Journal*, *4*(1); and "Organizational Theory: With Its Applications in Biology and Ecology," by Y. Zhao & W. Zhang, 2013, *Network Biology*, *3*(1), pp. 45–53.

The father of classic public administration was Woodrow Wilson who published "The Study of Administration" in 1887. There are three subcategories: scientific management, bureaucratic theory, and administrative theory. As the founder of scientific management, Frederick Taylor (1911) focused on aligning work processes for maximum efficiency and output through specialization and standardization. Bureaucratic theory was developed by sociologist Max Weber (2012) who believed that an organization should function under a top-down design of rules. The work of employees should be aligned with their skills and assigned within strictly defined roles and responsibilities (Zhao & Zhang, 2013). Weber's (2012) typology of bureaus was administered by graded (ranked) specialists, strictly hierarchical, jurisdictional, procedure and process based, and heavily rule laden. Administrative theory was established by Henry Fayol. Also, structurally hierarchical, administrative theory was focused on managerial responsibilities. Fayol (1916) recognized 14 principles of managerial responsibility and five fundamental features of management (Zhao & Zhang, 2013). Another classical theorist, Lyndall Urwick (1974), prescribed three attributes to organizational structures as they pertained to supervisors and workers: limited and fixed communication, specific and

detailed roles and responsibilities, and authoritative leadership. An inherent goal was to maintain a narrow span of control so supervisors could remain focused on a smaller number of employees (Lawrence & Lorsch, 1967).

The neoclassical period is characterized primarily through the human relations movement, which was a result of the Hawthorne experiments from the mid-1920s to the early 1930s. Elton Mayo (1945) and other academic collaborators with the National Research Council drove the Hawthorne experiments, studying the human side of labor, the impact of informal relationships, values, group norms, and worker backgrounds. The consequences of the research included advancing a new field of research, industrial psychology (Hughes, 2003; Zhao & Zhang, 2013). The outcomes of the Hawthorne experiments were highly criticized for the alleged fictionalized conclusions of the research data; however, it was successfully accepted that small, constant changes to the environment had a positive impact on productivity, regardless of the positive or negative nature of change. The experiments stimulated the human relations movement by providing evidence that communication and participation between managers and employees at all levels is a more powerful incentive than the traditional monetary motivation to increase worker productivity, and the use of incentives for increased productivity and has long invigorated the attention placed on employer-employee relations (Levitt & List, 2011; T. J. Peters, 1979).

Other human relations theorists included Kurt Lewin (1947) and Douglas McGregor (1957). Lewin's work (as cited in Drazin, Glynn, & Kazanjian, 2004) was established by his theory of force field analysis, which held that stability is a normal state in organizations and that change could only occur when management increased force and

mitigated the expected resistance to change. Conflict and discord would result if management failed to overcome resistance. In order to maintain increased performance under the new equilibrium, Lewin developed his unfreeze, move, and refreeze model to explain the process of change (Drazin et al., 2004). This model has been extensively criticized for its generalization and assumption of organizational stability and denial of evolutionary processes, which are inherent on older, larger, and government organizations (Tsoukas & Chia, 2002).

McGregor's (1960) Theory X and Theory Y created rivals between organizational literature and social science literature by speculating that the culture of the organization is a significant determinant to the satisfaction of employees. Theory X (organizational) held that workers are inherently predisposed to avoid work, and because of this, there is a requirement for coercion, direction, and punishment in order to meet goals. Theory Y (social science) states that workers find satisfaction in a job well done, avoidance of punishment is natural, and commitment to objectives reaps fulfillment of the ego and self-actualization (Cartwright, 2013).

It is the methodology that presents the prominent difference between the classical and neoclassical theories and those of the modern period. The classical school is structured and mechanistic, focused on developing measurable processes and procedures with minimal regard for the human factor; whereas the neoclassical school moved organizational theory toward methods that stemmed from a sociological approach, delving into the role of humans. The early theorists, like Weber (2012) and F. W. Taylor (1911), favored the mechanistic tradition, believing that a bureaucratic structure provides a measurable structure in which to achieve and quantify the success of meeting

organizational goals. Certainly, the worker was involved but only for determining function. An example of this was evident in F. W. Taylor's categorization of workers who were either labeled as *producers*, those who work with their hands, or *nonproducers*, those who perform supervisory functions (Lawrence & Lorsch, 1967; Scott, 1961; Urwick, 1974; Zhao & Zhang, 2013).

Neoclassical theorists such as Elton Mayo, Vytautus Graicunas, Keith Davis, and Robert Merton, incorporated the behavioral sciences into classical organization theory (as cited in Scott, 1961). Principles from the classical doctrine were evident in neoclassical ideas but were heavily influenced by the human relations movement in the context of individual behavior and interpersonal interactions. The most significant contribution of the neoclassical school was accomplished by modeling an informal organization, showing the natural clusters and alliances of people in their work environment. The conversely formal organization model failed to integrate groups, associations, or niches, all of which logically coordinate through their shared location, occupation, interests, or causes. Informal organizations are the least likely to change because the social groups perceive change as a threat with the potential to destroy what they have created within the formal organization. The social system of a neoclassical organization forms the segue between neoclassical and modern organizational theories (Scott, 1961).

Modern theorists, such as Lawrence and Lorsch (1967) and Urwick (1974), have generally maintained that organizational life has an unplanned, chaotic, and natural disorder, which the traditional schools failed to recognize. Any disregard of the natural human condition has led to decisions that have overlooked the normal organizational struggles, which resulted in incongruent policies (Zhao & Zhang, 2013). Merton (1957a)

and Sullivan (1953) argued that organizations should be regarded as systems relevant to their mutually dependent variables. They were keen on resolving the dichotomy between formal functions, which establish the structure of the formal organization, and the more influential internal power structure, which establishes interdependency between individuals in the informal organization (Presthus, 1958).

Four key systems-based queries were pursued by modern theorists. First, they sought to reveal opportunities for strategy; second, they attempted to identify the nature of mutual reliance; third, they looked for systems processes that could align niches and facilitate coordination; and finally, they tried to identify goals that ought to be inherent in natural systems (Scott, 1961). Modern theorists also examined decision processes through decision analysis, interactional processes through communication mechanisms, and forms of equilibrium to balance the system (Scott, 1961)

Today, theories that underpin the modern school of thought consist of systems theory, contingency theory, and other subcategories. They tend to be more relevant when the concern is with organizational typologies, which include leadership and culture-based philosophies. Contingency theory addresses the unique environment of each organization, the type, requirements, strengths, challenges, dependence on resources and stakeholders, public accountability, size, mission, and so forth. Developed from the work of Chandler (1962), Lawrence and Lorsch (1967), and others, it says that all variables should be considered when it comes to strategically determining how to align an organization with its environment. Contingency theory evolved from the early 1960s through the 1990s to lay major groundwork for the organizational ecology movement in the 1980s, particularly with studies that centered on aligning organizational structure and

the environment as a way of maintaining stability (Drazin et al., 2004; Zhao & Zhang, 2013). General systems theory is one of the lesser understood subcategories of organizational theories. Although it falls into the category of modern theories, it has roots in Aristotle's Holism, which uses a biological analogy to explain the relationship between the parts of the body to the functionality of the whole body and support of the entire system (Jackson, 2003). The basic philosophy of Holism states that "knowledge is derived from the understanding of the whole and not that of the single part" (Mele, Pels, & Polese, 2010, p. 126).

In 1967, Ludwig von Bertalanffy, the founding father of general systems theory, formally presented his theory at the 123rd annual meeting of the American Psychiatric Association in Detroit, Michigan. His research started in the 1920s, but it was not until almost 40 years after he first started his journey that von Bertalanffy (1969) made his argument for the value of a systems approach. The problems of unreliability ran through all occupational disciplines including biology, psychology, and the social sciences. They had a common source: the human element combined with unknown variables and unpredictable interactions within the systems in which they were operating. The mechanistic sciences overlooked the human organism as a variable (von Bertalanffy, 1969). Von Bertalanffy speculated on general systems theory in 1928 when he introduced a theory of organismic biology. He claimed that organisms naturally function as organized systems, whether as functional partners that work together to maintain the organism or as an organism that organizes within a system (society) in order to integrate and maintain order and control, among other features. In 1932, he presented the open systems theory, which

emphasized that living organisms are essentially open systems, maintaining

themselves in a continuous state of inflow and outflow, building up and breaking

down components, never being, so long as they are alive, in a state of chemical or

thermodynamic equilibrium, but rather in a steady state of balanced tension. (Gray

& Rizzo, 1969, p. 12)

By 1945, his theory of systems was officially released, and in 1950, he published *An Outline of General Systems Theory* (Gray & Rizzo, 1969).

In the 1980s, the systems thinkers shifted to complexity theory, or self-organizing theory. There were three primary premises. First, the theory held that "structure is emergent" (Drazin et al., 2004, p. 13), a natural outgrowth of interactions between organisms. Prigogine and Stengers (1984) found that even the most highly disordered systems, those furthest from a state of equilibrium, still found organization through interactions. The second postulate held that a self-organizing organism followed rules of interaction in such a way that over time order was established between complex organisms and neighboring organisms. The final premise held that structures are distinctly evident at a single moment in time (Drazin et al., 2004).

Complexity theory is a set of principles, attempts to resolve the problems of how humans find order in disorder, how they adapt to change in their ecosystems, and why they seek structure out of chaos (Drazin et al., 2004). Drazin and Sandelands (1990) called this *autogenesis*, which does not concentrate on why humans organize but on how organization occurs.

A practical example of how ecological systems exist was demonstrated by Henry David Thoreau (1854) through observational science. He wanted to figure out how the

natural phenomena of a particular regrowth patterns of trees and plants in the eastern part of the United States could occur. Ecologists inherently seek to identify how events occur seemingly naturally. Observation and the reduction of extraneous noise is innate to this discipline (Lovelock, 2004; E. P. Odum, 1984; S. H. Schneider, Miller, Crist, & Boston, 1991). Far from relying on the traditional methods for solving intricate problems, complexity theory reaches into people's natural propensity toward holism; to observe an interaction or a series of interactions and through intuition and instinct, imagine the root cause of how a phenomenon might occur.

The Problem

There are an exhaustive number of models and theories that focus on organizational structural change. Organizational structural models tend to be predisposed to the primary general management rationale, which views organizations as complex, multifaceted adaptive systems whose structure is determined by the dominant logic. Structural change is often inspired by crisis, and in crisis, management tends to sidestep a chance at creativity. When markets are stable, mechanistic structures make sense. Methods and processes are standardized, lines of authority and hierarchy are clearly identified, and roles and responsibilities are bound. The authority, hierarchy, standardization, and roles drive the internal and external communications and decisional authority. Unstable or fluctuating markets are better suited with the organic form of structure. Lines of authority are informal, hierarchies are "flatter" and may be presented as cross-functional, roles may be more ambiguous, decision-making is distributed across more stakeholders, and communication is informal and channels are open. This provides

a higher level of flexibility and adaptability to an expectant ever-changing environment (Dooley, 1997).

Environmental models and agency structures are hinged in contingency theory, population ecology, and institutional theory. These theories build structures that support performance and efficiency at the local agency level and recognize the need for variation in order to remain stable, yet they may be responsive and adaptable. Responsiveness and adaptability to environmental instability, variabilities, and unpredictability are difficult to attain in a mechanistic system. The Gaia hypothesis provides a simple explanation for addressing variations by proposing that instability or disequilibrium is caused by living systems (Lovelock & Margulis, 1974).

The ecological solution is resolved adaptively. Change enhances differentiation and resilience. As members become more highly specialized, they are able to handle more complex tasking, a higher variety of tasking, and be more effective along the way (Dooley, 1997; Lawrence & Lorsch, 1967). E. D. Schneider (2004) wrote, "The phenomenology of ecosystems shows that successions build structures and processes to capture available gradients and to degrade the captured energy as efficiently and completely as possible" (p. 46). This is an ecological demonstration for self-regulation leading to a homeostatic environment.

The field of ecology was born from many other disciplines. The Odum brothers, Howard and Eugene (1959), walked the scientific path of G. Evelyn Hutchinson (1948). Hutchinson, who founded the Hutchinson School at Yale University, argued that ecosystems could be understood through the study of material and energy flow. By 1969, Eugene Odum, a follower of Hutchinson, had focused his research on successional

11

processes in ecosystems publishing "The Strategy of Ecosystem Development." In this journal, he delineated the successional propensity of early versus mature systems. The organisms in young systems lived in large niches, recycled material quickly, reproduced in short timeframes, experienced less cycles, and had short life spans. More mature systems acted in an opposite fashion. They operated efficiently with more complexity and diversity, with high energy flow, and held materials longer. Mature systems tend to be successful systems because they work to improve survival through their ability to "capture and store high-quality energy, use the stored energy, and recycle materials as needed" (E. D. Schneider, 2004, p. 52).

Organisms, just like mechanical systems such as automobiles, are open systems. Material comes into the system, the system accepts it, turns it into energy, degrades it through utilization, and dispels it as "waste." This represents the basic laws of energy in a system. Likewise, there are other natural forces at play in organizational ecosystems. Functioning systems have inputs and outputs. Interactions happen within a hierarchy with the ecosystem at a higher level than the parts such as the organisms. The processes at the lower levels are constrained by the higher levels. This is where Lovelock's (2016) Gaia posits her challenge, saying that organisms actively adapt to their environment and can alter the environment over time due in part to the diversity of species, which rely on the existence of the others (E. P. Odum, 1998). The metaphor suggests suggests that as members of organizations, we tend to focus on one or the other. We are either looking at the whole or the parts but not considering the spectrum and need for succession in our decisions.

Organizational structure is symbolized through a variety of matrices, which illustrate the organization strategically and/or operationally, through structural connections, positions, reporting relationships, coordination of tasks, activity, geography, output, resources, specialization, and/or politics, to name a few (Baum & Singh, 1994; Crotts, Dickson, & Ford, 2005; Likert, 1961; Nadler & Tushman, 1997). The literature is extensive, drawing from multiple schools, philosophies, and fields. In the government sector, the formal organizational structure is traditionally hierarchical. Synthetic structures have been largely shunned by the private sector because they disregard the humanistic and organismic aspect of the organization, leaving little flexibility for creativity, innovation, or growth (Baum & Singh, 1994). Reorganization in the public sector has been mostly in vain, reducing efficiency and effectiveness and creating other undesirable and unintended consequences. Additionally, these efforts tend to be faddish, cyclical, and largely driven by politics, with a lack of regard for the administration. While the conductors of these reform efforts may default to well-meaning and commonly accepted theoretical underpinnings, the political scientists, theorists, and practitioners are left out of the implementation strategy where they are best suited for predicting likely outcomes (B. G. Peters, 1992).

This speaks to a "reluctance" of politics to account for a holistic view of the environment and the newly disrupted ecosystem, which is a significant factor in Odum's ecological theories (E. P. Odum, 1984; Rotabi, 2005). One proposed reason for this reluctance is that the holistic approach is difficult to convey, particularly to a diverse audience. Organizations are not inanimate objects but rather ecological communities embedded in ecosystems, and these communities are made up of biotic species, those

who are living, and abiotic substances, or the nonliving. This study focused on the shift

between proposed reorganization and the associated structural models and the

identification and use of metaphorical typology as a catalyst for structural change. As the

federal government evolves away from the traditional ways of doing business, it has

slowly started adopting private sector practices (Emery & Trist, 1973; Liebowitz, 2004;

Office of Management and Budget, 2018). This study also proposes that the dichotomy

between politics and administration and the environment and ecosystems threaten the

success of realignments when government organizations, which are historically steeped

in traditionalist models, attempt to incorporate private sector approaches. There are no

current studies that consider these issues by applying an ecological model to a U.S.

federal government activity. By analyzing the history of change in the organization and

applying the tenets of organizational ecology from an ecological niche and niche

construction theory perspective, the objective is to resolve the current goals of a

government activity from a public administration analyst viewpoint.

There is a disconnect between those who create policies and those who support

and execute them. This gap is a primary reason that the politics–administrative

dichotomy is one of the most complex pillars of public administration. Modern

government organizations demand that workers perform their functions within

organizational structures, which support and reflect the mission, vision, and values of all

stakeholders. Additionally, complex governmental or public sector organizations are

generally structured in silos with stove-piped functions within specific competencies

(Simon, 2012; Weber, 2012). As governmental organizations pursue performance that is

executed under greater streamlined processes for efficiency, they are often modeled after

private sector counterparts. A change to the structure is a natural course of action, and the organizational chart often shifts the focus from the strict parameters of worker competency to a strategic attempt to align skills to the organizational mission, calling for a cross-functional, cross-divisional skills matrix (Crotts et al., 2005; Gore, 1994). Organizational structures are formed to function as a means to an end result, but organizations tend to ignore the simple first steps for aligning workers to the mission, such as systems, policies, and procedures (Crotts et al., 2005). Traditional theories of change default toward a transformational approach, occurring over a length of time as an organic succession of smaller changes. This quasievolutionary approach is steeped in Darwinian theory, proposing variation as a catalyst for change (Levins & Lewontin, 1985). Aligning an organization by the mission is simple in concept, difficult by design, and tricky in execution.

In summary, there are several gaps to be addressed from both practitioners and scholars in order to identify a model for organizational alignment (Crotts et al., 2005; Meyer & Rowan, 1977; Nadler & Tushman, 1997). The proposal for a structural realignment of a large federal government organization should be scrutinized against past experiences of change by the formal and informal institution, analyzing lessons from the past, the current members, and the goals and strategy. A change of this caliber demands that there is a shared understanding between the political and administrative activities within the organization so they may work to ensure that there is a coordinated effort to safeguard the areas that are to be maintained.

One of the major problems with structural change in a long-standing federal organization is that the current structure has been primarily maintained by an "old guard"

of employees who grew their careers within the current structure. Our large, formal federal government institutions, also known as bureaus, are naturally bureaucratic environments with bureaucrats as employees. Downs (1964) defined a bureau as a large organization in which output is not evaluated by external markets; employees work full time, receiving a majority of their income from the organization; employees are hired, promoted, and retained through a work, role-specific performance assessment; and the highest levels of leadership have little personal interaction with at least 50% of the members. Downs defined bureaucrats as the employees of a large organization whose majority income is made from the organization; who are evaluated based on role-specific performance for hiring, promotion, and retention; and whose output is not evaluated by any external markets.

When new employees are brought into these organizations, they are taught, mentored, and groomed within the existing structure by this old guard set of rules. It is not as simple as executing an intent within an instruction. Humans, like any species, arrange themselves within their environment. Their capacity and willingness for adaptation is constrained by the ecosystem in which they operate. To change the environment of an ecosystem requires an adaptive process, which is greatly dependent upon the willingness of the species and individuals and takes time and strategic coordination that must be agreed upon and executed at all levels of the members.

Downs (1964) argued that the internal elements and aspects of how bureaus function drive a predictive model for the internal structure and internal or external behavior. Rather than applying a specific theory to individual organizations, he proposed that there are universal abstractions that can be made about the bureaucratic ecosystem,

which is beyond the actions or decisions of individuals or a single group but a bureaucracy (Downs, 1964). This concept agrees with the complexity systems theorists who say that "social structure is a mental construct that depends upon categorization schemes used by observers to abstract information and give meaning to the flow of experience. These conceptual abstractions can be shared, modified, and reproduced intersubjectively and transmitted intergenerationally" (Drazin et al., 2004, p. 14).

In 1961, Martin Landau reasoned that using biological references to social institutions is a natural, holistic, and universal method to develop a broadly shared understanding of complex problems. Since then, systems theorists have tended to agree. Disciplines such as philosophy, political science, government, law, and administration have a history of using conceptual metaphor as a speculative validation of an intuition, as do the organic sciences such as biology, anthropology, and physics. Metaphors applied to complex problems of organizations have provided the social sciences with a creative and humanistic approach to systems thinking, which is quite different from the mechanistic, industrial approach. This method better serves connecting people, establishing relationships, and fostering interactions, networks, and influences within the environment to include the influence of other environments. The use of metaphor can strongly impact relevance, intent, interpretation, and opinions (Crotts et al., 2005; Morgan, 1997, 2011; Ostwick, Keenoy, & Grant, 2002).

Metaphors are presented in many different forms, and the purpose behind their use is boundless because they are a common practice in modern conversation, whether to argue a point, present contrasts, make comparisons, shift attention, or make a serious topic seem funny. The word metaphor originates from *metaphorikos*, the Greek word for

transportation. Chia (1996) referred to metaphors as paradigm-shifters, a way of

exploring the space in between literal ideas and concepts. From the Greek interpretation,

metaphors are transportation vehicles, moving individuals through an endless intellectual

journey and bridging the ability to see what exists between one view of reality and the

next. When it comes to organizational analysis, metaphors are a method of de-ossifying

beliefs or constructs, which hold people back from being innovative, creative, resilient,

and, above all else, adaptive when faced with mortality.

Morgan (1981) saw the use of metaphor in multiple roles. Metaphors are

powerful and paradoxical. They manipulate language in order to "relax the boundaries of

thought" (Chia, 1996, p. 130) or restructure perceptions of reality, contributing to

cognitive development (Morgan, 1981). Some researchers, such as Pinder and Moore

(1979), Bourgeois and Pinder (1983), and Drazin and Sandelands (1990), relied on

metaphor in organizational analysis to reduce ambiguity, contribute to a preciseness of

the language, and create a literal view of the taxonomy of the organization. Within the

various typologies, there are two primary groups of metaphors: hierarchical and

nonhierarchical. Those that are hierarchical are placed along a spectrum with assigned

values, and those that are considered nonhierarchical are equal, left free of values, stature,

or importance.

The major contributors to the idea of hierarchical metaphors are Tsoukas (1991),

Black (1962; 1993), Schön (1993), Manning (1979), Morgan (1981), and White (1978).

Tsoukas (1991) used a model based on a comparison of corresponding features between

source and target domains and ranked the value of metaphors within five areas of

relational and characteristic similarities: abstractions, analogies, literal similarities, mere

appearances, and anomalies. The most valued of these metaphorical types is abstractions, which contribute to abstract concepts and the cognitive development of thinking about the source and target relationships. Morgan (1997) demonstrated the use of this type of relational transfer in support of abstract thinking in *Images of Organization*, where he compared organizations to organisms, cultures, political systems, psychic prisons, and instruments of domination. Moving to the lesser valued domains, analogies apply characteristics from the target to the source, where shared attributes are limited. Literal similarities transfer attributes from the source to the target domain; for example, "that beer is like water." Mere appearances lack much similarity between features of the source and target. Finally, with anomalies, the domains have almost no relationship or feature that is similar, making this the least useful form of metaphor for advancing new concepts (Grant & Oswick, 1996).

Other classifications of hierarchical metaphors include Black's (1993) comparison of strong or weak metaphors and Schön's (1993) delineation of those that are surface or deep. There are two features that make a metaphor strong: emphasis and resonance. Emphasis means that the language of the metaphor is so powerful, vivid, and expressive that there is no substitution, and resonance refers to the ongoing implications that continue to bring additional meaning to the metaphor. On the other hand, a weak metaphor provides no illumination or basis for discovery. Deep metaphors are those that reveal themes and characteristics, which provide a new perspective, and surface metaphors are the result of unearthing new meanings from deep metaphors as tangible substitutions leading to literal meanings. Finally, there is the trope of metaphor that seeks understanding based on the comparison of separate conceptual domains. Metaphor is the

source trope, the most basic form, and metonymy, synecdoche, and irony are pathways for metaphoric utilization. Metonymy is a form of comparative referencing between two different domains and acts as the most powerful counterpart to the metaphor (Morgan, 1996). For example, if an employee is referred to as "a body," that also speaks to the level of significance placed on numbers versus skills. The opposite of metonymy is synecdoche, which references a part of something to mean the whole. For example, it is synecdoche if a manager claims the need for 10 fingers and 10 toes to state a requirement for an employee. The last trope, irony, uses paradoxical allusion as a way to bring out the absurdity or ridiculousness of an idea (Grant & Oswick, 1996).

The analysis of organizations under the lens of metaphors has drawn much criticism. Pinder and Bourgeois (1982) focused on the literal aspect of organizational language and advocated for creating definitions and a shared language based on observable characteristics. There are three attitudes toward metaphorical analysis that are prevalent among social scientists. Chia (1996) referred to them as the appreciators, the depreciators, and the metaphorizors. Categorization and typologies of metaphor have evolved into a highly academic, formal discipline of study encompassing language, art, philosophy, and science. The history of its application is imbedded in language and culture. The power of metaphor presents itself to people at every turn and is credited by scholars as the basis for scientific discovery and innovation (Grant & Oswick, 1996). Sadly, it might have become too academic for its own good. In other words, in order for metaphor to be effective, it needs to be allowed to traverse the languages, the arts, and the sciences. As Clegg and Gray (1996) pointed out, "Metaphors are inevitable and useful. . . . No pure space exists outside their spell. They are part of our craft. They form our

life as researchers. Without them we would be nowhere that we could know" (p. 91).

People need to be permitted to use metaphors freely, outside of a strict academic

construct, and with an agreement that mistakes are permitted, in order to resurrect new

life out of *old* ideas, which may have their place now but were not discovered in the right

time and place.

There are two major sets of contributors in this exploration of the incomplete

discussion involving the metaphor of change. First, there is the Odum family, consisting

of William Odum and his sons, Howard T. Odum and Eugene P. Odum. The other is

James Lovelock and Lynn Margulis. In *Scientists Debate Gaia*, Lynn Margulis wrote,

> To me, the Gaia hypothesis, or theory as some would have it, owes its origin to a
>
> dual set of sources: the immense success of the international space program that
>
> began with the launch of Sputnik by the Soviet Union in 1957 and the lively but
>
> lonely scientific imagination, inspiration, and persistence of Jim Lovelock. Part
>
> of the contentiousness and ambiguity attendant on most current descriptions of the
>
> Gaia hypothesis stems from confused definitions, incompatible belief systems of
>
> the scientific authors, and inconsistent terminology across the many affected
>
> disciplines. (S. H. Schneider et al., 1991, p. 7)

Sharing an office at NASA's Jet Propulsion Laboratory (JPL) with Carl Sagan, a

discussion ensued between Sagan, Lovelock, and others on what determined the

habitability of Mars. Lovelock (2016)proposed an explanation for self-regulation saying,

"The air we breathe is constant in composition and this suggests that it must be regulated

by life" (p. vii). Although initially disagreeing, Sagan asked, if life regulates the

necessary exact composition of air, then is life regulating all things, which are required to keep the planet habitable (Lovelock, 2016)?

This study will hopefully resolve the converging paths of these theories, which are born from the roots of ecology but have a renewed promise to contribute to the modern federal government organization, by challenging Gaia to repair what is outside of her natural environment and to offer an updated prototype for the reorganization of a federal government bureaucracy.

Purpose of the Study

The case study examined a government organization that is using a form of metaphor in order to foster the structural reform. Using metaphorical analysis, the researcher intended to establish the significance of accounting for a "fourth dimension" of decision-making in structural change. The purpose of this study was to reinvigorate a theory of organizational structure and structural change using Lovelock's (2016?) Gaia hypothesis and associated ecological theories in order to examine structural change in organizations with this perspective in mind. Lovelock's original Gaia hypothesis proposed that life regulates the chemical composition of the biosphere in order to make the planet habitable. That regulatory role was eventually extended to other areas, such as climate, and eventually served to take what facts are known and organize them in such a way that people develop a different understanding (Lovelock, 2004). The researcher proposed that the species of an organized system exist in niches, constructed by said species. They adapt to changes through self-organization and self-regulate the environment to maintain life within the organization. Themes within the Gaia

hypothesis, derived from topics of ecology, include homeostasis, self-organization, niche theory, and the power of metaphor.

Public administration is a social science. Social scientists are charged with two responsibilities. First, the social scientist must analyze, assess, and define human behaviors, environmental and social conditions, propose causes, and determine probable consequences. When policy is imposed to change behaviors and conditions, the social scientist must investigate and assess the consequences. The second responsibility is to apply theories and methods to further the understanding of how the field of public administration as a social science may best analyze, assess, and direct the administration of policy and policy processes (National Research Council, 2012).

A review of the history of the literature, attributed with a significant contribution to the field of public administration, overlooked the organizational ecology movement of the 1980s. It is only through Graham Allison's address of the differences between public and private management presented by William Sayre (1958) that there is any indication that public administration experts may formally acknowledge a new direction. President Bill Clinton and Vice President Al Gore's agenda to reinvent government, spearheaded through a National Performance Review, was conducted in 1993. The Gore Report summarized the outcome of this effort, and the most notable recommendation was buried on page 89 of the 124-page summary. It is here that Vice President Gore, introducing privatization in government, called for chief operating officers to be assigned to every department and agency in the federal government in order to ensure that the priorities of the President and the agency director are implemented and that the principles, management cultures, performance improvement initiatives, and redesign of

administrative processes are achieved (Sundquist, 1995). By 1994, Gore expounded on his vision of a new federal government, calling for a humanistic approach. His resource list for this six-page article tells its own story of his inspiration through his citations of Warren Bennis, Herbert Kaufman, Douglas McGregor, John Naisbett and Patricia Aburdene, David Osborne and Ted Gaebler, Gifford and Elizabeth Pinchot, Tom Peters, Peter Senge, Frederick Taylor, and James Wilson. It is an impressive mix of some of the brightest contributors to the field of public administration and from the private sector.

This study was not concerned with finding new discoveries or revelations but rather addressed a gap that has been largely overlooked by the field of public administration by reinvigorating the notion of Gaia, the ecological underpinnings of all systems of organization and lessons that come from incorporating a holistic approach to change and decision-making among all organized systems, which does not preclude the federal government. Public administration is a profession made up of history, politics, philosophy, society, economics, philanthropy, and the sciences. Alone, each of these categories is immensely complex. Public administration is comprised of all of them because it is ultimately concerned with the coordination of humanity.

It is unlikely that there is much left to discover within organizational theories. The focus now shifts to putting organizational theories to work by applying concepts situationally to an organization, in the hopes that new views emerge. In order to do this, the researcher explored and applied the theories of ecological niche in the form of niche construction theory and the Gaia hypothesis by using metaphor to evaluate the feasibility of replacing the traditional public organizational structure with a private sector design although another purpose underlies the topic and the research. It is not uncommon for

public organizations to disregard forms of communication between the hierarchical lines of politics and the administration, which are critical for successful implementation.

The intent of realignment is not to cause misalignment, but the success of this requires a holistic approach, just as the Odum (1997b; 1998) brothers have defended. If the environment and the ecosystem are disregarded, then the politics have adopted the "wash-rinse-repeat" model of the last 40 years of government reform efforts. An analysis of the literature presented through the selected metaphorical typology, along with historical stories of change from the organization's history, showed that the study may be able to demonstrate how ecology is a natural metaphor for determining appropriate organizational changes, milestones, and adaptive actions. The politics–administrative dichotomy places an unnatural propensity to maintain separate government activities, or silos between parties, that must work together, politically and strategically aligned, in order to reach the intended goals. This dichotomy, presented in the form intended by our forefathers of public administration, contradicts the ecological metaphor for revising our view of structural change and, therefore, challenges Gaia.

In order to answer the research questions, the researcher examined a current federal government organizational structural realignment effort through phenomenological discourse obtained from oral histories collected by performing elite interviews with members of a federal organization. The analysis included examining how the politics–administrative dichotomy, one of the six pillars of public administration, fits in the modern federal government environment. Structure, change, adaptive capacity, and the natural propensity of an organization-based human ecosystem are topics of exploration in this phenomenological study.

As directed by the 2019 President's Management Agenda (Office of Management and Budget, 2018), the organization is shifting from a competency-aligned organizational structure to a mission-aligned structure. A comparative study of multiple reorganizations at another public organization, NASA, was used to provide a historical perspective of structural reorganizations in a government agency.

Using the foundations of metaphorical analysis, ecological niche theory, and niche construction theory, the researcher compared narratives from elite interviews centered on past structural change within the organization against the organizational ecology literature and a review of case studies and literature surrounding the significant reorganizations in NASA in order to explore the possibility of ecological modeling for change based on the Gaia hypothesis and associated ecological theories.

Research Questions

The intent of this research was to find answers to the following questions:

1. What did the lived experiences of the participants going through an organizational structural change or realignment reveal about the approach to decisions and communication?

2. What did the experiences reveal about the cultural view of structural change in this type of organization?

3. Does the history of change management through the lived experiences reflect a positive or negative cultural correlation for adapting to a mission-aligned organizational structure?

4. Did the experiences provide evidence that there would be benefits to adopting a more holistic or naturalistic approach to structural change or realignment?

Definitions of Terms and Key Concepts

This section provides an explanation and origin for terms and key concepts, assisting in creating a shared language of the organizational system within the ecological and metaphorical framework. The origins and accepted definitions assigned to these key terms served to build a foundation, bridging metaphor and ecology to the relevance of the organization as an ecosystem. Ecologists are concerned with everything related to the organism and above within the 10 levels of organization (see Figure 2).

PROTOPLASM	CELLS	TISSUES	ORGANS	ORGAN SYSTEMS	ORGANISMS	POPULATIONS	COMMUNITIES	ECOSYSTEMS	BIOSPHERE
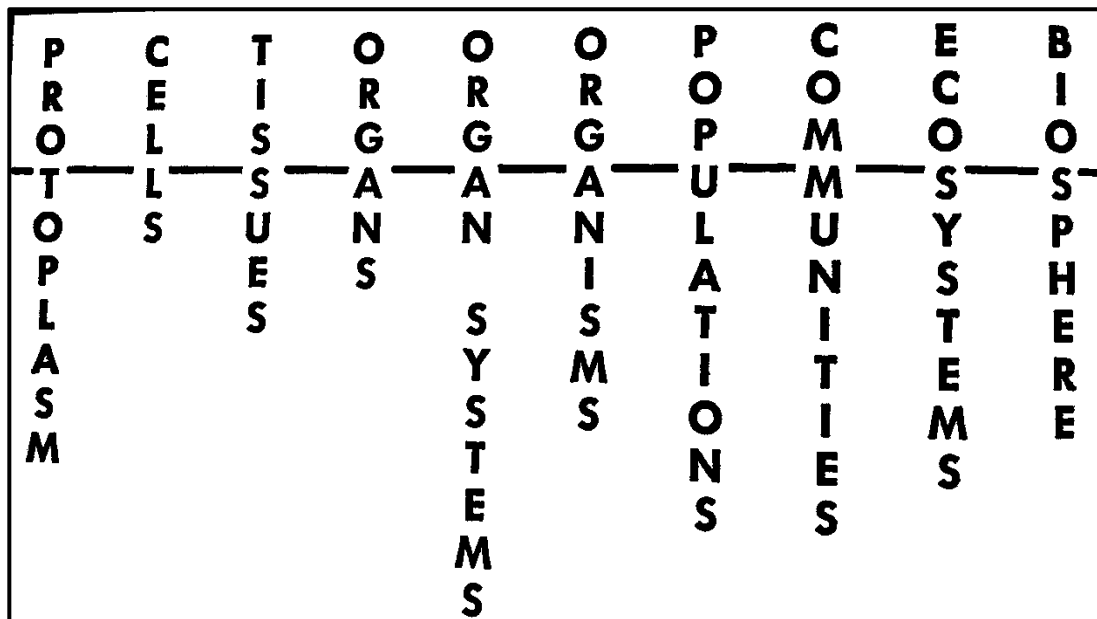
Figure 2. Eugene Odum's depiction of the biological spectrum. From *Fundamentals of Ecology* (2nd ed.), by E. P. Odum and H. T. Odum, 1959, p. 6 (Philadelphia, PA: W.B. Saunders Company).

Biosphere(s). Region or regions where ecosystems exist (E. P. Odum & Odum, 1959).

Bureau. A large organization in which output is not evaluated by external markets, and its employees are full time, receiving a majority of their income from the organization; its employees are hired, promoted, and retained through a work, role-

specific performance assessment; and where the highest levels of leadership have little personal interaction with at least 50% of the members (Downs, 1964).

Bureaucrat. A bureaucrat is an employee of a large organization whose majority of income is from the organization; who is evaluated based on role-specific performance for hiring, promotion, and retention; and whose output is not evaluated by any external markets (Downs, 1964).

Cybernetics. Cybernetics originated from the Greek for "steersman" (Lovelock, 2016). Cybernetics refers to an area of ecology that focuses on controls. Adopting the nature-contextual definition, cybernetics examines controls, which are caused by positive or negative feedback occurring within a system. Eugene Odum applied cybernetics to both social and governmental contexts. Cybernetics operates under two forms of control: homeostasis (feedback) and homeorhesis (set-point; E. P. Odum, 1997b, 1998; Oksanen, 1988; Patten & Odum, 1981).

Community. In ecology, community refers to all biotic populations living in an area (E. P. Odum & Odum, 1959).

Ecology. Ecology is from the Greek word *oikos*, which means *place to live*. Ecology is a subdivision of biology, involving the environment at the organismic level, populations, communities, ecosystems, and the biosphere. There are two subdivisions of ecology: *autecology*, which studies an organism or species; and *synecology*, which studies the groups of organisms that form a unit. Synecology is further partitioned into levels of organization such as populations, communities, and ecosystems. While the definition of ecology refers to the field of study concerned with organisms in their home environment, it has evolved into the study of interrelations, groups, functions, structures,

and systems. E. P. Odum and Odum (1959) provided the most widely accepted operational definition, which says that ecology is the study of the environment of organisms.

Ecological model. According to E. P. Odum (1997b), an operational ecological model consists of five features: properties (variables), forces (system-driving functions), flow pathways (energy/material transfers), interactions, and feedback loops (cybernetics). An effective ecological model assimilates a real-world situation in order to simplify complex situations for conceptualization and prediction.

Ecosystem. In ecology, the ecosystem is any area that houses living organisms (biotic) and nonliving substances (abiotic), and its properties influence each other and are necessary for maintenance. The broad conceptualization of an ecosystem is characterized as an open system, constantly transferring energy, organisms, and materials, which includes necessary relationships, causal relationships, and interdependences (E. P. Odum, 1998; E. P. Odum & Odum, 1959). Ecosystems are never self-contained, and they rely on input environments to feed the system and output environments to accept what the system no longer needs (E. P. Odum, 1984, 1997b).

Environment. Agreement on what characteristics define an environment is largely dependent on the context. Alley (1985) asserted that a consistent definition of environment has been largely absent from the literature. A widely accepted explanation comes from Tolman and Brunswik (1935) who described an environment as a "complex network of events, stimuli and happenings" (p. 43) that surround organisms. E. P. Odum (1997b) classified different environments by their context and then characterized the differences by typology. For example, a region that has forests, farmlands, lakes, and

grasslands is classified as a landscape environment. There are portions of this landscape environment that are fabricated, domesticated, and natural. Natural environments are either self-supporting or self-maintaining, and an environment is either an input environment or an output environment for an ecosystem.

Epistemology. Related to ontology, epistemology is the study of knowledge and how a phenomenon is understood, to include recognition of what is true and what is false (Burrell & Morgan, 1979).

Epoche. Epoche is detaching oneself from prejudgments and preconceptions in the course of performing phenomenological research (Moustakas, 1994). This is also called bracketing (Giorgi, 2006).

Folkways. Howard W. Odum (father of Howard T. and Eugene Odum) referred to folkways as culturally based customs, traditions, and patterns that extend from long-standing social forces and elements. Folkways serve to form a deep cultural bond and contribute to the slowdown of any cultural change (Rotabi, 2005).

Gaia hypothesis. This is a theory formally proposed by Lovelock and Margulis (1974) based on Gaia, the Greek goddess Mother Earth. The early version of the hypothesis stated that organisms actively participate in their own modification and control of the conditions of the biosphere. This contradicted the idea that adaptation is a passive event (E. P. Odum, 1997b). The Gaia hypothesis argues that the biosphere actively adapts to form conditions that maintain homeostasis (Levin, 2005; Lovelock, 2016; Lovelock & Margulis, 1974).

Gause's principle. Stated originally in 1917 by Grinnell, but formally developed in 1934 by Gause, it says that no two different species can share the same niche (Love, 1977; E. P. Odum & Odum, 1959).

Heterarchy. Heterarchy is a form of governance whereby authority is distributed (Miura, 2014).

Hierarchy. Hierarchy is linear ranking of authority associated with command and control structures (Miura, 2013).

Holism (holistic approach). Holism is a concept of "oneness." In ecology, E. P. Odum (1997b) claimed that this refers to the study of the parts and the wholes, arguing that while specialization is generally used to solve complex problems, disregard of the complete picture limits the possibilities, which may hold sustainable solutions. E. P. Odum (1998) hypothesized that along all fields of applied sciences, decision-making is optimized by accounting for the whole ecosystem.

Homeorhesis. Homeorhesis is Greek in origin, meaning "maintaining the flow" (E. P. Odum, 1997b, p. 71). It refers to stability (flow) in both evolutionary and ecological contexts at levels above the organism (E. P. Odum, 1997b, 1998).

Homeostasis. The Odums used homeostasis to explain not only self-regulation, resilience, and stability but also energy flow and energy cycles as compensating mechanisms as functions of control (Hagen, 2013). Unlike homeorhesis, homeostasis is applied at the organism level.

Institutionalization. Institutionalization refers to the means by which the elements and attributes of a formal structure are commonly recognized (Tolbert & Zucker, 1983).

Integration. In organizations, integration is the purposeful collaboration of departments or divisions, unified due to environmental requirements (Lawrence & Lorsch, 1967).

Major institutional change. Tucker, Singh, Meinhard, and House (1988) defined major institutional change by the significance of a historical event or events.

Niche. There is no simple definition for niche because the history of its examination is extensive. Vandermeer's (1972) historical summary provided the characteristics of niche through the primary overarching contexts of an individual's or population's place and role in the environmental or ecological niche, the inclusion of the habitat, the relationship between other species, food, competition, and occupation.

Ontology. Related to epistemology, ontology examines the essence and reality of the phenomena. It determines whether the phenomena are universally regarded a certain way, or is it a product of one's own mind or imagination (Burrell & Morgan, 1979).

Organization (noun). According to Downs (1964), "An organization is a system of consciously coordinated activities or forces of two or more persons which has been explicitly created to achieve specific ends" (p. 2).

Organizational transformation. Organizational transformation is when an organization changes at least one property as a response to a standard requirement (Tolbert & Zucker, 1983).

Populations. Populations are groups of organisms of any single like-type (E. P. Odum & Odum, 1959).

Regionalism. Regionalism is a tool used for social planning, based off of the notion of H. W. Odum's folkways. Regionalism refers to the science of social growth,

rebuilding, and reintegration and also considers social interrelations and coordination of the physical and social sciences in social planning. Regionalism is the remedy for sectionalism and supports sustainable development (Rotabi, 2005; Taylor, 1988).

Sectionalism. The relevance of sectionalism in the literature of the Odum family was surrounding the separation of the South from the Union, which created isolation, social inadequacy, and individualism among other negative and divisive group-social traits (Rotabi, 2005).

Self-organization. Self-organization is connected to the notion of adaptation but is unique within human ecology as an intentional manipulation that accelerates the pace of change and potentially modifies the natural course or intended result (Marney, 1971). E. P. Odum (1998) noted that in the context of human ecology, adaptation is something that humans perform with the tools they use to apply to different tasks, an extension of Darwin's examination of the differences between the beaks of finches located in different regions of the Galapagos Islands. Colinvaux said, "Man alone can change his niche without speciating" (E. P. Odum, 1998, p. 84).

Sustainability. The notion of sustainability applies to sustainable development, sustainable change management, sustainable community development, and sustainable implementation. In this context, sustainability is related to maturity as a goal for transitioning and growth (E. P. Odum, 1997b).

Tropes. Tropes is a reference to the types of metaphors. The trope is defined as the means by which two concepts are compared in order to create an understanding of one through the other (Grant & Oswick, 1996).

Organization of the Study

The study is arranged into five chapters. Each chapter builds upon the preceding chapter. Chapter 1 introduced the topic, problem, purpose, research questions, and the significance of the study, its relevance to the field of public administration, and definitions of terms.

Chapter 2 presents the contribution of literature to the topic and related themes. The chosen literature serves two purposes. First, it is the foundation of the argument for accepting the ecological perspective and utilizing an ecological metaphor as a more viable approach for analyzing the current environment, ecosystem, and species within an organization and using this analysis of the current organizational structure to best determine the necessary structural changes and the adaptation map. This is the revival of an old argument for adopting a new model for presenting change in the social sciences and in the federal government. Second, past experiences related to change in types of organizations are significant to this researcher's analysis of the adaptive capacity of an organization. A portion of the literature in Chapter 2 is dedicated to discussing the value researchers have placed upon the exploration of past experiences in order to provide evidence for new or revised theoretical approaches and the feasibility of integrating these theories into action.

Chapter 3 details the methodology for the research by introducing the intent, rationale, design, tools, instrumentation, supporting documentation, validity, limitations, strengths, and reliability. This also includes the procedures for data collection and analysis. Supporting literature and studies for the research methodology is outlined in this chapter.

Chapter 4 reviews the research methodology and data collection procedures. A synopsis of the elite interviews with meaningful passages and the results from the case study findings are presented.

Chapter 5 presents a comparison, review, and summary of the structural change models and a discussion of the resurgence of an organizational ecology movement as the basis of a theoretical construct for reorganization efforts.

Appendix A provides a list of acronyms and definitions. Appendix B outlines organizational and research-related documents for the structural realignment of the organization.

CHAPTER 2: REVIEW OF THE LITERATURE

The body of literature surrounding subtopics within the study is vast, particularly given the history of theories that contribute to the idea of combining ecological niche, niche construction theory, and metaphor to examine a government adoption of private sector methods for restructuring. The literature review focuses on the use of metaphor as a tool for analysis and theory building. The typologies of metaphor are explored to gain a deeper understanding, and the specific type of metaphor is identified for the purpose of the case study. There is a discussion of how the literature supported the application of the field ecology to the social sciences. Likewise, a case was built for the use of the organismic metaphor in the social sciences and how metaphor expands the perspective of the ecological niche and niche construction. Additionally, this examination focuses on how the topic and subtopics are relevant to the field of public administration. This was done by comparing the literature to areas of interest in the case study for a deeper understanding of how the politics–administrative dichotomy applies to the modern government organization.

The approach to the literature is, in itself, metaphorical. By adopting the language of ecology, the intent is to produce a deeper understanding and connection to the concepts, which supports the triple-loop learning method (Argyris, 1993; Senge, 2006). In other words, through language, the metaphor of ecology as a viable application to the discussion of organizational reorganizing is assumed from the outset.

Modern research relies on finding patterns upon which to build a research hypothesis. A theory is developed, a study ensues, research is conducted, and the proposed theory is either proven, disproven, or modified to match the outcome of the

inquiry. Exploratory research is somewhat different. A deck of cards that is cracked and shuffled demonstrates that there is a different perspective. Early studies in ecology and biology followed this exploratory path (Taylor, 1988). R. J. Schneider (2016) reminded his readers of the relationship between the natural world and their social views with Robert Ezra Park's point that "it was the application to organic life of a sociological principle—the principle, namely, of 'competitive co-operation'—that gave Darwin the first clue to the formulation of his theory of evolution" (p. 8) and that of J. Arthur Thompson who noted that Darwin "projected on organic life a sociological idea and thus vindicated the relevancy and utility of a sociological idea within the biological realm" (p. 8). The focus of this study was admittedly derived not only from direct observations but also from questions that formed through a metaphorical perspective. How do leaders in our modern government diagnose and solve organizational issues?

Documentation

The resources utilized for the literature review were primarily published books, peer-reviewed academic journals, and doctoral dissertations. Organizational sources are listed in Appendix B. Publicly accessed governmental or agency published documents that are relevant to the phenomenological case study are discussed in the final section of the literature review titled Looking Forward.

Historical Background of the Problem

In Chapter 1, the assertion was made that for a structural realignment of a public organization to be successful, there must be a shared understanding of the need, environment, history, resources, and goals. Issues related to an organizational

realignment form of structural change were explored by conducting a case study of a federal government organization.

As directed in the 2019 President's Management Agenda (Office of Management and Budget, 2018), some federal government organizations are switching from a competency-aligned organizational structure to a mission-aligned structure. An examination of the literature surrounding an arm of systems theory is organizational ecology. Organizational ecology reinforces evidence that niche construction theory provides a strong argument that competency alignment is inherent in any organizational structure. In addition, the history of the organization should be factored into determining the feasibility of a full organizational restructuring. A plan for organizational restructuring should be supported by the existing literature and organizational theory. An argument of feasibility should be supported by historical evidence.

In one such organization, as a way to present the need for this change to the workforce, stories in the form of vignettes are utilized to demonstrate current focus areas and promote new solutions to existing problems. A portion of the research looked at the use of stories, as a form of metaphor used as an argument for organizational change. These metaphorically encapsulate current ecological niches in the organization and address the construction of new niches. Using the foundations of metaphorical analysis, niche theory, and niche construction theory, the researcher looked at how stories contribute to arguing for a reorganization or restructuring. In the case of the organization in the case study, this translates to moving a competency-aligned organization (CAO) to a mission-aligned organization (MAO).

The practice of using biological references to describe social institutions is a universal method for creating a shared understanding of complex problems (Landau, 1961). The fields of political science, government, law, and administration have a history of using conceptual metaphor as a speculative validation of intuition. The field of ecology has been easily adapted to the social sciences through a method of metaphorical association. Organismic metaphors have revealed the social sciences to be a creative, organic, and humanistic approach to systems thinking, which is quite different from the mechanistic, industrial approach. This method better serves connecting people, establishing relationships, and fostering interactions, networks, and influences within the environment, to include the influence of other environments. The use of metaphor can strongly impact relevance, intent, interpretation, and opinions (Crotts et al., 2005; Morgan, 1997, 2011; Ostwick et al., 2002).

Ecology and the Social Sciences

Ecology (from the Greek word *oikos* (E. P. Odum & Odum, 1959) is a derivative field of study from biology, focusing on the arrangement of populations as organized communities and associations. The term *ecosystem*, defined as a community bound to its abiotic environment, was founded by the Oxford ecologist Arthur Tansley in the early 1930s. The first, most prominent ecologists in the United States, Frederick Clements and Victor Shelford, described ecology as the scientific study of communities. Eugene Odum, the father of modern ecology and the founder of the holistic ecology movement, viewed ecology as the "study of organisms at home" and defined ecology as "the study of the structure and function of nature" (E. P. Odum & Odum, 1959, p. 4). E. P. Odum and Odum (1959) stressed that nature includes mankind, and ecology stems from

environmental biology, the field from which ecology was born. Referring to the

biological spectrum from Chapter 1, Figure 2, ecology sits on the right side of the

spectrum, encompassing populations and communities. The biggest difference between

ecology and biology, according to E. P. Odum and Odum, is that the field of biology

abruptly ends with organisms in the spectrum. In ecology, the spectrum is not broken. In

a holistic approach to ecology, the whole spectrum is viewed as interdependent and

interrelated relationships, necessary for the survival of anything that exists within the

spectrum, ranging from a cellular level to the universal (Goldsmith, 1988; E. P. Odum &

Odum, 1959).

The argument that the biosphere acts as a regulating force created an entrance for

Gaia. At the Dahlem Conference in Berlin, in November 1987, James Lovelock, an

atmospheric chemist from England, was asked about the role of Gaia in a current paper

about clouds, climate, and dimethyl sulfide. Another attendee interjected saying, "We are

here to discuss serious science, not fairy stories about a Greek Goddess" (Lovelock,

2004, p. 20). The "hard" science approach, whether it be in geophysics, biology, or

geology, was, and is, the framework of serious discussions about Earth and all the issues

relevant to mankind. When James Lovelock and his collaborator, American

microbiologist Lynn Margulis first introduced the notion of Gaiaean science to the

community, the biologists first recoiled and then pounced, arguing that the notion of

Earth as a living organism, which could induce natural selection for self-regulation, was

ridiculous (Lovelock & Margulis, 1974). Lovelock (2004) agreed with the biologists in

the strictly biological sense; however, the development of a new theory is its own

evolutionary process, and the hypothesis of Gaia was about organizing facts in order to

develop a new understanding about the sustainability of a system, starting with the biosphere. A hypothesis is nothing more than a supposition of results, a guess at an answer to the question. The failure is in finding that there is no answer, not that the answer is one that you did not expect (Lovelock, 2004).

For Lovelock (2004), Gaia was a metaphorical representation of a living Earth, which sought homeostasis through processes of self-regulation. To that end, he was proven correct. Among the many discoveries made through the use of Gaia, he confirmed that Earth was managed by a bacterial ecosystem, oxygen levels must be mixed at a 15% to 25% ratio for regulation, tree growth in tropical and boreal regions is coupled with regional climates on land, planetary self-regulation requires biodiversity, and modeling systems can prove theories that may seem absurd. The Amsterdam Declaration issues on July 13, 2001, stated, "The Earth system behaves as a single, self-regulating system comprised of physical, chemical, biological and human components" (Lovelock, 2004, p. 20). Lovelock's Daisyworld model proved that self-regulation occurs when the biota and the environment are closely coupled.[1] Self-regulation is a property born from a unit of evolution in the Earth system (Lovelock, 2004; Watson & Lovelock, 1983).

Ecology has moved from being a sect of biology to a discipline, which is scaled to study whole systems not only along the biological spectrum but also within other academic disciplines, and is the basis for E. P. Odum's (1997a) holistic approach to

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[1]Daisyworld is an artificial planet model, which was developed to explore the coupling of the global environment and the biota. This is discussed in more detail in the section on the Gaia hypothesis. An interactive reproduction of the original Daisyworld model can be found at the following website: http://www.gingerbooth.com/flash /daisyball/DaisyBall.html.

ecology. He argued that modern science can no longer afford to serve only the scientific community and must shift to serve the long-term requirements of society (E. P. Odum, 1997a). Lovelock (2004) agreed and claimed that theories produced in disciplinary silos will no longer serve mankind well, calling for "the abolition of disciplinary boundaries" (p. 25).

Early ecological studies formed the basis for organizational ecology theory. For example, Hutchinson's (1948) examination of the biodemographic of organisms in a stable ecological system showed that when food supplies are constant with two populations in competition niche, variety exists, which establishes population and food supply stability. In prey-predator studies, the limits for stability can be portrayed through defining the outer limits of the population. The foundation for this study was a qualitative review of known ecological phenomena. The theory was developed through mathematical modeling of prior research and through metaphorical analysis. These observations and calculations were later adopted by several organizational ecologists, to include Hannan and Freeman (1989).

From a metaphorical perspective, many concepts traditional to the field of ecology have applications in the organizational systems model. For example, concepts such as heterarchy, defined as distributed governance, usually hold a domain within anthropology but could be used to resolve hierarchical communication. Feedback, a characteristic of hierarchical systems, supports a circular neural network rather than a linear, columned approach to the organizational model and could assist in a person in understanding changes to organizational structures such as mission alignment (Crumley, 1995; Miura, 2014; Singh & Lumsden, 1990).

Lovelock (2019) wrote, "Our deepest thoughts are unconscious, and we need metaphors and similes to translate them into something that we, as well as the rest of humankind, can understand" (p. 3). Metaphors and metaphorical analysis can lead to the development of new ideas. For example, applying metaphors to observations of the behaviors of organizational populations reveals tendencies and trends but is often shadowed by the theory itself. Singh and Lumsden (1990) asserted that biological metaphors are critical to organizational modeling because the change in organizational and biotic populations is quite similar; however, they caution theorists to maintain a sense of reality when comparing evolution and evolutionary science to organizational ecology because of a tendency toward overgeneralizability.

Another common theme of populations is natural selection. Darwin (1871) believed that the struggle to survive compelled natural selection. Natural selection is the outcome of the process of modification, which either generates a positive or negative relationship between an organism and its environment and results in life or death (Day, Laland, & Odling-Smee, 2003). Natural selection accelerated evolution through causality. Dobzhansky (1937) suggested that Darwin's original position with regard to the causes for natural selection is largely overlooked by evolutionary scientists and that "all these changes have arisen from causes which now continue to be in operation and which therefore can be studied experimentally" (p. 7). Rather, the focus has remained on proving the truth of evolutionary theory and providing explanations for the gaps. In 1930, Fisher argued that evolutionary change was also enabled by the way of random events, founder effects, and unexpected factors (chaos), which either linger on the border or step far outside the boundaries of natural selection theory (Hannan & Freeman, 1989).

In organizational ecology, the problem of change and populations defaults to an explanation based on natural selection over adaptation. This may be a flawed analogy because adaptation is central to self-organizing and complex systems (Crumley, 1995). In an ecosystem, self-organization forms the elements required to maximize available "free" energy (W. E. Odum et al., 1995).

Modeling substantiates theory building. Much of the research focused on binding organizational growth, decline, or mortality in early theories of ecology tends to be empirical, based on model testing. In the 1970s and 1980s, Hannan, Carroll, and Freeman (Carroll & Hannan, 1989; Hannon & Freeman, 1988, 1989) were particularly fond of this method for testing theories within organizational ecology. Limitations stemmed from the organizations used for testing because they were highly specialized, such as labor unions, the brewing industry, semiconductor manufacturers, newspapers, and local telephone companies. Carroll and Hannan (1989) modeled organizational population density dependence on data collected regarding the density of these five industries at the time of founding to determine whether there was an effect on mortality. This study considered factors that could delay the effects of density such as niche packing and resource scarcity but also realized that the model required an understanding of life history, strategic orientations, size at founding, growth patterns, and resource endowments. The historical relevance of an organization should never be overlooked in theory or model development.

Empirical model testing provides little in the way of answers and serves to amplify gaps in understanding; nevertheless, within the social sciences, this method is still popular, and the experiential observations provide useful information when it comes

to the metaphor of natural selection. Organizations, unlike ecological environments, are unique, as asserted by Dobzhansky (1937) and Fisher (1999). While ecologies may be subject to random and violent events, over time their systems become inherently stabile. Organizations may appear stable, but the elements of chaos are far more subject to calculation and external strategy.[2] Hannan and Freeman (1989) contributed to this argument, saying that the lack of genetic coding in an organization, which is inherent in a biotic environment, exposes the ecosystem to manipulation and the uniquely human trait of "persisting" (p. 143). This runs parallel to Darwin's observations of the natural environment and Thoreau's dialogue about the place of man (Carroll, 1988).

The term *homeostasis* is credited to Walter Cannon (1939), a Harvard physiologist, who contributed to the philosophy of systems and cybernetics. In physiology, homeostasis is indicative of self-regulation. E. P. Odum and Odum (1959) furthered the concept to not only include ecosystems but also to explain human behavior in organizations, bridging the biological sciences and the social sciences. In ecology, a state of homeostasis could be a result not only of self-regulation, resilience, and stability but also of energy flow and energy cycles as internal and external compensating mechanisms as functions of control. E. P. Odum and Odum regarded homeostasis as the holistic union between three categories of study, serving as a universal characteristic within all biotic systems; serving as a framework for thinking about ecosystems and systems; and serving as a metaphor for the phenomena of harmony, stability, and self-regulation. Eventually, E. P. Odum built a humanistic view into this philosophy in which he addressed the nature of human relations and the human interaction with the

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[2]General systems theory and closed and open systems theory are discussed further.

environment as "host" and "parasite," mutualism and cooperation (Hagen, 2013). The literature of organizational ecology tends to emphasize natural selection over adaptation. This may be a flawed analogy because adaptation is central to self-organizing and complex systems (Crumley, 1995). In an ecosystem, self-organization forms the elements required to maximize available "free" energy thereby allowing for changes in capacity for organisms and their environment (W. E. Odum et al., 1995).

Ecology and the Social Sciences as a Metaphor

Metaphors are used for the purpose of conceptualization, representation, association, and to increase emotional understanding (Fetterman, Bair, Werth, Landkammer, & Robinson, 2016). The value of the metaphoric experience is surpassed only by substitution of direct experience, but metaphor has the ability to take people from being spectators to actors. Through the use of metaphor, they may transform a one-dimensional set of spectacles to a multidimensional borescope, accessing those spaces that are normally inaccessible because humans are bound by perception, culture, experience, and language (von Bertalanffy, 1955).

Methods of Metaphor

There are several methods for using metaphor. Of these, organismic metaphors have offered the social sciences a more creative, organic, and humanistic approach to systems thinking over the mechanistic, industrial approach. This method helps people connect relationships, interactions, and influences within the environment and as an influencer of other environments. According to Morgan (1997), for organizations that are young, in flux, or undergoing change, this approach shifts the focus of the analysis from goals and endpoints to survival and processes. Von Bertalanffy (1955) preferred to

substitute structure for survival because he took a more bio-psychological approach to the notion of finding different facets of reality within a relativist construct. The organismic metaphor looks at the diversity of organisms in an ecology and considers choice, structure, and environmental factors toward outcomes although the perspective may differ depending on a preference for contingency theory or population ecology (Morgan, 1997).

One common function of metaphors in organizational development is to promote organizational change. When it comes to the power of metaphor toward rationalizing an organizational theory of structure, Landau (1961) noted that a strong metaphor can be significant for establishing relevance, clarifying intent, framing interpretation, and forming and defending opinion. He argued that empirically, it may make sense to apply biological references to social institutions in order to understand complex problems, but any evidence that metaphorical correlations between political constructs and theories of biology or evolution can be useful is too highly generalizable to expect reproducibility or sustainability. He did concede that political science, government, law, and administration have a history of using conceptual metaphor as a speculative validation of intuition, and Fetterman et al. (2016) recognized that metaphoric conceptualization can be dangerous if it grossly departs from the facts at hand because it compromises the intent of truth finding, leading to confabulation and irrationality.

Metaphors can present some slippery slopes. As far as limitations are concerned, Morgan (1997) agreed that there is a danger for the metaphor to establish an ideology just as F. W. Taylor's (1911) theory of scientific management disregarded the human aspect of the human resource, assuming that all workers are motivated similarly and make

choices using the same assumptions and framework. Organismic metaphors may suggest that all people act solely on external forces or through adaptation when, in fact, all humans are individuals who shape their decisions within personal constructs, which may or may not be vulnerable to metaphorical suggestion.

Bearing this in mind, it is advisable to maintain a balance between the metaphorical construct and the framework to which it is being applied, which means that a thorough analysis of the organization should be conducted prior to developing the metaphor. For example, using a metaphor to highlight theories of motivation, or determining an open- or closed-systems approach, will hold more validity to those individuals who process information through literal and metaphorical mindsets (Fetterman et al., 2016).

From Gaia Hypothesis to Gaia Theory

The Gaia hypothesis, after Gaea the Greek goddess of earth, is an idea conceived by independent scientist James Lovelock in the mid-1960s. He was working at the Jet Propulsion Laboratory in Pasadena, California, at the time. He had been invited there to develop a way to detect life on Mars. Seeing pictures of Earth from the perspective of space caused him to consider Earth as a whole, rather than at the molecular level (Joseph, 2000). As a hypothesis, Gaia "was meant to account for the long-term stability of Earth's environment, which had kept the Earth habitable by life for billions of years in spite of external perturbations, such as the increase of solar luminosity" (Dutreuil, 2018, p. 4). To achieve this, Lovelock and his longtime collaborator, Lynn Margulis (1974) proposed the following hypothesis: "The total ensemble of living organisms which constitute the biosphere can act as a single entity to regulate chemical composition, surface pH and

48

possibly also climate" (p. 3). The regulatory properties of all living things interact with the geological environment to create homeostasis (Dutreuil, 2018).

The Gaia hypothesis was largely rejected by the scientific community, particularly the planetary scientists, chemists, and evolutionary biologists. Lovelock (2016) defined Gaia as "a complex entity involving the Earth's biosphere, atmosphere, oceans, and soil; the totality constituting a feedback or cybernetic system which seeks an optimal physical and chemical environment for life on this planet" (p. 10). The concept proposes that the earth's biota, or ecology, formed as an automatically self-regulating system between the life forms and the environment (Lenton & Lovelock, 2000, 2001).

The concept of Gaia was a holistic, soft-science appraisal of the clues exhibited by the earth's self-regulation process and adaptation (Lovelock, 2004). Gaia refutes disciplines, which prefer to exist in stovepipes, and embraces abstract and multidisciplinary thinking. Bounded nomenclature can be restrictive, and Gaia challenges definitions that traditionally exist in these siloed disciplines. Other critics, such as evolutionary biologist Stephen Gould (1997), said that the Gaia hypothesis is a metaphorical explanation of the earth's activities and not meant to be taken literally. Richard Dawkins, another evolutionary biologist, argued "that organisms could not act as a unified group because this would require foresight and planning" (as cited in Shamsudduha, 2017, p. 59). Earth scientist James Kirchner expanded on Gould's words to say that it was a combination of "fact, theory, metaphor and wishful thinking" (as cited in Shamsudduha, 2017, p. 59) and would not be scientifically proven. The lack of scientific language and the spiritual nature in which Lovelock presented his hypothesis did little to defend any pro-Gaian arguments (Shamsudduha, 2017).

The turnaround came when James Lovelock collaborated with ones of his students, Andrew Watson (Watson & Lovelock, 1983) to challenge the naysayers of the scientific community by developing a model of the hypothesis. They called it Daisyworld (Shamsudduha, 2017). This artificial planet model was developed to explore the coupling of the global environment and the biota. The model, a representation of earth and two species of daisies, white and black, presented a competitive ecosystem. Changes in temperature, sunlight, available earth space, albedo combinations (light reflection), and species-specific propagation led to the proposition that "the temperature of an environment could be regulated by two competing species of plants living in the same environment so that ultimately an optimal temperature is reached" (Shamsudduha, 2017, p. 60). Daisyworld proved this hypothesis. Most notably, the model was accepted by mathematicians and most scientists and led to establishing Gaia as a theory (Lenton & Lovelock, 2000, 2001).

The early version of the hypothesis states that organisms actively participate in their own modification and control of the conditions of the biosphere. This contradicts the idea that adaptation is a passive event (E. P. Odum, 1997b). Cybernetic systems are based on circular feedback and are self-regulating, liberated from linear forms or cause-and-effect assumptions, which may rationalize choices. These systems are open to seize chance opportunities, capture and store free energy, modify the environment for adaptability, exercise homeostasis, and redefine presupposed limitations and boundaries based on self-organization. These are also the characteristics of Gaia, which seeks perfection without ever attaining it, but, because perfection is the goal, the feedback loop operates in a variable state that is regulated, responsive, and all the while striving to

maintain homeostasis as the preferred condition. If scientists accept that adaptation is purposive, then they must acknowledge that all living systems embody a level of intelligence to which decisions are made. Whether an organism determines the fitness or hazards of an environment, or a preference for temperature, in order to supply the right answer to the questions, intelligence exists, even if it is more automated in some than others (Lovelock, 2016).

While the early iterations of the Gaia hypothesis were weak, they had a leg to stand on. Goldsmith (1988), one of the foremost critics of Gaiaean theory, withdrew his original denunciation saying that "Gaia can only be understood in terms of the structure and function of living things" (p. 4), referring to the relative perspective and metaphorical analogies that bolster our manipulation of reason. Even Kirchner has admitted that Gaia has done the scientific community well by provoking a cross-disciplinary approach to thinking about problems and by expanding existing research into other academic and practical disciplines (Shamsudduha, 2017).

On July 13, 2001, the scientific communities of four of the most prominent global change research programs met in Amsterdam to finalize and sign a Declaration on Global Change. The declaration stated, "The Earth System behaves as a single, self-regulating system, comprised of physical, chemical, biological and human components. The interactions and feedbacks between the component parts are complex and exhibit multi-scale temporal and spatial variability" (International Geosphere-Biosphere Programme [IGBP], 2001, para. 3). Lovelock's (1965) analogy of self-regulation and adaptation was not so crazy after all.

Organizational Ecology

Organizational ecology is rich in metaphor for its extrapolation of a variety of disciplines, from the biological sciences to the social sciences, relative to organizational environments. In their book titled *Organizational Ecology*, Hannan and Freeman's (1989) pivotal dive in this theory applied themes that connect concepts between ecology and organizations. Adaptation, environment, evolution, niche, and change are represented in the context of organizations, but there is much earlier literature that explores these notions in a similar fashion. Much of the modern literature centered on systems theory and specifically on organizational ecology refers to Hannan and Freeman's text and the studies performed by Hannan, Freeman, and Carroll (Carroll & Hannan, 1989; Hannan & Freeman, 1988, 1989); however, there were many predecessors from multiple disciplines, which formed the basis for their contributions.

Haire (1959b) presented his biological model of organizations at a symposium hosted by the Foundation for Research on Human Behavior. As previously discussed, pure biology differs from ecology along the biological spectrum, but Haire's approach examined not only the organism where pure biology ends but also the factors that regulate stability, such as the environment. Haire called this ecological equilibrium. Whether one is studying organisms as individuals or as an aggregate, Haire argued that organizations suffer from the integration of individual organisms into a functioning unit where functions were coordinated and specialized and communication was cohesive. Haire also maintained that the external pressures of the environment on the organisms could be expressed geometrically. An increase to the size of an organism demands a change in the internal shape and structure. Respective to the organizational hierarchy,

Haire defined a supervisor as one who is responsible for more work than is possible for a single person. At the point that the pressure exceeds the capacity, subordinates are assigned, and if too many subordinates are assigned, then subordinates are created. The structure is hierarchical, geographically distributed by the same types of work placed on a vertical axis and by special competencies along a horizontal axis. Additionally, Haire drew a strong requirement to maintain a separation of functions between the line—those who create—and the staff—those who support. Although Haire (1959a, 1959b) seemingly supported the hierarchical, competency-aligned structure in his biological model, his editorial introduction acknowledged Likert's (1959) proposal for cross-functional goals, which maximize adjacent connections among the same organizational levels.

Likert (1959) did not relate much in his work in the study of organizations to the ecological model but for the lines of control within organizational structures. To this, he claimed that hostility and negative competition is increased in autocratic organizations where subordinates must fight for recognition. Hierarchical structures contribute to a dictatorial nature. Conversely, organizations that shun the traditional organizational chart instead opt for structures that promote teams and groups for effective functional clustering. Likert's functional group was effective because it encouraged suggestions, solutions, and decisions that best serve all stakeholders and rejected such decisions that further hand-selected individuals. Suddenly, communication becomes more open, motives are transparent, implementation of group decisions is streamlined, goals are achieved more quickly, and motivation is higher. While there are still supervisors, the

cross-functional matrix focuses on the agreed-upon goals, and the ultimate success or failure is a team effort (Likert, 1959, 1961).

Lawrence and Lorsch (1967) viewed organizations as open systems and highlighted the interrelatedness of the members within the organization, the formality, culture, tasking, rewards, and controls. They were largely concerned with the functioning of large and complex organizations through differentiation, integration, and adaptation.

Emery and Trist (1973) approached organizational ecology from an evolutionary and forward-seeking strategic perspective. Organizations are viewed as clusters of ecosystems with all their relative environments and interorganizational structures. Policy and administration are closely aligned, and they recognize that the prevailing patterns of the politics and administration are ever evolving toward new, symbiotic functional goals. Table 1 lists the evolution of the politics–administrative direction pre-1970s and 1970s and beyond direction.

Structures and Change

Organizations are strategically built upon structural theories, which are representative of the need for coordination and control of resources, networks, exchanges, and boundaries. Institutional organizations are more formalized based on the levels of hierarchy, ranks, positions, and the number of departments, divisions, programs, and stakeholders. Policies, goals, and strategy justify the requirement for the formality of the structural elements. The more formal the structure, the more "Weberian" the bureaucratic organization is expected to be (Meyer & Rowan, 1977).

Table 1

Politics–Administrative Functions and Directions

Strategic focus	Former direction	Updated direction	Concern of politics	Concern of administration
Crisis	Responsive	Anticipative/ predictive	*	
Measures	Specific	Wide-ranging	*	
Consent vs. participation	Requires consent	Requires participation	*	
Conflict	Avoidance	Confrontation	*	
Planning	Short-term	Long-term	*	
Control	Detailed and centralized	Generalized and centralized		*
Government units	Small	Enlarged		*
Administration	Standard	Innovative		*
Services	Separate (stove piped)	Coordinated		*

Note: Adapted from *Toward a Social Ecology*, by F. E. Emery and E. L. Trist, 1973, New York, NY: Plenum.

Research performed by Hannan and Freeman (1989) on the impact of labor unions demonstrated that major institutional changes will significantly impact ecological dynamics in a population and will increase the death of the current population. Additionally, "Increased knowledge (by policymakers) of the complex ecological and institutional dynamics involved may be of help in more informed policy formation" (Tucker et al., 1988, p. 150). The principle of isomorphism states that those who are assigned to the same environments and environmental conditions will organize and form analogous internal arrangements, using like forms of communication and interactions and will conform to standardized procedures or rules. Diversity is dependent on the agents that influence key resources required by the environment. Hannan and Freeman (1988) agreed with Meyer and Rowan (1977) holding that when institutionalized organizations

meet demands for multiple resource holders, the organization has several substructural compositions, which are loosely coupled to the relative stakeholder, instead of a single heterogeneous structure within a single environment. The adaptive environment is symbolically structured as a reflection of the stakeholder requirement. This strategy of ritualistic conformity described the smoke-and-mirrors tactic organizations may use as a method for adaptation to an unstable environment. As quickly as one form is assumed for one need, another form may be substituted to meet the next requirement (Hannan & Freeman, 1989). While maintaining an appearance of isomorphism, the organization actually adapts to multiple environments. This state of homeorhesis allows the organization to accept additional resources when available and conserve when resources are scarce (E. P. Odum, 1997b, 1998).

According to Downs (1964), "Bureaus are traditionally accused of having insatiable appetites for growth unrelated to the true importance of their functions" (p. 23). Sustainable expansion of the organization should be at the forefront of decisions that impact the size of the operational environment, and yet, all too often, the decision makers sit too far away from the relevant information required to make decisions, which effectively acknowledge the capacity of the institution and its workers. In an age of business where innovation is more prized than stability, this puts top-level executives in a tough position. Viewed as a form of immobilism, conservatism is no longer a desirable trait in the private sector, and this has bled over to public and military organizations (Stultz & Buchanan, 2016).

Organizational expansion is desired for five reasons: to attract new personnel and retain desirable personnel; to increase the power, prestige, and financial rewards of

current leadership; to boost morale; to create a favorable view of agency performance, thus increasing the chance of survival; and to increase funding streams and justify requests for funding allocations or reallocations (Downs, 1964).

The Niche

There is no simple definition of niche, but it is more of a historical review of the evolution of thinking and adaptation of a basic concept, which continues to permeate discussions of how organisms and populations relate to their environment. The earliest use of the term was possibly by Roswell Johnson in 1910 to refer to an environmental place occupied by a single species (Pocheville, 2015). Grinnell proposed a conceptualization of niche in 1917 as a "place [that] encompassed everything that conditioned the existence of a species at a given location, including abiotic factors . . . and biotic factors" (Pocheville, 2015, p. 549). In 1924, Elton Gause referred to niche as the "role of a species within a community . . . its functional position and activity within the larger whole" (Love, 1977, p. 27). In 1927, Charles Elton used the niche to describe the work of a population (Hannan, Carroll, & Pólos, 2003). E. P. Odum and Odum (1959) defined niche in terms of the organism in its ecology, saying that it is "the position or status of an organism within its community and ecosystem [and that] the ecological niche of an organism depends not only on where it lives but also on what it does" (p. 27). Hutchinson (1948) proposed that the niche is two-dimensional, encompassing not just the individuals and population but the habitat, its properties, and the relationship between the population and the environment (Khatibi & Sheikholeslami, 2016; Love, 1977; Smith & Skelly, 2011).

Alley (1985) warned that the concept of niche should not be linked to a species, class, or type as an element for analysis, primarily because constraining the universal application of niche severely limits the value it brings to the sociological discussion. W. E. Odum et al. (1995) considered niche as frequencies of input energy, which may be desired by an ecosystem, particularly during the self-organization process when the population is at its most capable to modify ways to capture new forms of energy. When ecosystems are in a chaotic state, steady, pulsing oscillations of energy inputs do much to stabilize and promote self-organization. Thus, one niche is the form and delivery of energy and the other is accepting energy pulses in order to fully reorganize. Succession is significant in order to maintain ecosystems.

The concept of niche construction (NC) was introduced in the literature by Richard Lewontin in his critique of theories supporting the passive adaptation of organisms in their environment; however, John Odling-Smee is credited with the term, "niche construction" (Laland & O'Brien, 2011) defined as "the process whereby organisms, through their metabolism, their activities, and their choices, modify their own and/or each other's niches" (as cited in Scott-Phillips, Laland, Shuker, Dickens, & West, 2014, p. 1232)

NC is applied learning by means of agent interaction within the niche population. While the intended interaction specifically refers to niche of the organisms that inhabit it (Constant, Ramstead, Veissiere, Campbell, & Friston, 2018), agents of NC may modify other populations (Constant et al., 2018). There are six forms of organism activity in NC: counteractive, inceptive, negative, perturbational, positive, and relocational. In counteractive NC, the perturbing activity of some set of organisms nullifies or reverses a

prior change. Organisms in inceptive NC either disrupt or relocate the environment by means of where new changes are introduced. Negative and positive NC refer to the respective decreases or increases to the fitness of the individual organisms. Perturbational NC results in a physical change to its external environment. Finally, relocational NC occurs when the organisms are moving freely, making choices that determine direction. They may affect any number of environments through free choice and likewise may undergo their own adaptations and incur byproducts (Day et al., 2003; Scott-Phillips et al., 2014).

Central to the NC perspective is the influence an organism invokes on self-evolution, creating conditions based on selection. In other words, the organism chooses its own evolutionary path to meet the planned environmental modification. One of the controversial areas of NC is a confusion between the effects of byproducts and adaptations in the evolutionary process (Laland, 2012; Laland, Matthews, & Feldman, 2016). The theory makes a distinction but includes byproducts into the analysis of adaptations (Laland et al., 2016).

The Environment

As stated in Chapter 1, any defendable definition for the environment is contingent on the context. Alley (1985) contended that the meaning of environment is usually absent from the literature. The most tangible and broadest characterization comes from Tolman and Brunswik (1935) who defined it as the "complex network of events, stimuli and happenings" that surround organisms (p. 43). Other definitions include one by Hutchinson (1948) who proposed that an environment is a set of conditions in which organisms (or groups of organisms) live. Alley (1985) defined it as "any potentially

influential properties of the surroundings of the organism(s) under consideration"
(p. 413).

According to Trist (1977), it was just after World War II that organizations started to recognize that the closed-system view of organizations was flawed: "The boundary was permeable, penetrating and being penetrated by its environment" (p. 162). Consequently, the notion of *environments* started to appear in academic discussions surrounding organizational ecology. This moved organizational theories beyond task or transaction and assigned contextual layers and internal differentiation. The separation between a metaphorical environment and a real-world organizational environment was minimal, so it is not surprising that noninteracting disciplines started to converge. E. P. Odum and Odum (1959) wrote that the environment is the most obvious independent variable in most studies because it is the element that is most heavily affected through biological inputs. E. P. Odum (1984) talked about building hypotheses about the environment within the mesocosm, that world which exists between the microcosms of a laboratory and the macrocosm of real-world events. Von Bertalanffy (1955) espoused the notion of reflection, a human attempt to reconcile opposite constructs, suggesting that in order to assimilate the habitat's structure and activity processes, the living organism speaks and behaves in a way that represents its own perspective of reality. Kieser (1994) integrated evolution, niche, and adaptation into the discussion with his concept of evolution mechanisms, arguing that organizations are resilient to innovation and change and are likely to manipulate or plan for a forced adaptation prior to implementation.

By and large, the early literature on bureaucratic environments describes the composition of the organization, but the lived experience is generally missing. In *Inside Bureaucracy*, Downs (1964) outlined the bureaucratic environment relative to the roles people play and the range of institutional settings, such as democratic, monarchical, or totalitarian. Research on the history of bureaucratic literature performed by de Jong (2016) found that in bureaucratic dysfunction, four major facets emerged: red tape, government (referred to as statecraft), structure, and culture. The relationship between structure and culture traces back to the work by Merton (1957b) and might be one of the most significant links between the bureaucratic organization and ecological theories. Taking Weber's (2012) claim that a bureaucracy is a type of organizational structure, he believed that the bureaucracy also has a cultural influence on society. By influencing the personalities of those who work in the bureaucratic structure, the workers develop and adopt cultural norms, which are exercised within the organization, maintained among themselves, and funneled into the public social system (Merton, 1957b).

Aligning Theory Analysis

The systems theory approach for theoretical framing is an appropriate fit for the study of public administration due to its holistic, interdisciplinary nature and the rigor afforded to understanding "the problem of systems"—those interactions and variables that are unknown (Pouvreau, 2013; von Bertalanffy, 1955, 1969). An open systems theory addresses the ability of an organization to adapt to environmental changes or the introduction of changes to the organizational environment, which may foster growth or result in its decline or death. Within the latter perspective, organizational ecology theory provides the researcher a sort of mesocosm in which to conduct an analysis of how

ecosystem restructuring could result in less-desirable outcomes (E. P. Odum, 1984; Yun, 2015).

Bureaucratic Environment

Bureaucracies are adversely attached to a history that neglected the passion of the human quality of work. There is a pervasive misconception that bureaucrats operate robotically, characterized only based on functions and deliverables provided to a nameless and faceless set of stakeholders (Downs, 1964). As modern views move to postmodern views of bureaucracy, disregard for humanity has started to shift. In today's bureaucracies where equality is associated with diversity, and diversity is necessary for active representation, the human side of these organizations has moved to the forefront. Is it possible for the evolution of the social demographic to be matched in a bureaucratic environment? This is certainly expected of the modern public servant, but this must allow for intraorganizational evolution in order to continue being relevant. If the environment is changing, then so must the organisms in the environment. Ecosystems exist because those who live in it are interrelated (Darwin, 1861; E. P. Odum & Odum, 1959). Linnaeus, forefather to Darwin, used the notion of politia civitatis as a reminder that everyone has a purpose of role and a place in the hierarchy of the ecosystem, which maintains its stability (Pearce, 2010).

Metaphorical Analysis

Morgan (1997) expounded on the use of the organismic metaphor or the relationship between the theoretical framework and the relationship between the field of biology and social theory. Morgan's theoretical references demonstrate the level to which the development of organizational ecology is populated. The outside influences

and stakeholder groups, which enter the environment of a public organization, make it an open system, leaving one population reliant on the larger environment to survive. The work of theoretical biologist, Ludwig von Bertalanffy (1969) influenced general systems theory and the open systems approach, which says that "organizations, like organisms, are 'open' to their environment and must achieve an appropriate relation with that environment if they are to survive" (p. 39). This area of systems theory is concerned with the environment, the interrelated subsystems, and the alignments between subsystems. (Morgan, 1997).

Metaphors are used to aid in conceptualization, representation, and association and have been shown to increase emotional understanding (Fetterman et al., 2016). The value of the metaphoric experience is surpassed only by substitution of direct experience, but metaphor has the ability to take people from being spectators to actors. Through the use of metaphor, one may transform a one-dimensional set of spectacles to a multidimensional borescope, accessing those spaces that are normally inaccessible, because humans are bound by perception, culture, experience, and language (von Bertalanffy, 1955).

Organismic metaphors have shown the social sciences a more creative, organic, and humanistic approach to systems thinking over the mechanistic, industrial approach. This method helps people connect relationships, interactions, and influences within the environment and as an influencer of other environments. According to Morgan (1997), for organizations that are young, in flux, or undergoing change, this approach shifts the focus of the analysis from goals and endpoints to survival and processes. Von Bertalanffy (1955) preferred to substitute structure for survival because he took a more

bio-psychological approach to the notion of finding different facets of reality within a relativist construct. The organismic metaphor looks at the diversity of organisms in an ecology and considers choice, structure, and environmental factors toward outcomes, although the perspective may differ depending on a preference for contingency theory or population ecology (Morgan, 1997).

When it comes to the power of metaphor toward rationalizing an organizational theory of structure, Landau (1961) noted that a strong metaphor can be significant for establishing relevance, clarifying intent, framing interpretation, and forming and defending opinion. He argued that empirically, it may make sense to apply biological references to social institutions in order to understand complex problems, but any evidence that metaphorical correlations between political constructs and theories of biology or evolution can be useful is too highly generalizable to expect reproducibility or sustainability. He does acknowledge that political science, government, law, and administration have a history of using conceptual metaphor as a speculative validation of intuition. Fetterman et al. (2016) acknowledged that metaphoric conceptualization can be dangerous if it grossly departs from the facts at hand because it compromises the intent of truth finding, leading to confabulation and irrationality.

As far as limitations are concerned, Morgan (1997) agreed that there is a danger for the metaphor to establish an ideology, just as Taylor's (1988) theory of scientific management disregarded the human aspect of the human resource, assuming that all workers are motivated similarly and make choices using the same assumptions and framework. Organismic metaphors may suggest that all people act solely on external forces or through adaptation, when in fact, all humans are individuals who shape their

decisions within personal constructs, which may or may not be vulnerable to metaphorical suggestion.

There must be a balance between the metaphorical construct and the framework to which it is being applied, meaning that a thorough analysis of the organization should be conducted prior to developing the form of desired metaphor. For example, in order to highlight theories of motivation or construct arguments for a systems approach, the appropriate form is required to communicate across all lines of individuals, not only those who process information through literal and metaphorical mindsets (Fetterman et al., 2016).

Public Administration

The field of public administration is concerned with the biological spectrum at the top to the lowest level of ecology and from the biosphere (or ecosphere as a global reference) to the organism. Table 2 depicts E. P. Odum's (1998) classifications of equivalent organization hierarchies.

In a socioecological context the field of public administration is an ideal test bed for innovative theory construction due to its metaphorical propensity. Relevant to their span of control, federal government organizations have the most widespread influence and impact on people. There are very few studies that look at the bureaucracy of the federal government as an environment

The Politics–Administrative Dichotomy

Perhaps the most complex pillar of public administration, the politics–administrative dichotomy, is commonly credited to Woodrow Wilson through his article, "The Study of Administration," published in 1887. Conceptually, administrative

Table 2

Eugene Odum's Comparative Levels of Organization Hierarchies

Ecological	Geographical and political	Military
Biosphere or ecosphere	World	General
Biogeographic region	Continent	Colonel
Biome (biotic region)	Nation	Major
Landscape	Region	Captain
Ecosystem	State/province	Lieutenant
Biotic community	County	Sergeant
Population (species)	Town (or township)	Private
Organism	Human population	
Organs	Individual	
Tissues		
Cells		

Note. From "*Ecological Vignettes*," by E. Odum, 1998, p. 24. Amsterdam, The Netherlands: OPA.

dichotomy refers to the responsibility that public administrators have to execute the rules and laws established by politicians and lawmakers. It is the duty of public administrators to uphold and execute these policies using principles and methods that demonstrate the fiduciary good for the use of taxpayer dollars, such as efficiency, economy, and sound management principles. Outcomes should be effective in order to mirror the original intent of the policy (Shafritz & Hyde, 2012). John Locke framed the separation of political and administrative roles by drawing a distinction between institutional context and the function of the administrator, defining the role of the administrator through historical grounding, delegated power, and relevant constitution (Tuckness, 2008). There is a distinct difference in the expectations of the public for those elected or appointed officials who are defining the mission and setting policies and those charged with the

administration and execution of these orders. Perhaps the biggest difference has to do

with the assumption of roles, but this should not be overshadowed by the jeopardy of

dismissal faced by those officials appointed or elected to their positions in the first place

(Svara, 1985).

There are four functions required in this process: administration, mission,

management, and policy. For clarity of the terms, *administration* is a bureaucratic

function and entails the decisions, systems, procedures, and actions needed to achieve the

intent of the policy. *Mission* concerns the charter or purpose of the organization, the

philosophies, the goals, and the bounds of responsibility. *Management* refers to the

control of human, data, and material resources required to further the policy and

administrative roles. *Policy* is a representation of the decisions surrounding budgeting,

spending, programs, distribution, and so forth. Some level of interaction between

administrators and elected or appointed officials is considered normal. Discretion in how

to meet the goals of the policy generally has some level of independence relative to the

organization and individual roles (Svara, 1985).

The model of the politics–administrative dichotomy has been in question since the

mid-1940s when Dwight Waldo (1946) claimed that administrative authority and actions

were essentially political by designation. Herbert Simon (1955) argued that politics and

administration were packaged as part and parcel, one only functioning because of the

other. The administrative functions were designed as a mirror image of the political

landscape (Frederickson, Smith, Larimer, & Licari, 2012). Robert Dahl (1947) pointed

out that the administration needs to be mindful of the current social setting (Durant &

Rosenbloom, 2017). The New Public Administration movement proposed that

administrators should set policies in order to advance a normative value system, which

the politicians failed to uphold, but it has persisted because of a need to define the

relationship between the executive-level leadership and the administration and because it

represents normative tenets of the democracy managed through a system of checks and

balances (Svara, 1985).

Svara (1985) developed several alternative models to reflect the reality of the

politics and administrative correlation and the shared sense of responsibility between the

two parties. The mission drives the policy and responsibility of execution between

administrators and managers. Figure 3 shows the four models of existing relationships

between elected officials and administrators. These models reflect the level of

responsibility between the elected or appointed official and the administrator, where the

area above the line is the responsibility of the official and below the line is the

responsibility of the administrator (Svara, 2001).
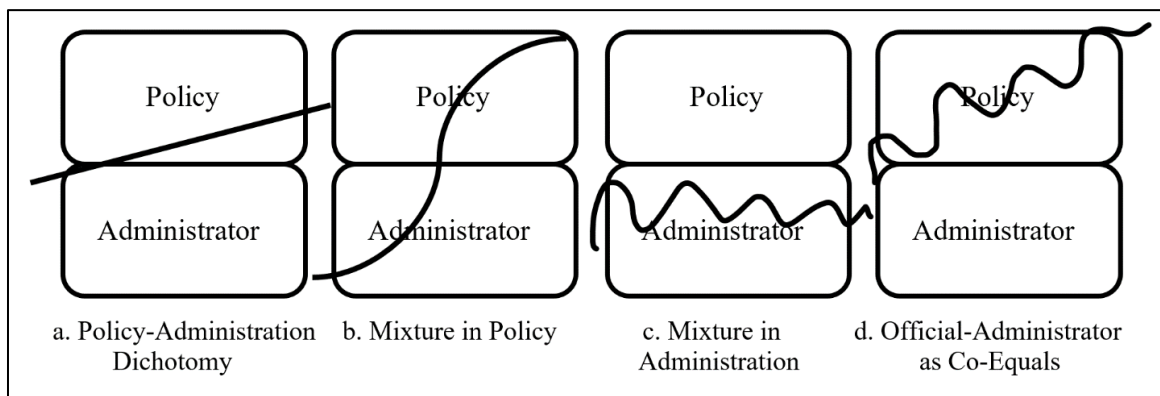
Figure 3. Svara's models of relationships between officials and administrators. Adapted from
"Dichotomy and Duality: Reconceptualizing the Relationship Between Policy and Administration
in Council-Manager Cities," by J. H. Svara, 1985, *Public Administration Review*, *45*(1), p. 223
(https://www.jstor.org/stable/3110151)

Although the model was originally intended for elected officials, managers, and

administrators at the city or county level, it is relevant and applicable to all levels and

types of government. Reframing these functions within governmental structures is critical to defining the roles of decision-making and execution, particularly in modern, stove piped, hierarchical federal organizations where managers and supervisory roles are reflected throughout all organizational levels.

The dichotomy of politics and public administration provides necessary checks and balances between branches of government and agencies. The original intent is not lost, even in the mixed model approach, so it is generally agreed that the politics–administration dichotomy model is defensible. As Sayre (1958) pointed out, public administration is a political effort, bound by culture, values, interest groups, and the bureaucracy of the moment. Over time, the model has evolved to consider that the function of politics relies on the administrative bureaucracy, which has political influence in its own right.

Policy is formed for a variety of reasons but mainly to change something by adding or removing a former decision, rule, or action. The process of policy making is related to the policy argument, which persuades policy action through the analysis of benefit or harm based on generalizations, assumptions, inferences, beliefs, examples, and other like elements of nonscientific rationale. Although a policy analysis is focused on the evidence, which supports or degrades it, some researchers argue that the focus should be on the evidence-influenced politics, which are context dependent (National Research Council, 2012).

Both John Locke (Tuckness, 2008) and Woodrow Wilson (1887) stressed the specific responsibilities assigned to the administrator such as upholding moral law and constitutional law through interpretation of the rule and maintaining organization

legitimacy (intent). To this end, the political–administrative dichotomy serves to enforce an ethical standard. If a law jeopardizes basic human rights (life, liberty, and health), or if an interpretation serves to benefit private gain over public good, then invoking prerogative maintains moral and legal order until the question can be rectified (Rosser, 2012; Tuckness, 2008). Prerogative acts as an equalizer to the system of checks and balances envisioned by our forefathers.[3] This same concept exists in ecosystems in the form of either cybernetics or homeostasis. Prerogative is a control mechanism, although as E. P. Odum (1998) asserted, there is a difference between the cybernetics of ecosystems and that of man-made systems or organisms. Ecosystems may self-correct without outside influence. Likewise, government systems may perform corrections through feedback loops created and policy implementation. Ecosystem feedback is naturally designed and enforced whereas feedback in organizations is subject to manipulation from internal and external forces (E. P. Odum, 1998).

Change in the Public Sector

Organizational change in a government framework relies heavily on the marriage of aligning politics and policies with the administration and the structure. Aligning the politics and the administration is crucial and a significant factor in failure rates. The rules must support the implementation plan for change and the mission, vision, and values of the organization. Accounting for organizational hierarchies, workforce structure, demographics, performance measures, existing policies, culture, environment, and knowledge contribute significantly to either the success or failure of organizational

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[3]Prerogative is the enforcement of temporary sanctions of policies that contradict law or legislative directive and may be invoked by any public servant wishing to correct injustices. The requirement is determined by applying two moral tests: jeopardy to basic human rights and/or placing private gain over public good.

70

change (Crotts et al., 2005; Drucker, 1969; Likert, 1961; Mergel, 2010). Studies in organizational change commonly focus on the impacts of change within the institutional environment, resources, populations, and technologies in order to determine impacts (Amburgey, Lehtisalo, & Kelly, 1988; Tolbert & Zucker, 1983).

Reorganization at NASA

In a study revolving around changing an organizational structure, there is no other federal government organization (FGO) that has undergone as many changes as NASA. A case study of significant reorganizations at NASA was reviewed. NASA provided a solid framework in which to discuss the theories that drove its reorganizational decisions and better served to apply past theories and highlight the proposed resurgence of Gaia and the ecological perspective.

NASA was born as a result of a reorganization of the National Advisory Committee for Aeronautics (NACA). NACA began in 1915 for the purpose of performing aeronautical research as a response to Europe outperforming the United States in airplane technology. NACA had started working toward achieving the capability for manned space flight, but Russia's launch of Sputnik 1 in 1957 demonstrated once again that the United States was behind in technology. Once again, fear drove the effort to respond, with Congress passing the National Aeronautics and Space Act on October 1, 1958, forming NASA (Crawley & Kloman, 1972; Suckow, 2009). NASA was charged with meeting some pretty lofty national goals, and needed to find and hire specialized personnel who could be trusted with work, which had far-reaching political, economic, administrative, and technical ramifications. NASA also had to be able to perform work that had never been done in the past, and quickly. In other

words, NASA needed people who were capable of being as flexible and adaptable as the organization it was about to enter (Crawley & Kloman, 1972).

NASA's history began with a focus on the organizational structure. There were two agency requirements. First, NASA needed to be able to make decisions and execute actions quickly, and second, these quick actions were needed in order to meet major development milestones. NASA required flexibility. Both of these requirements were related to contracting efforts. The award of prime contracts required fast decision-making and execution of obligations by the administration and program offices. Flexibility was needed in order for the administrator to award noncompetitive contracts, realign appropriations and funding transfers, and develop creative hiring practices and personnel appointments (Levine, 1982).

At its inception, NASA administrators were aware that the structure and processes of the organization were vital to mission success. The Space Act of 1958 directed the hierarchy of NASA:

> The Administration shall be headed by an Administrator, who shall be appointed from civilian life by the President by and with the advice and consent of the Senate. Under the supervision and direction of the President, the Administrator shall be responsible for the exercise of all power and the discharge of all duties of the Administration, and shall have authority and control over all personnel and activities thereof. (Crawley & Kloman, 1972, p. 5)

From the outset, James E. Webb (1961–1968), the second administrator, deliberately and frequently restructured the organization. He believed that reorganization encouraged "organization vitality" and the "management initiative" (Crawley & Kloman,

1972, p. 4). Webb brought a vast amount of organizational, administrative, and management experience with him to NASA. Where past managers operated outside of administrative boundaries, giving little regard to structure and processes, Webb began his tenure developing an organizational theory and doctrine prior to executing any actions. His philosophy said that a "sound organizational base . . . would permit effective decision-making over a long-range period and on a comprehensive basis" (Crawley & Kloman, 1972, p. 6).

Thus, the administrative history of NASA shows multiple reorganizations, each one with a period of adjustment or alignment, adaptation, and another reorganization (Mulligan, 1985). During Webb's time as the administrator, reorganizations occurred in 1961, 1963, 1965, and 1967 to 1968 (Mulligan, 1985). Every reorganization involved changes to leadership alignment at various levels. Prior to Webb, between 1959 and 1960, NASA underwent eight changes in its organizational charts. Two reorganizations occurred in 1961, five changes were made from 1964 through 1966, and multiple changes were implemented following the 1967 Apollo disaster, which continued through 1968 (Mulligan, 1985). Webb was succeeded by Thomas Paine (1968–1970), James Fletcher (1970–1977), Robert Frosch (1977–1981), and James Beggs (1981–1985). Smaller modifications were made almost every year until the next large reorganization, which occurred in 1978, that realigned management, the program offices and the field centers, and the administrator's staff structure. Yet another major reorganization took place in 1981 through 1982 respective to functional reporting between program offices and the field installations, and in 1984, the Office for Space Station was created in order to develop a manned space station (Mulligan, 1985).

Lessons From NASA

NASA is a civilian government agency, but NASA is also an independent agency, meaning that it has retained certain freedoms from the normal federal government bureaucratic red tape. Michaud (2009) performed an extensive case study on the reasons for three major reorganizations in 1984, 1990, and 2005 at NASA's Goddard Space Flight Center (GSFC) research laboratories. She reduced the reasons down to three major themes: theoretical, structural, and human agency. Politics, business concepts, alignments, and agendas were included under the theoretical theme. The structures theme captured hierarchical and policy oversight, and organizational charts reflecting oversight, which included power, work roles (functional and by title), hierarchies, and effectiveness. Human agency captured many of the same categorical meanings but from a research and projects perspective.

Michaud's (2009) results indicated that theory was the primary catalyst for the reorganizations. The theme of structures was related to hierarchy and policy oversight, but these were not the compelling rationales behind any decisions to reorganize. Her conclusions mirror NASA's historical focus on organizational structure. In order to remain flexible, NASA relies on structure to support effective decisions, execute actions, and meet research and development (program) milestones (Levine, 1982).

The explosion of the space shuttle Challenger occurred in 1986, and the Columbia disaster transpired in 2003. In both cases, root cause failures were adjudicated as organizational failures. In the case of Challenger, there was a failure of an O-ring, which was a known issue. Likewise, with Columbia, foam detached from the main tank to strike the shuttle, which had also previously occurred to less catastrophic degrees. These

are both examples of a theory formed by Vaughan (2008) called the *normalization of deviance*. The normalization of deviance describes a cultural mindset that forms when a pattern of abnormal occurrences or flaws do not result in an incident (Hall, 2003). The known risks did not change, but organizational culture showed that the "repeating decision pattern indicated the development of a construction of risk that became cultural" (Vaughan, 2008, p. 73).

NASA, once independent of the pressures of bureaucracy, had undergone a forced evolution, which made it similar to most other government bureaucracies. The programs, work groups, and projects divisions, which were the political heavies and the moneymen, were running all the decisions, including those that fell in the boundaries of operational risk. Vaughan (2008) wrote,

> The space agency became politicized, laden with bureaucratic rules, and was forced to operate more like a business. The result was a changed NASA organization culture in which schedule, budget, following rules and procedures, and allegiance to hierarchy displaced safety and deference to the expertise of working engineers. The data showed how these layered dispositions played out in what people said and did. NASA managers and engineers at the time of *Challenger* consistently asserted situation-specific scripts. (p. 74)

NASA was operating in a competitive market. The research and development business relied on engineers and engineering teams who were trained in a government model of experimental technology in which anomalies are normal. In addition, the engineers at NASA knew that their place in the organizational hierarchy was driven by production, execution, and competition. The thematic structure, as defined by Michaud

(2009), identified power and positions. Power structures and positions played largely into the decisions, which were focused on schedules, costs, and execution. Essentially, the technical experts who would independently evaluate and validate the risk were too far down on the organizational chart to be heard (Vaughan, 2008).

Vaughan (2008) proposed that Bourdieu's theory of "the firm as field" should be incorporated into an organizational analysis. The firm-as-field concept states that certain organizations are their own fields. Those organizations that are attached to a lengthy, stable, and bureaucratic organizational history are good candidates for this research. Bourdieu highlighted the following organizational characteristics, which are ideal for this study: social conditions under a powerful economic force, exchange systems, structure, resource distribution, internal and external organizational exchanges/stakeholders, hierarchical structures, competition, and conflict (Vaughan, 2008).

The normalization of deviance is inherent in government activities, which share the characteristics outlined by Bourdieu (1990). Acceptance of the abnormal as a standard operational risk is not unusual, particularly when new resources (assets) are being introduced to the operational activity. Program schedules usually dictate precedence and can often influence risk-management decisions. Even the program managers and engineers at NASA admitted that they were "absolutely relentless and Machiavellian" when it came to procedures and schedules (Vaughan, 2008, p. 74). Unfortunately, lessons from history have a tendency to fade away unless someone is willing to remain the gatekeeper of the details of those lessons.

Looking Forward

The research portion of the dissertation is a qualitative phenomenological historical case study involving a large federal government organization, which performed a structural revision to improve the provision and delivery of services and products to the stakeholders. The research was performed using elite interviews to explore the history of the organization and periods of organizational change. Through these historical accounts, the research should identify themes, which may support or reject a cultural mindset that could support the Gaia theory, connecting the tenets of ecology and structural alignment.

In order to compare a possible rationale for structural realignment proposed by the executive leadership in the case study, there is a comparative analysis of a case study involving major reorganizations at NASA. An overview of the impetus for multiple restructuring efforts over a short period of time is useful to the evaluation of present efforts at the federal government organization, heretofore referred to as a FGO. This serves as a comparative case study for the case study themes.

The Case Study Organization

The FGO used in the case study is an agency within the Department of Defense. The agency's headquarters are located in Patuxent, Maryland, and a West Coast division of the agency is in China Lake and Point Mugu, California, with additional field locations across the world.

As the FGO moved into the 2019 fiscal year, government reform efforts laid out in the 2018 President's Management Agenda (PMA) were initiated. One of these reforms called for the realignment of the government structure, taking it from being competency aligned to mission aligned. As of this discussion, midfiscal year 2019, the organization

had yet to release a clearly stated definition of the MAO. The Department of the Navy (2018) Business Operations Plan describes the concept of a MAO as a path for improvements to efficiency and accountability by using agile processes, which lead to operational readiness. The 2019 mission-aligned concept calls for a "skilled and agile workforce and a culture that values flexibility, speed, innovation, learning, collaboration and transparency" (Department of the Navy, 2018, para. 1).

The proposed organizational restructuring to the MAO concept is characterized by three primary changes: rebalancing functional authority, aligning technical authority, and reducing traditional chain-of-command approvals. These changes are expected to create responsive organizational behaviors. The FGO lists nine attributes of a MAO: climate and culture, accountability, technical authority, agile workforce, layering, processes and standards, outcomes, workforce development, and alignment. Leaders are expected to drive these nine attributes throughout the organizational environment.

Key target areas for reform are information technology modernization; data, accountability and transparency, to include infrastructure modernization; and realigning the workforce to the mission (Office of Management and Budget, 2018). The complexity of the organization was captured in a comment made by a consultant hired to evaluate and overhaul the Navy's depot-level maintenance activities. Upon reviewing the organizational chart for the FGO, the consultant told Richard Spencer, (now) former Secretary of the Navy (SECNAV), the following: "This confirms to me the Navy is one of the most intelligent organizations in the world. This is an absolutely elegant obfuscation of accountability and responsibility" (Eckstein, 2019, para. 13). The National Academy of Public Administration has long examined past PMAs in order to

evaluate gaps in the proposed plan. The administration's commentary, suggestions, and

observations of the 2018 PMA address the organizational restructuring for cross-

functionality, and it is worth incorporating their opinions into the discussion (Balutis,

2019). A simplified organizational chart in Figure 4 depicts the organization and

competencies.
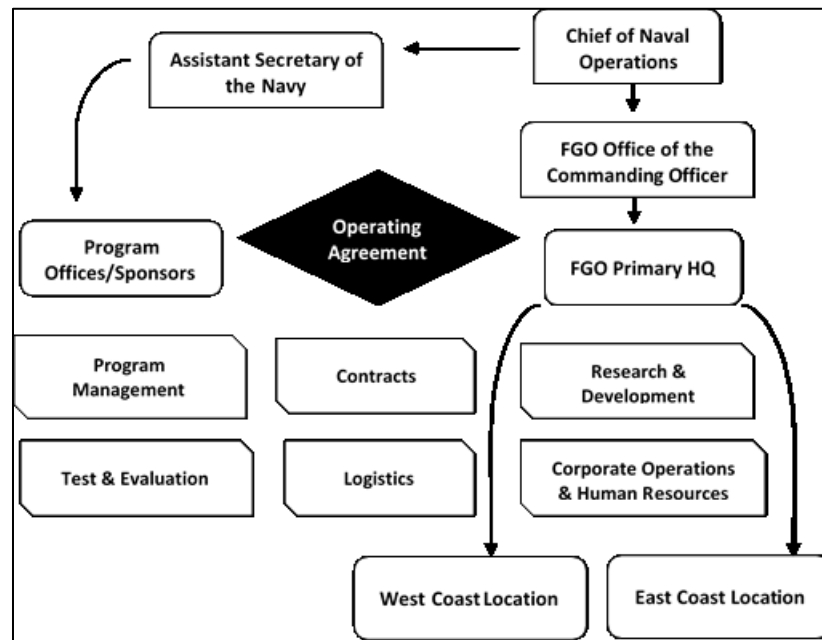
Figure 4. Simplified organizational chart.

The response to the PMA by the FGO began in August of 2018 through a five-phased

plan of action and milestones (POAM), outlining the transition from a CAO to a MAO.

The Commander's Intent is a documented call to action by an admiral. The POAM

outlined a transition plan based on the Department of the Navy Business Operations Plan,

version 1.3, fiscal years 2019 to 2021, to include a reorganization of the structure of the

FGO from the current CAO to a MAO (Department of the Navy, 2018).

Communication

Documentation of the expectations for transition and the features of a MAO were scarce at the onset of the fiscal year, with releases of information becoming more frequent as the year progressed. Updates to the status of the restructuring effort address only three of the 10 attributes of a MAO per the current literature. These tenets are focused on organizational alignment relative to private sector businesses and not public sector organizations. Organizational issues were documented through a series of vignettes, presented as single-slide storyboards in a PowerPoint. Each vignette outlined the problems, strategized response, the expected attributes or themes for success, and the responsible stakeholder. These vignettes followed the notion that understanding of complex concepts is augmented through the use of metaphors, stories, and analogies (Kieser, 1994; Morgan, 1997). The power of metaphor is established within a government construct through the chosen method of communication. Few people were aware of the vignettes because little reference was made to them in scheduled releases of information.

Choosing a Research Method

Similar studies that are centered on restructuring do not focus on major policy-driven shifts of organizational alignment in a federal government agency such as transforming a CAO to a MAO. The literature has shown that structural changes to an ecosystem will have a profound effect on all the organisms living within the ecosystem. It has been proposed that in a government organization, the implementation of new values may take well over a decade to permeate the entire organization, which is to highlight the need for organizational membership turnover as part of the implementation

plan (Emery & Trist, 1965; Likert, 1961). There are other issues identified with the transitional timeline such as a failure to provide clear communication of expectations. Moreover, the work of the various competencies within activities at the local level and official information regarding the evolutionary and environmental (cultural) organizational history is practically absent. From an ecological perspective, organizational restructuring relies on environmental contexts, open or closed systems, conditions for adaptability, exchange processes, capacity, and organizational history (Emery & Trist, 1965; von Bertalanffy, 1969).

The relevance of historical analysis is critical to developing an understanding of organizational ecologies and the extenuating application of organizational theory. The history of an organization is often used to create an inductive strategy, which often reflects a bias that is inherent in the selection process of examples (Kieser, 1994). Applied organizational theories should rely on history and not through a one-dimensional review of selective historical artifacts. Rather, current research shows that the diversity of approaches, which accompanies multifaceted historical research, provide a deeper understanding of the whole spectrum of the organization, which includes corporate history, analytically structured history, serial history, and ethnographic history (Decker, Kipping, & Wadhwani, 2015; Rowlinson, Hassard, & Decker, 2014).

Because there is less known about this particular organization through written documents or artifacts, the researcher chose a phenomenological research approach. Phenomenology is a style of inquiry into a phenomenon that relies on interpretation through an interchange between the researcher and the participant. Through sensitive and thoughtful consideration, the researcher pulls out the meaning of the phenomenon

through a reductionist method of the variables. The intended result is to take several individual experiences and unite them into a descriptive narrative, which demonstrates core elements and themes shared by the participants (Conklin, 2007).

A common argument against all qualitative research is that of increased researcher bias and interpretive subjectivity (Flyvbjerg, 2016). Phenomenology does not disagree with this, but Clark Moustakas argued that it does attempt to resolve the criticism by focusing on the lived experiences of others with the "goal of giving the reader an accurate understanding of the essential invariant structure (or essence) of an experience" (as cited in Browne, Sorrell, McClaren, & Creswell, 2006, p. 122). In 1913, Edmund Husserl wrote that the basic aim of the phenomenological method is to compel knowledge building based on the recognition that individual realities of a phenomenon vary, from having threads of similarity to such distinct disagreement that two people may have faced what seems like a completely different event. Each perspective is valid to gaining a deeper understanding of the subject matter (Husserl, 1999).

Central to the phenomenological research approach is the use of narrative. According to Ospina and Dodge (2005), "As a human manifestation that is present in both folk and scholarly traditions, narratives represent events in space and time" (p. 142). There are five fundamental features of narratives that are required for the exploratory and explanatory goals of research. First, they are direct accounts of select people and a particular event(s) within a period of time, bracketed with a beginning and an end point.[4]

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[4]Gearing (2004) defined the practice of bracketing as "a scientific concept that requires clear, methodologically sound decisions by the researcher" (p. 1434) and highlights the importance of the temporal structure created by bracketing, requiring the researcher to identify a start and end point, composite elements of the experiences, to eventually unbracket the information through reintegration into the analysis of the study.

Second, the details of the event(s) are related chronologically, using retrospective interpretation from an individual point of view. Third, the attention is on the human intention and decision or action, to include the participant or narrator and others involved. Fourth, the participant/ or narrator constructs the identity of self in relation to others in the narrative. Finally, the product of the narration, the summary, represents a coauthorship between the narrator and the researcher (Ospina & Dodge, 2005).

A phenomenological inquiry using detailed narrative to create a historical chronicle is a type of process tracing, as described by George and Bennett (2005), that contributes to "an analytical causal explanation couched in explicit theoretical forms" (p. 211), allowing the researcher to assign cause to particular portions of the narrative and even use the narrative to support or promote a theoretical explanation.

To reiterate, the value of the phenomenological approach in a public sector study is to address the continuing default use of a tradition of inquiry, which is more explanatory than interpretive. Phenomenological narrative has proven to be valuable in theory building and quantitative analysis in other disciplines such as sociology, political science, and economics. Public administration research has shied away from this method until recent years, making interpretive conclusions through the assignment of cause-and-effect but without creating a deeper knowledge base or understanding of the issues as related through individual perspectives. Through the use of phenomenological inquiry, Maynard-Moody and Musheno (2003) conducted their research on street-level public service workers who represented the police, teachers, and counselors. Through the analysis of stories of each of these workers, they challenged the assumption that they used discretionary decision-making in order to exercise fair, equality-based decision-

making. Instead, their research showed that these workers used biased judgements to determine their client's worth and merit for receipt of assistance (Ospina & Dodge, 2005).

Kieser (1994) pointed out that Max Weber considered himself as much a historian as he did a sociologist. The passing of time tends to skip over the value of this perspective, neglecting organizational history while still assigning theories that drive decisions. While the succession of government employees may seem slow in turnover, history moves quickly in organizations, and unless the "old guard" chooses to pass it along, relevant history can be lost. It is through the challenge between history and organizational change theories that organizational ecology thrives. It is with this historical conceptualization in mind, that the researcher defended the organizational ecology perspective to include the evolutionary (developmental) and environmental (cultural) insights and to extend the analysis support.

There is another theme that underlies this study, which is expertly pointed out by Dewey (1902) in "Interpretation of Savage Mind." Humans are part of a greater biological and historical landscape, and their past is not completely obliterated in spite of evolution. Dewey wrote,

> The psychical attitudes and traits of the savage are more than stages through which mind has passed, leaving them behind. They are outgrowths which have entered decisively into further evolution, and as such form an integral part of the framework of present mental organization. (p. 217)

He pointed out that humans are creatures of patterns, and their minds process information in arrangements of elements based on their worldview. They habitually sort incoming

information through correlations of what is known—their central forms of activity— which is primarily occupational and what Dewey (1902) referred to as "associational tracts" and "apperceptive masses" (p. 219) or their formation and application of routine behaviors and responses. Humans are coded to respond as an extension of their biology. As humans have evolved and socialized themselves to their occupational environments, they have reconstructed their original mental schemas, compartmentalizing their places in their respective ecosystems, self-organized and culturally adapted to their professions. To accept any part of evolutionary theory is to accept the fact that there are processes that humans do not determine on their own because some physical and chemical factors assist in the persuasion of choices and responses (Dewey, 1902; Levin, 2005). Finally, within ecosystems a variety of species become organized, and among the human species, individuals tend to arrange themselves in clusters, based on common characteristics and goals. A hierarchical order is created with smaller clusters forming under increasingly larger ones. To deny the human tendency toward self-organization is to deny the genetic birthright (Dobzhansky, 1937). To Likert's (1961) point, change is methodical and requires a realistic expectation of time.

CHAPTER 3: RESEARCH METHODOLOGY

The research portion of this study was intended to validate the literature presented in Chapter 2. Theory is a relatively simple process when argued solely on paper. Case studies, whether multiple or single, have traditionally been criticized for their lack of quantifiable evidence to support a hypothesis or theory. This viewpoint has been challenged, somewhat successfully, through the use of validation techniques. Among the many ways to validate social science research, documents, archives, and interviews serve as a way to validate case studies that involve organizational history by providing a lived description of the topic. They also serve to triangulate past historical records to current information, albeit always with a possibility of skew extending from human interpretation (Maclean, Harvey, & Clegg, 2016).

Historical analysis of organizations connects historical records to culture, ideology, problems, solutions, decisions, populations, generations, and evolution (Kieser, 1994). Evolutionary history may explain recent evidence, question disparities, and corroborate information where credibility is questioned. Particularly with case studies that remain qualitative, any relevant information should be presented, not only to validate the research and inferences but also to substantiate suggestions for future research (Rowlinson et al., 2014). In addition, elite interviews are a relatively new, lesser understood approach to validating historical data but fit well with phenomenological research as a holistic course for participant selection. A better framework is constructed with historical records, providing a deeper understanding of time, place, context, and key people (Berry, 2002).

Research Design

There is a philosophical undertone to this topic and its relationship to the theoretical concepts. The research was based on a qualitative phenomenological study. The construct of the study followed the organizational research model suggested by Sanders (1982), which paralleled Husserl's descriptive phenomenology (Gill, 2014).

Methodology

Using the narratives from elite interviews, an oral narrative of past lived experiences was constructed, which focused on relevant structural changes in the federal government. The goal was to perform an analysis of the positive and negative experiences with this type of organizational change and to examine whether any of the experiences and reflections revealed a sense of ecological themes reflected in the literature showing evidence of a natural or holistic phenomenon of structural change. The overall intent of the research was to explore the feasibility for an ecology-based model of structural change and its ability to increase the acceptance of change in a public sector organizational structure (Beach & Pedersen, 2013; Tansey, 2007).

The public organization selected for this study was a large federal government organization (FGO). The mission of the organization was to provide life-cycle acquisition logistics support of products, which are integral to the defense of the country. This support included research and development, design, engineering, acquisition logistics, test and evaluation, training, life-cycle support, and in-service engineering support. The current strategy of the office of the Chief of Naval Operations (CNO) is focused on an essential requirement to deliver products and capabilities with increased throughput and delivery.

Critical policy decisions are made in the upper-level executive offices, above the department level, which consist of both military and government civilian leaders. Decisions made at this level may consider input from the lower-level department or division heads, but ultimate decision-making authority and accountability remain either at the CNO level, at the FGO command office level, and at the FGO headquarters or at the executive level within each regional division.

The methodological approach loosely follows Moustakas's (1994) use of the literature to perform a formal and informal theoretical review and thematic review and uses Sanders (1982) phenomenological research roadmap as shown in Table 3. Moustakas (1994) defined the theoretical review as an analysis of the "theories that account for the existence of the phenomenon" (p. 112). A thematic review "organizes the core themes presented in the studies" (Moustakas, 1994, p. 112). These core themes are presented as findings of the study. Nontechnical and technical literature is utilized to support the concepts proposed by the researcher in order to guide and validate the ideas, questions, and relevance.

Organizational History

Applied organizational theories are connected to the organization's history and not only through a one-dimensional review of selective historical artifacts. Current research shows that the diversity of approaches that accompanies multifaceted historical research provides a deeper understanding of the whole spectrum of the organization, to include corporate history, analytically structured history, serial history, and ethnographic history (Decker et al., 2015; Rowlinson et al., 2014). Document analysis can generate a deeper understanding of the historical timeline and relevant

Table 3

Sanders's Summary of Phenomenological Research: A Roadmap

Determination of limits	Data collection	Phenomenological analysis
1. What is being investigated?	Step 1: Conduct in-depth oral history interviews using semistructured interview questions.	Step 1: Using the transcribed narratives, "identify and describe the qualities of human experience and consciousness" or ask, "How may the phenomenon or experience under investigation be described" (p. 357)?
2. Who are the participants?	Step 2: Review the interview transcripts for "meanings."	Step 2: Identify themes, defined as "commonalities present within and between narratives . . . and based on the importance and centrality accorded to them rather than on the frequency with which they occur" (p. 357).
	Step 3: Perform participant observation.	Step 3: Develop the correlation(s) between the noetic (what) and noematic (how) representations of the interviewee in order to identify the subjective reflections of the themes from Step 2.
		Step 4: Determine the essence(s), or "the why" of the experience, which is evident in the themes.

Note. Adapted from "Phenomenology: A New Way of Viewing Organizational Research," by P. Sanders, 1982, *The Academy of Management Review*, *7*(3), 353–360 (https://doi.org/10.2307/257327).

events, which may have changed the direction dictated by prior decisions (Sulloway,

1982, 2009); however, accurate documentation of organizational history is time, place,

and framework sensitive. For this reason, the perspectives of key leaders (elites) of an

organization not only expose information gaps in the documented history but also provide

greater dimensions to the experience, which can only be revealed through personal

memory. The process behind Husserl's transcendental phenomenology delivers one's

intentionality, the consciousness of the individual, and the experience, through noema

(the phenomenon) and noetic (the meaning behind noesis; Husserl, 1999; Moustakas, 1994).

The intended outcome is to present a narrative that is centered on the experience of structural change for the participants (Tansey, 2007). The goal is to gain knowledge from the phenomenon by reliving the experience without judgement, previous understanding, or clouded perceptions. This is representative of Husserl's Epoche, a fresh, open, and pure view of the experience (Moustakas, 1994).

Research Questions

The research and the extenuating research questions focused on the experiences surrounding change in the narratives from the elite interviews. The participants were asked to relate their experience with a structural change or organizational realignment. The questions were posed in a semistructured interview style and sought to understand the following:

1. What did the lived experience of the participant going through an organizational structural change or realignment reveal about the approach to decisions and communication?

2. What did the experiences reveal about the cultural view of structural change in this type of organization?

3. Does the history of change management through the lived experiences reflects a positive or negative cultural correlation for adapting to a mission-aligned organization structure?

4. Did the experiences provide evidence that there would be benefits to adopting a more holistic or naturalistic approach to structural change or realignment?

Interview Questions

The following semistructured interview questions were based on the proposed methods of phenomenological interviewing by Englander (2012) and Groenewald (2004).

1. Can you please describe a situation in which you were involved in an organizational restructuring? Be as specific and detailed as possible.

    a. During the discussion, there may be a need to encourage a description which involves a more personal perspective.

    b. During the discussion, there may be a need to encourage more information regarding critical decision-points along the way.

2. What exactly was the outcome of the organizational restructuring?

    a. Can you pinpoint specific areas of success?

    b. Can you identify specific areas of failure or a need to make further adjustments to strategy?

3. What was the impact of this outcome on the organization and the employees? Please be specific. Discuss the impact and observed experiences of all levels of employees with whom you are familiar.

4. While you were going through this experience, what organizational theories did you feel were represented?

5. Setting aside the policies, actions, and directives which contributed to the experience, can you describe what you felt (lived through) internally throughout the experience?[5]

6. Did the internal experience cause any kind of revelation? Was there any sort of epiphany which resulted?

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[5]This question is a natural form of bracketing as described by Groenewald (2004).

7. If you could connect this experience metaphorically to another experience, what would it be? In other words, perhaps start the thought process with "going through this experience was like . . . ."

Population and Sample

Interview participants were identified using purposive sampling as a starting point, with snowball (chain-referral) sampling as an additional method of collecting adequate, relevant historical data. Purposive sampling is used when a specific population is required, and the researcher's specialized knowledge of the group will result in selecting those individuals best suited for the research. If the participants selected did not fully serve the intent of the study, then snowball (chain-referral) sampling was utilized based on referrals from the initial sampling set. It was expected that certain questions may have arisen with the primary sample set in which the data may have been best explained by another person who may not have been visible or accessible to the researcher at the onset of the study (Groenewald, 2004; Tansey, 2007). The intent was to end up with no more than three participants who represent the population through a set of predetermined variables, most notably to include a relevant experience in the organization related to structural change, length of time in the organization, and relevant subject-matter expertise because of position and authority. Sanders (1982) preferred to see a smaller number of interviews, which are more in-depth because it is less confusing when trying to assimilate the themes and essences between experiences. This sampling technique reflects nonprobability sampling, which is appropriate for an exploratory within-case analysis by using elite interviewing and process tracing, a fairly new

approach to case study research based on the original work of Alexander George and Andrew Bennett (Tansey, 2007).

It should be noted that there is a requirement to maintain the confidentiality of the participants, and in order to do this, the organization must also be left unidentified. In this study, participant privacy and confidentiality were managed by substituting participant codes for names. The name of the organization and any identifiers attached to the participants were redacted. Narratives with possible identifiers were altered, varied, or annotated as "redacted" text.

Materials

An oral narrative of lived experiences of structural change in the organization was constructed by performing elite interviews of leaders and executive-level employees. The interviews were conducted in person and recorded using voice-to-transcription software. Handwritten notes were minimal in order to not be distracting. Keeping to the spirit of exploration and conversation, the interview experience was intended to be "an interchange of views between two persons conversing about a theme of mutual interest" (Groenewald, 2004, p. 37).

The participants were asked to relate a specific experience of structural reorganization and to discuss the events, elements, and their impressions of how the experience was managed. They were asked whether they were able to relate a particular organizational theory to the method used for the decision and implementation. The researcher asked semistructured questions and documented the narrative through narrative transcription (Decker et al., 2015; George & Bennett, 2005; Rowlinson et al., 2014). Relevant material was extracted through manual phenomenological methods in

order to pull meaning and textual accounts from the experience (Moustakas, 1994).

Because of this design, outside of the transcription software, minimal material

requirements were necessary.

Instrumentation

The method of interview used was referred to as "elite." Elite interviews are used

when the researcher is seeking to gain information from participants whose position

makes them privy to information or perspectives, which is not available to others. The

participants are generally representatives of a group or organization (Beach & Pedersen,

2013). Elite interviews are relevant in historical case studies in order to corroborate

information from additional sources, establish a group mindset, infer the characteristics

of a population, and/or reconstruct or build a story out of past events (Tansey, 2007).

When primary published and/or archived records are unavailable or the data fail to

provide any conclusive evidence, the researcher is left with few options. Elite interviews

are able to fill gaps in an existing historical record with a deeper understanding of time,

place, context, and key people (Berry, 2002).

Ethnographic histories are developed by observing and talking to people, using

primary and archived sources, and using a narrative of the data. Organizational

ethnography allows the researcher some leeway to explore without adopting a

hypothesized position in the process. For the researcher, there should be an anticipatory

sense of the discovery of material that is uncovered organically. By rummaging through

archives and materials, new ideas are unearthed. In this analysis the object of the search

was for themes and expressions. This contributes to scientists' understanding of the

ecology and specifically the niche construct of the organization. In order to perform this

analysis, the research was focused on themes and expressions. The anthropologist Morris Opler (1945) noted, "In every culture are found a limited number of dynamic affirmations, called *themes*, which control behavior or stimulate activity. The activities, prohibitions of activities, or references which result from the acceptance of a theme are its *expressions*" (p. 198). These themes, and associated counterthemes, contribute to the cultural equilibrium. The structure of that culture supports the balance and equality between interrelationships (Opler, 1945).

For the purpose of this study, the primary objective was to use a phenomenological method with the elite interview in order to examine the lived experience of structural change in the organization's history as a way of exploring existing theoretical constructs within the organizational environment and themes of the experience relative to answering the research questions (Davies, 2001). The history of the organization and the organization's ecological environment was investigated.

Validation

The main issue with elite interviews is their reliability, particularly when questions are informally constructed (unstructured or semistructured) and measured by purely qualitative methods. These interviews tend to yield a landscape of the individual's perceptions and feelings, creating a memoir-like aspect. While this is the goal, there is a trade-off. Credibility is not a factor in selection criteria, and question structure may not be as rigid as it is with other methods, but the narrative from the interview can draw out facets of the topic, which would be more one-dimensional in other types of interviews. The open, exploratory essence of phenomenology stimulates a reflective quality to the dialogue (Davies, 2001).

Other issues were related to honesty, ego, embellishment, trust, and motives. Berry (2002) pointed out that participants are not obliged to be truthful. Personal agendas can, and do, seep into the responses. Participants may be concerned with appearances, so the experience is self-serving, exaggerative, or information is omitted. Exaggeration, whether of oneself or another, leaves the interviewer with the problem of discerning the motive, which can severely detract from the validity of the interview altogether. Likewise, the level of privacy an individual is striving to maintain may drive the absence of communication.

There are practices that will, in part, serve to repair the reliability of an oral narrative. The first is the selection criteria for interview participants, and the second is the use of triangulation between interviews, published documents, first-hand account, secondary sources, and archives (Davies, 2001). To this point, the research must stay focused on themes and characteristics, which are identified through the historical narrative. The information from several interviewees may assist in identifying self-serving or embellished accounts. When bias is anticipated, the researcher may incorporate indirect self-assessment questions. Another tactic used is that of the follow-up interview in which questions are reconstructed and focused on only the relevant areas. Finally, instead of relying on only one structural type of question, it is appropriate to construct an outline that contains a mix of unstructured and semistructured questions highlighting the goals of the interviews. Additionally, bridges (circling back to certain focus areas) act as a fail-safe to get additional clarification and/or refocus the topic (Berry, 2002).

Improving interview data reliability depends on the researcher's ability to substantiate the data from a qualitative interview; however, in the phenomenological realm, this can displace the spirit of the research method, limiting the researcher's view to only what he or she knows and driving the interview manipulatively (Giorgi, 2006). It is suggested that the researcher enter the interview with as much knowledge as possible in order to craft good interview questions and to be able to adapt situationally to participant requirements. Validity is increased in this study by using semistructured interview questions, which are based on phenomenological interview question guidance by Englander (2012) and Groenewald (2004). Using interview questions that have already been utilized by phenomenological researchers provides legitimacy to the choice of questions and the order in which they are presented.

Selection criteria is another critical factor. In this study, the interviewees were partially selected for their closeness to the facts through first-hand experience. The position of the participant in the organization is also crucial because a higher level official would be presumed to be privy to a wider range of reliable historical information than a junior employee. This also relates to length of time in the organization. Finally, the demonstration of reliability, the "track record" of the interviewee, is crucial. The researcher must consider the information presented by the interviewees against other published and archived resources in order to fairly assess and validate the data collected from interview participants (Davies, 2001).

Documents and archives play the first critical role in validation. Decker (2013) emphasized the use of archives to fill the gaps and identify "silences" in published and unpublished materials. Archiver bias, the organization's internal and external policies,

and confidentiality concerns contribute to the gap between records and the whole story.

Being able to understand the causes for silences in the archives will help point the

research toward the gaps and determine their relevance to the pending policy side of the

conversation. Ideally, in order to adequately triangulate the data, archives and documents

should first be examined for the silences and possible biases, with the interviews used to

fill the gaps and create the depth of understanding of the organizational history and

complete the narrative. In this case, many documents were not classified for public

release. Sanders (1982) recommended intensive (thorough) interviews of between three

and six individuals, and the use of documents and participant observation in order to

apply the phenomenological approach to organizational studies.

Of all the reasons that support the argument that organizational history is valuable

to the change process, none seems more compelling than the representational truth that

corroborates the evidence and supports a logical and sound interpretation. Zald (1993)

said, "A good story must be true" (as cited in Maclean et al., 2016, p. 617). Theory is

often decontextualized from the organization and disregards any connection with the

sociocultural environment. While this approach supports generalizing applied theory, the

lack of credible historical transaction leaves the audience with an empty narrative

(Maclean et al., 2016).

Data Collection

Data were collected through narratives conducted with elite interviews. There are

two parts to the basic data collection process as recommended by Englander (2012). The

first part is a preliminary meeting between the researcher and the participants prior to the

actual interview. This may be conducted in person or in a scheduled telephone

conversation, but face-to-face is always the preference because it best serves the goals of this preinterview interaction. The purpose of the preliminary meeting is to informally meet in order to establish a foundation of trust. This is the time when the consent forms are reviewed and completed. During this meeting, the participant is provided the interview questions in order to allow plenty of time to think about the experience. Englander asserted that this increases the likelihood of getting a well-thought-out description of the experience without having to ask additional or leading questions.

The second part of the process is the actual interview. Interviews are conducted one-on-one in a face-to-face professional setting such as an office or a conference room. Because the interview questions for this study had already been provided, they served to guide the conversation and were presented as an open-ended, semistructured manner of inquiry with no predetermined minimum or maximum number of overall questions. The primary number of questions was limited to seven. The questions were centered on individual experiences and perceptions in an event where organizational structural change occurred. The goal was to draw out themes and features central to the perceptions of the experience in order to gain an understanding of individual perceptions and the relevance of ecological themes, which might improve researcher's and decision maker's knowledge of the adaptive process within the framing of the Gaia hypothesis and other ecological theories that form niche construction and organizational ecology.[6] Documentation on the history of the organization, with respect to the topic, was minimal, and published case studies were nonexistent, so the interviews were not only providing a baseline case study

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[6]The structural alignment of the organization is currently a competency-based approach, but the new policy is switching the organization to a mission-aligned approach. The end goal of the examination is centered around theory and themes of structural reorganization.

but also supporting the intent of the phenomenological experience. Secondary sources and demographic data were collected through existing public sources and/or sources that were available to the researcher but could be sensitive to the organization. In these instances, any identification markers were redacted. Documents that presented hazards to organizational security required additional levels of approval through the organization, with a miniscule value-added benefit to the outcome of the study.

Maintenance of participant privacy and anonymity was essential. Participants were referred to numerically as P1, P2, and P3. This is a standardized method for all research being performed where anonymity is essential (Gill, 2014; Michaud, 2009; Sanders, 1982). An alteration to the documentation for informed consent was requested. To accomplish this, the researcher provided a copy of the Notice of Informed Consent with the assigned participant code and with her signature of certification in lieu of any identifiers that could be attached to the participant and/or the organization.

Unstructured and semistructured interview questions are widely criticized for intensifying the lack of reliability in elite interviews; however, Robert Peabody, a master of the elite interviewing method, said, "The best interviewer is not the one who writes the best questions. Rather, excellent interviewers are excellent conversationalists" (Berry, 2002, p. 679). Peabody drew out information by giving his subjects freedom to roam only reining the conversation in when they got too far away from the point. Although the best results may require a master interviewer, the system and structure for note-taking, the ability to listen, and the direct attention to the holistic aspect of information gathering through engaging in conversation without leading or interfering is far more valuable to

the goals of this particular study and requires somewhat less expertise in interviewing skills.

Other drawbacks to the open-ended approach involve the time it takes to perform interviews, categorize responses, and analyze and validate the data. Depending on the researcher's goal, these concerns may be more or less problematic. Regardless, and relevant to the objective of this study, there are several strong arguments that support choosing the open-ended approach for elite interviews. The most powerful argument made by Aberbach and Rockman (2002) pointed to interviewee receptiveness: "Elites especially—but other highly educated people as well—do not like being put in the straightjacket of close-ended questions" (p. 674). Responses lose validity when answers are constrained. Elites, in particular, tend to organize within their own frameworks, which in turn increases engagement, response reliability and validity, and is best suited for exploratory research in which contextual nuances are important (Aberbach, Chesney, & Rockman, 1975; Aberbach & Rockman, 2002).

Data Explicitation

The data were examined using Husserl's methods as operationalized by Englander (2012), Gill (2014), Groenewald (2004), Hycner (1985), and Sanders (1982). The basic steps used by Sanders are outlined in Table 3, although Hycner (1985) added an additional step, and Groenewald (2004) and Hycner (1985) honed the terminology of the phenomenological method, making it more user-friendly for the human social scientist, progressing it from its original, intensely philosophical roots (Gill, 2014).

The first difference is that Groenewald (2004) and Hycner (1985) eliminated the term *analysis*, saying that this usually leads to a loss of the phenomenon because it

separates out the experience into parts, which loses the "context of the whole" (Groenewald, 2004, p. 49). Rather, Giorgi (2006), Hycner (1985), and Groenewald (2004) preferred the term *explicitation*, referring to the "systematic procedures to identify essential features and relationships, [which is] a way of transforming the data through interpretation" (Groenewald, 2004, p. 49); Hycner (1985) defined it as "an investigation of the constituents of a phenomenon while always keeping the context of the whole" (p. 300).

Following are Groenewald's (2004) five modified steps of data explicitation:

1. Bracketing and phenomenological reduction,

2. Delineating units of meaning,

3. Clustering of units of meaning to form themes,

4. Summarising each interview, validating it and where necessary modifying it,

5. Extracting general and unique themes from all the interviews and making a composite summary. (pp. 49–50)

A review of the terms specific to the modern phenomenological practitioners is essential at this juncture. Groenewald's (2004) explicitation process adopted that of Hycner (1985) who in turn defaulted to Keen (1975). In this definition, bracketing is the conscious suspension of any prior views or presumptions of theory by the researcher. The event or experience should reveal itself from the transcript without any researcher influence. This should not be confused with interview questions that may be designed to be bracketed in order to provide a specific framework of interest for the participant.

Phenomenological reduction is not reductionist in the sense that concepts are extracted from their lived context but quite the opposite. They are left squarely in their

lived context, and the phenomenon that remains is within the intended meaning and structure. The reduction merely resides to strip away those words that muddy the emerging meanings. Phenomenological reduction also challenges the researcher to be honest about presumptions and hypotheses that may enter the dialogue, albeit unintentionally (Hycner, 1985).

Following the initial steps of bracketing and reduction, the researcher delineates units of meaning. This entails isolating statements that reflect the phenomenon under study, all the while bracketing personal subjectivity (Groenewald, 2004). It is common for the researcher to remove what may appear to be over-used, redundant units from the narrative summary; however, the number of references to a unit should not be disregarded because repetitive references hold their own relevance to one's internal experience. In addition, redundancy should be noted among both words and the paralinguistic or nonverbal indicators observed by the interviewer (Giorgi, 2006; Groenewald, 2004; Tomkins & Eatough, 2013).

Units of meaning are then clustered to form themes. This refers to the rigorous examination of the nonredundant units, or units of significance, in order to "elicit the essence of meaning of units within the holistic context" (Groenewald, 2004, p. 50). Relevant meanings (expressions) are placed into clusters that will likely overlap. Central themes should emerge when the clusters are reexamined against the interview records for validation of the relevance to the phenomena (Gill, 2014; Groenewald, 2004; Hycner, 1985).

The final steps are to summarize the interviews and develop a composite summary. According to Groenewald (2004), "The aim of the investigator is the

reconstruction of the inner world of experience of the subject" through the personal involvement, which considers "temporality, spatiality, and materiality" (p. 51) relative to the person's internal experience and his or her relationship with others. At the end of the explicitation process, comparisons are made between interviews (Groenewald, 2004; Hycner, 1985).

Conclusion

The overarching goal of this research was to build upon the conversation about the role of ecology and theories that cross multiple disciplines and bring them into current federal government strategy initiatives. There are portions of this study that veered from more traditional social science research because of the phenomenological method. Hycner (1985) emphasized that pure phenomenology is performed without control groups, without hypotheses, and without prediction. None of these existed in this study.

Using the method of theoretical review proposed by Moustakas (1994), an evaluation of the existing theories in literature and a case study was provided for comparison. The literature was presented through the lens of Gaia, an ecological perspective for self-regulation, adaptation, and niche. A case study of another federal government organization, which had a great deal of experience with organizational restructuring, NASA, was presented in order to provoke a metaphorical comparison of the theories. The phenomenological study portion was performed by interviewing participants in an FGO, which had been directed to implement a structural shift. The participants were selected based on their level of leadership position and length of time and experience with structural changes in the same organization. The intent was to reveal unique personal experiences with directed reorganization in order to explore how

individual interpretations may have been driven by personal theories of change and views of the politics–administrative dichotomy of public service.

The basis of this study was grounded in the theoretical appreciation for ecology as a holistic and natural metaphor for structural change. There is another theory that underlies the organizational aspect of public administration. The politics–administrative dichotomy displaces government activities by creating mental silos, which challenge Gaia or the natural order of self-regulation and adaptation, thereby rejecting the ecological metaphor. Within the metaphor, the need for public administrators to embrace their role is critical during times of political discord or frequent change (Caccioppoli, 2017). The administrators are the stable ties between political parties, changes of power, and when adaptation is necessary for survival.

It is a difficult endeavor to connect a highly bureaucratic environment to a holistic endeavor. One of the arguments made for this position is based on the government initiative to adopt private sector practices. The inherent disconnect between the ideology and environment lends itself to criticism, yet for this researcher, as a practitioner of public administration in the federal government, and as a social scientist, there is a hope that underscores a belief that we can learn to get out of our own way and do business differently and better. The laws of science, and specifically the laws of ecology, provide optimism for this incongruent goal.

CHAPTER 4: FINDINGS

Chapter 4 summarizes the methods used in the research study, provides a synopsis of the interviews, presents the themes that emerged from the expressions, and provides responses to the research questions. The initial review provides information about the participants, method, data collection, evaluation technique, and deviations, challenges, or additional areas for consideration that arose during the course of this study.

There are similarities between the mission-type construct of the federal organization selected for this study and NASA. In one of the elite interviews, a participant introduced an organizational theory into the conversation, which was not initially addressed in the first three chapters. This theory is called the normalization of deviance. It originated from an investigation of the 1986 Challenger disaster. Although not included in the original discussion, this theory is so significant to an organization that functions as an operational activity,[7] such as the case study of the federal government organization (FGO), that the decision was made to centralize a portion of the discussion on this theory (refer to the section in Chapter 2, Lessons From NASA, for the background of this discussion). The contribution of the theory of normalization of deviance is highlighted in the section titled, Results of the Analysis.

Approval to Perform the Study

The request to perform an expedited research study was approved by the Institutional Review Board (IRB) of California Baptist University on October 21, 2019, per IRB number 015-1920 EXP.

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[7]In the DoD, an operational activity, or operating activity, is the part of the organization that conducts specific services that achieve the mission or goal (Chief Information Officer, n.d.).

The research for this study was conducted over a 7-day period through the use of elite interviews, utilizing the phenomenological method of research study. Participants were provided documentation, and agreements were obtained per the IRB agreement.

Research Questions

The research concentrated on the lived experiences of federal executives of organizational restructuring through developing phenomenological case studies using elite interviews. The participants were asked to relate their individual experience(s) with a structural change or organizational realignment. Exploring the lived experiences of the federal executives intended to reveal information about the organization's cultural and environmental standardized approach involving communication, decisions, structural alignment fitness, concern for culture, and ultimately a current or possible future shift to a holistic approach of restructuring management.

The research sought to answer the following four research questions:

1. What did the lived experiences of the participants going through an organizational structural change or realignment reveal about the approach to decisions and communication?

2. What did the experiences reveal about the cultural view of structural change in this type of organization?

3. Does the history of change management through the lived experiences reflects a positive or negative cultural correlation for adapting to a mission-aligned organization structure?

4. Did the experiences provide evidence that there would be benefits to adopting a more holistic or naturalistic approach to structural change or realignment?

Description of the Sample

There were three participants interviewed for the organizational case study. The participants were referred to as P1, P2, and P3. P1 was selected based on length of time and experience across a broad set of competencies within the larger organization. The interviewer had some knowledge of P1's experience with past restructuring initiatives, objectives, methods, and outcomes; therefore, she felt comfortable in asking P1 to participate in an interview and to recommend two other participants. Each participant had been a long-time employee of the larger organization and each had rotated through areas and several key positions over their respective careers. All participants were male, aged mid-to-late 50s. Two of the participants retired from careers in the military before joining the organization. All participants were colocated to each other within the organization.

Data Sources

There was very little relevant information authorized for public release from other data sources. In Chapter 3, the point was made that the use of documents, historical archives, records, and demographic information strongly increases the validation of the data from phenomenological elite interviews. Useful historical records were largely unavailable for public release, and those that could be released did not have any data relevant to this intent of the topic. Because maintaining the confidentiality of the participants was, and is, paramount, the choice was made to remain focused on the exploratory benefits of phenomenology and the findings from the elite interviews.

In this study the elite interview method served several purposes, as described in Chapter 3. The interview explores the experiences within a particular organization from

participants (elites) who are privy to a specialized federal organization and who sit at upper leadership levels, which make them representatives of the organization. This method also helps establish organizational characteristics of the culture and the population. Finally, elite interviews fill gaps in a historical record, or in this case, a lack of documented records, to help create a sense of time, place, context, and key people (Beach & Pedersen, 2013; Berry, 2002; Tansey, 2007).

One of the challenges for the study was that much of the historical data relevant to the topic was not available for public release. The majority of records were classified as For Official Use Only (FOUO) or as Controlled Unclassified Information (CUI). In the case of both classification types, the FGO treats them as documents that are of a sensitive nature. Use of these documents would require several levels of requests and final approval through a public affairs office. The process is lengthy and requires indisputable justification, which is hinged on identifying organizational and public benefit. For the purposes of this study, and upon careful consideration and review of the documents in question, it was determined that there was only a minimal value-added benefit. Additionally, the use of these documents could compromise the confidentiality agreements between the researcher and the participants.

All elite executives who were asked to be participants agreed to be interviewed for the case study. All participants responded quickly and set up appointment times anywhere from 24 hours to 7 days from the time of the initial request. All interviews were scheduled to occur at the beginning of the workday, and each interview was held in the participant's office in order to reduce any additional disruption in terms of travel and to increase participants' comfort levels. Each participant was prepared, having reviewed

the list of questions in advance. At the beginning of each interview, the researcher reiterated the confidentiality portion of the agreement in order to highlight the appreciation of this possible concern. None of the participants appeared distrustful of the researcher's intent and expressed that they were comfortable with the plan to maintain confidentiality. One participant did ask about the security of the transcription process. Decisions about voice-to-text transcription made security a priority, and this decision-making process with the final determination was related to the participant in detail. No follow-up information regarding this was requested by the participant.

Research Methodology for the Data Analysis

The interviews were recorded using an application called Just Press Record (version 35.1), developed by Open Planet Software. The application was run on an iPhone X in airplane mode to ensure that there were no interruptions during the interview sessions. Just Press Record provides a direct transcription of the recording; however, the transcription quality was poor. The decision was quickly made to pay a nominal fee for a more accurate automated transcription service using Happy Scribe transcription software. Because of the guarantee of confidentiality, the site's security policy was reviewed and determined to be acceptable.[8] Recordings of the interviews were permanently deleted from the Happy Scribe site once the completed transcriptions were verified for accuracy and exported to a password-protected external hard drive.

The method for gaining access to participants was followed as described in Chapter 3. One participant was selected through purposive sampling, with the other participants selected though snowball sampling. The only deviation from the process

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[8]For Happy Scribe's security policy go to https://www.happyscribe.co/security.

outlined in Chapter 3 was the delivery method and timeframe between delivery of the questions and the participant interviews. There were several reasons for this. First, the initial participant, who was selected through purposive sampling, was detailed and thorough in communicating the study's intent, confidentiality, and the purpose of the interviews with the participants he selected using snowball sampling. Second, the participants were all senior-level executives with overbooked schedules. In spite of this, they were quick to agree to participate and scheduled time for these interviews in less than the expected lead time of at least a week. Being sensitive to their schedules, it made more sense to deliver the interview questions via the standard e-mail method and follow up to see whether there were any questions, rather than conduct an initial meeting as originally intended. In hindsight, it was more acceptable to follow the government agency's protocol for efficient communication.

In Chapter 3, no mention was made of memoing, as described by Groenewald (2004). This is defined as the researcher's observations, or field notes, of what the researcher thinks, sees, and experiences during the interviews. This reflection of the experience, particularly the visual cues and hunches that may prompt the researcher to lead the interview in a slightly different direction, is at the heart of the exploratory nature of phenomenology. The importance of memoing was clear while taking notes after the first interview. From then on, notes were taken after every interview to account for body language, how the participants approached the questions, how they worked through answers, and for other observances.

In developing a procedure for the transcription of the interviews, there were several methods and software options. The decision was made to use a mixed approach.

Initial transcription using Happy Scribe software provided a baseline, rough copy. Then the researcher moved over to the traditional hand method to create clean transcriptions. Redundant language was managed relevant to the conversation. Maintaining a purist approach in this process was a purposeful approach in order to support the core spirit of the phenomenological method and capture the essence of the relational experience. This should not be limited to the individual parts of the conversation but to the parts as they relate to the whole (Tomkins & Eatough, 2013; Vaughan, 2008).

Groenewald's (2004) modified five steps of data explicitation were used to extract the expressions or meanings, form themes, and make a composite summary. They are listed as follow:

1. Bracketing and phenomenological reduction,

2. Delineating units of meaning,

3. Clustering of units of meaning to form themes,

4. Summarising each interview, validating it and where necessary modifying it,

5. Extracting general and unique themes from all the interviews and making a composite summary. (pp. 49–50)

Bracketing and phenomenological reduction was performed while transcribing the recorded transcripts. Because of the vast number of organizational references, self-references, and stylistic differences used by the participants to address the research questions, the dialogue was complex. Reduction was performed in a phased series of steps. This was performed by re-living the interviews in order to capture the essence of the individual dialogues and carefully combing through them for expressions, also referred to as meanings and themes.

The units of expressions were extracted through the careful review of the transcripts utilizing the method described by Ryan and Bernard (2003) based on Morris Opler's (1945) principles for thematic analysis. The natural units of text were then evaluated for linguistic connectors, similarities and differences, missing data, and markers of theory. Following the logic of Giorgi (2006), Groenewald (2004), and Ryan and Bernard (2003), redundancies were not eliminated, but rather were regarded as markers within the dialogue, which may have held significant implications for the participant.

During this process, researcher notes were added within the text to annotate redundancies, similarities, differences, and other observations. The researcher continued to utilize the auditory dialogue, referring back to the recordings along with the written transcripts as they were being reviewed. By remaining entrenched in both mediums, the voices of the participants remained attached to the written words.

The units of expressions or meanings were identified by classifying significant topics, referred to as units of significance. These were extracted from the dialogues, categorized numerically alongside the natural units for referencing purposes, and examined to reveal themes. This was a lengthy, reiterative process. The raw narratives made up approximately 65 pages of dialogue, and every review seemed to reveal another perspective. Once the themes were scribed to each unit of meaning, the themes were reexamined and clustered by likeness or left independent in cases where there was a unique aspect. Just as the representative expressions were reexamined over and over, the themes were reviewed and refined until this researcher felt comfortable that they accurately reflected a nonbiased representation of each experience.

Managing the Data

The data were organized using a combined approach of the research-question method and the by-participant method (Groenewald, 2004). Each oral narrative was transformed into a written transcript using voice-to-transcription software. The transcripts were individually scrubbed for self-identifying markers of the participants and the organization(s) they referenced. Names of other individuals or organizations were redacted or removed entirely. The transcript was then reviewed against the recordings to correct any errors that may have occurred with the transcription. Where the flow of conversation may have backtracked or moved between thoughts, corrections and annotations were made to the transcript to clarify the information. Finally, the three transcripts were placed into seven tables, separated by each one of the questions, and aligned by participant. In this way, the researcher was able to separate the questions and align the individual responses.

No significant or unforeseen issues arose during the data collection or evaluation. The initial transcription process was tedious due to the chosen method and the attention given to preserve the spirit of the words of the participants.

Presentation of the Data and Synopsis of the Interviews

The qualitative phenomenological case study was a blended methodological model using Englander's (2012) technique for interviewing, which is largely based on the work of Giorgi (2006), Husserl (1999), Kvale (1996), and Sanders's (1982) interview designs, which pulls from many phenomenological models. The results were examined using methods developed by Hycner (1985), used by Giorgi (2006), and slightly modified by Groenewald (2004).

The semistructured interview questions followed the proposed methods of phenomenological interviewing by Englander (2012) and Groenewald (2004). The following questions were provided to the participants in advance of their scheduled interviews, and these questions provided a basic template that was followed throughout the conversations:

1. Can you please describe a situation in which you were involved in an organizational restructuring? Be as specific and detailed as possible.

2. What exactly was the outcome of the organizational restructuring?

   a. Can you pinpoint specific areas of success?

   b. Can you identify specific areas of failure, or a need to make further adjustments to strategy?

3. What was the impact of this outcome on the organization and the employees? Please be specific. Discuss the impact and observed experiences of all levels of employees with whom you are familiar.

4. While you were going through this experience, what organizational theories did you feel were represented?

5. Setting aside the policies, actions, and directives which contributed to the experience, can you describe what you felt (lived through) internally throughout the experience?[9]

6. Did the internal experience cause any kind of revelation? Was there any sort of epiphany which resulted?

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[9]This question is a natural form of bracketing as described by Groenewald (2004).

7. If you could connect this experience metaphorically to another experience, what would it be? In other words, perhaps start the thought process with "going through this experience was like . . . ."

Each Participant brought a unique approach to the discussion within the framework of his dialogue. P1 focused on a specific catastrophic event, which was the catalyst for his entry into the organization. P2 used an organizationally relevant event to go through the questions, but he also relied on vast years of experience in multiple organizations to highlight particular portions of the dialogue that were more meaningful. He took a much broader, leadership-style approach to the questions than the other participants. P3 used an experience from the current organization but used a great deal of organizational history and personal perspective to assess the outcome. The experiences of all three participants were centered around organizational restructuring or reorganization.

Each participant chose to discuss experiences that were relevant to his current work in the organization. The participants used many examples from the current bureaucracy to answer the semistructured interview questions. P1 made several metaphorical references to relate the dialogue to the experience. P2 frequently used metaphors and analogies in the form of stories to highlight points of significance. P3 maintained a very direct dialogue throughout the discussion. Each interview ran between 43 and 46 minutes in length and was conducted at a single time with no follow-up questions from the researcher.

The following pages present a synopsis of each participant's dialogue as he went through the questions. The intent of a phenomenological study is to provide a sense of

the lived experience of each participant, and these passages are where the primary theme and subthemes identified in the study emerged. For each participant, the format of the synopses is presented in the following order:

- Participant 1, 2, or 3;

- interview question number and the question;

- the expressions(s), also known as meanings, revealed from the response; and

- the response from the perspective of the participant, presented as a paraphrased summary and/or a passage of relevant dialogue to highlight the nature and feeling of the dialogue.

Following the synopsis of the interviews, there is an overview of the NASA case study. The researcher's evaluation of the contributions made to each of the research questions is presented in the section titled, Results of Analysis.

Participant 1

The discussion began with a reminder that the interview questions would be asked in order and that this was intended to be an exploratory conversation with no rigid format or restrictions. P1 had the list of questions in front of him that was provided 10 days prior to the interview. He went through each question in order.

Interview Question 1. Can you please describe a situation in which you were involved in an organizational restructuring?

Expressions. The following expressions were dominant in the response: standardization and creating procedures.

Response. P1 described his background in the organization. He held a position that was created to meet a requirement to respond to an organizational failure. Upon

being hired, his immediate responsibility was to perform a root cause analysis for the failure and develop and implement a solution. He associated the failure with a lack of standardized training and procedures. The remedy was implemented through a change to policy. P1 provided a brief background:

> The current organizational structure to our community came through the introduction of the guiding instruction to the organization. That event required the [organization] to start peeling those layers of the onion. And we learned that we didn't have a robust training system. . . . It was the on-the-job training. It was, "Follow me, and when I think you're ready, I'll designate you . . . ." We didn't have the standardized academic classroom instruction. It just left a lot of questions for the leadership . . . and we determined that we needed to change. And by that change, we needed to bring standardization into our operations, and that standardization we chose, was to follow the military model . . . bringing the best attributes of standardization and training and requirements into our community. With that we authored a new instruction that outlined the standardized program.

Interview Question 2. What exactly was the outcome of the organizational restructuring? (a) Can you pinpoint specific areas of success? (b) Can you identify specific areas of failure, or a need to make further adjustments to strategy?

Expressions. The following expressions were dominant in the response: creating stakeholder acceptance and understanding, establishing roles and responsibilities, creating a shared language, forming procedures, consideration of internal-external relationships, and the human life cycle in an organization.

Response. P1 related success to gaining stakeholder acceptance:

After the instruction was signed . . . I actually took this instruction on the road . . .

and met with leadership . . . introduced the concept, and said, "We are working

together—we're in this together—we're supporting each other." And that was

met very favorably.

According to P1, failure can be associated with a lack of people or the divisions of

the organization understanding or assimilating to their roles and responsibilities. The

interpretation of current instructions, procedure, and organizationally specific

nomenclature created misunderstandings between the organization and other stakeholder

groups. He used a life cycle analogy to describe where he believed his organization is

today:

Everybody uses the term crawl–walk–run, but I've always thought of it as, before

the baby can crawl, it has to support its own weight. And now we are waking up,

we're supporting our own weight, and we're getting on all fours. We haven't

started crawling yet, but we're going to get there.

Interview Question 3. What was the impact of this outcome on the organization

and the employees? Please be specific. Discuss the impact and observed experiences of

all levels of employees with whom you are familiar.

Expressions. The following expressions were dominant in the response: current

knowledge, possible attrition, the need for participation, and the nature of organizational

evolution.

Response. P1 connected concepts involving knowledge, attrition, participation,

and organizational evolution to the planning actions in reorganization:

So, when we introduced the instruction, we had a core of very seasoned, experienced [employees], and we had a very experienced Branch Head who was a good leader, and everybody looked to him before the introduction of the instruction. That person left the organization . . . and at first, I was very concerned about this departure, because I wanted him to help with the fielding of the introduction of this instruction. And then after a week or so, I came to realize that his departure was actually very beneficial, because it truly gave us a fresh start. All of that previous baggage of, "Follow me, do as I do. You know, talk as I talk, walk as I walk, and eventually you'll be [qualified]," was gone. I didn't have that roadblock. It may not have been a physical roadblock, but it certainly would have been a psychological roadblock to the organization. And then a couple [of] other people retired. So, I think there were some personnel changes that occurred that were beneficial . . .

There are biases that people have collected over the years . . . there are [employees] in the organization that have been doing this for their entire life—30 plus years of specialized experience . . . . And I applaud them. We need that seasoned experience. We need those graybeards to try to help train the new generation. We now have a lot of new employees that are learning from the best, and thankfully [they] have embraced our new direction, have welcomed it, and are part of our solution, not an impediment to our progress.

Interview Question 4. While you were going through this experience, what organizational theories did you feel were represented?

Expressions. The following expressions were dominant in the response: organizational alignment, roles, transparency, values, and culture.

Response. P1 discussed the values that led to the policy:

Organizational alignment, individual roles, the introduction of [positions] where we didn't have those in the past. More transparency—we wanted to make a transparent program where everything was in black and white, everything was in writing. There was no innuendo. There was no hearsay. There was no unwritten policy. Everything was clearly defined and available so that anybody and everybody could read it and understand.

We introduced . . . concepts that we had not embraced before the mishap. So now we're applying risk management.

P1 assimilated a cultural root cause failure to a theory that came from NASA:

NASA calls it the normalization of deviance. I never liked that "deviance" word. It just doesn't sound right. So, I started saying "normalizing the abnormal." Our team had normalized all of the different abnormal situations that occurred to where it was it was expected. It was routine and it was something that we always worked through every single day. And that's what led to us to the mishap.

Interview Question 5. Setting aside the policies, actions, and directives which contributed to the experience, can you describe what you felt (lived through) internally throughout the experience?

Expressions. The following expression was dominant in the response: the feelings of fear associated with being the person charged with organizing change.

Response. P1 related his internal experience to his initial fear and gaining acceptance:

Producing any new thing, there is always apprehension. There's always fear. There's the fear of failure. What am I doing? Is it the right thing? Are we going in the right direction? Fear of having the team not understand the direction that we want to take the organization. Having the fear that leadership doesn't support the change. And I have to say, that all of those fears were alleviated through that willingness of everybody I spoke with, to adopt and accept and recognize that something had to change.

We had to have the support of Senior Leadership . . . we had to demonstrate that we were ready, that we understood the root cause failure of the system, and that we either changed documentation, or created new documentation, so that [this] would never occur again.

Interview Question 6. Did the internal experience cause any kind of revelation? Was there any sort of epiphany which resulted?

Expressions. The following expression was dominant in the response: how organizations evolve and build on the original levels of knowledge.

Response. P1 honed in on how learning builds knowledge. Over time the organization has continued to evolve under the new policy. He talked about what the future brings:

It's not perfect. There are things that we have grown and learned that we need to improve. I'm starting the next version of that instruction, especially now with the MAO alignment [mission-aligned organization].

Interview Question 7. If you could connect this experience metaphorically to another experience, what would it be? In other words, perhaps start the thought process with "going through this experience was like . . . ."

Expressions. The following expressions were dominant in the response: personal experience, life cycles, roles, and cultivation.

Response. P1's response was aligned to the human life cycle:

This experience has been like planning a family and having children, because you go through the planning, you try the hardest to get pregnant. You get pregnant, and you have all of the prenatal appointments, and you're caring for it—for the unborn child—and then all of a sudden, the child is born. Now you have a living, breathing person that you are responsible for care and feeding 24 hours a day. Humans, unlike other animals in nature, don't come out of Mom's womb, stand 15 to 20 minutes later, and start running 30 minutes later, because that's the nature of [their] survival. We have to care for our babies. And this entire process, I thought, was kind of like that.

We have an infant program. We're caring for it. We're feeding it. We're nurturing it. We're sharing it with the other operating activities. Now I think we're roughly in the teenage years where we are a little rebellious at times. One of our teams is one of those rebellious teenagers—thinking, now I could do this on my own, I don't need anybody else to do it for me. And it just takes constant attention.

P1 emphasized that the work is ongoing. While the planned major changes to the organizational structure have been completed, there are small adjustments to roles and

123

responsibilities that continue. Most of these changes are internally directed; however, externally directed changes tend to provoke concern. A lack of clear communication regarding expectations is generally at the heart of these concerns.

Participant 2

The discussion with P2 began with a reminder of the confidentiality of the organization and the participant. P2 read and responded to each question in order.

P2 has been in the current organization for many years. His approach to the interview was less hinged on a specific single experience; instead, he brought a broader leadership perspective to the discussion of restructuring.

Interview Question 1. Can you please describe a situation in which you were involved in an organizational restructuring?

Expressions. The following expressions were dominant in the response: self-identity, adaptation, and influential forces.

Response. P2 explained his role and view of organizational restructuring:

So organizational restructuring—so, if you look at the innovation scale. I'm on the far-left side. So, even when I come to an organization, I tend to adapt it anyway. I would say pretty much every time I come into an organization I reorganize slightly. And then certainly I've been part of reorganizations that are more of a problem.

I'm a physics major so everything is physics. You have inertia of people and organizations the same as you do physical bodies in motion. And so, you need to understand that. And there's different tools, but sometimes you just have to say, "Do it," and force it.

P2 discussed a situation when he worked in a program that was restructured by changing the mission of the program. This change brought new types of people and competencies into the work. This experience highlighted the importance of relationships to him:

> You didn't have the relationships. I'm a big proponent of speed of trust in relationships. If you don't have that it just takes that much longer to get anything done . . . just by changing that skim layer on the top changed every other assumption we had.

Shifting to his current organizational role, P2 addressed structure and reporting when he first arrived. The organization was and is still spread across several sites. He found that people were not only disconnected in physical proximity to each other but also were disconnected relationally to each other. For example, the leadership in charge of one site was sitting in a completely different location from the personnel.

Interview Question 2. What exactly was the outcome of the organizational restructuring? (a) Can you pinpoint specific areas of success? (b) Can you identify specific areas of failure or a need to make further adjustments to strategy?

Expressions. The following expressions were dominant in the response: maintaining a hierarchical structure, making decisions based on quantifiable interpretation, and maintaining organizational alignment.

Response. P2 discussed the time when he first joined the organization. At that time there were many problems. He concluded that a lot of the issues being reported were due to the flat organizational reporting structure. To solve this, he created a military hierarchical structure and formed a distinct leadership chain that clearly outlined

positions and reporting. While he did not specifically point out the success of this

reorganization, P2 talked about performance as a measure of success in restructuring:

> I think there's been a lot of successful changes. I think what I would define
>
> between when it's successful and when it isn't—and this is what I try to
>
> incorporate when I use change—you have to start by understanding what are the
>
> concerns. Any organizational change, even if it's the best thing in the world,
>
> usually has some sort of dip as you kind of shuffle the cards, and hopefully it goes
>
> up in performance afterwards and it makes up for that dip.

To address any potential failures to reorganizing, P2 used this portion of the

discussion to address the current directive to shift from a competency-aligned

organization (CAO) to the mission-aligned organization (MAO) model. He said, "Now

you know, you have the current mission-aligned organization, which I have no clue what

they're doing, even after they say what they're doing." He highlighted his earlier point

about linking the change to the problem:

> They were very profuse with very superficial information but there was no detail
>
> behind it. And frankly, when you dig a little deeper, it's because there was no
>
> detail behind it. It wasn't like they were keeping a secret. So even today they're
>
> still trying to sort it out. So, you know it's striking to me. This [MAO] is
>
> probably the worst example I've seen of organizational change. You know, it's
>
> kind of like saying, my engine isn't running, so I'm going to connect the fuel
>
> injection cable to the spark plug and see if that works.

Interview Question 3. What was the impact of this outcome on the organization and the employees? Please be specific. Discuss the impact and observed experiences of all levels of employees with whom you are familiar.

Expressions. The following expressions were dominant in the response: attaining clarity of the situation, working toward risk mitigation, and providing scaled responsiveness to the issues.

Response. P2 spoke about using participation to diagnose the root causes:

I think it's critical to involve them. The first step is diagnosing the problem. The people are the ones that tend to know the problem, right. I mean, you may see the symptoms at a higher level, but the symptoms are not the problem. And sometimes you know, you don't need to lop off the leg if you can just treat the infection in the toenail. But if you go, "Yes, it's all bad. We have to restructure" . . . then otherwise you tend to overkill it.

Mitigating risk by communicating to people's concerns was also addressed:

I think it matters just as much that they know what's not changing. [For example] MAO—you know, that they've come out with. [They say] Oh, and we're going to fix this, and we're going to do this . . . but don't worry, a lot of you won't be affected. And people are like, "Okay. Well am I one of those that's not affected, or am I one of those that are going to be affected?" Uncertainty I think is your biggest challenge.

Interview Question 4. While you were going through this experience, what organizational theories did you feel were represented?

Expressions. The following expressions were dominant in the response: making associations between experiences, setting expectations, considering history, setting goals, and creating a structural alignment that meets the organizational role (mission).

Response. P2 discussed how people, goals, experience, the organizational mission, and some basic rules affect structure:

I don't know that there's a specific theory I use. Growing up on the military side, obviously your experience drives a lot. You see different structures. You learn that it's understanding people. You kind of keep some clear guidelines of what organizations are supposed to do.

Ultimately you need some sort of understandable hierarchy of who's responsible for who, and there's many ways to do that. A lot of it you know, is you just have to understand your goal, and not every organization's structure suits each other. So, I think it's just it's more experiential based.

There's certain basics and these are passed down from the Greeks and Romans. You should have no more than five people reporting to anyone directly; max of seven probably, no less than three; but about five is the right number, and then you build on those basic blocks. Every major unit should be about 100, and then you need another unit because then it gets too big. It's just those are those dynamics driven by people's bandwidth. And so, the organization should be there to support the people, not the other way around.

Interview Question 5. Setting aside the policies, actions, and directives which contributed to the experience, can you describe what you felt (lived through) internally throughout the experience?

Expressions. The following expression was dominant in the response: self-improvement.

Response. P2 spoke about his struggle to slow down, eliminate assumptions, and take the time to understand the meaning behind what people say:

> You know it's easy to sit there and go, "Yeah, yeah, yeah, I know what you
>
> need." And so at least for me I have to force myself to slow down, let the process
>
> work. Make sure you're hearing things and even if it doesn't sound [reasonable],
>
> you know, you have to stop and think about what's the deeper cause or meaning
>
> for that . . . things aren't always explained in a way that you understand what
>
> they're trying to tell you. So that's probably the hardest part I've found . . . being
>
> more patient and listening to the people. Don't assume you know better than
>
> them. In some cases, you might, but you know, ultimately, it's better to always
>
> learn something.

Interview Question 6. Did the internal experience cause any kind of revelation? Was there any sort of epiphany which resulted?

Expressions. The following expressions were dominant in the response: diversity, natural attrition, life cycles, skills, mission, culture, internal and external environments, scaled decisions, and organizational alignment.

Response. P2 drew from several public administration and systems concepts and elaborated on each of several topics that contributed to his perspectives. His lessons in diversity came from work situations that frustrated him and from leadership training. P2 said,

So, what have I learned? You know, I've learned to try to understand people

better. People, I mean, they can change a little bit, but in general, they are what

they are. And it's kind of like, and I don't want to minimize it, but it's sort of like

a tool. You know, some people are the hammer, and some others the screwdriver,

and some others the file. So, the best thing you can do as a leader is not sit there

and try to force them to be a certain way—take advantage of their natural skills—

find out what they are good at. What motivates you, right? Sometimes you have

to tailor the organization around people because you want to take advantage of

those natural talents . . . . And I don't believe that mine is the only way . . . . So,

better to have different views . . . .We don't all need one point. We can have

people doing different things, different ways. So that's what I've learned.

To the natural attrition of people and the evolutionary nature of organizations, he

remarked,

From an organizational standpoint, you may never change the structure but . . . the

culture changes, not what just with one person but over a course of time because

of people changing in and out.

Organizations are really are no different than a human being in terms of a

living entity. They're comprised of elements that work together or don't work

together, and it evolves over time. They get bigger . . . make it smaller. It may

change . . . so, you have external environmental factors that are morphing the

organization as well as internal.

P2 talked about internally directed change and the application of scale in

restructuring:

And so, I think organizational change can happen completely internally, just by the people. And you don't have to have a big restructuring—MAO for example. Could you have accomplished the goal with something more surgical if you knew the problem, instead of saying, "I'm going to try to cover up the problem with an organizational restructuring? I've got termites in my house. I'm just going to rip down the walls and rebuild it," could you just eradicate the termites?

He talked about his view of the failure of the current CAO model:

I think [this is] why this organization struggles, and we ended up with the CAO model—which isn't a bad concept. At the beginning it provided a good balance, but over time people got into positions for years—10s of years right; 15 years, 20 years. No matter how smart you are, we all have blind spots. So, you're going to lead an organization in one direction.

I don't think in an organization it's good to have a leader stay for too long, no matter how good they are. They either accomplish what they want to, and they're resting, or they're blind to certain things and you know, unless they're very open and able to delegate and allow other people to do stuff. . . . That's the innovator in me.

Interview Question 7. If you could connect this experience metaphorically to another experience, what would it be? In other words, perhaps start the thought process with "going through this experience was like . . ."

Expressions. The following expressions were dominant in the response: interdependent relationships and accounting for the holistic (whole) environment.

Response. P2 talked about the role of relationships and the variables that people bring into an organization:

Cat herding is an oft-used metaphor for me, but it's more than that. You know, I do often use the metaphor of an organization is like an engine. And much like an engine, you know, different parts of the engine have different functions, right? Fuel systems may be providing the fuel, the pistons may be providing the energy, but if you don't have the oil system to cool it, it's not going to go for very long. If you're not getting the air, or if you don't have the computer control system . . . . So, you can't just pull out parts and put in something else, even if it seemed similar, and expect better performance. And that's where, I don't know . . . . I guess that's my best analogy. You have got to understand the engine.

Just like in our organization. I mean you have leadership which might be the computer control center, but you have the financial, which is providing the fuel and all of the other elements, so no one person or function, in my mind, is any more important than the other. Just like in the engine . . . you can't say, "Well the spark plugs are more important than the air filter." You might go, "Wow! I can go further with a bad air filter than a bad spark plug." So, I guess maybe in that way it's more important. But, you know, it's just a matter of degree, right? Same with an organization, you have got to look at it really as the whole thing.

What are you trying to do? And then, also understand those relationships, both positional and people, because sometimes things are a major divide for two people who just can't work together, but you bring in two more people, and put

132

them in the exact same situation, with the same rule sets, and it's like, "Dude–

let's get this done." All right. Cool. Right? So, that's why it's incredibly

fascinating. It is way more fascinating than . . . I mean [look at] engineering. If

you put two things together, it should generally work the same way every time.

People—not even close—even the same two people. You're having a bad

morning, and so how you respond is going to be different than if you're having a

great day. So, there is a near infinite number of variables every single day.

Participant 3

P3 has worked in almost every division of his organization, and of the three

participants, he holds the longest tenure in the organization. The perspective he brought

to the conversation resembled that of an elder tribesman who carries the tribal

knowledge. He compared the history of how the organizational structure worked to meet

goals and interrelations of teams.

Interview Question 1. Can you please describe a situation in which you were

involved in an organizational restructuring?

Expressions. The following expression was dominant in the response: ensuring

participation by the employees.

Response. P3 described the initial catalyst for the restructuring he chose to

discuss. For reference, he outlined the hierarchical levels of the organization:[10]

So, our department was going through a restructure which started about two and a

half years ago now. [It was] put it out that we were going to look at doing a

restructure, and the division heads were to look at whether they wanted to add

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[10]A general representation of a federal organizational hierarchy is located in
Appendix B.

branches, delete branches, change branches, move things around. . . . So, everything was within the divisions and then up at the associate level [department]. [There] were some recommended changes within the chain of command to the structures below them, suggestions and things like that.

Division heads came back in with their ideas, and we had ours, and so the director put it together. At that point, I think we had three or four options to discuss, and that was based on all the feedback from all of us. And that's what started the process.

Interview Question 2. What exactly was the outcome of the organizational restructuring? (a) Can you pinpoint specific areas of success? (b) Can you identify specific areas of failure or a need to make further adjustments to strategy?

Expressions. The following expressions were dominant in the response: establishing organizational balance, structures and functionality, and efficiency and alignment.

Response. P3 explained that the outcome of the realignment added internal capabilities at the division and branch levels, but at the department level the lines of authority became unbalanced: "The stool that once had three equal legs was left with one leg that was basically the same as before, another leg that was much heavier and longer, and the third leg was all but missing."

P3 stated that the division's branch-level reorganizations were successful, but the reorganization at the department level threw off the organizational balance:

My opinion, [this] was not a success because it really moved things out of balance. The only successes were down at the lower levels within individual

134

branch restructuring and divisions to really help the efficiency and structure and

functionality within the divisions. That really worked out as it was intended.

So, the areas of failure where I just said [department] . . . . I think that it

really did really unbalance the entire organizational structure of the entire

functional area alignment. It took away all of the independence.

P3 talked about how policies were no longer effectively linked to directives or

actions. He felt that smaller changes for the purpose of functional improvements would

have been enough to reach the intended goals.

Interview Question 3. What was the impact of this outcome on the organization

and the employees? Please be specific. Discuss the impact and observed experiences of

all levels of employees with whom you are familiar.

Expressions. The following expressions were dominant in the response:

intentional displacement and the catalysts leading to member attrition.

Response. According to P3, individuals and teams were displaced and moved into

different groups. P3 explained that the restructuring created an internal upset among

employees because good teams were divided. Roles and responsibilities also changed

under these different groups. The end result was that critical employees left for other

organizations or simply retired.

Interview Question 4. While you were going through this experience, what

organizational theories did you feel were represented?

Expressions. The following expressions were dominant in the response:

functional alignment, hierarchy, and organizational balance.

Response. P3 talked about how the former structure considered balance, the chain of command, and functional alignment, which allowed internal independence. Restructuring removed all of these attributes. Policies were no longer effectively linked to directives or actions. The upset that P3 felt at that time was expressed in these words:

I have to admit, I don't think . . . you sense my frustration . . . . I'm not sure [there were] any organizational theories . . . that they were trying to accomplish . . . because why would you have made some of the changes, some of the massive changes that were made? When I think it was balanced before and now, not . . .

Interview Question 5. Setting aside the policies, actions, and directives which contributed to the experience, can you describe what you felt (lived through) internally throughout the experience?

Expressions. The following expression was dominant in the response: rejection.

Response. P3 expressed feelings of anger and hurt throughout the interview process. He stated that even though he gave substantial input into the reorganization planning, in the end, none of his ideas were utilized:

So there really wasn't a process, right? There was an input stage, and then a predetermined outcome . . . . That's essentially how this organizational structure went down. So, the decision part I was actually part of and yet virtually had no input into it because nothing we advocated for stayed. I mean nothing. Nothing.

Interview Question 6. Did the internal experience cause any kind of revelation? Was there any sort of epiphany which resulted?

Expressions. The following expressions were dominant in the response: structure and the impact on authority.

Response. P3 explained that the end result of the restructuring left him feeling as though he had no real purpose:

The epiphany part was when it finally came down to what the final structure looked like. My entire chain of command, and one-third piece of the organization was taken away. I was left as nothing more than . . . a project lead. . . .

That's how it turned out personally for me. The bad part about it was that [it felt like] a move to say, "I'm making all these changes; this functional position you have is going away, maybe you need to also."

In addition, P3 talked about how he has experienced an impact to his authority. People answer only to their direct supervisors, and so even though he outranks them, there is no respect for authority:

People who understand that that I'm there for a role to make things better . . . will help, will reply and will take direction. Others, for whatever reason are like, I don't need that person, and I get no response . . . . I get no action on a direct order . . . . That's what this has created for me personally.

Interview Question 7. If you could connect this experience metaphorically to another experience, what would it be? In other words, perhaps start the thought process with "going through this experience was like . . ."

Expressions. The following expressions were dominant in the response: functional alignment, balance, and working relationships.

Response. P3 compared this experience to one that he underwent previously in another division where they created levels below branch heads called section heads. He explained how this came about and the end result:

Because what happened was . . . you have a branch . . . so big that the branch

Head can't have that many direct reports—it's just unwieldy. You create section

Heads, and now you've divvied it up, but what it did was it gave the branch heads

the ability to now have only two direct reports, although they are still involved in

the entire branch . . . but now the section heads were burdened, and [they] who are

the actual hands—on people who were doing 150% technical work—have now

added up to 20 direct reports and couldn't get their technical work done. So how

did that help?

I think we did it for a year or two. There were two branches at that time.

Two section heads were added. I was one of the four section heads and all four

sections had a meeting and said, "Are you liking this? This is ridiculous. All they

did was push down all the paperwork onto us." And so, we mutinied and said,

"None of us are section heads anymore."

P3 summarized the entire experience by saying,

So that's why I even go back to our initial theories. What was the logic behind

the current structure? There couldn't be any, because it was functionally better

aligned how it was, and we could have manipulated in that structure to fix things,

and that would have helped things along. It didn't make the structure any better.

It didn't make the chain of command any better. It didn't make any

interrelationships between organizations at the working levels any better because

only the ones who were willing to figure out how to make it work are making it

work.

Concluding Remarks

The participants delivered three unique perspectives to the topic of restructuring in a FGO. The FGO has a long history, which includes multiple reorganizations. Some of these have occurred at a level that encompasses all federal activities, and others have stayed within the division or branch.

Contributions to the Research Questions

The participants contributed to the research questions in the following ways:

Research Question 1. *What did the lived experience of the participant going through an organizational structural change or realignment reveal about the approach to decisions and communication?*

P1 took a rational and systematic approach to the decisions. He used the implementation of policy and instruction as a catalyst, which is a standardized and familiar bureaucratic response mechanism. He also applied knowledge of the organization, the culture, the history, the members, and the internal and external stakeholders and forces to formulate a change management and implementation plan. Communication was important for change management.

P2 used his lived experiences to facilitate self-improvement. By slowing down, being more patient, and waiting to hear what people have to say, he found that he learned more about the organization and the deeper reasons behind some of the issues or problems.

P3 felt that the approach to decisions lacked planning to account for the roles of people and their work and the functional alignment of groups within the organization. He stated that the outcome of the decision in this specific experience was better at the

division and branch levels, but there were negative impacts within the upper levels of the hierarchy, which resulted in an unbalanced organization. Likewise, communication within the lower levels remained good. Because of the reorganization of the chain of command, lines of communication became fractured.

Research Question 2. *What did the experience reveal about the cultural view of structural change in this type of organization?*

This is an organization that has been in operation a long time. For P1, the organizational history, current leadership, cultural norms, groupthink, and bias were expected to create internal barriers to change. Shared language with external stakeholders was challenging due to a specialized mission. Those external stakeholders in organizations with the same specialization were highly receptive to the policy and the associated changes. The concepts and theories used to justify the reorganization were in line with the type, nature, and membership of the organization and accounted for the anticipated barriers.

P2 believed that structural changes are inevitable, and that while there is a natural tendency for resistance, the culture will be more accepting of structural change if the reasons behind the change are in direct response to a known problem. An overall sense was given that if the organization needs to respond quickly with a change in policy, a reorganization is the shortest path to implementation. The military view of change is inherent in the culture. In this framework, change is expected.

P3 presented a cynical perspective toward structural change, which is often represented by the members who have the greatest history in an organization and thus are

the holders of tribal knowledge. He talked extensively about how his experience created confusion, attrition, loss of autonomy, and other negative disrupters.

Research Question 3. *Does the history of change management through the lived experience reflects a positive or negative cultural correlation for adapting to a mission-aligned organization structure?*

P1 indicated that there is a negative cultural correlation to MAO because of the way it has been presented. Communication is critical to the organizational culture, and the purpose and intent of MAO has not been communicated.

While there is no indication that the history of change management has any bearing on the cultural correlation, there were repetitive indications that P2 has a low opinion of the MAO initiative; however, it will be implemented and the broader organizational culture will adapt in order to meet the mission of the organization. Many areas of the organization may remain largely unaffected.

Based on his experience, P3 presented a negative opinion of this culture being adaptive to the MAO proposal, particularly because of the lack of communication, which should detail any plan or goal. None of his expressions of discontent with the last reorganization were resolved by MAO.

Research Question 4. *Did the experience provide evidence that there would be benefits to adopting a more holistic or naturalistic approach to structural change or realignment?*

There were multiple indications that P1 utilized his cultural awareness of the organization. Internal and external stakeholders, environment, organizational history and

age, people, and environment were all factors in how he planned and implemented the restructuring.

P2 exhibited a strong natural propensity toward the holistic approach, even within a militaristic cultural viewpoint. Without calling out specific theories, much of his narrative alluded to theoretical underpinnings from fields that were outside of the bureaucratic institution. He came across as having a pragmatic approach to reorganization efforts but consistently referred to the people in the organization, the importance of communication of roles and responsibilities, connecting with stakeholder groups, and ensuring that leadership responses are based on an accurate assessment of issues and are effective in attaining the expected goals.

P3 referred to characteristics that are holistic (whole or oneness) several times. Based on his very different perspective to the restructuring, it may be reasonable to assume that he could have an additional contribution to the broader definition of holism specific to this organization.

Results of the Analysis

Interpretation of the Answers to the Research Questions

Research Question 1 looked for information about the approach to decisions and communication based on the lived experiences as related by the participants. Collectively their experiences showed that they were aware that successful reorganizations relied on choosing resources that could be used to make good decisions. Personal and historical experiences were often drawn upon in consideration of decision paths.

All of the participants took into consideration the people in the organization, their roles, and the stakeholders in the respective environment. One participant mentioned several times that organizational structures should fit the knowledge and skills of the people; roles and functions should be incorporated into the design. It was important that the structure either matched the culture or repaired the culture. Another participant believed that policies needed to support the desired structure, and the structure needed to fit the culture. Demographics were important in making this work. Structure never stood alone as the central focus without attention to the functions, which supported the reason for the structure.

Research Question 2 explored the relationship between culture and structure in the organization type. The unintended consequence of this question was being able to clearly identify the environment of this organization. The culture reflected the bureaucratic environment. Emphasis was placed on the markers of this particular culture, to include roles, hierarchy, policy values, mission, influence, history, and stakeholders on decisions about structure. The participants consistently linked environment, history, and culture to the organizational structure.

The role of culture and policy was highlighted most significantly when P1 referenced the normalization of deviance.[11] During the investigation of the Challenger disaster, it was determined that the risks that had already been identified did not change; however, there was compelling evidence that a pervasive pattern of flawed decision-making was at the root cause of the disaster. This behavior was associated with the organizational culture. Older bureaucratic agencies with long evolutionary histories and

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[11]Normalization of deviance is a cultural mindset that forms when a pattern of abnormal occurrences or flaws do not result in an incident (Hall, 2003).

low-turnover workforce can be particularly subject to normalizing irregular behaviors. In NASA's case, the subject matter experts were not the final decision makers who called out operational risks. Those who had the most to lose politically determined risk severity and made the final call for launch or no launch.

P1 associated the normalization of deviance with his own analysis of the root cause for the mishap at the case study agency. He pointed out that the naming of this theory was problematic for him; therefore, rather than referring to the behaviors in the situation as those of deviance, he re-termed the theory to fit the situation, calling it *normalizing the abnormal*. For this researcher, this initially seemed like a superfluous modification to terminology, but after several iterations of reviewing the narrative through his experiential perspective, the situation he related as it pertained to the culture truly was abnormal, not deviant. The standard operating procedures of the time did not address normal processes, which were typical to all other similar categories of operations. The rigor of a regulated training platform was nonexistent. Scripts that dictated guidance as *if-then* scenarios had far too much freedom for individual opinions. Most notably, the roles and rules for key positions during operations were not clearly established. All in all, there was a lack of stringent operational risk management, which is rooted in all other naval operations and operating activities. The personnel were not deviating from existing guidance; rather, the operating activity had not integrated standards, which exist for all other operating activities. The operating personnel were operating atypically for this mission, and the associated abnormal method of decision-making contributed to the evolution of the culture of operations within this bureaucratic environment.

All participants agreed that decisions that resulted in structural change needed to be directly related to the problem and appropriately scaled to fit the defined requirement. The role of the mission was strong. Complete reorganizations were typically viewed as an extreme overreaction. One participant noted that large reorganizations appeared to have personal motives, and self-gain could be a factor.

Characteristics that are inherent in a bureaucratic environment were identified throughout the dialogues. Each participant placed a high amount of value on ensuring participation, representation, accountability, and diversity when making decisions that could alter the structure. Balance and/or organizational alignment were considered important; however, there were different viewpoints on what this might mean. Poor understanding of the organizational alignment between goals, mission, and policy values was cited repeatedly as an example to explain poor structural changes.

Research Question 3 was centered on the organizational history of change management and the likelihood that this organization would adapt to the current reorganization, which takes the organization from being competency aligned to mission aligned.

At the time the interviews were conducted, none of the participants could clarify the vision or meaning behind MAO, although every participant brought MAO up at least one time in their dialogue with no interviewer prompting. The information that emerged about the MAO structure provided an overall sense that there was a negative correlation between the organization and a full-scale adaptation to MAO. In other words, even in instances in which there has been information about MAO, there is a lack of widespread understanding of what this means on a personal level.

The way the participants referred to MAO gave a sense that this was a forced adaptation, which is typical of the nature of a bureaucracy. No one exhibited a tangible knowledge of MAO, but because the directive was coming from the headquarters level, they accepted its inevitability. This still places the organization and the change to MAO at odds with any positive cultural correlation.

Many of the experiences used policy values, historical knowledge, and personal experiences as part of planning and executing structural changes that included the cultural perspective. Policy values encompassed norms associated with the bureaucratic environment such as transparency, participation and representation, procedures, scale, and shared language. The argument could be made that if MAO does include these elements, then a positive cultural correlation could be established.

Research Question 4 looked for evidence of a naturalistic approach to structural change. This is also referred to as holism or a sense of oneness.

With respect to individual leadership perspectives, there were strong indications that a holistic approach to decisions surrounding structural change was already utilized, albeit not as part of any formal theoretical construct. The value of history, environmental and cultural awareness, experiences, relatedness, and the use of diverse theories is integrated into such an approach. The participants illustrated repeatedly throughout the interviews that they were keenly aware of the value of the people in the success of the organization and in any structural changes. They all made references to subtle and not-so-subtle nuances of the culture and the important role that the people play in shaping and maintenance of the culture and environment.

All of the participants emphasized the following ideas relative to their respective roles and decisions in the organization: adaptation, alignment/balance, culture, history, influence, stakeholder groups, interdependency, roles, mission, policy values, knowledge and skills, structure, the natural environment (holism), and organizational life cycles.

Summary of Expressions and Themes

The seven interview questions were designed to explore the participants' individual approaches to decisions, rationales, perceptions of outcomes, awareness of impacts, use of theories, lessons, and metaphorical assimilations. A synopsis of the participants' responses was presented to create a sense of shared understanding of their collective expressions. Their responses revealed four themes: ecosystem, bureaucratic environment, cybernetics, and niche. Table 4 shows the purpose of the interview question and the expressions that the researcher extracted from each participant's narratives.

Table 5 shows which themes the expressions supported. These expressions were reviewed contextually by participants and their individual focus or intent in the discussion. For this reason, many of the expressions crossed over several of the themes.

Validation

Validation is a perceived weakness of the phenomenological approach because there is no traditionally quantitative result presented to the audience. This was one of the largest struggles for the researcher because validation not only serves the researcher's desire for proof (confidence) that the results have practitioner value but also provides satisfaction with the chosen research methodology. In order to achieve a level of validation, which is being defined here as satisfaction of confidence in the results, an

Table 4

Summary of Expressions

Q	Purpose behind the question	P	Expressions
1	Ascribe a reason for restructuring and/or connecting ideas about organizational restructuring	P1	Standardization, procedures, policy
		P2	Self-identity, adaptation, influential forces
		P3	Participation
2	Perceptions of outcomes, successes, and failures of restructuring	P1	Stakeholder acceptance, understanding role/responsibility, shared language, internal-external relationships, life cycle, procedures
		P2	Hierarchical structure, organizational alignment, quantifiable interpretation
		P3	Organizational balance, structures for functionality, efficiency and alignment
3	Awareness of impacts of restructuring to the organization and/or employees	P1	Knowledge, attrition, participation, organizational evolution
		P2	Clarity, risk mitigation, scaled responsiveness
		P3	Displacement, member attrition
4	Drawing relationships between experiences and organizational theories	P1	Organizational alignment, roles, transparency, values, culture
		P2	Associating experiences, expectations, history, goal and structure alignment, organizational role (mission)
		P3	Functional alignment and hierarchy, organizational balance
5	Consciousness of an internally lived experience	P1	Fear
		P2	Self-improvement
		P3	Rejection
6	Transfer of lessons from the internal experience	P1	Knowledge, evolution
		P2	Diversity, natural attrition, life cycles, skills, mission, culture, internal and external environments, scale, organizational alignment
		P3	Structure and the impact to authority
7	Metaphorically correlating universally relatable stories and the experience for additional meaning	P1	Life cycles, roles, cultivation
		P2	Interdependent relationships, holistic environment
		P3	Historical analogy, functional alignment, balance, relationships

Table 5

Major Themes Supported by Expressions

Ecosystem	Bureaucratic environment	Cybernetics	Niche
Adaptation	Adaptation	Fear	Adaptation
Alignment	Alignment	History	Attrition
Attrition	Attrition	Holism	Balance
Evolution	Balance	Influence	Cultivation
Holism	Culture	Interdependence	Culture
Influential forces	Evolution	Knowledge/skills	Evolution
Life cycle	Hierarchical structure	Metaphor	Functional alignment
Open system	History	Mission	History
Roles	Holism/natural environment	Rejection	Influential forces
Structure	Influential forces	Role and identity	Interdependent relationships
	Internal/external stakeholders	Self-improvement	Internal/external stakeholders
	Life cycles	Stakeholders	Life cycles
	Mission		Mission
	Policy		Roles
	Procedures		Shared language
	Relationships		Skills
	Roles		
	Scale		
	Skills		
	Standardization		
	Structure		
	Transparency		
	Values		

additional step was performed. The expressions were clustered to broaden their application within the wholeness of the study and then further evaluated for strength contained in the full narratives. Strength ratings were assigned on a scale of 1 (*lowest*) to 10 (*strongest*), based on the emphasis placed on the meanings.

Additional characteristics of the participants, which were unspoken but demonstrated during the interviews, were added to this portion of the analysis. Qualities

of self-awareness, the mindful awareness and use of belief systems, the function that beliefs played in decisions, and the influence that metaphorical references or stories made on choices were evaluated. The results were placed in a radar chart to provide a visual illustration of the strength of representation within each expression cluster. The strongest expressions or qualities are marked by a square symbol with a plus sign, with all others marked by a gray square. Figure 5 shows the result of this analysis.
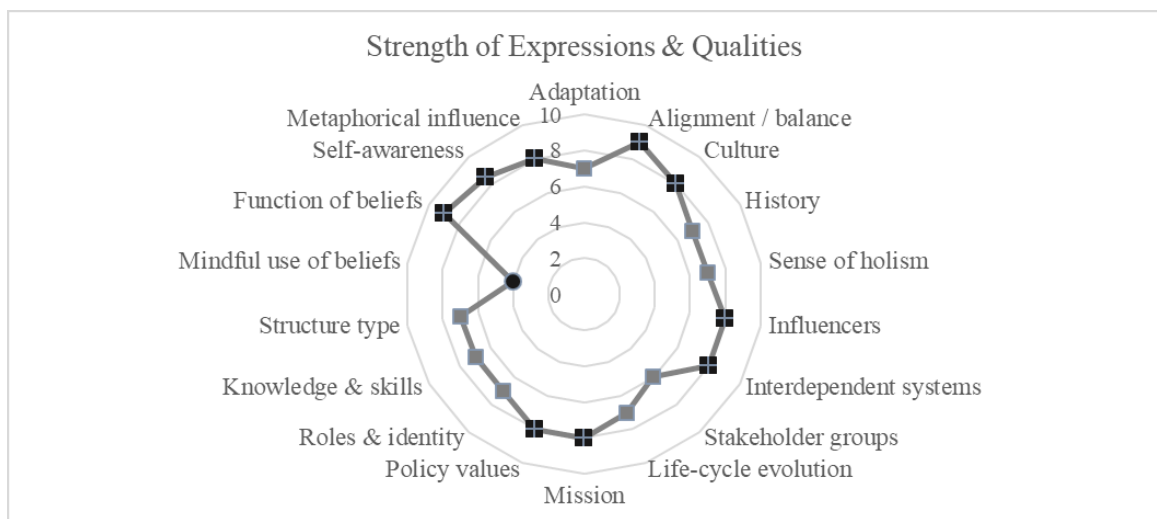

Figure 5. Strength of expressions and qualities.

The collective strengths of the participants were highest in their concern for alignment and balance, the culture, the influential factors, interdependence of systems, the sense of mission, policy values, the function that beliefs played during decision points, the demonstration of self-awareness, and their natural propensity to utilize metaphorical abstractions or analogies when unprompted to do so. Self-awareness was measured in their depth of discussion of their lived experiences, their internal feelings, and the impacts they felt they may have made, both positive and negative.

On the lowest end of the scale, the participants did not state that their beliefs or theories were directly tied to decision-making, even though they all demonstrated their knowledge and practical application of belief systems and organizational theories. All other clustered expressions were above midpoint on the scale. Respective to the expressions, qualities rated above 6 were consistently measurable among no less than two of the three participants.

Dichotomy in a Bureaucracy

The politics–administrative dichotomy as a hardline separation of powers was not viewed as effective in the study's organizational environment. The interviews showed that members of this agency were expected to be participants and representatives in their respective niches. Their participation in the formation and execution of policy was called out as being critical to either maintaining the current structure or in a planned reorganization where they are adaptive catalysts for a new structure. P2 maintained that it was crucial for a leader to listen to those who were closest to the problems, and P1 claimed that inclusion of internal and external stakeholders was key to a successful implementation of policy and restructuring. Based on the overall responses and discussions, it is apparent that a model of duality between the function of politics and administration is a better fit. The executive and the administrator should be coequals in the implementation and execution process. This model would reflect alignment of the mission to the policy, which was cited regularly as an important feature of a good reorganization effort.

The study showed that the organization may be arranged to represent stovepipes and boxes, but interrelatedness of the mission and the teams is essential to the success of

the niche and the bureaucratic environment. Reflected by a relatively holistic and creative perspective on change at the executive level, this is an open-system organization. As such, the predictive component of this research says that if the planning of MAO is left up to the executive leadership, they will maintain a hierarchical structure but implement cross-functional alignment between divisions and teams to accomplish different interagency goals.

The Case Study and the Ecological Metaphor

One goal of the study was to explore whether the metaphorical framework of the literature could be joined to the experiences of the participants (Cornelissen, 2005). This method validates the holistic side of decision-making. Following is a unification of the literature and the lived experiences to demonstrate how the application of the metaphor reveals a new perspective on the organizational structure:

Consider that the organization is a demographic mix of employees, some of whom have been there over 30 years (the graybeards), with new employees entering the organization (P1 interview). The organization has two niches, the old and the new. The graybeards have been controlling the stability, but in order to do this, they have to maintain control of their niche. The holistic approach might say that in order to maintain homeostasis, the two different species must consider that they are one and the same. This is accomplished by reconstructing the niche through the context of place and role in the environment (Vandermeer, 1972). The two different species must become unified in their habitat through their relational roles, to include their purpose. This involves self-organization as a means of adaptation. Once the niche is reestablished and homeostatic,

the organisms will likely continue to slowly alter their environment through small self-propelled changes, evolution, and attrition.

MAO is an externally directed force whose integration may be demanded by external stakeholders. P1 believed the instruction he created may in part have to be modified because of MAO. P1 will want to account for instabilities that MAO could create. While P1 is an internal stakeholder, he is also connected to the external stakeholders because of his role. From an ecological perspective, during any organizational transformation, there is homeorhesis or maintaining stability from a level above the organisms. Depending on changes imposed from the MAO initiative, P1 could reexamine the existing niche. If MAO demands the construction of a new niche, then niche construction would be the next restructuring effort.

Niche construction is a means of changing an environment by organisms through their influence. Extensive research has proven that humans are capable of modifying their environments; they do this most commonly through cultural practices. Dyke's (2009) analysis of niche construction using the Daisyworld model showed positive feedback effects from inceptive niche construction when the population type (an environmental variable) is specifically selected for the niche. This is a cybernetic system whereby a positive feedback loop was created between the organism and the environment.

The literature shows that the traditional view of adaptation includes natural selection, which occurs when a species exhibits properties that suit it for adaptation to the environment. Niche construction offers an alternative view by emphasizing the capacity of organisms to modify environmental states and has shown to support the evolution of

mutually cooperative behavior, stability, slow the evolution of change, create momentum and inertia, regulate homeostasis and create boundaries, and/or positively affect coevolution, competition, and coexistence (Laland, Boogert, & Evans, 2014; Odling-Smee, Erwin, Palkovacs, Feldman, & Laland, 2013; Odling-Smee & Laland, 2011).

In their individual ways, each participant demonstrated a holistic approach (oneness) in their views of structure and change. There were similarities in how they viewed decision-making that reinforced the ecological theory that decisions and sustainability are optimized when the whole ecosystem is taken into account. Gaian theory says that organisms actively adapt to their environment but can also alter the environment over time. Organisms seek homeostasis through the process of self-regulation, but certain organisms have such powerful organizing and self-regulation properties that they maintain homeostasis throughout the entire environment, to include the living and nonliving parts and even temperature regulation (Lovelock, 2004, 2019; E. P. Odum, 1998).

Cybernetic systems are based on circular, variable-state feedback and can force adaptation and self-regulation. Bureaucratic organizations are natural cybernetic systems, open to seize chance opportunities, modify their state as needed, maintain homeostasis or incite chaos, and redefine presupposed limitations and boundaries based on policies and organizational alignment. Adaptation to change is purposive, manipulated by policy, force, or through structural design (Participant 2). If those in the organization deem the environment unfit, and adaptation is not acceptable, then those members will either force environmental change or they will propel to a new niche (Participant 3). Gaia is an example of a cybernetic system. Gaia seeks perfection

without ever attaining it, but because perfection is the goal, the feedback loop operates in a variable state, regulated, and always seeking homeostasis (Lovelock, 2016).

Summary of the Case Study

Elite interviews were conducted using three participants who were executive leaders in a highly specialized, complex FGOs. Each participant answered seven interview questions that were designed to explore their individual approaches to decisions and communication, their associations between culture and structural change, adaptability to a new organizational structure, and the benefits of taking a holistic approach to structural change or realignment. Lessons from NASA presented a government agency with similarities to the case study organization. Michaud's (2009) study of NASA's reorganizations and Vaughan's (2008) normalization of deviance theory expounded on the critical function of culture in government. The phenomenological examination of participant responses revealed four themes relevant to the organizational model: ecosystem, bureaucratic environment, cybernetic system, and niche.

The research revealed that the organization's leadership had strong views about the importance of communication in restructuring. Multiple approaches may be utilized so long as the issues are properly diagnosed and any proposed solution(s) directly correspond to the root cause of the problem. Solutions must be appropriately scaled to the problem and not serve to create additional problems. The views on culture showed that members are highly integrated. Small changes have a long reach, and therefore, minor structural changes were usually adequate and appropriate. Large changes were indicative of an overreaction and caused suspicion of alternate motives. There was a negative correlation between the current culture and the MAO initiative; however, the

155

root of the initiative, mission alignment, matched one of the strongest relevant areas of concern revealed in the case study: mission. There was strong evidence of an existing holistic approach to structural change that is already used informally within the leadership culture.

Chapter Summary

The intent of the case study was to explore the lived experiences of three senior-level executives in a federal agency in order to respond to four research questions. The aggregate summary of the participant expressions or meaning, themes, and reflection on the lived experiences led to an adaptive metaphor for the feasibility of integrating an ecological approach to organizational restructuring.

CHAPTER 5: DISCUSSION, IMPLICATIONS, RECOMMENDATIONS

Chapter 5 provides an interpretation and discussion of the results, limitations of the study, recommendations for future research, implications, and conclusions.

Discussion of the Results

The intent of this study was to reinvigorate the conversation about ecological concepts for organizational restructuring and then apply them to a case study in a federal agency. The value of a study such as this lays in the relevance and the results. In this study, the organization is a bureaucratic federal agency. Depending on the mission, bureaucracies can have a far-reaching impact, which extends outside of the region in which they exist. The rules that drive the definition of a public bureaucracy and form the associated characteristics are so influential that the society for which the organization serves conforms to their rules. According to the most recent data regarding budgeting and employee numbers, the DOD is the largest U.S. employer with 3,000,000 government civilian and military workers, and it has the second largest budget of any U.S. federal agency at \$651,000,000,000 (FederalPay.org, n.d.).[12] Therefore, this study may help the academic community appreciate the value of the literature at the agency level and identify how it is realized through the experiences of executives charged with running a part of this tremendous workforce.

The literature used in this study was woven throughout the chapters with the majority of relevant literature reviewed in Chapter 2. The central themes explored in the literature were grounded in theories of organization spanning the disciplines of public administration, organizational ecology, and the social sciences. The evolution of

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[12]Employment numbers do not reflect the contractor labor workforce.

organizational theory was used to argue that cross-disciplinary thinking is essential to furthering the research of federal agencies and furthering leaders and decision maker's comprehension and ability to solve complex problems. In systems theory, the concepts of organizational ecology emerged. It was from this framework that the niche and environment of an ecosystem were introduced as a way to think about how organisms interact within their systems. The use of metaphorical analysis was discussed to show how the use of metaphors and analogy can free people from rigid or stagnant thinking, allowing them to see the world in a more creative and open light and perhaps change their perception of how to address complex problems. The politics–administration dichotomy is central to all government organizations. The history, intent, and alternate models of the original dichotomy were examined, and it was determined that the model of a modern dichotomy is more inclusive, participatory, and representative. Roles and responsibilities of executives, managers, and administrators are essential to implementing policy-driven structural change.

The results of the study painted a clear picture of a modernized bureaucratic environment. The complex, highly specialized organization relies on exchanges with multiple types of external stakeholders, and this environment is imbedded in an ecosystem that consists of a larger social landscape. While nomenclature was bureaucratic in nature, there were no references made that called out the organization as a bureaucracy. Rather, the environmental and cultural references served to define the organizational type. Outside of the theme of bureaucratic environment, the other themes were framed through an interpretive lens as an ecosystem, a cybernetic system, and an

organizational niche. This researcher chose not to make it so specific as to allow for a broader metaphorical application.

Limitations and Observations

Limitations to this type of study can cover a broad landscape. Some limits are textbook, and therefore, easy to predict before the study is performed; others are less so. Researcher desire to have defensible results naturally encourages bias; however, if the phenomenological method is performed with a practice of self-checking then the system is in place to keep bias under control. The mitigation of bias was exercised vigilantly by the researcher.

One of the unanticipated limitations to this study was related to the choice of organization. There are restrictions to research conducted in a specialized organization, which is evidenced by the language. This inhibits interpretation by a larger audience. It also limits the ability to generalize the results to other organizations that are not similar to this one. Unfortunately, some of the context of the information could not be shared due to confidentiality. Familiarization of the organization, mission, bureaucratic model and structure, demographic, background of participants, culture, environment, and a shared language, which is specific to its members, can only be fully understood and interpreted by someone who is close to the organization. This may leave other researchers and audiences feeling as though they are outsiders to the lived experience, which detracts from the sense of inclusiveness intended in a phenomenological study. A tremendous effort was made to mitigate these limitations. This also provides much potential for future research.

While phenomenological and field work research has an advantage in the exploration and discovery process, validation is at a disadvantage. For this reason, the actual responses to the interview questions can seem like an exercise in foreign language interpretation to those outside of the organization. Organizational specialization is quite possibly the reason why there is very little of this sort of research performed in American federal organizations. This researcher made every effort to repair gaps in validation through strength testing of the expressions. In addition, the lessons from NASA contributed greatly to the final implications of the research.

The participants presented themselves with a surprising sense of openness and honesty to the researcher. This may have been due to the sampling method, a sense of familiarity, or the level of confidentiality assurance presented to the participants as part of the request, both in written IRB-approved documentation and by the referring participant. There is an inherent risk to telling the truth in elite interviews. This is a risk that must be accepted by the researcher who must go into this method of case study knowing that the truth may be skewed for the sake of appearances; however, in these interviews, there was little to no evidence of this. In a postinterview report to the dissertation chair, the following note was made:

> One thing I have learned through the interview process is that "elites" must not often get a chance to talk about their experiences or themselves. They were very eager to participate, were quick to clear time on their calendars for the interview, and spoke very candidly. Thankfully the bracketing and reduction should take care of the shared identifiers. (N. A. Birmingham, personal communication, November 21, 2019)

The intent to provide a comprehensive comparative study between restructuring at NASA and the federal government organization (FGO) was initially fraught with difficulty, primarily due to the lack of non-For Official Use Only (FOUO) information. Serendipity intervened when P1 introduced the normalization of deviation into his narrative. This proved to demonstrate a compelling and valuable lesson about the evolution of culture in older organizations.

Recommendations for Further Research

The opportunities for future research have widespread potential. There is certainly an opportunity to study the rollout, implementation, and the years following the mission-aligned organization (MAO) initiative, in particular as a study of organizational alignment. Much of the relevant documentation required to review the decisions under a structural model will be available in the next year or so, but for this study, it was just too soon.

Two months after the interviews were performed for this case study, the design of MAO is starting to take shape within the organization. Organizational charts are reflecting new hierarchical constructs and alignments within and across work groups. Competency codes are being renamed to reflect mission-based coding. In other words, if the missions of the divisions are similar, then they are coded similarly. It somewhat resembles a cross-functional matrix chart.

A Practical Application of the Research

E. P. Odum (1997b) proposed that an ecological model should encompass five features: properties (variables), forces (system-driving functions), flow pathways (energy/material transfers), interactions, and feedback loops (cybernetics). To be

effective, it should be able to integrate a real-world situation in order to simplify complex situations for conceptualization and prediction. Figure 6 shows a proposed ecological model of an organization based on the case study.
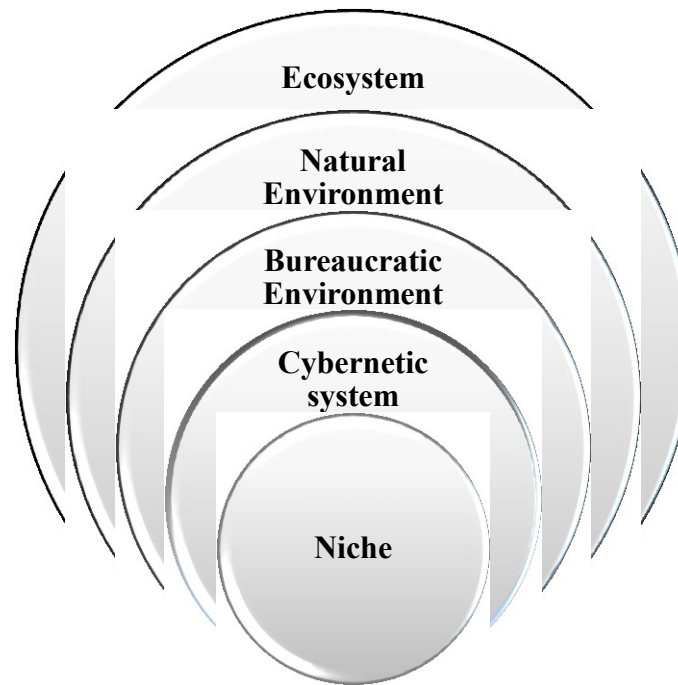
Figure 6. Ecological model of an organization.

In this model, the ecosystem is the area that houses living organisms and nonliving substances whose properties influence each other and are necessary for maintenance. The natural environment is the representative society that the bureaucratic environment serves. The bureaucratic environment illustrates the organizational structure and the culture of the agency, supporting the functions of the organization. Formal and informal beliefs and customs clearly define the culture specific to this bureaucratic environment. The cybernetic system that channels internal and external influence and controls provides learning and feedback loops for adaptation and self-regulation, coordination, and control. This system drives goals by receiving, processing, or

redirecting positive and/or negative feedback, and it can feed or starve power structures and stakeholder groups. Finally, the niche is the actual habitat of the organization's people, representing the occupations, roles, mission, and interdependent relationships. Niches are constructed and maintained by the inhabitants and may just as easily be destroyed if those inhabitants or outside forces choose to do so.

Extracting portions of dialogue, looking for units of meaning, categorizing those units into themes, clustering similar themes, and presenting an organizational model provide a deeper understanding of the people, nature, and environment of a specific bureaucratic organization.

Implications and Conclusions

The outcome of the study provided four propositions to the discipline of public administration in a federal government agency. First, the study showed that it is possible to operationalize a holistic approach to structural change decisions and create an organizationally relevant model to reflect the intent of the structure and the areas that are interdependent. Ecology as a model of social science holds natural correlations between existing niches and the greater ecosystem. Ecological metaphors for the bureaucratic environment would seem to be limited only by imagination and a level of knowledge in which to apply the information. Further studies need to be conducted to measure the actual value of an ecological model to decision makers.

Second, the comparative study between NASA and the FGO revealed that the normalization of deviance should be more accurately termed the normalization of the abnormal. Not all decisions are made at the higher levels of leadership. The FGO is an older organization and an operating activity. Problems are just as likely related to the

evolution of a culture, which forms the basis for a root cause of several concerning issues. This also highlights the importance of selecting terminology by fitness so that the community may be served best. Words matter.

Third, an ecological model was developed to illustrate the bureaucratic environment, which is within the natural environment of an ecosystem. The niche is connected to the environment through a cybernetic system. The bureaucratic environment from the case study closely mirrored the characteristics of the model of bureaucracy presented by Downs (1964). This governmental-societal ecosystem demonstrates the cybernetic nature of interactions and the organizational niche. This researcher took two critical lessons away from Gaia by creating the ecological model. First, the organisms influence their environment deliberately. Second, there is an inseparable and holistic relationship between the organisms, their niche, and the greater environment. This is the nature of Gaia. Dutreuil (2018) said, "Gaia was truly to be thought as an organismic ordered whole; not to follow the 'natural rules' of this ordered whole should be seen as something deeply wrong" (p. 27).

Finally, the study revealed that the traditional construct of the politics–administrative dichotomy has evolved to take on a different role supporting other pillars of public administration such as representation, equity, accountability, and effectiveness. Bureaucratic hierarchical structures may be deeply imbedded with various types of leadership throughout the organization. Administrators in a modern federal agency such as the FGO are likely to be charged with participating in efforts that lead to the formation of policy. Those closest to the issues are the most knowledgeable about the root causes and the potential range of solutions.

REFERENCES

Aberbach, J. D., Chesney, J. D., & Rockman, B. A. (1975). Exploring elite political

    attitudes: Some methodological lessons. *Political Methodology*, *2*(1), 1–27.

    Retrieved from http://www.jstor.org/stable/25791403

Aberbach, J. D., & Rockman, B. A. (2002). Conducting and coding elite interviews.

    Political Science & Politics, *35*(4), 673–676.

    https://doi.org/10.1017/s1049096502001142

Alley, T. R. (1985). Organism-environment mutuality epistemics, and the concept of an

    ecological niche. *Synthese*, *65*, 411–444. https://doi.org/10.1007/bf00869278

Amburgey, T. L., Lehtisalo, M. R., & Kelly, D. (1988). Suppression and failure in the

    political press: Government control, party affiliation, and organizational life

    chances. In G. R. Carroll (Ed.), *Ecological models of organizations* (pp. 153–

    173). Cambridge, MA: Ballinger.

Argyris, C. (1993). *Knowledge for action: A guide to overcoming barriers to*

    organizational change. San Francisco, CA: Jossey-Bass.

Balutis, A. (2019). *Perspectives on the president's management agenda*. Retrieved from

    National Academy of Public Administration website:

    https://www.napawash.org/studies/academy-studies/perspectives-on-the-

    presidents-management-agenda-march-2019

Baum, J. A., & Singh, J. V. (1994). *Evolutionary dynamics of organizations.* New York,

    NY: Oxford University Press.

Beach, D., & Pedersen, R. B. (2013). *Process-tracing methods: Foundations and guidelines.* Ann Arbor: University of Michigan Press. https://doi.org/10.5860/choice.51-1711

Berry, J. M. (2002). Validity and reliability issues in elite interviewing. *Political Science and Politics*, *35*(4), 679–682. https://doi.org/10.1017/s1049096502001166

Black, M. (1962). *Models and metaphors.* Ithaca, NY: Cornell University Press.

Black, M. (1993). More about metaphors. In A. Ortony (Ed.), *Metaphor and thought* (2nd ed., pp. 19-41). Cambridge, MA: Cambridge University Press.

Bourdieu, P. (1990). *The logic of practice.* Stanford, CA: Stanford University Press.

Bourgeois, W. V., & Pinder, C. C. (1983). Contrasting philosophical perspectives in administrative science: A reply to Morgan. *Administrative Science Quarterly, 28*(4), 608-613.https:// doi.org/10.2307/2393012

Browne, J., Sorrell, J. H., McClaren, J., & Creswell, J. W. (2006). Waiting for a liver transplant. *Qualitative Health Research*, *16*(1), 119–136. https://doi.org/10.1177/1049732305284011

Burrell, G., & Morgan, G. (1979). *Sociological paradigms and organizational analysis: Elements of the sociology of corporate life.* Portsmouth, NH: Heinemann Educational Books.

Caccioppoli, L. (2017, February 7). The important role of public administrators during the Trump administration [Online forum comment]. Retrieved from https://patimes.org/important-role-public-administrators-trump-administration/

California Baptist University. (2018). Research Description from CBU IRB Handbook 3.0. Retrieved from https://calbaptist.edu/educational-effectiveness/institutional-review-board-irb

Cannon, W. B. (1939). *The wisdom of the body* (2nd ed.). New York, NY: Norton & Co.

Carroll, G. R. (1988). *Ecological models of organizations.* Cambridge, MA: Ballinger.

Carroll, G. R., & Hannan, M. T. (1989). Density delay in the evolution of organizational populations: A model and five empirical tests. *Administrative Science Quarterly*, *34*(3), 411–430. https://doi.org/10.2307/2393151

Cartwright, D. (2013). Influence, leadership, control. In J. G. March (Ed.), *Handbook of organizations* (Vol. 20, pp. 1–48). New York, NY: Routledge.

Chandler, A. D. (1962). *Strategy and structure: Chapters in the history of the American industrial enterprise.* Cambridge, MA: MIT Press.

Chia, R. (1996). Metaphors and metaphorization in organizational analysis: Thinking beyond the thinkable. In D. Grant & C. Ostwick (Eds.), *Metaphor and organizations* (pp. 127–144). Thousand Oaks, CA: Sage.

Chief Information Officer. (n.d.). DoD architecture framework: DoDAF viewpoints and models. Retrieved from https://dodcio.defense.gov/Library/DoD-Architecture-Framework/dodaf20_ov5ab/

Clegg, S. R., & Gray, J. T. (1996). Metaphors in organizational research: Of embedded embryos, paradigms and powerful people. In D. Grant & C. Ostwick (Eds.), *Metaphor and organizations* (pp. 74–93). Thousand Oaks, CA: Sage.

Conklin, T. A. (2007). Method or madness: Phenomenology as knowledge creator.
Journal of Management Inquiry, *16*(3), 275–287.
https://doi.org/10.1177/1056492607306023

Constant, A., Ramstead, M. J. D., Veissiere, S. P. L., Campbell, J. O., & Friston, K. J.
(2018). A variational approach to niche construction. *Journal of the Royal Society
Interface*, *15*(141), 1–14. https://doi.org/10.1098/rsif.2017.0685

Cornelissen, J. P. (2005). Beyond compare: Metaphor in organization theory. *Academy of
Management Review*, *30*(4), 751–764.
https://doi.org/10.5465/amr.2005.18378876

Crawley, R. W., & Kloman, E. H. (1972, August). *NASA seminar on organization and
management* (NSR 09-046-001). Retrieved from National Academy of Public
Administration website: https://ntrs.nasa.gov/search.jsp?R=19730011231

Crotts, J. C., Dickson, D. R., & Ford, R. C. (2005). Aligning organizational processes
with mission: The case of service excellence. *The Academy of Management
Perspectives*, *19*(3), 54–68. https://doi.org/10.5465/ame.2005.18733215

Crumley, C. L. (1995). Heterarchy and the analysis of complex societies. *Archeological
Papers of the American Anthropological Association*, *6*(1), 1–5.
https://doi.org/10.1525/ap3a.1995.6.1.1

Dahl, R. A. (1947). The science of public administration: Three problems. *American
Society for Public Administration, 7*(1), 1-11. Retrieved from
http://www.jstor.org/stable/972349

Darwin, C. (1861). *On the origin of species by means of natural selection* (Rev. ed.).
New York, NY: D. Appleton & Company.

Darwin, C. (1871). *The descent of man* (Rev. ed.). Seattle, WA: Pacific Studio.

Davies, P. H. J. (2001). Spies as informants: Triangulation and the interpretation of elite interview data in the study of the intelligence and security services. *Politics*, *21*(1), 73–80. https://doi.org/10.1111/1467-9256.00138

Day, R. L., Laland, K. N., & Odling-Smee, F. J. (2003). Rethinking adaptation: The niche-construction perspective. *Perspectives in Biology and Medicine*, *46*(1), 80–95. https://doi.org/10.1353/pbm.2003.0003

de Jong, J. (2016). Theories of bureaucratic dysfunction. In *Dealing with dysfunction: Innovative problem solving in the public sector* (pp. 52–104). Retrieved from https://www.jstor.org/stable/10.7864/j.ctt6wpc9d.6

Decker, S. (2013). The silence of the archives: Business history, post-colonialism and archival ethnography. *Management and Organizational History*, *8*(2), 155–173. https://doi.org/10.1080/17449359.2012.761491

Decker, S., Kipping, M., & Wadhwani, R. D. (2015). New business histories! Plurality in business history research methods. *Business History*, *57*(1), 30–40. https://doi.org/10.1080/00076791.2014.977870

Department of the Navy. (2018). *Business operations plan, version 1.3, fiscal years 2019-2021*. Washington, DC: U.S. Government Printing Office. Retrieved from https://www.navy.mil/DONBOP

Dewey, J. (1902). Interpretation of savage mind. *The Psychological Review*, *9*(3), 217–230. https://doi-org/10.1037/h0072862

Dobzhansky, T. (1937). Organic diversity. In *Genetics and the origin of species* (pp. 3–13). New York, NY: Columbia University Press. Retrieved from

https://pdfs.semanticscholar.org/2957/6a5321ee3ed71df2e54182709275883b5828
.pdf

Dooley, K. J. (1997). A complex adaptive systems model of organizational change. *Nonlinear Dynamics, Psychology and Life Sciences*, *1*(1), 69–97. https://doi.org/10.1023/A:1022375910940

Downs, A. (1964). *Inside bureaucracy.* Retrieved from http://www.rand.org/pubs/papers/P2963.html

Drazin, R., & Sandelands, L. (1990). Autogenesis: A perspective on the process of organizing. *Organization Science, 2*, 230-249. https://doi.org/10.1287/orsc.3.2.230

Drazin, R., Glynn, M. A., & Kazanjian, R. K. (2004). Dynamics of structural change. In M. S. Poole, K. Dooley, & M. E. Holmes (Eds.), *Handbook of organizational change and innovation* (pp. 161–189). New York, NY: Oxford University Press.

Drucker, P. F. (1969). *The age of discontinuity: Guidelines to our changing society.* New York, NY: Harper & Row.

Durant, R. F., & Rosenbloom, D. H. (2017). The hollowing of American public administration. *American Review of Public Administration*, *47*(7), 719–736. https://doi.org/10.1177/0275074015627218

Dutreuil, S. (2018). James Lovelock's Gaia hypothesis: "A new look at life on earth" ... for the life and the earth sciences. *Dreamers, Visionaries, and Revolutionaries in the Life Sciences*, 272–287. Retrieved from https://hal.archives-ouvertes.fr/hal-01863320/document

Dyke, J. G. (2009). *The Daisyworld control system* (Doctoral dissertation). Retrieved

    from ProQuest Dissertations and Theses database. (UMI No. U524200) ,

Eckstein, M. (2019, January 9). USNI News: SECNAV Spencer wants Navy to manage

    risk, not avoid it. Retrieved from https://news.usni.org/2019/01/09/secnav-

    spencer-wants-navy-manage-risk-not-avoid

Emery, F. E., & Trist, E. L. (1965). The causal texture of organizational environments.

    Human Relations, *18*(1) 21–32. https://doi.org/10.1177/001872676501800103

Emery, F. E., & Trist, E. L. (1973). *Towards a social ecology.* New York, NY: Plenum.

Englander, M. (2012). The interview: Data collection in descriptive phenomenological

    human scientific research. *Journal of Phenomenological Psychology*, *43*(1), 13–

    35. https://doi.org/10.1163/156916212x632943

Fayol, H. (1916). General principles of management. In J. M. Shafritz, J. S. Ott, & Y. S.

    Jang, *Classics of organization theory* (vol. 15, 2nd ed., pp. 57-69). Boston, MA:

    Cenage Learning

Federal Government Organization. (2019).

Federal Government Organization. (n.d.).

FederalPay.org. (n.d.). Department of Defense: Federal departments. Retrieved from

    https://www.federalpay.org/departments/departmentofdefense

Fetterman, A. K., Bair, J. L., Werth, M., Landkammer, F., & Robinson, M. D. (2016).

    The scope and consequences of metaphoric thinking: Using individual differences

    in metaphor usage to understand how metaphor functions. *Journal of Personality*

    and Social Psychology, *110*(3), 458–476. https://doi.org/10.1037/pspp0000067

Fisher, R. A. (1999). *The genetical theory of natural selection*. In J. H. Bennett (Ed.),

    (Variorum ed.). New York, NY: Oxford University Press.

Flyvbjerg, B. (2016). Five misunderstandings about case study research. *Qualitative*

    Inquiry, *12*(2), 219–245. https://doi.org/10.1177/1077800405284363

Frederickson, H. G., Smith, K. B., Larimer, C. W., & Licari, M. J. (2012). *The public*

    administration theory primer (2nd ed.). Boulder, CO: West View Press.

Gearing, R. E. (2004). Bracketing in research: A typology. *Qualitative Health Research*,

    14(10), 1429–1452. https://doi.org/10.1177/1049732304270394

George, A. L., & Bennett, A. (2005). *Case studies and theory development in the social*

    sciences. Cambridge, MA: MIT Press.

Gill, M. J. (2014). The possibilities of phenomenology for organizational research.

    Organizational Research Methods, *17*(2), 118–137.

    https://doi.org/10.1177/1094428113518348

Giorgi, A. (2006). Concerning variations in the application of the phenomenological

    method. *The Humanistic Psychologist*, *34*(4), 305–319.

    https://doi.org/10.1207/s15473333thp3404_2

Goldsmith, E. (1988). Gaia: Some implications for theoretical ecology. *The Ecologist*,

    18(2/3), 64–74.

Gore, A. (1994). The new job of the federal executive. *American Society for Public*

    Administration, *54*(4), 317–321. https://doi.org/10.2307/977378

Gould, S. J. (1997). Krapotkin was no crackpot. *Natural History, 106*, 12-21. Retrieved

    from https://www.marxists.org/subject/science/essays/kropotkin.html

Grant, D., & Oswick, C. (Eds.). (1996). *Metaphor and organizations.* Thousand Oaks, CA: Sage.

Gray, W., & Rizzo, N. D. (1969). History and development of general systems theory. In W. Gray, F. J. Dual, & N. D. Rizzo (Eds.), *General systems theory and psychiatry* (pp. 7–31). Boston, MA: Little, Brown and Company.

Groenewald, T. (2004). A phenomenological research design illustrated. *International Journal of Qualitative Methods*, *3*(1), 42–55. https://doi.org/10.1177/160940690400300104

Hagen, J. B. (2013). Eugene Odum and the homeostatic ecosystem: The resilience of an idea. In D. Arnold (Ed.), *Traditions of systems theory: Major figures and contemporary developments*. New York, NY: Routledge. https://doi.org/10.4324/9780203753026-15

Haire, M. (1959a). Recurrent themes and general issues in organization theory. In M. Haire (Ed.), *Modern organization theory: A symposium of the foundation for research on human behavior* (pp. 1–15). New York, NY: John Wiley & Sons.

Haire, M. (1959b). Biological models and empirical histories of the growth of organizations. In M. Haire (Ed.), *Modern organization theory: A symposium of the foundation for research on human behavior* (pp. 272–306). New York, NY: John Wiley & Sons.

Hall, J. L. (2003). Columbia and Challenger: Organizational failure at NASA. *Space Policy*, *19*(4), 239–247. https://doi.org/10.1016/j.spacepol.2003.08.013

Hannan, M. T., & Freeman, J. (1988). Density dependence in the growth of organizational populations. In G. R. Carroll (Ed.), *Ecological models of organizations* (pp. 7–31). Cambridge, MA: Ballinger.

Hannan, M. T., & Freeman, J. (1989). *Organizational ecology.* Cambridge, MA: Harvard University.

Hannan, M. T., Carroll, G. R., & Pólos, L. (2003). The organizational niche. *Sociological Theory*, *21*(4), 309–340. https://doi.org/10.1046/j.1467-9558.2003.00192.x

Hughes, O. H. (2003). *Public management and administration* (3rd ed.). New York, NY: Palgrave MacMillan.

Husserl, E. (1999). The basic approach of phenomenology. In D. Welton (Ed.), *The essential Husserl: Basic writings in transcendental phenomenology* (pp. 60-85). Bloomington, IN: Indiana University Press.

Hutchinson, G. E. (1948). Circular causal systems in ecology. *Annals of the New York Academy of Sciences*, *50*, 221–246. https://doi.org/10.1111/j.1749-6632.1948.tb39854.x

Hycner, R. H. (1985). Some guidelines for the phenomenological analysis of interview data. *Human Studies*, *8*(3), 279–303. https://doi.org/10.1007/bf00142995

International Geosphere-Biosphere Programme. (2001, July). *2001 Amsterdam declaration on earth system science*. Retrieved from http://www.igbp.net/about /history/2001amsterdamdeclarationonearthsystemscience.4.1b8ae20512db692f2a 680001312.html

Jackson, M. C. (2003). *Systems thinking: Creative holism for managers.* West Sussex, United Kingdom: John Wiley & Sons.

Joseph, L. E. (2000, August 17). James Lovelock, Gaia's grand old man. Retrieved from

    http://environment-ecology.com/gaia/72-james-lovelock-gaia.html

Keen, E. (1975). *A primer in phenomenological psychology.* New York, NY: Holt,

    Reinhart and Winston.

Khatibi, M., & Sheikholeslami, R. (2016). Ecological niche theory: A brief review. *The*

    International Journal of Indian Psychology, *3*(2), 42–45.

    https://doi.org/18.01.022/20160302

Kieser, A. (1994). Why organization theory needs historical analyses–And how this

    should be performed. *Organization Science*, *5*(4), 479–625.

    https://doi.org/10.1287/orsc.5.4.608

Kvale, S. (1996). *Interviews: An introduction to qualitative research interviewing.*

    Thousand Oaks, CA: Sage.

Laland, K. N., & O'Brien, M. J. (2011). Cultural niche construction: An introduction.

    Biological Theory, 6(3), 191-202. https://doi.org/10.1007/s13752-012-0026-6

Laland, K. (2012). Criticisms of niche construction theory. Retrieved from

    https://synergy.st-andrews.ac.uk/niche/criticisms-of-niche-construction-theory/

Laland, K. N., Boogert, N., & Evans, C. (2014). Niche construction, innovation and

    complexity. *Environmental Innovation and Societal Transitions*, *11*, 71–86.

    https://doi.org/10.1016/j.eist.2013.08.003

Laland, K., Matthews, B., & Feldman, M. W. (2016). An introduction to niche

    construction theory. *Evolutionary Ecology*, *30*, 191–202.

    https://doi.org/10.1007/s10682-016-9821-z

Landau, M. (1961). On the use of metaphor in political analysis. *Social Research*, *28*(3), 331–353. Retrieved from https://www.jstor.org/stable/40969393

Lawrence, P. R., & Lorsch, J. W. (1967). *Organization and environment: Managing differentiation and integration.* Boston, MA: Division of Research, Graduate School of Business Administration, Harvard University.

Lenton, T. M., & Lovelock, J. E. (2000). Daisyworld is Darwinian: Constraints on adaptation are important for planetary self-regulation. *Journal of Theoretical Biology*, *206*(1), 109–114. https://doi.org/10.1006/jtbi.2000.2105

Lenton, T. M., & Lovelock, J. E. (2001). Daisyworld revisited: Quantifying biological effects on planetary self-regulation. *Tellus B*, *53*(3), 288–305. https://doi.org/10.3402/tellus.v53i3.16597

Levin, S. A. (2005). Self-organization and the emergence of complexity in ecological systems. *BioScience*, *55*(12), 1075–1079. https://doi.org/10.1641/0006-3568(2005)055[1075:SATEOC]2.0.CO;2

Levine, A. S. (1982). *Managing NASA in the Apollo era* (SP-4102). Retrieved from https://www.history.nasa.gov/SP-4102.pdf

Levins, R., & Lewontin, R. (1985). *The dialectical biologist.* Cambridge, MA: Harvard University Press.

Levitt, S. D., & List, J. A. (2011). Was there really a Hawthorne effect at the Hawthorne plant? An analysis of the original illumination experiments. *American Economic Journal: Applied Economics*, *3*(1), 224–238. Retrieved from http://www.jstor.org/stable/25760252

Lewin, K. (1947). Frontiers in group dynamics: Concept, method and reality in social

science; social equilibria and social change. *Human Relations, 1*(5), 5-41.

https://doi.org/10.1177/001872674700100103

Liebowitz, J. (2004). *Addressing the human capital crisis in the federal government: A*

knowledge management perspective. Burlington, MA: Butterworth-Heinemann.

Likert, R. (1959). A motivational approach to a modified theory of organization and

management. In M. Haire (Ed.), *Modern organization theory: A symposium of the*

foundation for research on human behavior (pp. 184–217). New York, NY: John

Wiley & Sons.

Likert, R. (1961). *New patterns of management.* New York, NY: McGraw-Hill Book

Company.

Love, T. F. (1977). Ecological niche theory in sociocultural anthropology: A conceptual

framework and an application. *American Ethnologist*, *4*(1), 27–41.

https://doi.org/10.1525/ae.1977.4.1.02a00020

Lovelock, J. E. (1965). A physical basis for life detection experiments. *Nature,*

207(4997), 568-570. https://doi.org/10.1038/207568a0

Lovelock, J. (2004). Reflections on Gaia. In S. H. Schneider, J. R. Miller, E. Crist, & P. J.

Boston (Eds.), *Scientists debate Gaia: The next century* (pp. 1–5). Cambridge,

MA: The MIT Press.

Lovelock, J. (2016). *Gaia: A new look at life on earth* (2nd ed.). Oxford, United

Kingdom: Oxford University Press.

Lovelock, J. (2019). *Homage to Gaia: The life of an independent scientist* (Rev. ed.).

London, England: Souvenir Press.

Lovelock, J. E., & Margulis, L. (1974). Atmospheric homeostasis by and for the

biosphere: The Gaia hypothesis. *Tellus*, *26*(1-2), 2–10.

https://doi.org/10.3402/tellusa.v26i1-2.9731

Lynch, T. D., & Cruise, P. L. (Eds.). (2006). *Handbook of organization theory and*

management (2nd ed.). Boca Raton, FL: CRC Press.

Maclean, M., Harvey, C., & Clegg, S. R. (2016). Conceptualizing historical organization

studies. *Academy of Management Review*, *41*(4), 609–632.

https://doi.org/10.5465/amr.2014.0133

Manning, P. (1979). Metaphors of the field: Varieties of organizational discourse.

Administrative Science Quarterly, 24(4), 661-671.

https://doi.org/10.2307/2392371

Marney, M. (1971). Institutional self-organization. *Policy Sciences*, *2*(2), 117–142.

https://doi.org/10.1007/bf01411219

Marshak, R. J. (1996). Metaphors, metaphoric fields and organizational change. In D.

Grant & C. Oswick (Eds.), *Metaphor and organizations* (pp. 147–165). Thousand

Oaks, CA: Sage.

Maynard-Moody, S. & Musheno, M. (2003). *Cops, teachers, counselors: Stories from the*

front lines of public service. Ann Arbor: University of Michigan Press.

Harvard Business Review, 161-170. Retrieved from http://www.practicesurvival.com

/wa_files/Hawthorne_20Studies_201924_20Elton_20Mayo.pdf

McGregor, D. M. (1957, November). The human side of enterprise. *Management Review,*

41-49.

McGregor, D. (1960). *The human side of enterprise*. New York, NY: McGraw-Hill.

Mele, C., Pels, J., & Polese, F. (2010). A brief review of systems theories and their managerial applications. *Service Science*, *2*(1-2), 126–135. https://doi.org/10.1287/serv.2.1_2.126

Mergel, I. (2010). The use of social media to dissolve knowledge silos in government. In R. O'Leary, D. M. Van Slyke, & S. Kim (Eds.), *The future of public administration, public management, and public service around the world: The Minnowbrook perspective* (pp. 177–187). Washington, DC: Georgetown University Press. https://doi.org/10.1111/j.1467-9299.2012.02059.x

Merton, R. K. (1957a). Bureaucratic structure and personality. In J. M. Shafritz & A. C. Hyde (Eds.), *Classics of public administration* (7th ed., pp. 100–108). Boston, MA: Cenage Learning.

Merton, R. K. (1957b). *Social theory and social structure* (Rev. ed.). Glencoe, IL: Free Press.

Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, *83*(2), 340–363.

Michaud, E. M. (2009). *A case study of consecutive reorganizations of the science laboratories at the NASA-Goddard Space Flight Center* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3359483)

Miura, S. (2013). Hierarchy. In *Hierarchy*. Retrieved from https://www.britannica.com/topic/hierarchy-social-science

Miura, S. (2014). Heterarchy. In *Heterarchy*. Retrieved from https://www.britannica.com/topic/heterarchy

Morgan, G. (1981). Erratum: Paradigms, metaphors, and puzzle solving in organization

theory. *Administrative Science Quarterly*, *26*(1), 140.

https://doi.org/10.2307/2392607

Morgan, G. (1996). An afterword: Is there anything more to be said about metaphor? In

D. Grant & C. Oswick (Eds.), *Metaphor and organizations* (pp. 227–240).

Thousand Oaks, CA: Sage.

Morgan, G. (1997). *Images of organization* (2nd ed.). Thousand Oaks, CA: Sage.

Morgan, G. (2011). Reflections on images of organization and its implications for

organization and environment. *Organization and Environment*, *24*(4), 459–478.

https://doi.org/10.1177/1086026611434274

Moustakas, C. (1994). *Phenomenological research methods.* Thousand Oaks, CA: Sage.

Mulligan, R. G. (1985). *The evolution of the NASA organization*. Retrieved from NASA

website: https://history.nasa.gov/orgcharts/evol_org.pdf

Nadler, D. A., & Tushman, M. L. (1997). *Competing by design: The power of

organizational architecture.* New York, NY: Oxford University Press.

National Research Council. (2012). *Using science as evidence in public policy.*

Washington, DC: The National Academies Press. https://doi.org/10.17226/13460

Odling-Smee, J., & Laland, K. N. (2011). Ecological inheritance and cultural inheritance:

What are they and how do they differ? *Biological Theory*, *6*, 220–230.

https://doi.org/10.1007/s13752-012-0030-x

Odling-Smee, J., Erwin, D. H., Palkovacs, E. P., Feldman, M. W., & Laland, K. N.

(2013). Niche construction theory: A practical guide for ecologists. *The Quarterly

Review of Biology*, *88*(1), 3–28. https://doi.org/10.1086/669266

Odum, E. (1998). *Ecological vignettes.* Amsterdam, The Netherlands: OPA.

Odum, E. P. (1969). The strategy of ecosystem development. *Science*, *164*(3877), 262–270. https://doi.org/10.1126/science.164.3877.262

Odum, E. P. (1984). The mesocosm. *BioScience*, *34*(9), 558–562. Retrieved from http://www.jstor.org/stable/1309598

Odum, E. P. (1997a). *Can ecology contribute to C. P. Snow's third culture?* Retrieved from https://esajournals.onlinelibrary.wiley.com/doi/pdf/10.2307/20168171

Odum, E. P. (1997b). *Ecology: A bridge between science and society.* Sunderland, MA: Sinauer Associates.

Odum, E. P., & Odum, H. T. (1959). *Fundamentals of ecology* (2nd ed.). Philadelphia, PA: W.B. Saunders Company.

Odum, W. E., Odum, E. P., & Odum, H. T. (1995). Nature's pulsing paradigm. *Estuaries*, *18*(4), 547–555. https://doi.org/10.2307/1352375

Office of Management and Budget. (2018). *President's Management Agenda*. Retrieved from https://www.whitehouse.gov/wp-content/uploads/2018/04 /ThePresidentsManagementAgenda.pdf

Oksanen, L. (1988). Ecosystem organization: Mutualism and cybernetics or plain Darwinian struggle for existence? *The American Naturalist*, *131*(3), 424–444. https://doi.org/10.1086/284799

Opler, M. E. (1945). Themes as dynamic forces in culture. *American Journal of Sociology*, *51*(3), 198–206. https://doi.org/10.1086/219787

Ospina, S. M., & Dodge, J. (2005). It's about time: Catching method up to meaning–the usefulness of narrative inquiry in public administration research. *Public

Administration Review, *65*(2), 143–157. https://doi.org/10.1111/j.1540-6210.2005.00440.x

Ostwick, C., Keenoy, T., & Grant, D. (2002). Metaphor and analogical reasoning in organization theory: Beyond orthodoxy. *The Academy of Management Review*, *27*(2), 294–303. https://doi.org/10.2307/4134356

Patten, B. C., & Odum, E. P. (1981). The cybernetic nature of ecosystems. *The American Naturalist*, *118*(6), 886–895. https://doi.org/10.1086/283881

Pearce, T. (2010). "A great complication of circumstances" – Darwin and the economy of nature. *Journal of the History of Biology*, *43*(3), 493–528. Retrieved from https://www.jstor.org/stable/40801948

Peters, B. G. (1992). Government reorganization: A theoretical analysis. *International Political Science Review*, *13*(2), 199–217. https://doi.org/10.1177/019251219201300204

Peters, T. J. (1979). Beyond the matrix organization. *Business Horizons*, *22*(5), 15–27. https://doi.org/10.1016/0007-6813(79)90027-2

Pinder, C. C., & Bourgeois, V. W. (1982). Controlling tropes in administrative science. *Administrative Science Quarterly, 27*(4), 641-652. https://doi.org/10.2307/2392535

Pinder, C., & Moore, L. (1979). The resurrection of taxonomy to aid the development of middle range theories of organizational behavior. *Administrative Science Quarterly, 24*, 99-118. https://doi.org/10.2307/2989878

Pocheville, A. (2015). The ecological niche: History and recent controversies. In T. Heams, P. Huneman, G. Lecointre, & M. Siberstein (Eds.), *Handbook of*

evolutionary thinking in the sciences (pp. 547–586). Dordrecht, The Netherlands: Springer Science + Business Media. https://doi.org/10.1004/978-94-017-9014-7_26

Pouvreau, D. (2013). The hermeneutical system of general systemology: Bertalanffian and other early contributions to its foundations and development. In D. P. Arnold (Ed.), *Traditions of systems theory: Major figures and contemporary developments* (pp. 84–136). New York, NY: Routledge. https://doi.org/10.4324/9780203753026

Presthus, R. V. (1958). Toward a theory of organizational behavior. *Administrative Science Quarterly*, *3*(1), 48–72. https://doi.org/10.2307/2390604

Prigogine, I., & Stengers, I. (1984). *Order out of chaos: Man's new dialogue with nature.* New York, NY: Bantam Books.

Rosser, C. (2012). Examining Frank J. Goodnow's Hegelian heritage: A contribution to understanding progressive administrative theory. *Administration & Society*, *45*(9), 1063–1094. https://doi.org/10.1177/0095399712451898

Rotabi, K. S. (2005). *Theory bridging between sociology, social work and ecology. Dynamic interchanges and cross-fertilizations: The intellectual legacy of the Odum family* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 3170538)

Rowlinson, M., Hassard, J., & Decker, S. (2014). Research strategies for organizational history: A dialogue between historical theory and organization theory. *Academy of Management Review*, *39*(3), 250–274. https://doi.org/10.5465/amr.2012.0203

Ryan, G. W., & Bernard, H. R. (2003). Techniques to identify themes. *Field Methods*, *15*(1), 85–109. https://doi.org/10.1177/1525822X02239569

Sanders, P. (1982). Phenomenology: A new way of viewing organizational research. *The Academy of Management Review*, *7*(3), 353–360. https://doi.org/10.2307/257327

Sayre, W. S. (1958). Premises of public administration: Past and emerging. *Public Administration Review*, *18*(2), 102–105. Retrieved from https://www.jstor.org/stable/973789

Schneider, E. D. (2004). Gaia: Toward a thermodynamics of life. In S. H. Schneider, J. R. Miller, E. Crist, & P. J. Boston (Eds.), *Scientists debate Gaia: The next century* (pp. 45–56). Boston, MA: MIT Press.

Schneider, R. J. (2016). Thoreau and the emergence of the social sciences. In *Civilizing Thoreau: Human ecology and the emerging social sciences in the major works* (pp. 7–22). Retrieved from https://www.jstor.org/stable/10.7722/j.ctt1kzcc12.6

Schneider, S. H., Miller, J. R., Crist, E., & Boston, P. J. (Eds.). (1991). *Scientists debate Gaia: The next century.* Cambridge, MA: The MIT Press.

, D. (1993). Generative metaphor: A perspective on problem setting in social policy. In A. Ortony (Ed.), *Metaphor and thought* (2nd ed., pp. 135-161). Cambridge, MA: Cambridge University Press.

Scott, W. G. (1961). Organization theory: An overview and an appraisal. *Academy of Management Journal*, *4*(1), 7–26. https://doi.org/10.5465/254584

Scott-Phillips, T. C., Laland, K. N., Shuker, D. M., Dickens, T. E., & West, S. A. (2014). The niche construction perspective: A critical appraisal. *Evolution, 68*(5), 1231-1243. https://doi.org/10.1111/evo.12332

Senge, P. M. (2006). *The fifth discipline: The art & practice of the learning organization* (Rev. ed.). New York, NY: Doubleday.

Shafritz, J. M., & Hyde, A. C. (2012). Civil service reform and merit in government. In C. Merrill & L. Ross (Eds.), *Classics of public administration* (7th ed., pp. 4–28). Boston, MA: Wadsworth.

Shamsudduha, M. (2017). *A Macat analysis of James E. Lovelock's Gaia: A new look at life on earth.* London, United Kingdom: Macat International.

Simon, H. A. (1955). A behavioral model of rational choice. *Quarterly Journal of Economics*, *69*(1), 99–118. https://doi.org/10.2307/1884852

Simon, H. A. (2012). The proverbs of administration. In J. M. Shafritz & A. C. Hyde (Eds.), *Classics of public administration* (7th ed., pp. 127–140). Boston, MA: Wadsworth.

Singh, J. V., & Lumsden, C. J. (1990). Theory and research in organizational ecology. *Annual Review of Sociology*, *16*, 161–195. https://doi.org/10.1146/annurev.soc.16.1.161

Smith, M. D., & Skelly, D. K. (2011). Part 4 theory. Reflection thereon: G. Evelyn Hutchinson and ecological theory. In D. K. Skelly, D. M. Post, & M. D. Smith (Eds.), *The art of ecology: Writings of G. Evelyn Hutchinson* (pp. 157–174). New Haven, CT: Yale University Press.

Stultz, J., & Buchanan, M. (2016). A new theory to avoid operational level stagnation. *The Army Press Online Journal*, *16*(15), 1–10.

Suckow, E. (2009). NASA overview. Retrieved from https://history.nasa.gov/naca /overview.html

Sullivan, H. S. (1953). *The interpersonal theory of psychiatry.* New York, NY: Norton.

Sulloway, F. J. (1982). Darwin's conversion: The Beagle voyage and its aftermath.

Journal of the History of Biology, *15*(3), 325–396. Retrieved from

http://www.blc.arizona.edu/courses/schaffer/449/Darwin/Sulloway%20-

%20Darwin's%20Conversion.pdf

Sulloway, F. J. (2009). Tantalizing tortoises and the Darwin-Galapagos legend. *Journal*

of the History of Biology, *42*, 3–31. https://doi.org/10.1007/s10739-008-9173-9

Sundquist, J. L. (1995). The concept of governmental management: Or, what's missing in

the Gore report. *Public Administration Review*, *55*(4), 398–399.

https://doi.org/10.2307/977138

Svara, J. H. (1985). Dichotomy and duality: Reconceptualizing the relationship between

policy and administration in council-manager cities. *Public Administration*

Review, *45*(1), 221–232. Retrieved from https://www.jstor.org/stable/3110151

Svara, J. H. (2001). The myth of the dichotomy: Complementarity of politics and

administration in the past and future of public administration. *Public*

Administration Review, *61*(2), 176–183. https://doi.org/10.1111/0033-3352.00020

Tansey, O. (2007). Process tracing and elite interviewing: A case for non-probability

sampling. *Political Science and Politics*, *40*(4), 765–772.

https://doi.org/10.1017/s1049096507071211

Taylor, F. W. (1911). *The principles of scientific management.* New York, NY: Harper.

Taylor, P. J. (1988). Technocratic optimism, H. T. Odum, and the partial transformation

of ecological metaphor after World War II. *Journal of the History of Biology*,

21(2), 213–244. https://doi.org/10.1007/bf00146987

Thoreau, H. D. (1854). *Walden: Life in the woods*. Boston, MA: Tecknor and Fields.

Tolbert, P. S., & Zucker, L. G. (1983). Institutional sources of change in the formal

    structures of organizations: The diffusion of civil service reform, 1880-1935.

    Administrative Science Quarterly, *28*(1), 22–39. https://doi.org/10.2307/2392383

Tolman, E. C., & Brunswik, E. (1935). The organism and the causal texture of the

    environment. *Psychological Review*, *42*(1), 43–77.

    https://doi.org/10.1037/h0062156

Tomkins, L., & Eatough, V. (2013). The feel of experience: Phenomenological ideas for

    organizational research. *Qualitative Research in Organizations and Management*,

    8(3), 258–275. https://doi.org/10.1108/QROM-04-2012-1060

Trist, E. (1977). A concept of organizational ecology. *Australian Journal of*

    Management, *2*(2), 161–175. https://doi.org/10.1177/031289627700200205

Tsoukas, H. (1991). The missing link: A transformational view of metaphors in

    organizational science. *Academy of Management Review*, *16*(3), 566–585.

    https://doi.org/10.5465/amr.1991.4279478

Tsoukas, H., & Chia, R. (2002). On organizational becoming: Rethinking organizational

    change. *Organization Science*, *13*(5), 459–599.

    https://doi.org/10.1287/orsc.13.5.567.7810

Tucker, D. J., Singh, J. V., Meinhard, A. G., & House, R. J. (1988). Ecological and

    institutional sources of change in organizational populations. In G. R. Carroll

    (Ed.), *Ecological models of organizations* (pp. 127–151). Cambridge, MA:

    Ballinger.

Tuckness, A. (2008). John Locke and public administration. *Administration & Society*, *40*(3), 253–270. https://doi.org/10.1177/0095399707313705

Urwick, L. F. (1974). V. A. Graicunas and the span of control. *Academy of Management Journal*, *17*(2), 349–354. https://doi.org/10.5465/254987

Vandermeer, J. H. (1972). Niche theory. *Annual Review of Ecology and Systematics*, *3*, 107–132. Retrieved from https://www.jstor.org/stable/2096844

Vaughan, D. (2008). Bourdieu and organizations: The empirical challenge. *Theory and Society*, *37*(1), 65–81. https://doi.org/10.1007/s11186-007-9056-7

von Bertalanffy, K. L. (1955). An essay on the relativity of categories. *Philosophy of Science*, *22*(4), 243–263. https://doi.org/10.1086/287440

von Bertalanffy, K. L. (1969). General systems theory and psychiatry—an overview. In W. Gray, F. J. Duhl, & N. D. Rizzo (Eds.), *General systems theory and psychiatry* (pp. 41–59). Boston, MA: Little, Brown and Company.

Waldo, D. (1946). *The administrative state.* San Francisco, CA: Chandler.

Watson, A. J., & Lovelock, J. E. (1983). Biological homeostasis of the global environment: The parable of Daisyworld. *Tellus B: Chemical and Physical Meteorology*, *35*(4), 284–289. https://doi.org/10.3402/tellusb.v35i4.14616

Weber, M. (2012). Bureaucracy. In J. M. Shafritz & A. C. Hyde (Eds.), *Classics of public administration* (7th ed., pp. 44–49). Boston, MA: Wadsworth.

White, H. V. (1978). *The tropics of discourse: Essays in cultural criticism.* Baltimore, MD: John Hopkins University Press.

The study of administration. *Political Science Quarterly, 2*(2), 197-222. Retrieved from http://www.iupui.edu/~spea1/V502/Orosz/Units

/Sections/u1s5/Woodrow_Wilson_Study_of_Administration_1887_jstor.pdfYun, C. (2015). *Three essays on public organizations* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Theses database. (UMI No. 10006127)

Zhao, Y., & Zhang, W. (2013). Organizational theory: With its applications in biology and ecology. *Network Biology*, *3*(1), 45–53.

APPENDICES

APPENDIX **A**

Acronyms

Definitions of Acronyms

Acronym	Explanation
BOP	Business Operations Plan
CI	Commander's Intent
CAO	Competency-aligned organization
DoD	Department of Defense
DON	Department of the Navy
FGO	Federal Government Organization
FOUO	For Official Use Only
MAO	Mission-aligned organization
PAO	Public Affairs Office
POAM	Plan of action and milestones
PMA	President's Management Agenda
SECNAV	Secretary of the Navy

APPENDIX **B**

Hierarchy of a Federal Agency

Hierarchy of a Federal Agency	Secretary of the Navy
	Chief of Naval Operations
	Agency
	Agency Headquarters
	Department
	Division
	Branch
	Sections or Teams