

Biological metaphor and analogy upon organizational management research within the development of clinical organizational pathology

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ABSTRACT

Human body, other animate beings, plants, and organizations are all dynamic and systemic entities. The similarity between living organisms and organizations, especially considering highly evolved organisms such as the human body, is noteworthy. Therefore, whenever an organization fails to accomplish its function and mission, an organizational symptom or disease may be envisaged to have come up; as a result, a variety of organizational symptoms and diseases can be considered. Recent studies have attempted to find analogies between the human body system and a social system such as an organization, to find analogous malfunctions and ailments, in order to enable the introduction of guidelines for the diagnosis of organizational symptoms and diseases, and their remedies and treatments. This paper deals with the concepts of biological metaphor and analogy, which have been present in organizational management for several decades. It attempts to study some subsystems of the human body analogous to the organizational subsystems, and their correspondingly analogous symptoms and diseases. Thus, some treatments and remedies are proposed accordingly, hoping to pave the way for further organizational management research within the development of clinical organizational pathology, based on the concepts of biological metaphor and analogy.

Keywords: biological metaphor, analogy, pathology, human body, organization, dynamic systems

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INTRODUCTION

A scientific understanding of organizational problems and their relevant solutions is a chief asset for the third millennium managers to be professional and competent organizational decision makers. Historically there have been various views about organizations. The theories of organization are formed based on metaphors or implicit images that lead us to see, realize, and manage an organization in distinctive yet partial ways¹ [p.4]. Various metaphors are observed in the literature, for instance organizations as: coalitions and alliances of individuals contracting with one another^{2,3} (cited in⁴), verbal systems⁵ (cited in⁶), political systems, psychic prisons, and domination instruments¹, to name only a few. Nevertheless, it is asserted that organizational theory is highly influenced by perspectives that view organizations as organisms or machines^{1,4,7-15}. Each of these metaphors similar to all other metaphors are the tips of submerged models¹⁶ [p.260] (cited in¹⁷) that metaphorically carry with it a weight of associations and symbolism.

Moreover, the classical view is a mechanical one, which supports a machine organization. The machine metaphor refers to the 19th-century understanding of classical and energetic mechanics and Taylor's idea of scientific management^{7,18}. Mechanical models simplified the organization in a simple model that was reluctant to human factors. Therefore, the machine metaphor and its superiority of mechanical view to the organization gave way to the organism metaphor. In the latter view, the organization is the same as an animate being that has brain, cells, tissues, and organs, which is in connection with its surrounding environment and is endeavoring hard for its survival. In fact, thinking metaphorically and in the systems approach implies that the organization is the same as an animate being in structure and role. According to Boulding's classification¹⁹, systems are classified based on their complexity, with respect to general systems theory, as frameworks, clockworks, thermostats, cells, plants, animals, human beings, social organizations and transcendental systems.

The organizations are placed among the most complex systems in the classification: the social systems. Moreover, the organizations as complex social systems have many subsystems that follow a general and common goal.

Systems thinking and biological metaphor consider the organizations as animate beings that could be born, grow, and die because of suffering from fatal diseases. However, the big difference between the animate beings, such as human beings, and the organizations is the issue of death. The organizations are not condemned to die; therefore, it is possible to prolong their existence by appropriate preventive healthcare management and in-time treatment. Considering the systems thinking and biological metaphor, we could be led to the similarities between medical and organizational management sciences. Being inspired by the human body systems and their immunity and cybernetic mechanisms, we can find beneficial ways for suitable management of organizational diseases and problems and introduce correct strategies to the founders and managers for more efficient organizations, growth and maturation of the born organizations, and their healthy survival. In fact, the goal is to find a solution for the transition of the organizations from the present situation to a more favorable future. Therefore, this paper, for the first time in organizational studies, casts light on the unseen but analogous diseases that human beings and the organizations have in common, to open new controversies and discussions by the opponents and proponents in organizational pathology. In this respect, the future discussion of the organizational scholars could help the organizational researchers to have a better understanding of the complex entity, which we call "organization". Therefore, the main aim of this paper is to invoke and commence further discussions in organizational studies.

METHODOLOGY

The methodology of this paper is based on library studies and hence secondary data. Metaphor has been used as an analogy tool between human body systems and organizations in order to envisage organizations from a new perspective. To provide sufficient data for the biological and hence metaphorical study of organizations, both the human body physiology and organizational systems and subsystems were scrutinized closely to find new resemblances and similarities between the above-mentioned arenas of knowledge. Having organizational sciences as a reference point in mind, the structures, processes, and diseases in the human body were studied carefully to be able to draw this metaphoric analogy through the paper.

LITERATURE REVIEW

Metaphors populate and also saturate our language^{1,14,16,20-23}, and they are basically a way of conceiving of one thing in terms of another^{24,25}. Thus, they are used to enable and reinforce our understandings by referring to unfamiliar things in terms of familiar things²⁶ [p.325].

What is a biological metaphor?

One of the reasons that possibly defiled our recognition of the organizations and put an end to our organizational activities is simplification and partial recognition of the most complicated phenomenon of organization and its internal relations. Model making has been a facile way for organizational decision-making and analysis, which has faded the more complicated and complex issues and, in result, the theories lack principal and complicated organizational dimensions²⁷ [p.25].

Metaphor's role in organizational understanding and analysis

Interest in metaphor within the context of organizational analysis and understanding had grown largely in the 1980s and 1990s, considerably due to the influence of work done by Morgan^{1,28}, and also by Grant and Osrick²⁹. Metaphors are generally used in organizational analyses and studies, principally with respect to the understanding of organizations^{1,7,11,16,20,30}. They are considered as encouraging different means of thinking that enable us to focus upon, analyze, explain, illustrate, and influence various aspects of complex and convoluted organizational phenomena²² [p.566] (cited in^{28,31-36}). In this respect, metaphors are, in fact, one of the primary means of understanding organizations. Nonetheless, their core difficulty lies in the fact that they can only render a partial picture and do not offer a complete understanding^{1,14,22,23,26,30}. Metaphors efficiently simplify the most complex phenomena and issues by putting emphasis on their key qualities. So, they are beneficial tools for the understanding of the organization and its complexities. For real understanding of the organization, its diverse aspects should be discovered and taken into consideration with all its paradoxical and divergent qualities. Therefore, we should choose a different thinking method to be able to deal with the paradoxes and discrepancies to be adapted to the paradoxes and complexities of organizational phenomena. In this thinking method, as we analyze the organization in a metaphorical pattern, we are alerted that we should take into consideration the interactions of these various aspects with each other and look at them as a holistic set²⁷ [p.27].

The metaphor of organizational pathology

When the biological metaphor is attributed to the pathological aspects, the result would be the following metaphor:

The organization could suffer from the diseases, the same as human body.

When an organization is sick, its endeavors to solve the organizational problems are not effective, or an organization is in a pathological phase when it does not have efficiency for recovery and development³⁷ [p.5]; although in a different perspective, corruption and fraud can be considered as organizational pathologies^{38,39}. On the other hand, based on the classifications of human diseases, we can distinguish hereditary and acquired diseases. Acquired diseases are the most frequent ones in organizations; however, it is possible to find hereditary diseases too, but more in public organizations than in private ones. What generally happens in public organizations is that ideas are generated concerning the creation of new organizations and these are conceived through legal action expedited by corresponding laws, agreements, and regulations. These documents carry the genetic code of the new organization and, in general, establish its structure and functions. In line with this, on many occasions, directors and personnel are designated and hired, whose first task is to plan and develop the most detailed design based on the genetic code and then to put this into practice. Often, from the very beginning of these detailed designs, operational problems stemming from what is established in the genetic code arise; nevertheless, the code must be followed. Problems continue to appear during the lifespan of the organization; thus, hereditary inconsistencies arise. It is extremely difficult to correct these diseases in public organizations and the modification of their genetic codes is virtually impossible³⁷ [p.7].

Organization as an animate being

In this metaphor, organization is compared to the human body, which is generated from the theories that call the organizations as organisms and animate beings, and their emphasis is on the description

and characterization of the constituents of the organizations and on the analysis of their organizational functions. The emphasis of these theories is on the anatomy and physiology of the organizations. This view in organizational studies has a root in its historical development in physiology and anatomy from the macroscopic view to microscopic aspects. Moreover, it is a mixture of macroscopic view to the organization up to the knowledge relevant to the organizational employees, that is, the microscopic view to the organization³⁷ [p.2]. Human beings have a main role to play in the organizations, and they add the human factor to the organization. The comparison of the organization to an animate being has introduced concepts such as organizational adaptability, health, development, and life stage in the management literature and considered the human needs in the organization. The application of systems theory and contingency theory in management has its roots in the biological view, because in these theories, the organization is in contact with its environment and its survival is conditioned to its adaptability with the environment. Another organizational theory that has used the biological metaphor is natural selection or population ecology theory. This theory says that organizations being the same as animate beings need the environmental resources for survival and should always try to make the best out of them. For the fulfillment of this intention, they have to compete with other organizations; moreover, because the resources are scarce, the organizations that are able to benefit from the resources in the most efficient way will be able to survive, otherwise they will be vanished⁴⁰ [p.32]. The significant difference between the organizations and the animate beings could cast doubts on the metaphor, which confirms the fact that the organizations come into being, grow, and need to feed for their survival, but the organizations are not condemned to die as are animate beings. Death is part of the animate beings' life; however, it could be inevitable for the organizations⁴¹ [p.37]. Moreover, the organism metaphor faces numerous difficulties when it is applied to organizational understanding, not least the organism is often not specified; for instance, the organism is a rat in a maze, a rat in a race, a person, or a single-cell amoeba, any of which entails different considerations and actions²². Nonetheless, this lack of assumptive accuracy, a primary difficulty with the organism metaphor, lies in its implication of the organization being a form of life that is separate from its human constituents⁴², and it has to be examined alongside other forms of life, that is, in terms of factors such as survival, growth, decay, death, population ecology thinking, and Darwinian understandings^{7,11,22}.

Life in an animate system

Life is the exchange of materials and energy, on the one hand, from the organism and the external environment and, on the other hand, between the organism's cells and the internal environment. Based on the above-mentioned definition, we could say that each animate being came into existence from the entropy of its environment, and it needs to feed from the entropy of its environment for its survival; in other words, the equilibrium of the animate beings is related to the usage of the disorderly materials of the environment and changing them to the orderly ones. A system that has acquired its equilibrium in such a way has stability⁴³ [p.111].

Organizational life cycle

In a resemblance to the human beings, the organizations are born too and would die. Exactly the same as human beings, some develop faster and some accomplish their work more efficiently in comparison with the other. Life cycle implies a predictable changing model. The organizations have a life cycle that has a change sequence through time. The application of life cycle for the organizations is based on a multi-stage concept for the environment of organizations, which follows a logical and adaptable process that is more predictable to be accidental⁴¹ [p.37].

Organizational life cycle according to robbins

- 1. Entrepreneurship:** This stage refers to the introduction stage in the product life cycle. In this stage, the organization is the same as a baby. The objectives are obscure and the creativity is high. The acquisition and maintenance of a stable supply of resources is necessary to progress to the next stage^a.

^aHere Robbins considered entrepreneurship as a stage to classify his organizational life cycle; however, some organizations that are basically entrepreneurial could have different organizational life cycles and accordingly different pathologies⁴⁴.

2. Introduction: This stage continues from the first stage creativity, but the mission of the organization is clear. The communication and internal structure of the organization is informal. Employees dedicate most of their time to the organization, and organizational loyalty is high.

3. Standardization and control: In this stage, standardization and control acquire stability. Innovation is not emphasized, but efficiency and stability are accentuated. The decision makers are placed in the line positions and are delegated authority. In this stage, most of the decisions made are about the organizational survival; in addition, the organization is formed formally and the roles are specified in such a way that the rotation of the employees could not be a threat to the organization.

4. Structure complexity: In this stage, the organizations add variety to their products and services and seek new product management and growth opportunities. The organizational structure becomes more accurate and complicated. In addition, decision-making is more decentralized.

5. Decline: In this stage, the organization seeks demands for its obsolete products or services because of market depression, competition, or other effective forces. Management seeks new strategies for maintaining its market and follows new opportunities. Rotation of the employees, especially sales employees, increases. New people shoulder the responsibility of organizational leadership to save the organization from the decline stage, and decision-making becomes centralized in the hands of new leaders⁴¹ [p.38].

What is pathology?

Pathology is the knowledge of diseases and diagnosis of damages to a specific system that is under study. This science that has a wide usage in biological sciences is also worthy in humanities, in such a way that the pathology of the organization absorbs the organizational experts. All endeavors that try to reveal the deficits and the damaging factors in a system could be categorized in the pathology realm. Pathology starts with the symptoms of damage. The problem could show itself in a procedural, cyclic, or even indirect manner in the system that is under study, with strength or weakness⁴⁵ [p.68].

Pathology of the human body

Pathology is the study of diseases, as mentioned previously. The concept of disease and its relationship to health will be established later in this paper. However, we must add here that medical sciences define pathology as the study of the "abnormalities", even though all abnormalities should not be considered as diseases. Although we can consider a person as an integrated system of the mind and body³⁷ [p.31], whenever it is referred to in this paper, we mean the body.

Organizational pathology

Medicines have been used for a long time as a means to treat the body; however, diagnosis, treatment, cultural change, and organizational dynamics means in the organization are at the rudimentary stage. As stated previously, the organizations being the same as the animate beings pass through different life cycles. On the one hand, they face specific problems at each stage; on the other hand, they face some other problems in the transitional intervals between the stages. The organizations in their developmental route usually face numerous problems, which they try to solve them by reliance on their internal strength; however, sometimes their internal strength cannot afford or is not sufficient to solve the problems; in such a case, they have to get help from out of the organization. When the organization is in a transitional interval, some energy is generated to be spent for the transition and gives rise to the transitional problem that will confront the organization; otherwise, instead of solving the external problem, it would shift and make internal ones⁴⁶ [p.352]. Organizational damages are mostly attributed to pivotal problems that constantly and widely expose the organization to crisis and prevent the organization from appropriate growth and development⁴⁷ [p.169].

The study of organizations is of common interest to a wide range of disciplines, interdisciplinary subjects, and professions, each one having various perspectives. Hence, in this respect, lack of an orderly collection of knowledge should not be surprising. The concerning issue is the perceptible deterioration of many organizations with which we interact in our daily lives, that is, every sort of organizations ranging from global levels to national, governmental, privately owned industries producing goods or services. An orderly collection of knowledge about organizations may be necessary, though not sufficient, to stop deterioration and improve such organizations. The turbulent

situations, as experienced in the present-day societies, would demand a change in how things are seen and evaluated, and thus how we act, that is, a change of paradigm³⁷ [p.32].

Significance of pathology

Organizational pathology is an activity to learn to be able to discover reality and is a presumption for organizational endeavors. As the aim of the organizational pathology is to interact with comprehensive systems such as large companies, it includes a wider arena in comparison with organizational development; hence, for this reason, it is an intervention. Organizational culture is an important factor in organizational pathology. Moreover, pathology could be effective for developmental objectives before solving the problems of programmed changes, which interact with the organization and also change the market leadership⁴⁸ [p.15]. Another issue that proves the significance of pathology is the fact that the organizations being the same as the animate beings fall sick and suffer from internal disorders. The internal departments usually need recovery or even substitution⁴⁹ [p.45].

The anatomy and physiology of human beings in comparison to the organization

A) Human being

Human beings have two aspects: spiritual and corporal. The diversity and span of activities in human beings show the organized interaction of the body systems. Although the activity of each system is independent, it interacts and coordinates with the other systems. All the units of the subsystems have delegation of authority, and all the cells have authority to play their roles. This phenomenon is one of the wonderful symbols of creation for systematizing, and is capable of being a role model for system designing, operating activities, supervision, and diagnosis. In medical sciences, the anatomical and physiological development of the human body embraces microscopic and macroscopic dimensions. Considering the fact that a cell is the simplest unit of life that is semi-independent and semi-autonomous, we can define human anatomy as the study of physical description, structures of cells, tissues, organs, systems, and their management in the human body. In addition, physiology of the human body is the study of the specifications of functions in cells, tissues, organs, systems, and their interrelations³⁷ [p.33].

Cells

Human body is a hierarchical system. It means that the elements are placed at different levels and different hierarchies of behavior. The cell, which is an element of a tissue, is a complete system itself. It is the smallest unit of life that can preserve its being autonomously. This life unit is made up of three parts: nucleolus, cytoplasm, and membrane.

- **Nucleolus:** It is the main planning and organizing part that has significant elements such as nucleic acid, which is surrounded by a thin membrane that has the selective capability of transferring different substances to the core and vice versa⁵⁰ [p.29].
- **Cytoplasm:** It is a compound substance that has different elements and mostly has anabolic activity. This substance fills the spaces between the cells.
- **Membrane:** It is the fixed limitation of the cell and has the capability to allow or block the transfer of some substances⁵¹ [p.25].

B) Organization

As with the human body, the organization also has hierarchies. Each system has many subsystems. The organization is composed of many departments and units that are busy with their own functions and duties independently, but have a holistic view. In other words, the units and departments are formed by larger sets and subsystems that follow an aim. Each unit in the organization, being the same as the cell, has a central core with the regulating and commanding function, which is the unit manager. If a problem confronts the management function, it could affect the activities of each unit and thus the whole system, because each subsystem is actively involved in the determination of the entire system's behavior.

Management is the process performed among a field of resources such as financial and human resources, in the absence of which the unit manager cannot fulfill its functions to acquire the programmed objectives. This field that embraces the organizational environment and its human and material facilities has the same role as the cytoplasm in cells. If there is sufficient energy to perform the

functions and effective human resources to implement the management decisions, the organizational departments and units will develop and grow, and they can even partially repair the organizational damages. Each department in an organization, as a subsystem, has specific boundaries that divide the department from the objectives and operations of other departments of the organization. This boundary being the same as the membrane in a cell has a selective function for the entrance and exit of information, energy, and human resources. Therefore, the organizational departments and units are the subsystems that interact with the environment for the absorption of energy and material.

Additionally, the boundaries of the physical and mechanical systems are obvious and tangible. For example, it is easy to distinguish a car from another thing, but the boundaries of the social systems are intangible. The same difficulty is true for the social subsystems. The heart or cell in a human being is distinguishable from the other parts of the body, but such a thing is not true from the organizational perspective. The social boundaries are based on communications, not the tangible material issues. Therefore, it is not easy to determine exactly where the organization ends and the environment starts⁵² [p.78].

Organizational DNA

Each organization differs from the other with respect to performance, objectives, and strategy. Therefore, we could infer that in organizations being the same as human body cells, there are factors that specify the specifications and qualities. Researchers have identified four elements or basic factors, that is, decision rights, information, motivators, and structure. They are called the defining elements of the genetic code or DNA of an organization. These genes and their unique combination in an organization determine how ably and agilely the organization functions. Hence, they imperil or ensure enduring results. Genes are interdependent and do not stand alone. Thus, carefully coordinated and coherent steps should be taken to modify all or each of the genes⁵³ [p.20].

Tissues

A) Human being

Combination of the cells with specific functions makes up the tissues, such as muscular and neural, and finally the organs and body systems. Each cell, tissue, organ, and body system act as separate subsystems of the body that make up the holistic human body to follow an ultimate goal, that is, survival. In fact, moving from the major to minor mode, the functions become more specific and vice versa, the goal becomes more general.

B) Organization

Organizational species are the beings that include a series of organizational population defined formally and have the same capabilities, structures, and strategies. Different definitions of organizational species presented show the difficulty in the identification of organizational species in comparison with the biological species based on genetic differences, while the difference between the organizational species is based on morphological differences. It is noteworthy that the organizations would change from time to time; therefore, this makes a weak consensus on the fundamental qualities and dimensions that should be taken into consideration to categorize the organizational species under specific headings. There are different types of organizational species classifications as organizational species, in contrast to the biological organisms, undergo fundamental changes in structure and functions⁵⁴ [p.185]. Organization's mission is the pivotal goal of the organization, which leads the organization to fulfill its objectives. The objectives guide the resources and endeavors of the organization to move toward its mission. They declare where the organization is, and where it wants to go⁵⁵ [p.109]. Each subsystem in an organization has its own exclusive objectives, which in a holistic view fulfill the ultimate goal of the organization and help its survival and competitive advantage in the fluctuating external environment of the organization. Moreover, each organizational element could have an impact on other organizational elements or the organization as a whole, as the brain, heart, and lungs could affect the whole body. There is an interrelation between the organization's departments in terms of their behavior and the type of effect. It means that the behavior of each department or unit and the effect of each element on the whole organization at least depend on the behavior of another department or unit of the organization. This is similar to the human body where the function and behavior of the eye relates to that of the brain. If these elements and parts in a body or organization, do not have interaction with each other, they make a series, not a system.

Neural system

Each developed country has many buildings, monuments, departments, centers, telecommunication devices, electricity networks, water supply pipes, factories, grocery storehouses, and many other parts with millions of workers and clerks who have to do their best. It is the telephone lines and telecommunication means that maintain their relationships and alert them in the time of danger or provide them with necessary instructions. The human body is more complicated and sophisticated than the most developed countries, and the most populated ones are not completely analogous to the human body. Each part exactly performs its predefined function in a perfect manner⁵¹ [p.86].

The general design of the neural system

Neural system of a human being is divided into two main parts: central neural system, which consists of the brain, spinal cord, spinal nerves, and environmental nerves, and automatic neural system, which under the supervision of the central neural system and wired to the more distant parts of the body operates glands, heart, lungs, intestines, etc.⁵¹ [p.88]. The central part consists of 100 billion neurons⁵⁰ [p.630] and the sensory parts of the neural system act based on the sensory experiments of the sensory receptors⁵⁰ [p.631].

Artificial neural network

It is in fact a data processing system that is derived from a model of the human brain, and the data are processed by many tiny processors that are interconnected in a coherent network to solve a problem⁵⁶ [p.5]. They are mainly used for model building, classification, and forecasting,⁵⁷ [p.31], and today they are used in many different research fields⁵⁸ [p.5]. Moreover, artificial neural networks are composed of many elements that are involved in the processing of pieces of information in harmony with each other⁵⁹ [p.25]. These networks are called smart because they learn general laws by doing calculations on numerical data or the examples. The performance of artificial neural networks is improved by modifications of the weights through the time⁶⁰ [p.134]. The nonlinear nature of neural network structures can be extremely helpful in the extraction of nonlinear relations existing in real-life routines⁶¹. For instance, the capability of neural networks with respect to linear time-series model building has been studied and confirmed by many researchers⁶²⁻⁶⁴. Neural networks are non-parametric data-based models that do not have many restricting assumptions for the implementation of the data analysis process. In this respect, they have less margin of error than parametric models for the determination of intended models⁶¹.

Resemblance between the organization and the neural system

In the processing and application of the data for decision-making, selecting, and following-up, the organizations act exactly in the same way as the human brain. For example, some management scholars have observed that the organization and the brain perform in the same manner⁴⁰ [p.28].

Communication

It is the bilateral transfer of the information, which consists of any idea or thought that the managers wish to share with others. It enables the managers to implement their managerial functions; therefore, many organizational and social problems can be found to have their roots in the lack of efficient communication⁵⁵ [p.316]. Communication is a fundamental entity of each organization, which sometimes defines the type of the organization. The concept of the communicative constitution of organizations (CCO) has gained much attention in organizational communication studies⁶⁵⁻⁶⁸. The supporters of this theoretical concept have a common perspective that organizations are invoked, modified, and maintained in and through communicative practices⁶⁷. This concept emphasizes that if organizations are understood first and foremost as communicative phenomena, insights and knowledge from communication studies are likely to advance the study of organizations⁶⁹. In this respect, the CCO perspective and theory has paved the way for increasing the application of communication studies to the neighboring field of organizational studies⁷⁰.

In the organization, the employees who have direct contact with the external organizational environment act in the same way as sensory organs of the body and get the necessary information for the organization. The information acts as stimuli for the organization. These employees are the receptors of pain, who feel the environmental problem and predicament directly and inform the

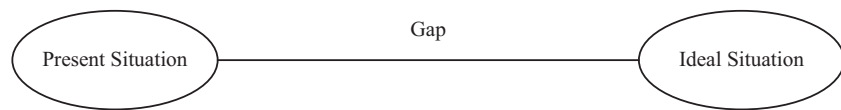


Figure 1. The emergence of a problem⁷⁶ [p.40].

organizational brain or CEO. The employees constitute the first part in the informational structures of the organizations, who act at one of the three levels, namely management, execution, and procurement⁷¹ [p.133]. The executive employees could be seen as the axons. Furthermore, the organizational communication needs staff who can act in the same way as neurons for transferring the information or instructions. In contrast to the interpersonal communication, the organizational communication embraces a wider range that is clear. Moreover, in the organizational communication, the format of transferring the information is mainly oral⁷² [p.6].

On the other hand, the informal and political communications amid the human constituents of the organizations recall the quotation of Mulla Sadra, the Persian philosopher of the 17th century, who described the close relationship between the mind and the body. He believed that the body is inferior to the mind and is a reflection of it at the lower stages of bodily existence; therefore, the cause of natural death is related to the will of mind⁷³ [p.5]. In the organizations, this superior “mind” could be analogous to organizational politics and agencies (political realities in the organizations), and the “body” could be analogous to the physical realities of the organizations. A defection, ailment, or death in the superior entity leads to subsequent effects in the inferior entity.

Memory

Most of the information in the brain is stored in the cerebral cortex. The storage of the information is what we call memory⁵⁰ [p.632].

Organizational memory

Organizational memory or the organizational experience series is a new competitive tool in organizational development because it has many principal roles in different organizational matters such as decision-making, training, and planning⁷⁴ [p.38]. The recording of issues in written format is a type of organizational memory. The obvious storage places are filing cabinets and databases. Moreover, employees are the other storage places of organizational memory⁷⁵ [p.66].

Pain

It is a factor that indicates there is a problem. Some kinds of pain stay for many years after the recovery⁷³ [p.135]. The pain in an organization is equal to the presence and existence of a problem, which is defined as the gap between the present situation and the ideal situation⁷⁶ [p.40] (Figure 1).

THE DISEASES OF THE NEURAL SYSTEM

Brain stroke^b

A) Human being

It is the occurrence of an event that causes damage to the brain due to the blockage of blood flow to the brain (blood clot) or to the rupture in one of the brain vessels⁷⁷.

The regulations that are legislated by the policy-making counsel of the organization have two main roles: first, information should be shared among the staff; second, for the preparation of regulations, there is a need for understanding both the internal and environmental information. Therefore, managers need to acquire worthy information from the external environment for better decision-making and legislation of internal organizational regulations. If worthy information is not obtained by the policy makers and decision makers of the organization, who are the brain of the organization, and if they are not fed by such information, then “information underload”, an organizational disease, will emerge, which will finally interrupt all vital activities and decision-making of the organization.

^bStroke is an event that occurs when an artery carrying blood to the brain suddenly bursts or becomes blocked.

B) Organization

Information underload disease: Acquisition of beneficial and vital information for the attainment of job success and survival in the job market has an outstanding significance⁷⁸ [p.73]. The knowledge of past events makes the prediction of future events possible. The information underload disease will emerge when either there is a lack of information or the manager is not familiar with the optimal application of the information.

One of the results of this disease is the judgment of the managers based on insufficient information. If the information is scattered among the members of the organization, then crisis, conspiracy, and gossip will become very widespread in the organization. Management will have to make big decisions based on minor and incomplete information, which itself will worsen the situation and will be more intensified in merged organizations⁷⁹ [p.98]. In such a situation, chaos will become prevalent and the organization ends in a fiasco⁸⁰ [p.76].

Treatment

New technologies could be used to acquire worthy information. One of the ways is by the use of different qualitative and quantitative tools for decision-making and acquisition of information; moreover, one of the qualitative ways, discussed previously, is by the application of artificial neural networks for solving different problems such as classification, clustering, estimation of mathematical functions, optimization, and control⁸⁰ [p.79].

The other possible way is the application of benchmarking. It is the classification and ordering of voluminous data and relevant information. Currently, it is one of the useful managerial tools for accurate recognition of the present situation in an organization that will be helpful for organizational decision makers. By the application of benchmarking, the organizational data are investigated and scrutinized by the relevant software to first identify the hidden and complicated models in them and then to discover and extract them from the data⁸¹ [p.5]. The organization that is very centralized and has the decision-making in the hands of one person as well as a simple structure will be very sensitive to this organizational disease, and a simple conclusion will explode the decision-making center⁸² [p.134].

The other factor that could cause a brain stroke in an organization is “organizational silence”. This disease is the result of a weak communication between the manager and the employees, which leads to an interruption of information flow in the organization.

There are two main reasons for organizational silence:

1. Fear of the management that arises from negative feedbacks on the side of the employees because of jeopardizing their interests.
2. Perception of the employees about the tacit beliefs of the management about them.

Such tacit beliefs include ideas that the employees consider only their own interests, the management of the organization is the ubiquitous perceiver of everything more than anybody else, and finally the difference of opinion is a negative issue for the organization. Although these issues are the perceptions and beliefs of the management and possibly none of them is true, they create destructive feelings and emotions such as fear, anger, and cheating among the employees and finally end in organizational silence⁸³ [p.73].

ORGANIZATIONAL SILENCE, DECISION-MAKING, AND CHANGE PROCESSES

Organizational silence affects the efficiency of decision-making as well as the organizational change process due to the limitation of the information input given to the decision makers. It also prevents the analysis of the ideas and alternatives for decision-making, which limits a comprehensive analysis. This leads to a decreased efficiency of the organizational change and decision-making processes⁸⁴ [p.196]. The other way that organizational silence negatively impacts organizational development is the blockage of the negative feedback route and consequently the decrease in the capabilities of the organization for the recognition and compensation of the errors⁸⁵ [p.113].

The consequences of organizational silence on the employees' emotions and reactions

The orientation of the organization toward discouragement of the employees for the utterance of their ideas and giving feedback not only jeopardizes the organizational development, but also leads to negative and destructive behaviors in them⁸⁶ [p.97].

Treatment

A study of the variables influencing organizational silence provides the following suggestions in order to decrease this behavioral phenomenon in the organizations:

- Establishment of development plans for human resource management for training in decision-making skills.
- Making decisions in a group and respecting the organizational groups and committees.
- Establishment of communication skill workshops for the managers and employees.
- Changing the organizational culture toward learning organizations and organizational learning.
- Specification of people's capabilities and their application in the executive and decision-making issues.
- Establishment of suitable compensation system for the creative ideas and suggestions.
- Identification of the personality traits for the delegation of responsibilities to them.
- Setting organizational policies to support the employees' ideas and encouraging them for more participation⁸⁶ [p.110].

Narrow vertebra

A) Human being

Vertebra^c is responsible for protecting the spinal cord. If the vertebra becomes narrow in the neck or back, the disease then becomes manifest⁸⁷.

B) Organization

The middle managers in an organization have the same function as the spinal cord in human beings. In other words, they are a route for transferring messages from the top management to the lower levels, and they design and control many organized actions of the organization without taking any commands from the top management. As mentioned previously, narrow vertebra is a neural problem that emerges in the body skeleton. Such a problem makes an interruption in the transfer of spinal cord messages. Similarly, in the organizations, structural problems and inappropriateness of the structure with the organizational processes, and its size and functions cause a problem in the relationship between the middle managers and the employees. Communication has a significant impact on organizing and organizational structure, and this impact is very crucial as efficiency is deeply bound to it. Therefore, a manager should keep an eye on the role of communication in the organization and use different human communication models, especially interactive and transactional ones⁷² [p.3].

Treatment

The facilitation of vertical and horizontal communications and participation of the employees for decreasing power centralization have been accentuated in numerous studies by neurofeedback, which is an effective approach for management. Neurofeedback has no side effects, imposes less medicine cost, and is a permanent treatment; therefore, it is an influential treatment⁷³ [p.33].

The stability and instability of neuron circuits

A) Human being

Each part of the brain is in indirect or direct connection with the other parts. When the first part stimulates the second, and the second stimulates the third, and the third stimulates the fourth, and finally the initial message stimulates the first part again, it is obvious that the stimulating message will cause a cycle of stimuli, a permanent stimulating cycle that involves all parts. In such a situation, the brain is saturated with so many fluctuating uncontrolled messages. These messages that have no communication nature make the brain circuits busy⁵⁰ [p.661].

B) Organization

As mentioned previously, information and resources circulate the organizational vessels by means of communication. The necessity of life and healthiness in the organization is the accessibility of the units to resources and information that are just in time and vital. If the quantity of information and its circulation become more than necessary, the organization will suffer a disease that involves the neuron

^cVertebra is one of the small hollow bones that together form the backbone.

of the organization to a great extent. In other words, the problem and severity of the “information overload” disease, which in many cases involve the managers, is not less than the underload disease.

Information overload disease

Based on the censuses reported in the literature, most of the researchers believe that we are in an information overload condition or data smog. There are two other relevant words: analysis paralysis and information fatigue. The information overload disease has been defined in many different ways as follows: “Having more information than the person is able to use them or the accessibility of a great bulk of information which has no superiority to each other”⁸⁸ [p.53]. In such a case, those persons who do not have enough experience in facing such huge bulk of information will undergo an extreme stress. Such a situation will double the decision makers’ stress, because they will think that they may not use appropriate information for decision-making⁸⁹ [p.21].

Treatment

To prevent such a disease, there should be information literacy, acquisition of common and up-to-date information, personal information management, pressure technology, smart factor, value-added information, and expert consultation on informational issues⁸⁹ [p.25].

Alzheimer’s

A) Human being

A disease in which the brain performance suffers and the mental capacities of the patient fade away gradually. Its main symptom is severe bad memory. First, it deteriorates the most recent memories and then progresses to ruin the past ones⁸⁷.

B) Organization

Organizational memory: The organizations also have the same memory as human beings. They have the knowledge and experiences that help them to grow and develop. These knowledge and experiences have very significant roles in today’s competitive world. If by any chance this memory is threatened, then the organization’s performance will also be threatened. The organizational memory is not only relevant to the managers, but also to all the knowledge, tacit or explicit, that the employees have acquired by their work in the organization⁷⁴.

Fading away of the organizational memory causes the organization to lose one of the principal sources for competitive advantage that needs huge investment and endeavor to retrieve and create the lost organizational knowledge⁹⁰ [p.193].

Treatment

The optimal solutions to prevent this disease are as follows:

1. Finding the real place of organizational knowledge.
2. Maintaining environmental memory as a strategic necessity⁹⁰ [p.200].

Organizational forgetting

Forgetting is not so simple as learning, and it could be damaging or beneficial in two dimensions, namely purposeful and non-purposeful. In any way, it could be influential on the competitive potential of a company in positive and negative aspects. Forgetting could be classified into two categories: accidental forgetting (non-purposeful), which is damaging, and intentional forgetting (purposeful), which is fruitful and beneficial⁹⁰ [p.201].

Circulatory system

The circulatory system in human beings consists of the heart and vessels. The heart is a pump that makes the blood to circulate in the body. The circulatory system transfers and carries oxygen and nutritional elements that are absorbed by the respiratory system and digestive systems to the cells and takes away waste and toxic material, the byproducts of metabolism, from the cells.

Blood flow in the body and communication in the organization

- The sender or the source of the message (organizational heart) starts the communication.
- Encoding: In the human body, this responsibility is given to the digestive system that converts the nutritional substances to be used by the cells. In social systems, the messages will be encoded when the message is transferred only between two persons, which will be implemented through some signs and symbols to be apprehensible and applicable.
- Message: In the human body, oxygen and other nutritional substances are transferred by the vessels for the survival of the cells, and in the organizational systems, the information is encoded by the sender.
- Channel: In the human body, the vessels act as the channel, whereas in the organizations and social systems; it is the medium used by the sender and the receiver (e.g., air which acts as a medium for transferring sound) to communicate with each other. In fact, it is not possible to separate the channel from the message.
- Receiver: The responsibility of the circulatory system is to feed the tissues and cells, so many vessels deliver oxygen and nutritional substances to the tissues and cells. The vessels are the communication channels and the cells are the receivers. In the organization, the receiver of the message is the person who feels that his sensory organs have received the message. It is possible that the receiver of the message could be one or more than one person.
- Decoding: In the human body, it is the absorption mechanism of oxygen and nutritional substances. In the social systems, it is the process by which the receiver will interpret the message. The receiver must first receive the message and then interpret it.
- Feedback: It is one of the initial performances of the circulatory system where each tissue can adapt its regional needs (metabolic needs) according to the blood flow, which results in feedback.

Intelligent heart: reaction of the heart and the brain

In most cultures, the heart has been presumed as the source of emotions and love. Previously, it was believed that the function of the heart was based on the commands of the brain; however, today, it has become evident that the relationship between the heart and the brain is bilateral and dynamic, and they constantly affect each other. Researches have shown that the heart is in contact with the brain through four routes: neural, biological–chemical (hormones), biological–physical (pressure waves), and electromagnetic energy. John and Beatrice Lacey were the first to investigate this bilateral relationship between the brain and the heart. After 20 years, they understood that the heart has a special logic and the messages that are sent from the heart to the brain are not only perceived, but also executed by the brain⁹¹ [p.103].

To perceive the above-mentioned issue better, we discuss about the difference between the leader or the heart of the organization and the brain or the manager of the organization.

Management or leadership

It is the capability to penetrate into others. By penetration we mean that a person could influence the decision-making of others. Such a person is a leader and the person who accepts such a penetration is a follower. If we accept such a definition for leadership, then we must distinguish management and leadership.

One of the responsibilities of the manager is to coordinate between human resources and material resources for the fulfillment of the objectives, and management is a social process that embraces planning, controlling, coordinating, and motivating. Management is the process of changing information to action. However, management is a science and art, with leadership being the main responsibility, but that is not the end of the story. For instance, the main role of the manager is to plan and coordinate, whereas the main role of the leader is to influence others in such a way that they enthusiastically follow the predetermined objectives⁴⁵ [p.74]. Therefore, in an optimal case, the manager and the leader are one person: a person who has the capacity of influencing others because of his personal traits and who has legal power too.

CIRCULATORY SYSTEM DISEASES AND PROBLEMS

Heart failure

A) Human being

One of the problems that physicians mostly try to treat is heart failure, which is very common. Each person whose heart cannot pump the blood in an efficient way will suffer from heart failure.

B) Organization

Failure could occur in the organizational communications, or in the start-up of the organization, or in the execution of the organizational affairs. If such failure occurs in the heart of the organization, it will lead to the malfunction in the speed of the message transfer and the pumping of the resources (informational, material, etc.), and sometimes to cardiomyopathy, which is a heart disease that weakens the heart muscles. As a result, the organizational muscles or the distribution system of the organizational resources will suffer, leading to a decrease in organizational performance. If this condition is left untreated, then it will lead to death.

Myocardial infarction

A) Human being

It is an alarming symptom that is indicative of the clogging of the coronary vessels of the heart and can lead to a heart attack. Coronary vessels branch off from the aorta^d directly and feed the heart muscles⁹² [p.71].

B) Organization

Any disease that affects the circulatory mission in the body affects the blood vessels and will cause a failure in the transportation of oxygen and nutritional substances. In the organization, the same event will occur in the communication channels. Sometimes the failure in the distribution of the organizational resources that occurs in the communication channels will lead to a severe consequence.

The blocking factors for effective communication in the organization and its remedies

According to the managers, numerous factors can block the effective communications in the organization, so it is necessary for them to consider the following tips to diminish or overcome them:

- Pay attention to the feedbacks.
- Pay enough attention in listening to others.
- Enhance your controlling power in the workplace.
- Pay attention to non-verbal communications.
- Pay attention to the emotional and mental qualities of the addressers.
- Sympathize with your addressers⁷² [p.6].

Blood pressure diseases

A) Human being

The beating of the heart transfers the blood to the vessels. The walls of the vessels resist against the heart pressure, this resistance is called blood pressure. This pressure will cause severe problems to the body organs when it goes up or down. If the pressure decreases, then the blood will not be transferred to the cells, especially the brain that needs nutritional substances and oxygen to a large extent and will result in vertigo. If the pressure is extremely high, then the tiny vessels cannot tolerate such an increase in pressure and consequently will be torn⁹³ [p.58].

- Hypertension: When the heart pumps the blood with more power or the vessel becomes narrow and resists against the blood circulation, blood pressure increases to push the flow of blood to the organs⁹³ [p.71].
- Hypotension: If blood pressure decreases, then the blood will not be transferred to the cells, especially the brain that needs nutritional substances and oxygen to a large extent and will cause vertigo. If the pressure elevates to a high level, then the tiny vessels cannot tolerate such an increase in pressure and will be torn, or maybe the patient will faint⁹³ [p.59].

^dAorta is the largest artery in the body, carrying blood from the heart to all the parts of the body except the lungs.

- Shock: One of the severe symptoms of extremely decreased blood pressure is shock. If sufficient blood is not pumped into the vessels to transfer oxygen and nutritional substances to the cells, it will lead to a shock and cause death shortly thereafter.

B) Organization

As the main responsibility of the neural system and circulatory system is to make a communication through the body, the diseases that are caused by blood pressure could be interpreted as information overload for hypertension and information underload for hypotension.

Treatment of communication diseases in the organization

Communication makes a system, which is necessary for coordination and consistency and makes a common ground for organizational efficiency. If there is a barrier to effective communication, it should be immediately wiped out. Perception of organizational communications could lead to organizational efficiency⁹⁴.

As with the blood pressure diseases in human beings, some barriers to efficient communication must be wiped away by the organizational managers to overcome the problem of blockage in the communication channels in order to make effective organizational communication and consequently efficient distribution of information and resources.

These barriers include: filtering, personal traits, gender, emotions, non-verbal communications, perception, parasites, and language.

Digestive system and respiratory system

A) Human being

Each system needs to interact with its environment to absorb food and energy for its survival. Human body as a system needs to do the same in order to supply the cells with necessary nutritional substances and energy. These substances and oxygen are absorbed by the digestive and respiratory systems and are circulated by the circulatory system.

B) Organization

Based on the above-mentioned facts about the human body, the organization also needs such systems to absorb and circulate such resources in the organization.

Organic systems such as the human body and the organization for the sake of their stability and survival always absorb more energy than their needs to make a secure margin for their existence. Therefore, the human body stores fat and the organization stores other substances that are necessary for its production⁴⁹ [p.54]. The organization absorbs some substances or services from the environment, distributes them among its departments and units, and finally manufactures some products or supplies its customers with some services. As the human body as a system has zero deficit, the organization chooses it as its model for optimization of its operations and production of its products to provide the final customer with the most utility products or services, leading to the emergence of the supply chain concept.

Definition of supply chain

Different researchers have suggested different definitions for the supply chain. Some limited the supply chain to the relationship between the buyer and the seller; some others had a wider view about it, considering it as the source of all supplies (supply bases) for the organization. By this definition, it embraces all the first, second, and third rank suppliers. Such a view of the supply chain will lead to the analysis of the supply network. The third view is Porter's value chain, which considers the supply chain as all activities that embrace the need for the presentation of a product or service to final customers. By this view, the supply chain consists of three fields: procurement, production, and distribution⁹⁵ [p.21].

PRINCIPAL ACTIVITIES OF SUPPLY CHAIN MANAGEMENT

Supply chain management has three critical and main activities⁹⁵ [p.21]: information management, logistics management, and relations management.

Logistics management

In the analysis of production systems (e.g., car manufacturing industry), logistics is the physical part of the supply chain. This part embraces all the physical activities ranging from supplying raw materials to the final product. In fact, the boundaries of the logistics are not only the material and product flow, but also those activities that relate to information and relationships as supporting tools for improvement in its activities⁹⁶ [p.27].

Today, strong supportive and supplying activity for the inauguration and continuation of the operations of production is one of the principal issues in organizational studies, and the pivotal factors for the development and growth of the organizations in these fields are the growth of the technologies and preparation of the organizations⁹⁷ [p.79].

DISEASES OF THE RESPIRATORY AND DIGESTIVE SYSTEMS

Malnutrition

A) Human being

It is one of the diseases that originates from the digestive system. The cause of this disease is not always poverty, but sometimes it is because of the lack of consideration for such a diet that consists all the necessary vitamins and minerals⁹⁸.

Dyspnea^e

It could occur because of different causes, such as weakness in nerves or muscles or damaged ribs, pneumonia, and asthma. It is normally associated with cyanosis⁵¹ [p.102].

B) Organization

Scarcity of resources in the organization: The organization being the same as human beings also needs to take resources from the surrounding environment for its growth and continual survival to fulfill its long-term and short-term objectives.

The resources that the organization needs consist of financial, technical, physical, and human resources⁴⁸ [p.123].

Reasons for resource scarcity

In this respect, the organizational pathologist is eager to know whether there are sufficient organizational resources to support the strategic and operational planning or not. The fact that sometimes in some phases the organization may not have some resources is neither equal to the failure nor to the fulfillment of its predetermined strategic planning. If the organization is able to change one resource to the other resource when necessary, then it can follow its strategic planning successfully: for example, perhaps a company has enough organizational resource, but do not have sophisticated and experienced marketers. In such a case, the organization can invest on recruiting new marketers and the financial resource can be partially inverted to human resources⁴⁸ [p.137].

The organization will have more organizational benefits when its resources and capabilities stand beside the industrial strategic factors. On the other hand, if what the company does is not parallel to the necessities of the competitive environment, the company's failure would be inevitable⁹⁹ [p.3].

Corporate anorexia^f

Anorexia nervosa is commonly described as self-starvation on the ground of not maintaining a minimum body weight. The business literature has also taken a (metaphorical) interest in dining disorders, especially relating to the concept of organizational anorexia¹⁰⁰. This reifying or hypostatizing term is coined in order to characterize anorexia as not within but of the corporates that undertake excessive engagement in cost-cutting measures, e.g., extreme downsizing^{101,102}. Managerial debates on downsizing, leanness, and especially organizational anorexia attempt to hypostatize or reify organizations, and imbue them with humanoid characteristics and anthropomorphic qualities, and also locate them in an ontological capacity and space equivalent to those subject to them, and concurrently de-humanizing the latter, thus reducing them to what is termed "corporate fat"¹⁰³.

^eDyspnea is defined as difficult or labored breathing.

^fAnorexia (also known as anorexia nervosa) is a mental illness that makes people, especially young women, stop eating because they believe they are fat and want to be thin.

Underpinned by leanness ethos^{104,105}, downsizing has been extensively practiced in a controversial organizational strategy since the 1980s. Research on the issue of downsizing in the UK and Japan¹⁰⁶, Australia¹⁰⁷, and the USA¹⁰⁸ suggests that downsizing is regarded as a preferred approach to reorganizing declining corporates by reducing costs and boosting organizational performance¹⁰⁹.

Business literature and reports argue that many corporates in the private and public sectors across the USA, Australasian, and European economies seek to reduce costs by cutting staff numbers every year¹⁰⁰; the idea of cost-cutting has gradually injected into the business minds the belief that “the slimmer the corporate or organization, the better, and that thin is good and beautiful”¹¹⁰ [p.97].

Urinary system

A) Human being

The urinary system consists of the following organs:

- Kidneys, which are placed on the flanks and release the urine.
- Ureters, which guide the urine from the kidneys to the bladder.
- Bladder, which is a container for the collection of urine.
- Urethra, which drains the collected urine in the bladder⁵¹ [p.115].

B) Organization

The organization as a system has some outputs. These outputs, the same as its inputs, could be material, energy, product, service, or information. Some of these outputs are consumed by other systems. Some others will be applied for the production process of the system itself. Some other outputs may not be used for the system or other systems. They are the waste materials that will enter the ecological system. All the systems try to decrease these wastes as much as possible as waste control is one of the problems of today's world⁴⁹ [p.37].

Homeostasis⁸ is the automatic tendency in the organization for survival. This tendency helps the organizations to wipe out any threat that affects their internal equilibrium to save themselves⁴³ [p.110]. This modification may be discarding information or discharging additional human resources or waste outputs.

Reverse logistics

It includes the process of refunded products and suitable treatment with such products and all the relevant operations with the reuse of the products and substances in order to increase productivity, benefits, and income more than the logistics organization. Reverse logistics consist of all the activities of the supply chain that occurs in a reversible manner. Generally, it could be defined as “accurate and just in time transferring of usable or non-usable products and substances from the most final point and final consumer of supply chain to the appropriate and relevant unit”¹¹¹ [p.96]; in other words, reverse logistics is the process of movement and transfer for the products that have the capability to be returned to the supply chain.

Motion system

One of the suitable ways for the organizational design is the acquaintance with the complexities of the human body and its motion structure. The skeleton of the body is similar to the formal structure of the organization that specifies and determines responsibilities and grouping in the organization and is the principle and foundation for the communication models and organizational reporting. The joints are similar to communication keys among the organizational units and also a description of flexibility necessary for the organization; finally, the muscles are similar to the staff and the culture that give motion to the tissues and the organ of the skeleton system. All these factors make a healthy organization.

⁸Homeostasis is the process in which a living organism or cell remains in the same state even when its environment changes.

A) Human being

This system consists of three parts: skeleton, joints, and muscles.

1. Skeleton

It is made up of one of the toughest tissues in the body. Bone is made up of an organic substance that is stored in non-organic salts. The toughness of the bone is attributed to these non-organic salts, which accounts for 60% of the body weight.

The bone has the following functions:

- A framework for maintaining soft tissues.
- A leverage for the movement of muscles and imposing pressure against it.
- Preserving vital parts of the body such as skull that preserves the brain.
- A place for the production of blood cells.
- A place for the storage of calcium salts¹¹² [p.21].

2. Joints

A joint fills the distance between one bone and the other. They enable the skeleton to bend¹¹³ [p.72].

3. Muscles

Muscles are the main parts of the human anatomy, which are connected to the bones, tendons, joints, and the skin.

B) Organization

1. Organizational structure

As human beings have a skeleton, the organizations have a structure that determines their conditions⁵⁵ [p.156]. Organizational structure is the manner in which the organizational activities are divided, organized, and coordinated. Organizational structure makes up a framework for the governing relationships between the jobs, systems and operational processes, staff, and the groups that endeavor to fulfill the organizational goals¹¹⁴ [p.54]. In other words, it is a set of ways that divide the work into specific tasks and functions and make a coordination between them¹¹⁵ p.63. Structure is the offspring of systems thinking¹¹⁶ [p.34].

Therefore, as skeleton specifies the type and manner of muscle movement, organizational structure specifies the duties and roles of the employees that should be flexible based on the conditions. The organizational structure shows the managers who are responsible for supervision and shows the employees the manager from whom they should take orders and training. Moreover, it is of great help to the information flow¹¹⁷ [p.101]. Making a relationship among the main pillars of the organization and making a coordination between their activities and the utterance of internal organizational communication with respect to giving and taking reports is the responsibility of the organizational structure¹¹⁸ [p.210]. Although the concept of the organizational structure is a fact and everybody in an organization copes with it, it is an abstract issue¹¹⁹ [p.45].

The effective factors on structure for adaptation with the environment

Organizational dimensions are classified into two groups: structural and content. The structural dimensions are complexity, standardization, and centralization. The content dimensions are organizational size, type of technology, environment, objectives, and strategies. These dimensions introduce the position of the organization and affect the structural dimensions (complexity, centralization, and standardization). The content dimensions could be ambiguous as they show the organization and the environment in which the structural dimensions are embedded. Some of the factors that have an effect on the structure are as follows: organizational size, strategies (strategies and objectives), technology, and power control. Additionally, considering the contingency factors in today's fluctuating environment is a crucial issue, which sometimes specifies the survival of the organization. Therefore, the structure should be designed in order to pave the way for the fulfillment of the organizational objectives and strategies¹²⁰ [p.108].

2. Staff or organization's human resources

The muscles in an organization are the staff who shoulder the organizational responsibilities and duties based on the job description and analysis and also based on the organizational structure (Figure 2).

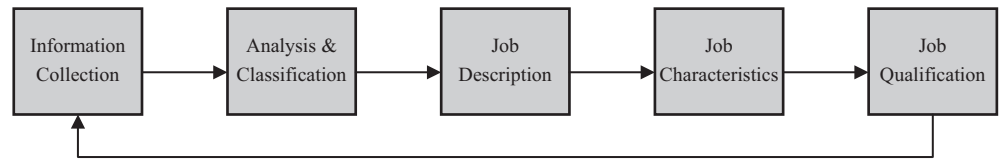


Figure 2. Job analysis process¹²¹ [p.83].

The analysis and recognition of the jobs is one of the main responsibilities of the human resource manager⁸⁷. Therefore, as the skeleton in the human body prepares the suitable situation for the movement of the muscles, the organizational structure also specifies the job description of the organization's staff.

3. Flexibility

As lubrication is a significant issue for the machineries and the technicians pay much attention to it, similarly, in the human body, the lubricant of the bones is the joints, and in the organization, flexibility and adaptation to environmental conditions play an important role.

If the organization seeks survival and efficiency, it must adapt itself to the environmental conditions. This concept of the organization as open systems is as follows: the organization must develop supervision and feedback mechanisms for the specification and determination of the environment and also its perception, that is, perception of the implemented changes in the environments and execution of necessary modifications⁸² [p.128].

In flexible organizations, precious and valuable employees are those who learn very fast, share their knowledge, and feel at home with danger, change, and ambiguity¹²² [p.56].

DISEASES

The human body has different organs and systems. The organization also has many units and subsystems. One of them is organizational structure, in which the employees do their duties based on the organizational framework. As malfunctions lead to diseases in the body systems, the root of diseases in organizational processes is in the activities of each unit of the organization. In this section, skeleton and structural diseases, respectively, in the human body and the organization are discussed.

AGING

A) Human being

Most of the diseases and problems of human motion system intensifies with aging. Chronic diseases and limitation of activity emerges with aging. Studies have shown that the number of dependent persons in the elderly population is three times more than the adults¹²³ [p.76].

B) Organization

Aging in the organizations have a different meaning in comparison to that in the human population. As with the animate beings, growth and aging of the organizations are initially shown by the capability of flexibility and controllability. When the organization is young, it is very flexible but mostly uncontrollable. When the organization is old, the relationship changes, that is, controllability increases and flexibility decreases. Age in organizations is not a reason to be old or a sign of growth. There are large corporations that are considered as old or young. "Youth" in the organization means that the organization can change easily with flexibility⁴⁶ [p.3].

The relationship between the organization's age and organizational mortality

Most of the experimental studies have focused on two effects of aging on the company's performance: the effect on survival possibility and the effect on company's size and growth. There is a general consensus that younger companies have higher decline rates, which is called liability of newness, and this decline rate decreases with aging. This concept is called selection hypothesis, which is an outstanding mechanism for "the mover survives"¹²⁴ [p.60]. From the biological perspective, the risk of death increases with aging, but from the viewpoint of organizational ecology, the case is vice versa, in which mortality decreases with aging¹²⁵ [p.7].

There are two perspectives regarding the relationship between the organizational mortality and organizational aging. In the first perspective, researchers assume a positive relationship between them in a way that as the organization's age increases, the possibility of organizational mortality also increases. Based on this perspective, the organization at the introductory phase and establishment has an aptitude or endowment that preserves them for some period as a shield and prevents their failure⁷⁹ [p.109]. Researchers have defined such a case as having a seed capital, credit, and commitment from others as well as political support. On the other hand, the second perspective assumes a negative relationship between organizational mortality and organizational aging. Stinchcombe⁷⁹ [p.109] is one of the researchers who believed that young organizations are vulnerable due to the lack of some vital capabilities. In fact, capability of the organization to predict increases with aging. In other words, the higher capability of the organization decreases the mortality risk of the organization. Therefore, these aforementioned reasons assume a negative relationship between organizational mortality and organizational aging¹²⁶.

Moreover, as organizations age, they improve their capabilities, especially when the environment is stable. It is also assumed that "Higher capability normally lowers the mortality hazard". This reasoning leads to negative age dependence, formalized in the following theorem: "Mortality hazards presumably decline monotonically with age". The second line of argumentation predicts positive age dependence. It assumes that, during founding, organizations would start off with an initial endowment that lasts for some time and buffers them from failure. Scholars have defined endowment as the initial resources such as "seed capital, credit, and commitment from others, and political support" that provide some immunity to a firm after founding. Furthermore, it has been argued that there is a monotonic relationship between the level of endowment and the strength of immunity. Organizations with large endowments are thus expected to have a low mortality hazard. During this initial "endowment period", the mortality hazard increases with age, because the stock of endowment decreases over time. This is formalized in Postulate 7.3 in the paper by Hannan, Polos and Carroll (HPC)⁹⁶ that states "Expected levels of endowments normally decline monotonically with age within endowment period". This postulate (together with Postulates 7.4 and 7.5 in HPC) leads to a theorem that formalizes the relationship between mortality hazard and age within periods of endowment: "Mortality hazards presumably rise with age within periods of endowments". In conclusion, the argument based on the progressive depletion of the endowment predicts a positive age dependence within the periods of endowments.

ABNORMAL GROWTH

Gigantism

A) Human being

In human beings, the growth is under the influence of the growth hormone that is released from a gland in the brain. An extreme decrease or increase in this hormone would produce growth abnormalities¹²⁷.

B) Organization

In the long run, abnormal growth is a cause for destruction and devastation. Accordingly, as genetic diversity is a cause for longer life, unlimited globalizing is a threat to organizations. Abnormal growth is usually relevant to organizational cloning, in which natural improvement processes vanish¹²⁸ [p.214].

Mobbing case in an organization

The number of employees is a good criterion to determine the organizational size. Therefore, mobbing is an influential factor on the size of the organization and consequently on its performance.

Mobbing is not only a social and personal disease, but also a social challenge that destroys the social equilibrium. In the organizational plan, the direct and indirect costs of mobbing are accompanied by the treatment of those employees who suffer physical and psychological diseases, discharges, etc. On the other hand, the organization has to pay more costs for a long- or short-term unemployment and social-psychological development plans⁵⁴ [p.115].

NANISM

A) Human being

A severe decrease in growth hormone in childhood leads to nanism.

B) Organization

The organizational size or its smallness has an influence on the organizational mortality rate. Among the organizations, there is a possibility of larger organizations to have a lower mortality rate¹²⁹. The organizational size acts as a shield against the competition within the population. Larger organizations have better positions in the environment and the other organizations try to imitate them¹³⁰. Moreover, the short life term of some organizations is because of their future discrepancies between their initial and principal objectives and the gap between the personal and collective interests¹³¹ [p.373].

Abnormal development

A) Human being

Neoplasm (cancer): Neoplasm means new growth. Tumors grow because of mutations that occur during cell duplications and the distinguishing phase. The foundation of all neoplasm is unresponsive to natural controlling criteria. Consequently, it has been verified that they have a malformed nature and constantly duplicate¹³² [p.301].

B) Organization

The unsymmetrical and unnatural development and growth of each organizational unit make the same situation as cancer in the human body.

Organizational tumors can present themselves in some part or unit (organ) of the organization, for example, in an office, department, or division, or they can be generalized throughout, that is, the whole organization. In these organizational illnesses, similar to inflammations in the human body, changes are produced in the rhythm of the flow in the way in which assigned tasks are carried out, the amount of flow is increased, but it is slowed down. This phenomenon is generally produced based on Parkinson's Law: "Work expands so as to fill the time available for its completion"⁷⁹ [p.94]. Thus, localized or generalized bureaucracy is produced¹³³.

There could be other morphological change due to tremendous changes at the places where people are working¹³⁴. When corruption affects all the organizations, what Davis¹³⁵ called "extensive growth of the agencies" will occur. Its main symptoms are hypertrophia^h and hyperplasiaⁱ. To cure such organizations, surgery must be done to establish decentralization policies¹³³.

Informational cancer and control measures

It is obvious that if the leading factor of the society (the supreme centralized information system in a society that is derived from the positioning of economy and policy) cannot identify the information change factors or cannot apply them based on a suitable logic, the society will suffer from informational cancer. Informational cancer is a condition in which information is unsystematically and chaotically present in the society without a logical background and it will be lost. In such societies, information exchange is chaotic and illogical. Information exchangers do not have symmetrical and logical power with each other and the outside world. They finally turn into uncontrollable informational tumors. A lack of the relationship between the informational datasets causes abnormal pulses in them; moreover, because of unparallelism among these isolated islands, the abnormal pulses neutralize each other¹³⁶ [p.45].

Osteoporosis^j

A) Human being

One of the common diseases of the human motion system and the skeleton is osteoporosis. This problem intensifies with aging. In the old age, the bones become thin and fragile; therefore, the human height decreases. The reason for this phenomenon is calcium deficiency. In severe cases, they could even break while walking or during massaging¹³⁷ [p.54].

^hHypertrophy is a non-tumorous enlargement of an organ or a tissue as a result of an increase in the size rather than the number of constituent cells.

ⁱHyperplasia is an abnormal increase in the number of cells in an organ or a tissue with consequent enlargement.

^jOsteoporosis is a disease in which the bones become very weak and can break easily.

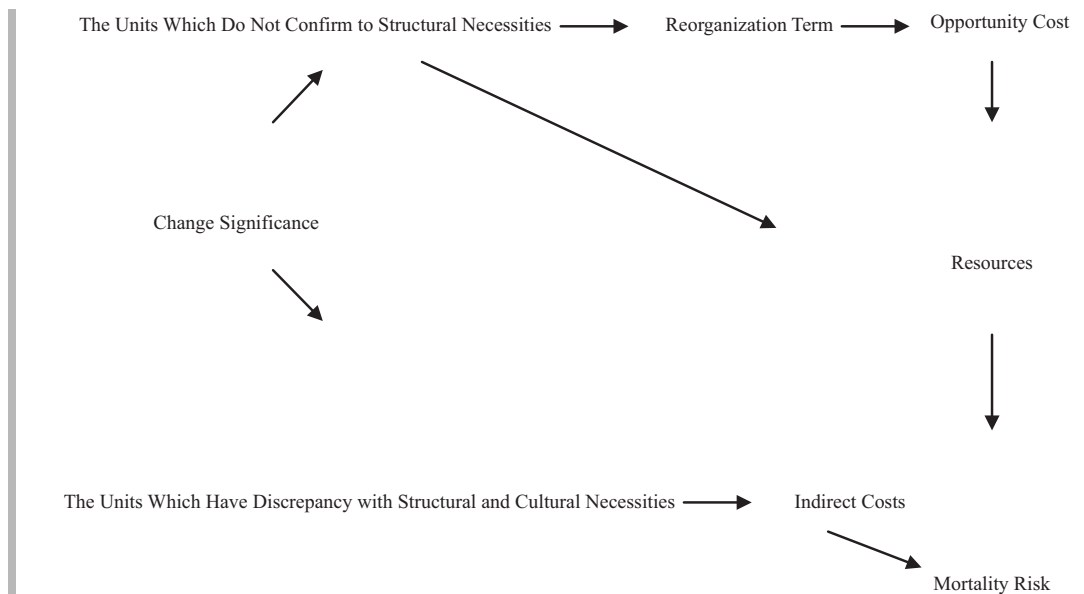


Figure 3. Mortality risk caused by cultural and structural changes⁵⁴ [p.218].

B) Organization

Incorrect strategy and inappropriate changes in the organizational structure: Osteoporosis is the result of disagreeable changes in the bone tissue of the human body. Similarly, in the organization, inappropriate changes to the adaptation with the dynamic environment not only are against the organization's survival and progress, but also lead to a tremendous fiasco at the end.

Fundamental changes cause discrepancies between cultural and structural necessities, endeavor to solve such discrepancies, create a range of change ripples that end in reorganization (Figure 3). Such discrepancies decrease the organization's strength for allocation of resources. When an organization undergoes reorganization, in comparison with its similar organizations that did not experience such reorganization, it loses its resources. Therefore, reorganization has the risk of mortality⁹⁶ [p.27].

Arthritis^k

A) Human being

It is one of the common diseases that causes problems in the joints from which women suffer more than men. There are many different factors that are considered as the cause of this disease such as gender, race, and lifestyle¹¹³ [p.72].

B) Organization

Inflexibility of the organizations: The inflexibility of some organizations emerges when they have to adapt to suit the changing surrounding environment. It is one of the main reasons for the organizational failure in dynamic environments. If an organization cannot be flexible and only has several standardization and formal structures, it will not be able to compete in the ever-changing competitive environments of recent organizations. Therefore, an organization should be flexible in the same way as the human body.

Remedies to increase organizational flexibility

Organizational agility

Probably speed is one of the most important characteristics and capitals of the third millennium organizations in the information age. Decreasing product delivery time and providing faster services to the customers, in addition to increasing the quality of the products and services and decreasing the prices, are new competitive arenas. Therefore, the organizations should concentrate on the agile transferring of information, production, assembly, and delivery. The more agile they are, the more

^kArthritis is a disease that causes pain in the joints.

responsive they could be to the customers' needs and demands. Virtual organizations are a good example of agile organization, which could be a response to this era's demands¹³⁸ [p.37].

Contemporary new remedies

In recent years, top managers have tried to develop new structures to be effective and helpful for them in the competitive environments of this age¹³⁹ [p.235]. Some of these new structures include: Team Structure, Virtual Organization, and Boundaryless Organization.

Reproductive system

A) Human being

In the early stages of life, an embryo starts life whose sex is unknown, but very soon it becomes evident, although it is not possible to be determined until a specific life stage. The human life starts by the combination of male and female sexual cells. Sex is dependent on sexual chromosomes. Sexual chromosomes are of two types: X is representative of female characteristics and Y is representative of male characteristics⁵¹ [p.147].

B) Organization

The social systems, similar to natural and biological systems, have their history. They could be born, develop, and perhaps die. They have to try more for their survival in some environments than in other environments similar to other biological systems. The most common organizational growth is the addition to the number of subsystems or cycles (change in quantity not quality). Animals and plants grow by cell duplication. A social system also grows by adding to its previous organization. Haire studied the ratio between different subsystems in a developing organization. He found that although a subsystem of production and another subsystem that was in direct contact with the environment were added to their employees, the ratio between them was fixed⁴⁹ [p.60].

Qualitative change in the organizations occurs in two ways: first, it will make a slight growth in some special subsystems that have some especial characteristics, and then change them to supportive subsystems. Second, it will make a slight change in the systemic function quality.

Another form of organizational reproduction is the offspring of new organizations from the older ones. People who leave their previous organizations for different reasons, such as low efficiency, financial problems, and liquidation, may establish new organizations or join a new one. This family tree is noteworthy. Therefore, most of the newly established organizations are the substitutions and repetitions of previous organizations than recently emerged ones⁴⁹ [p.60].

Organizational coma or artificial life

Existence of limitation or having functional performance leads to the organization's death in the long or short term, or if the organization is supposedly a commercial one, it will end in bankruptcy. Otherwise, they set emergency regulations, which is inevitable. These emergency regulations are necessary for the restoration of the organization's functional performance. In such a case, an organization is forced to stay alive artificially, and it occurs when politically it becomes highly significant for some of the stakeholders of the organization, to shoulder organizational responsibility for its artificial existence. When the government's purpose is to continue to compensate its employees' life expenses and is reluctant to the functional performance of the organization and its position in the market, this organizational coma occurs. If the government continues this political bribery by publication of money notes or by increasing the taxation, the outcome would be hidden or evident inflation and the organization's death occurs as the external help is blocked or comes to an end, or if the organization is measured by its functional performance⁴⁶.

SUGGESTIONS FOR THE ORGANIZATION'S TREATMENT

Prevention and treatment

As mentioned previously, the organization could suffer diseases similar to human beings and show their relevant symptoms. These diseases are usually spread by those persons who are in charge of the organization's decision-making and those who constantly or temporarily do not have the capability of making an agreement between their roles and necessary qualifications. Treatment of organizational

problems is only possible if the roots are diagnosed⁴⁸ [p.11]. In the organization, prevention is superior to treatment.

Self-pathological measures in the organization

A system will be successful if it provides some self-pathological motivation within itself by constantly monitoring its processes and performances in the following ways:

1. Financial needs of the employees must be fulfilled.
2. Necessary space should be prepared for monitoring by a network of people.
3. Functional needs that are relevant to the environment of the work should be fulfilled.
4. Stability and consistency should be followed⁴⁷ [p.172].

CONCLUSION

Organizations are coherent and sophisticated systems as the human body. As open systems, an analogy could be drawn between them in order to shed light on the organizational problems. When problems are diagnosed, the organizations need better perception and recognition to develop pathological measures. The procedural approaches for the pathological study of the human body could be implemented for the organizations. What the cells do in the human body, the live entity of organizations, human beings, does in the organizations. Therefore, the metaphorical studies of the organizations, in this respect, again accentuate the complexity of the organizational pathology and treatments because we study a system (an organization) that has a plethora of the most developed and complicated beings, who day-in, day-out function within its boundaries. Techniques such as strategic planning for organizational development and restructuring have significance for organizational pathology. Most of the contemporary managers do not implement preventative measures to avoid organizational problems because they tend to see the problem first and then they react. Pathology as a powerful technique applies the organizational concepts and data with a proactive perspective⁴⁸ [p.10]. To establish a new science as organizational pathology, we need new paradigms, which are appropriate tools for organizational analysis and development. For the discovery of a potential way, it is possible to apply the biological metaphor as this similarity could be a motivating power to evoke further struggle and endeavor to achieve the goals. Biological metaphor has been applied by many organizational theories because the organizations are similar to the human body, and the aforementioned theories accentuate the physiological and anatomical aspects of the organizations. Moreover, as medical science is a developed science and one of the wonderful and purposeful systems of the nature, and the concept that the organizations fall sick similar to human beings, the biological metaphor has been chosen for expansion in the organizational arena.

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