

Creating Healthy Biocratic Organizations

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ABSTRACT

This chapter explores the notion that an understanding of the way the human body works can be used as a model for healthy organizational function. Drawing on Walter B. Cannon's 1940 idea, that society should be modeled on a "biocracy", the author suggests that our present models of organizational function are a major cause of dysfunction because we are not conceiving of them as complex adaptive living systems that being alive have certain basic requirements for life that cannot be ignored or eliminated for healthy function. Our organizations and systems are able to thrive, recover from injury and restore health by using a different paradigm of function.

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The most efficient and stable human society would be a body politic modeled after the organization of the human body.

Dr. Walter B. Cannon, Presidential Address, American Association for the Advancement of Science, December 28, 1940

No matter what setting you work in, your workplace is a “complex adaptive system” – a living system. This is precisely why everyone has stories about difficult and even dysfunctional workplaces. All too often we act toward organizations as if they are machines instead of the living beings they actually are and that ends us up with all kinds of unnecessary problems [1, 2]. So, in this chapter I am going to ask you to instead, use whatever personal or professional learning you have already attained about the human body and apply that knowledge to your organizational body to see if that leads to some new intervention strategies. Some readers may be physicians and have extensive knowledge, while other may only know what the media and experience has taught. But all of us are experts about our own bodies and about the organizations where we work. Thinking in such a way may help lead you toward attitudes and strategies that enable you to more effectively engage young people, their families, and your co-workers. Let’s start on this journey with some definitions.

ORGANIZATIONS AS BIOCRACY

Dr. Walter B. Cannon, a Harvard physiologist, was the person who coined the term “fight or flight” and is considered one of the most important scholars of the 20th century. In 1940 he gave the Presidential Address for the American Association for the Advancement of Science and in that address he asserted that the most efficient and stable human society would be a “*biocracy in which the myriad of differentiated cells would be organized into functional organs all cooperating in a dynamic democracy in which any form of dictatorship would lead to degeneration and death*” (p.1) [3].

Since Cannon’s era, the science of Complex Adaptive Systems has expanded and we now have a better idea of how organizations that are comprised of living beings emerge from the interactions and interdependence of those living beings. Cannon was referring to a whole society that would sustain a “dynamic democracy”. The assumption in this essay is that our society is comprised of organizations of all size and purpose and yet, like the organs in our body, they are all components of our social body.

Let’s begin by defining what a system is. A workable definition is that a system is a group of interconnected elements that work together to achieve a common purpose or function and that is comprised of elements, interconnections, and purpose or function [4]. But not all systems are alive. A *complex adaptive living system* has remarkable characteristics that are very different from mechanical objects that include choice, unpredictability, interaction, global consistency even with change in their parts, adaptability, openness, learning, memory, sensitive dependence on early conditions, interdependence, self-organization, sensations and emotions, injury repair, emergence and evolution [5-7]. Let’s look more deeply at those key characteristics.

You may have noticed that living systems – your friends, your colleagues, your children – often do unexpected things. If you know them well you can usually predict what they will or will not do and yet there are those times when they surprise you and go “outside the box” or “go rogue”. That’s because living systems have *choice*, even within the natural or unnatural constraints that a living being experiences. As soon as choice enters the picture, outcomes become less *predictable*. If a machine throws a baseball, as long as you have an adequate measuring system that enables calculations of all the variables – the machine, the weight of the baseball, the wind speed, and so forth – then predicting where that baseball will land can be predicted. But, if you replace the baseball with a live bird and the machine throws the bird, there is a noticeable difference between the two experiences. The bird has *choice*. The bird can choose to fly or not to fly and to fly in any way that bird’s abilities allow it. Then put the bird in the hand of a human who similarly has choice and everything becomes even more complex. That is what makes applying our mechanical model to living systems so problematic – they frequently do not do what we tell them to do, want them to do, or need them to do and it is very difficult to predict the ways in which parts of the living systems will *interact* [8].

There are some other important and unique characteristics of complex adaptive systems. The whole persists over time and outlasts its components parts. For instance, like your own body, your skin cells only last about two or three weeks and your red blood cells die after about four months while colon cells are gone after four days. So within a few years, almost your whole body has replaced itself and yet you are still you. The *global consistency* of a living system outlasts any of its component parts [9].

Other characteristics of a complex adaptive living system that are key to understanding are the first and second words in that term: *complex* and *adaptive*. They are complex in that they are diverse and composed of multiple, interconnected and interdependent elements. They are adaptive in that they have the capacity to change and learn from experience. In living systems this learning occurs through *feedback loops* that are the way the interconnected parts of a system communicate with each other to produce increases, decreases, or balances serving the purpose of maintaining life [10] .

Complex adaptive living systems are considered to be *open* because they accept input from their environment, use this input to create output and then act on the environment. They have *sense organs and emotions* to provide the vital information they need in order to decide what to pay attention to and what to ignore. Over time, and in interaction with all the other components of the system, they develop *identity* and *memory*. Those memories continue to impact the present and at least partially determine the future by constraining the realms of possibility. This is known as *sensitive dependence on early conditions* or in your case, your childhood. The early developmental stages of both humans and human organizations therefore play a significant role in determining all that unfolds after that.

But within whatever constraints have occurred as a result of development and those early conditions, living systems interact with and impact each other in complicated ways, all of the time. Inevitably, injury will occur and living systems *self-repair* and adapt if the injury is not lethal. They will *evolve* and change naturally as long as the circumstances are conducive to change. And what are those circumstances? They are those circumstances which are necessary for the survival of that particular living system. In your case that means enough food, water, love and protection to live.

And then there is the issue of *self-organization* [11]. Top-down regulation – the kind of regulation we use with machines – does not work very well and sometimes does not work at all – for complex adaptive systems. Instead, regulation is through feedback loops that are constantly reacting and recalibrating to

new input. That means that although the complex adaptive being may still function within some kind of structured hierarchy, information that comes from below may have as much influence as information from above because the influence is actually circular. In this way, complex adaptive systems are fundamentally democratic, when we draw from a definition of democracy as “representing the ideal of a cohesive community living and working together and finding fair, nonviolent ways to reconcile conflict” (p.5)[12]. Living systems are routinely and constantly resolving conflicts and maintaining balance – homeostasis – and make necessary adaptations – allostasis – through this process of self-organization and regulation. The magnificent structure that is your body self-regulates day and night, in millions of ways, in order to keep you alive. Complex adaptive living systems self-organize which means that their structure and patterns emerge without that change being directed from outside or above. That process is happening right now, as you read this, throughout your body – your body is maintaining the balance necessary to keep you functioning and you are not actually controlling all that. In fact, trying to exert top-down control – like trying to “tell” yourself you are not hungry or tired, or in need of a bathroom – can cause you serious problems.

Living systems *learn* and use that new information to alter present and future behavior. Learning comes from experience in interaction with other parts but also from *sensations and feelings* that alert living systems to change and to injury. And being alive, complex adaptive systems can be stressed, injured, and traumatized. They can die and they can be inadvertently killed or deliberately murdered. But complex adaptive systems are *interdependent* and *interactive* with every other component part of a complex adaptive system. One injured component of a complex adaptive system is not living in isolation and therefore any dysfunction or death will affect every interactive component of the entire system. Just consider our immune system, an entire but interdependent and interactive complex adaptive system interacting with every other part of our body, protecting our perimeter from harm and reacting protectively to injury while initiating repair processes, and changing over time, learning from experience [13].

It becomes even more complicated when we think about one living being interacting with another living being and then, in a human system, hundreds or thousands of other living beings, all interacting with and affecting every other. That is where all simple cause-and-effect explanations break down because interaction always involves more than one variable. Put two living systems in the same space so that they interact and something new *emerges* that forms a new living system. *Emergence* is when the whole is greater than the sum of the parts. Life is characterized by emergence. Out of the vast numbers of cells that comprise your body, beginning with the combination of one egg and one sperm, over time, *you* have *emerged*. No one expected you in all your uniqueness. Your genes were the givens that you brought into the world but from the moment of conception, the environment was acting on you, interacting with your genes and producing unanticipated results. Emergence cannot be determined ahead of time – it unfolds. And living systems are always *evolving* which simply means change over time. The only thing that stops *emergence* and *evolution* is death. Otherwise, living systems keep developing new ways of being over time in interaction with other living beings. That is the awesome, reverential story of life on Earth [14, 15].

What emerges from this amazing process is not necessarily *healthy* and in living systems even definitions of health change over time because living systems also *age*. So that means we need a workable definition of health if we want to apply it to a workplace. The Center for the Developing Child at Harvard has defined health as *more than merely the absence of disease—it is an evolving human resource that*

helps children and adults adapt to the challenges of everyday life, resist infections, cope with adversity, feel a sense of personal well-being, and interact with their surroundings in ways that promote successful development”(p.2) [16].

My purpose in this chapter is to propose an “isomorphic” relationship between health in a human body and health in an organizational body. My colleagues and I have used a term more familiar to social services known as “parallel process” and defined as what happens “*when two or more systems – whether these consist of individuals, groups, or organizations – have significant relationships with one another, they tend to develop similar thoughts, feelings and behaviors* (p.13) [17]. Parallel processes are characteristic of complex adaptive living systems. This means that there are underlying laws applying to systems in general and that are therefore applicable across all disciplines [4, 17]. Therefore tensions, conflicts, or difficulties within any of these interacting systems can induce ripple effects within any or all of the other systems [18]. To modify the definition of health for a larger social body we need to say that organizational health is *an evolving human resource that helps the organization and everyone who comprises it to adapt to the challenges of everyday life, resist infections, cope with adversity, feel a sense of well-being and interact with their surroundings in ways that promote successful development.*

So, given that definition and using our imaginations, let’s take a deeper dive into what a healthy organization – a hospital, a practice, an agency, a business – might look like.

IMAGINING A HEALTHY ORGANIZATION: VISION AND PURPOSE

Let’s pretend you are designing a new organization because it is easier to do things well from the start rather than needing to fix something that is already a problem. But your organization does not exist yet so you are going to have to *imagine* the look, feel and function of the organization once it has developed.

How would you start? That’s where vision and purpose come in. You would need to start off with some conceptual frame for what you wanted to create and what its essential purpose would be. If you wanted a vital organization to emerge from your efforts, then you would need to know enough about complex adaptive living systems to provide your organization with the conditions it would need to come alive and stay alive. What do living systems require? Food, love (broadly defined as “care”), and enough protection to allow for but not restrict, growth and emergence. So, you would start with the basics – funding, place, staffing, leadership, security. The last four depend on the first because funding in an organization is analogous to food and water and shelter for a person – without that there is no source for the energy required to bring this organization to life and maintain its structure and function. Many care-giving environments falter on the shoals of inadequate funding, thus they are in a state of chronic starvation with all of the attendant dysfunctions that go along with insufficient nutrition. The place of your organization – where it is, how much space there is, the design of that space, the furnishing of the space all are a part of creating a healthy body from the start. Do what you can to avoid creating a deformed organizational physical body that has no room to grow.

The health of the organization depends upon the proper distribution of energy and that depends on what the essential purpose of the organization is. Therefore, you will need a clear sense of purpose from the very start of the design process that clearly defines what you want your organization to accomplish.

From this point on everything you do, every person you bring on-board, every policy you create should serve organizational purpose.

If your organization is to have more than one purpose, then you will need to begin a more complex process of determining how the purposes will be integrated and not in conflict. For example, if your purpose is to holistically address the needs of traumatized young people while simultaneously providing jobs for adults within depleted environments, then those two purposes should be surfaced from the very beginning and thought given to how to address what could become conflicting demands. Many caregiving environments falter or fail because only one purpose is addressed consciously while the other purpose manifests unconsciously, often sabotaging the overall organizational mission without anyone being aware of what is happening.

BUILDING AN ATTRACTOR SYSTEM

Complex adaptive systems maintain homeostasis to stay alive and use allostatic resources in order to respond to challenge and stress. Maintaining balance in complex adaptive living systems is dependent upon an “attractor system” – the magnets that draw a complex adaptive system in a particular direction. There are different kinds of attractors, some that produce steady function, some that change and adapt depending on current needs, and others that are called “strange” attractors that arise from the interaction between the organization and its environment and call for change and sometimes even transformation [19].

Regardless of your life situation, you exist within an attractor system – all of the factors in your life that maintain balance and that rapidly recover from disruption – the routines that comprise the system of habits you have adopted in order to survive in whatever environment you are in. Now, let’s say you introduce a new living system into your own – a puppy, a baby, a new romance, a new job. The new living system becomes a “strange attractor” and you have to radically change your own habit system to adjust to the habits of the other and out of that combination, a new being emerges that you did not anticipate in advance.

In starting an organization, you must make some choices about what you want the attractors to be, just as you choose the puppy that you want or the job or the romance (choosing the baby is far more complicated!). One of the key ways you can do that is by setting out from the beginning what your value system is going to be, how those values will be modeled by leadership and the multiple ways they will be seen in routine daily behavior by everyone in the organization, and how they will be embedded in the public presentation of the organization.

There are many key questions to consider. What do you want the character of the organization to be when it grows up? What kind of “presence” do you want it to have in the overall environment that it is a part of? What is the higher level “call” that you expect everyone in the environment to hear and consistently respond to? How will you attract and sustain the kinds of staff and managers that serve that calling? Write all of this down because later, under the stressful conditions of start-up and later of maintenance, and especially under conditions of injury, it is easy to forget higher intentions and then the organization can rapidly lose its way, stop growing, and deteriorate.

TO BE HEALTHY AN ORGANIZATION NEEDS A HEALTHY START

Having a clear idea of purpose will not necessarily lead to that purpose. Being alive, your system is going to encounter all kinds of difficulties as it develops, challenges that may weaken and destroy it or that may strengthen and direct it. A young organization is particularly vulnerable to those challenges – that’s what is meant by “*sensitive dependence on early conditions*” in complexity theory [11]. So in designing your program, you want to increase the likelihood that your organization will be able to *adapt over time* to changes in both the internal as well as the external environment. Your program will need more attention, care, and protection when it is young than it will later so prepare yourself for enormous investment of those requirements that keep the organization alive. Prepare staff and leaders that they will need to put the time and energy into this young body because so much of the future is being determined by the rapidity of early growth and now is the time to make that growth as fruitful as possible. Beware of underestimating the demands this will put on you and others in your management team.

A HEALTHY ORGANIZATION HAS REGULAR CHECKUPS

Maintaining health in a stressful environment is always challenging and it is best to have regular checkups with healthcare providers to keep us informed about the state of our wellbeing. Organizations are the same. Your healthcare provider has ways of measuring your health – blood tests, EKGs, radiological evaluations – that inform his or her own perceptions about your health.

From the beginning of the development of your organization you must decide what metrics you want to use that will help you determine the on-going health of your organization as well as a methodology for what you will do when one of those metrics tell you that unhealthy things are happening. As a living being, your organization can become sick, particularly under conditions that are destabilizing such as trauma. It’s important to remember that human emotions are contagious and your organization is comprised almost exclusively of highly emotionally sensitive humans. That being the case, a wide variety of organizational experiences may produce stress, chronic stress, and traumatic stress and thereby cause dysfunction in parts of the organization or the organization as a whole. A shortlist of organizational trauma includes: homicides, suicides, serious injuries, scandal, chronic and unresolved ethical dilemmas, loss of a leader, loss of funding for components of the program [20].

A HEALTHY ORGANIZATION DELIBERATELY CREATES A SAFETY CULTURE

Gather people together for a long enough period of time and organizational culture will inevitably emerge, but it may not necessarily be a culture that promotes health. - for ANYBODY. Since you have the opportunity in a start-up organization to set about creating the organizational culture that you want, there are some critical components of that culture you need to plan for. Let’s first define why organizational cultures matters.

Like language, human beings are set at birth to create culture, our first culture being our family. The cultures we are in are continually acting upon our brains as well as our behavior. As Norman Doidge has pointed out, “*Our brains are modified by the cultural activities we do We all have what might be called a culturally modified brain and as cultures evolve, they continually lead to new changes in the*

brain.. So a neuroplastically informed view of culture and the brain implies a two-way street: the brain and genetics produce culture, but culture also shapes the brain (p.288) [21].

Organizational culture is the “*pattern of shared basic assumptions that a group has learned as it solved its problems...and that has worked well enough to be considered valid and taught to new members*” (p. 12) [22]. Since you are just starting this organization, it hasn’t solved any problems yet. So what then comprises organizational culture that you could create or at least leave room for from the very beginning? It begins with shared organizational purpose and then everyone in the culture must share a knowledge base and share a language, all of which promotes *alignment*. Alignment means that everyone in the culture is “on the same page”, not that everyone is doing the same thing. Alignment is critical if you want the culture to function as a healthy whole. That also means that you want to get everyone in the organization in moral alignment around purpose, principles and values [23]. Once you have established the culture you must then decide how to orient and enculturate new members who will eventually become the teachers of the next generation of organizational members. The culture has to simultaneously honor and embody accumulated wisdom while being able to adapt to environmental change over time.

A safety culture has been defined as “*Relative freedom from danger, risk, or threat of harm, injury, or loss to personnel and/or property, whether caused deliberately or by accident*”(p.4)[24]. A safety culture is one in which values, attitudes and behaviors support a safe, engaged workforce and reliable, error-free operations. Safety cultures strive to balance individual accountability with system accountability and value open communication, feedback, and continuous learning and improvement [25-27].

To create a safety culture that embraces all of the stakeholders it is inadvisable to have an exclusive focus on physical safety. Psychological, social, and moral safety are all essential components of any interpersonal, interactive, and interdependent system which makes creating and maintaining a safe culture a complex process. It is the violation of other forms of safety that lead to the loss of physical safety when emergent episodes of violence are complexly analyzed. A healthy organization therefore has resources available to build and maintain trust among people and subgroups of people as well as resources and knowledge to restore trust when it has been breached.

The importance of maintaining and restoring trust within organizations cannot be underestimated. As one prominent organizational development expert has pointed out, “*It is almost impossible to successfully implement high performance or high commitment work practices in the absence of mutual trust and respect. But trust is missing in many employment relationships — and ... the atmosphere in the work place is crucial. All work place practices and changes should be evaluated by a simple criterion: do they convey and create trust, or do they signify distrust, and destroy trust and respect among people?* (p.62) [28].

In a healthy environment the maintenance of safety is seen as everyone’s responsibility, not just the responsibility of leadership. The broad definitions of safety that encompass all four domains of physical, psychological/emotional/cognitive; social and moral safety are shared throughout the organization and are incorporated in orientation programs, standard operating procedures, policies and procedures including human resource practices. A vital component of interpersonal safety is the clear establishment of respectful boundaries between individuals and between groups that define organizational norms and the ways people are to behave with each other.

A HEALTHY ORGANIZATION REFLECTS DISTRIBUTION OF POWER THROUGH PARTICIPATION

Two fundamental questions within any human group are: Who has the power? How is the power being used? Although rarely discussed within organizational bodies, the fundamental attribute of how power is distributed is key to successful organizational function. The quickest way to destroy a safety culture is by setting up a situation in which power can be abused. After all, all violence is about the abusive use of power and everyone has power to use or abuse others. Individual and collective power can be used to help or to harm, it can be active or passive and it can be utilized or wasted. To create a healthy organization, thought and preparation needs to go into establishing a system where power is used effectively and constructively while the abuse of power is confronted and redirected, regardless of where that power is situated or manifested.

The only way to do that is to set up an organization that functions through democratic, participatory structures that are the best -and in many cases the only - protection against abuse of power. Structures, policies and procedures that are democratic, where everyone is expected to participate and lend their voice, support diversity of race, age, gender, education and experience. A healthy biocratic organization recognizes that continuing survival will depend on its ability to adapt to increasingly complex challenges and therefore highly values the creativity, innovation and teamwork that can only arise from diverse representation and shared power.

A HEALTHY ORGANIZATION IS A LEARNING ORGANIZATION

Human beings must learn how to survive and thrive in the world from cradle to grave and organizational bodies are no different. As the person who has written extensively about the learning organization, Peter Senge, has written, “the organizations that will truly excel in the future will be the organizations that discover how to tap people’s commitment and capacity to learn at all levels in an organization (p.4) [29].

This means that people within organizations – top to bottom and all the way across – must learn how to do systems thinking so that learning is distributed throughout the entire corporate body. Then every individual must develop personal mastery and approach their work as an art, as a deeply spiritual commitment that requires life-long learning.

A learning organization challenges its existing mental models, especially when encountering difficult challenges to adaptation using “double loop learning” where a group is able to challenge its underlying basic assumptions – its mental models – and determine if it is the mental model that must change to meet the challenge [30]. The biggest challenge currently to creating and sustaining trauma-informed learning organizations is that the whole notion of trauma and adversity – once people grasp all of the implications of the science of suffering – challenges many of our existing individual and group mental models. Changing those is no small feat. A learning organization creates a shared vision and teams get into alignment around that vision as they figure out how to achieve the organizational purpose.

A HEALTHY ORGANIZATION HAS A HEALTHY DIGESTIVE SYSTEM

The key roles for digestion in your body include turning food into energy, growth, and cell repair as well as elimination of waste. The food required by your organizational body is money and the organization must turn funding into the energy required for the organization to function, to grow, and to repair itself when damage occurs while minimizing waste.

In starting an organization and after funding is established there are still many “nutritional demands” that must be met. The key question when new people or new knowledge comes into the organizational sphere is “What do we need to learn that is new?” Since energy is needed for growth and repair and must be conserved, another key organizational question is “What do we already know that we should hold onto?”

And then, there is the necessary and often unpleasant process of elimination: “What do we need to get rid of?” and “What do we need to unlearn?”. In order to adapt to a constantly changing environment, being a learning organization means that much unlearning will need to occur again and again.

Organizational unlearning refers to the discarding of old routines to make way for new ones [31]. The unlearning process requires consistency and patience because for human beings, changing habits is extremely difficult, mainly because habits are situated in a part of our brains that resist conscious control [32]. But if we do not engage in unlearning then the organization become chronically constipated, reenacting failed strategies, holding on to old losses, unable to change and adapt. Healthy organizations learn to let go, balance the need to adapt and change with stability, eliminate whatever is waste, honor losses, and celebrate successful transitions.

A HEALTHY ORGANIZATION HAS HEALTHY CIRCULATION

In your body, your veins and arteries insure the constant communication of information and delivery of nutrients to every part of your body. If there is any blockage or break in those channels of communication, you can become very sick and your life is put in jeopardy. As in your body, the visible and invisible networks of communication that connect everyone to everyone in an organizational body maintain the flow of information necessary for organizational life and health to continue. In a living system, virtually all subsystems operate and regulate function via feedback loops.

Differing levels of communication between separate groupings in an organization, including geographically distributed groups, can interfere with communication flow and the effective utilization of existing feedback loops. It is important to remember that every break in a feedback loop will affect organizational regulation and that there are many barriers to human communication: psychological, social, and systemic barriers that can interfere with transparent and effective communication. Any difference among us can make effective communication a problem so whenever a problem or conflict arises it pays to examine the patterns of communication instead of focusing exclusively on a faulty individual. Always look for a system problem, particularly secrets, dishonesty, double messages, and behaviors that are sabotaging organizational purpose and that are blocking communication channels and isolating component parts. Secrets are a significant barrier to creating and maintaining an organization that requires transparency in order to function properly.

Conflict management is essential to organizational function. Healthy organizations view conflict as an indicator of the need for attention just as pain is an indicator for the need for attention within our bodies. The conflict may point out a site of injury or it may be an indicator of evolving need. Strategies must be in place as organizational norms that promote the emergence of conflict as a positive stimulator for discovery, growth and evolution. There is an inverse relationship between interpersonal conflict that frequently sabotages communication and task-related conflict that an organization requires in order to creatively grow. The development of organizational communication strategies such as Appreciative Inquiry, World Café, Dialogue and other large group interventions can set the stage for the development of significant interpersonal and intergroup methods for benefitting from conflict [33-36].

A HEALTHY ORGANIZATION HAS A HEALTHY SOCIAL IMMUNE SYSTEM

Maintaining a secure system is a fundamental component of life. In our bodies, the immune system keeps the entire body secure. None of the other bodily functions matter if you have no immunity because before you are even grown you will have succumbed to a host of infectious agents that are competing for life space and that may use you up until you are dead. To protect us against hostile invaders and promote repair and recovery when invasion has occurred, we have our incredible immune system – a subsystem that runs in parallel with the other systems of our bodies. Things go wrong in our bodies when an infectious agent overwhelms our immune system, when the immune system itself misidentifies invaders as friends or when it mounts an overwhelming response to a nonlethal threat.

Organizational bodies have immune systems as well – social immune systems - defined as the social body's ability to recognize and respond to threats to its well-being (p.154) [37]. Since we now know a great deal about a healthy human immune system, it is possible to identify the characteristics of a healthy social immune system. When such a threat enters the social body, complex social processes are set into motion to defend and protect the social body against the emergence of violence. But that requires all of us to shift our understanding of what we mean by violence. It requires us to understand violation as an emergent group phenomenon that indicates a breakdown in our social immunity. When viewed from that perspective, the violent individual is the weak link in a complex web of interaction that culminates in some kind of violation after a cascade of previous, apparently nonviolent, events. When violence has occurred, the entire group has failed to prevent it, not just the individuals immediately involved. The bystander is never innocent. Shifting our premise in that way means that instead of only chasing after and punishing the violator, we must ask *“How did our social immunity break down?”* and *“How do we protect and enhance our social immune system so that the same thing doesn't happen again?”*

A healthy social immune system gets a healthy start in life. In our bodies, our original immunity comes from our connection to our mothers and the healthier the mother, the healthier the baby. Organizations do not arise through spontaneous generation – there are always predecessors, ancestors from which the new organization is evolving as a living being. It is important to recognize and honor that history including gathering lessons learned from past experience with the same problems that the organization is aiming to address. How did the organization deal with threats to its wellbeing in the past, when it was young and more vulnerable? Or have new threats arisen that its early life did not prepare it for? Did it get the healthy start it needed or are there inherited gaps in the security system that need to be repaired?

A healthy social immune system shares an extensive knowledge base among all of its members and holds on to knowledge from previous experience. It has sufficient tangible and intangible resources for it to function properly and fully recognizes the challenges in any human group that will inevitably contain people who have already been exposed to trauma and adversity. Given that, a healthy social immune system has standards in place to assure interpersonal safety and conflict management resources available when situations arise between individuals or between groups that must be successfully managed.

A healthy social immune system protects its perimeter. In your body, the perimeter is guarded by your skin and specialized cells warn of any threat. In your organization, the perimeter is guarded by everyone who has contact with the external world and the various components of the system. In an organization these are the people we often pay the least and to whom we give the least attention: the primary caregivers who spend the most time delivering care, the people who maintain the organization through building, repair, cleaning and providing food, the people deliberately hired to provide security. Yet these are the very people who often recognize or hear about trouble first. They often go across parts of the organization and are able to spot when things are out of proper order because they are both inside and outside at the same time. The people who guard the perimeter must be considered vital to maintaining the integrity of the organizational culture and the communication network must be all-inclusive of their input. Evidence of any weakening or breach of the culture that includes a break in the perimeter must provoke an immediate, coordinated response by the entire group.

A healthy social immune system accurately and promptly recognizes danger and mounts an appropriate inflammatory response when there is any violation of physical, psychological, social, or moral space by anyone within or outside of the organization. The response to violation is proportionate to the degree of danger and follows the Goldilocks rule – not too big, not too small, just right. Interpersonal or intergroup dysfunction and conflict, whether overt or covert, is the alarm bell of the social immune system and should bring attention to the emerging disturbance without minimizing the problem or overreacting. Complex organizations may encounter conflicts that are quite difficult to manage so a healthy social immune system is able to mobilize and recruit help and support when necessary because the communication system is adequate and prepared so that others can be alerted to danger and recruited to help plan and address the danger by using either internal or external resources.

A healthy immune system effectively responds to danger. Being able to effectively respond to danger is a basic requirement of an immune system but the sources of danger to an organization or subgroup may not always be obvious. Unmanaged previous violations of boundaries may be causative factors in interpersonal or intersystem conflict and may now be producing chronic symptoms of distress and disturbance. Understanding and managing unsafe behavioral violations, however is not the same as ignoring and overlooking the unsafe behavior which must be identified, confronted and lead to growth-promoting consequences. These consequences must be designed to instruct and restore safety while strengthening the social immune system over time. In this way, the social immune system is able to adapt to change and learn from experience. Once the danger has been effectively addressed, the social immune system returns to normal alert status.

A healthy social immune system gathers information over time and remembers that information. It looks at the characteristics of the infectious agent as well as identifying the vulnerabilities of the immune system. In doing so, the group becomes progressively better at recognizing patterns so that the social

immune system becomes a viable component of the overall learning organization. Whenever a violation occurs, the key question becomes “What happened to our social immunity at that point in time that allowed that violation to occur?” and in doing so becomes increasingly effective at strengthening defenses.

A healthy social immune system includes the entire body – it is a biocracy within a larger biocracy. For a social immune system to be effective it must be a system, meaning it must include the entire organizational body as component parts of social immunity. The best methods for ensuring a whole organizational response is putting democratic, participatory practices in place from the very start of the organization. The greater the frequency of democratic decision-making and practice, the greater the resistance to violence in human groups [38].

Health of the social immune system must be constantly monitored. For a social immune system to remain healthy, its wellbeing must be constantly monitored through effective social learning. The standard operating principle in the organization must be an expectation that every subgroup and individual is either a part of the problem or a part of the solution and that’s a choice and choices always have consequences that may lead in a direction that produces health or dysfunction. Change is always challenging adaptation in living systems and chronic stress takes a toll on health. Therefore, maintaining a healthy social immune system requires that tools and practices are in place to restore health when it has become compromised and to manage ongoing and chronic stress.

A HEALTHY ORGANIZATION HAS A HEALTHY INTEGRATED BRAIN

We must not forget the important role of the brain. If we use the human body as the model for the living body of an organization, then the organizational brain must serve a critical role as the primary coordinator, central regulator and integrator of function. Leaders, managers, administrators – all are the primary integrators for the living body of an organization and must coordinate complex adaptations. Complex living systems do not function in isolation, nor can every part be aware of and coordinated with every other part without integrating functions. Our bodies have evolved extraordinary regulatory processes that keep us alive and we would do well to model our organizations on our living bodies.

We have a complex nervous system that provides us with a widespread network of communication that gathers and provides two-way information to every organ, and to every cell. We have evolved a bi-hemispheric brain so that there is some protective redundancy in circuitry but also some specialization. As a result, most of our function occurs unconsciously and yet we are also able to consciously influence bodily processes. We are only beginning to understand how powerful that conscious influence can be.

We are also just beginning to appreciate the vital regulatory function of our emotional system and the complex ways that emotions have evolved to maintain living systems, to draw our attention to what is important to survival, and to keep us connected to each other and to all living things as a necessary part of that survival. Leaders of a living organization must develop emotional wisdom defined as emotional intelligence plus positive relational experience plus empathic concern.

Empathy now is being divided into different categories: emotional empathy or emotional contagion, cognitive empathy – being able to take the perspective of others, and empathic concern – actively desiring to reduce suffering and improve the wellbeing of other living things [39]. Leaders who can

demonstrate less vulnerability to emotional contagion offer an advantage to their organizations, enabling them to contain distress within the organization effectively without spreading it around to others. But a lack of empathic concern leads to a demoralized workforce because they can sense that the leader truly does not care about their wellbeing or even the overall wellbeing of the organization and in return, they are likely to make a minimum commitment to the common good. In the leadership literature the clearest definitions of this leadership style can be found around the idea of stewardship. Only now, as climate change threatens survival, are we beginning to appreciate the critical stewardship role humanity has in preserving life [40-42].

Unfortunately, the continuing leadership role that often dominates actual organization function is that of top-down, more-or-less authoritarian leadership styles that although useful in a true emergency are a liability when complex organizations must constantly adapt to changing conditions, while promoting creativity and innovation [43, 44]. This is because living systems *self-organize* and interference with that naturally *emergent* property of living systems interferes with effective function. You do not need to tell your body what to do to maintain life. When Walter Cannon was referring to a “biocracy” this is what he meant, that the brain when functioning properly is complexly interactive with all of the other organs and their proper functioning. He declared that “*the body physiologic is a collection of organs, the brain among them, which are interdependent and which, for the welfare of the whole, cooperate. Each one needs the others for perfect function* (p.1) [3].

LEADING A BIOCRACY

Leadership is not mobilizing others to solve problems we already know how to solve, but to help them confront problems that have never yet been successfully addressed (p.3)[45].

M. Fullan, 2001, *Leading in a Culture of Change*

So what are appropriate leadership styles for living organizations in order to create and sustain a biocracy? In the early stages of organizational development, leaders will need to be purposeful, authoritative, clear and directive. The difference between authoritative and authoritarian leadership styles is significant although the words are often confused. Authoritarian leadership is often distant, punitive, controlling and coercive in style. In contrast, authoritative leaders are involved, supportive, encourage autonomy in others, are consistent, non-punitive and expect learning and reasoning to occur [37].

After the initial start-up phase, it is critical that leaders are prepared to loosen the leadership reins as the organization develops or the self-organizing capacities of the organization will not develop properly and organizational function will be stunted. That means utilizing the skillset of a democratic leader in order to lead a true biocracy.

There are many excellent descriptions of what constitutes democratic leadership that are only beginning to be adopted. Let’s review a definition from a scholar who has studied the basic structures necessary for democratic processes: “*Democratic leadership is behavior that influences people in a manner consistent with and/or conducive to basic democratic principles and processes, such as self-determination, inclusiveness, equal participation, and deliberation* [46].

The term “leadership” must be understood in its broadest sense since there are formal and informal leaders at every level of an organization. So all leaders must keep in mind that they are responsible for modeling the system values – they have more power to influence attitudes and behavior than anyone else in the organization, even if they are firmly democratic in style. Since this is the case, what is the behavior that democratic leaders must model?

A review of previous conceptions of democratic leadership identifies three primary functions: (1) distributing responsibility within the democratic group, (2) empowering the membership, and (3) aiding the democratic group in its deliberations.(4)[46]. In practice, what does this mean? What do leaders do?

What does it mean to distribute responsibility? It necessitates sharing an understanding of whatever problem is being addressed with team members, while expecting all of them to provide information and share in the decision-making processes entailed in the issue. That means everyone involved needs to have input that the leaders can count on. There is a wide diffusion of responsibility while at the same time a workable standard of accountability on the part of each individual.

Empowering others means not playing the role of a parent but expecting others to continue to develop and learn, to utilize their own creativity and innovation to support group goals, and to take responsibility for changes that they need to make. For leaders this may mean significantly changing decision-making styles that predominate in the organization to more distributed and de-centralized decision-making and problem-solving that is supportive and non-punitive. Fear-based environments do not promote the skills necessary to address complex problems. Decisions should be made at the lowest possible level they can be made effectively so that everyone lower in the hierarchy does not need the permission of those at the top who know the least about what is actually needed to solve a problem.

True empowerment must be distinguished from “bogus empowerment” where the talk of sharing power dominates over the actual distribution of power [47]. As one scholar has stated, *“We do a terrible job of preparing people to participate in change and of preparing our supervisors to help people participate. We continue to limit workforce participation to relatively trivial issues because we view them as unable to take part in more meaningful discussions. We view participation as a gimmick to increase their satisfaction and motivation, rather than as a potent force to enhance organizational survival”* (p.43)[48].

The current undemocratic hierarchical forms of organization that dominate the environment where boards or trustees actually are permitted and expected to make key decisions without input from every other component part of the organizational body is senseless and often destructive. In such a system communication to those at the top is often permitted only through a very narrow channel – the chief executive officer. Such a structure applied to your own body would mean that the only information source that your body would have would be from your conscious mind and you would have to consciously and deliberately regulate every bodily function. It wouldn’t take long before you unintentionally made a fatal error. This is what occurs in far too many organizations at present, with chief executives and board members holding the best of intentions but being hamstrung by a faulty structure that cannot meet the needs of a complex adaptive living system.

Aiding the democratic group in its deliberations as a leader requires constructive participation by defining, analyzing and helping the group to deliberate carefully to solve group problems. Leaders must role model discernment by carefully listening to group members’ ideas and values, then tentatively summing up where the group seems to be going in their deliberations while keeping the deliberations

focused and on track. In groups that are just learning about participation, the leader must encourage free discussion and broad participation while discouraging excess verbosity and drawing out shy or marginalized voices.

We have been saddled for hundreds of years with antidemocratic structures. Given that relatively few democratic workplaces exist, most people have little experience with practicing democratically. Therefore, the skills must be taught. Democratic workplaces can be an antidote to the adaptations to a past history of trauma and adversity. The requirements for participation directly contradict a number of the problems that arise secondary to exposure to trauma and adversity. For example, participatory environments require both the ability to process complex information and to be patient listeners. To participate, workers must be able to manage their own emotions and control impulses that can disrupt the group process. Democratic processes require people to substitute words and reasoning for action in order to promote shared decision making and problem-solving. All of this requires the development of sophisticated social skills including the demonstration of trustworthy behavior and negotiating skills, along with the willingness to compromise and make concessions when doing so promotes collective action. For many people with no experience in democratic schools or workplaces, these skills may be foreign and even frightening territory so that trustworthy supervision and coaching is essential. As Kurt Lewin, one of the pioneers of social, organizational, and applied psychology pointed out long ago, *“Only through practical experience can one learn that peculiar democratic combination of conduct which includes responsibility toward the group, ability to recognize differences of opinion without considering the other person a criminal, and readiness to accept criticism in a matter of fact way while offering criticism with sensitivity for the other person’s feeling (p.52) [49].*

A HEALTHY ORGANIZATION RECOVERS AFTER INJURY

At one point in my life I had the good fortune to be able to start a system from scratch so I began this essay with the idea that you were able to do the same thing. Starting fresh is definitely easier than trying to fix something that is already damaged. However, most people are confronted with organizations and systems that already exist, many of which are more-or-less dysfunctional from the point of view of the people who receive services as well as the people who work within them. Given this reality, is there some way that we can use these ideas about our bodies and complex adaptive living systems to guide us in the arduous journey of healing and recovery?

One useful way of doing that is to think about the ways in which your own body recovers from injury. Let’s say you fell off a ladder and are unable to walk on your right leg. Recovery time and effort will depend on the nature and extent of the injury, so a thorough assessment is necessary. Is it a bad sprain or have you broken one of your bones – that will make a very grave difference in the treatment you receive and the path of your recovery. A proper assessment will be difficult for you to do on your own because there is so much pain involved and you will probably be unable to do what is required to apply the most effective strategy to ease the pain and promote recovery.

So too, the process of organizational change must begin with an assessment, generally by someone outside of your organization who is not acutely injured and not in a painful dilemma, but also someone who does not want you or your organization to continue to suffer.

Now, let’s say that you delayed in seeing someone about your leg because you made the assumption that it was a sprain and it would heal itself. But it hasn’t and in fact, the swelling and pain has become

more severe. The doctor examines you, gets an X-ray done and it turns out you have a compound fracture that is going to require surgery. But the delay means that the doctor must first address the swelling and acute inflammation before resetting the bones can take place. Meanwhile you are in a lot of pain. There is a danger here that you may get derailed by the pain and within a few days become addicted to pain medication that covers up the pain but does not remove the source of the pain and you end up with even more problems than you started with.

Organizations delay in addressing problems that may end up being lethal problems. In studies of disasters, such as the Challenger disaster, the problem could have been addressed and prevented the disaster but it was ignored by those higher in the organizational hierarchy [50]. This problem has been identified repeatedly for many different kinds of crises [51-53]. In an organization if the initial injuries occurred long ago, then the organization has adapted to what may in fact be a crippling situation. The signs of severe inflammation and dysfunction may be very evident to the external observer but to everyone within the organization, this is just the way life is around here. The organization is surviving but not thriving. Too much life energy is going into suppressing the pain and not enough to promoting growth.

So in your case, the swelling goes down, the surgery is successful and you are in a cast and on crutches while the bones have time to regrow properly. In the beginning the healing demands much of your energy as do the adjustments you must make to stay off of the injured leg. You need to be very careful with yourself and everything takes more time and is much more difficult because you must think through every new movement and negotiate many barriers. Nothing seems to work automatically and you are surprised at how much easier life used to be when it all was automatic and you didn't have to think about it. Your support system is called upon to help you in ways that defy your sense of independence and mastery and that sense of relative helplessness is disconcerting. But still, you adapt and you circle the day on your calendar when the cast will come off. You envision yourself back on your normal two feet and that vision moves you through every frustrating day with some degree of persistence.

Organizational recovery follows a similar pathway. All of the stakeholders in the organization must engage in a visioning process for what they want the organization to be once this recovery process has unfolded. For a while, as everyone is unlearning old habits and learning new ones, it is very awkward. After all, the routine responsibilities do not go away simply because your organization is recovering from something. But everything seems to take more time, more energy, and make more demands on your limited resources. You are being asked to take on so much new knowledge and change so many things that you feel exhausted as does everyone around you and it is hard to weigh whether anything is really worth this much aggravation.

By the time the doctor is ready to remove your cast, you are getting around pretty nimbly on your crutches but a new adaptation awaits you. Now you have to start gradually exerting stress on that newly revealed leg. The doctor prescribes physical therapy and you find out that it really hurts to exercise those atrophied muscles. You have to follow the Goldilocks rule, not too much, not too little, but just the right amount of stress so you don't reinjure yourself. And it isn't just your broken leg that hurts, you find that your other leg has had to compensate and do double duty all the while your broken leg was repairing and now that leg and its joints and muscles are screaming as well. Are you really getting better?

Organizations present the same challenges. Just as you think you have “fixed” the trouble spots, problems seem to break out somewhere else. This is why it is so important that methods to address organizational dysfunction must be whole-system efforts. In the complex adaptive living system that is your program, everyone is interdependent and interactive so the problems that exist must be approached as problems *of* everyone that only be solved *with* everyone.

CONCLUSION: A HEALTHY ORGANIZATION CAN SHIFT MENTAL MODELS

Mental models are the very basic assumptions we make about ourselves, everyone else, and the world around us. You have probably heard the term “paradigm shift” and it means that those deep down assumptions are changing and that means big-time change is happening. As you are aware, given the current concerns about the changing climate, all life on Earth is threatened. Problems do not get bigger than this, more urgent, or more complex and that is currently what the human species is up against.

Just as every individual person is a component part of the emergent being that is the organization he or she works within, so too is every organization a component part of the body that is the society it is a part of, and every society is an emergent component of the planetary body of humanity. Grasping the enormity of that requires a paradigm shift and there is no guarantee we will be able to do it. Thousands of species before us have been extinguished because they could not make the shift necessary for their time. Is the Earth’s immune system shortly to shed us as dangerous malignant cells?

If we are going to make a leap into the possible future, where humanity consciously decides to end our self-destructive behavior, then every individual must help to shift his or her own organization as much as is humanly possible. Organizations then have the collective power to move their society. But that means shifting, practicing and modeling different ways of encountering problems. The objective of decision-making and problem-solving processes must shift from our current attitude endorsing a mental model of competition that leads to win-lose situations to one of synthesis and integration of differing ideas, an objective that leads to emergence of something new that is designed to be fundamentally win-win because it supports adaptation to changing conditions without sacrificing whatever is necessary to sustain life. This shift in mental models to that of a biocracy is very difficult because competitive and individualistic solutions to challenges are so deeply embedded in our culture.

But there is an urgency about this change and we are running out of time. Life on Earth will not survive unless we can find ways to *collectively* perceive the intelligence that is possible through intelligent, conscious, directed emergence and evolution. Otherwise, the losers in the scenario are destined to be us and not some of us but ALL of us.

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