RELATIONAL NETWORKS

Claiming that the world has changed today is redundant. The feeling of change is something we experience every day in different forms and domains. This ongoing change that comes aboard to accelerate our decision making still is as evident as we might expect in the creation of wealth in organizations. We refer to wealth creation in the sense of intangibles, specifically when we call knowledge to the fore as a basis for explaining the production of wealth.

Adam Smith was the first to present a systemic view of how wealth historically has been produced, summarized as the difference between economic value produced by hand labor less economic value paid. Capital, as such, becomes important in the industrial age in which production lines become mechanized and specialized machines acquired (assets). Although managed by skilled laborers, the machines are still viewed as providing the most value, since they are seen as asset investments, while skilled laborers continue to be seen as a cost—an accounting liability—opening the space for so-called “scientific management.”

Management Accounting attempts to account for how value is created but gets lost in human coordination and diverse intangibles, including knowledge, skills, and competencies, while aptitudes play greater roles in the creation of wealth. The word capital then begins to shift meaning, referring not only to financial instruments but to individual and group capabilities. The fact that these capabilities are being referred to as intellectual capital demonstrates the degree to which enterprise thinking continues to confuse hands with minds. Most companies insist that their “knowledge workers” sign over to their employers all rights to their intellectual property at the same time as Googles, Apples, and Microsofts spring seemingly out of nowhere to challenge their existence as they just can’t seem to “get” what it is that is going on. But then again, accounting has no way to make visible to managers and business owners the cost of opportunities lost to their own cognitive blindness, especially around intellectual capital. So, today, we run into visions of one kind or another aimed at re-organizing organizations around knowledge, often under the contradic-
tory banner of that term. Somewhere in this discourse, the properties of creativity, flexibility, and so many others continue to be reified as “capital” and humanity gets lost again in the world of work: a naive trap, especially for this day and age.

We urgently need relational epistemological bases as a way to explain the changes that have occurred over the last decades, most of them with a damaging effect on human structures, particularly in those organizations that are wont to succumb to the generation of wealth every time they have to take possession of something as spirit-like as knowledge. We assert, and will develop the theme in this book, that the widespread disease in the 21st century organizations is *schizodemia*, already insinuated by von Foerster at an earlier date. The ability to change means the deconstruction of hierarchies (as already outdated and inaccurate forms in the domain of operations) and replacing them with plastic and flexible forms such as heterarchies. When it comes to process improvement, heterarchies are, from our perspective, the right kind of structures. This has been a strong trend since the ’90s, showing up in concepts such as process reengineering, total quality management, team-based organization, and time-based competencies, among others. We could summarize each of these ideas aimed at improving a particular type of process; however, given the assumptions from which they operate, the result is often an optimization of short value chains, underestimating the process as a whole.

It should be kept in mind that these “process focused” tools and methodologies usually found their way into hierarchical organizations at a moment in which product quality was still a major differentiator and production and operations managers could see the advantages in visualizing their areas as a whole, at least for the sake of the processes for which they were directly responsible. These efforts, consequently, optimized only certain processes—often short chain—and ignored larger ones, especially *business processes*, which integrate a large number of other processes. The improvements often targeted limited stakeholder concerns, assumed or explicit, or, in many cases, organizational or structural priorities handed down from planning exercises, or assumed through the inherited common sense about the factors underlying functional or operational success. These are changes at the level of the message (variations) but not at the level of the code (transformations).

The notion that emerges from these distinctions is based on the relationship function/process, which has generated a disjointed and reductionist way of looking at the constitutive process or processes. One effect of the above is the generation of communication gaps among the operating units involved in the work. It shows up in the day-to-day that people who work in one part of the organization know little about what goes on in other parts of the organization, or really don’t care as long they do what they are paid to do. In short, the overall process is affected from beginning to end by the generation of a high level of variability throughout.
Another mistaken notion that has permeated the engineering approach to processes reflects the failure to distinguish between material, information, and business processes. Information processes are composed of bits and bytes. They enter into sub-processes as inputs where they are modified in some way, bits and bytes added, subtracted, or re-arranged: turned into outputs, which, in turn, are inputs for other sub-processes or processes. The same happens with material processes, except that the inputs are raw materials to which value is added as inputs are converted into outputs and moved along through the value chain. Business processes, however, are of a different breed. They consist in networks of semiosis (promises and commitments) among internal and external stakeholders to take action or make decisions in specific timeframes to eliminate agreed upon concerns. Most organization processes are of this type and material and information processes that do not operate in alignment with this context produce high levels of variability and waste.

A change of approach involves looking at the organization as a network of relationships that are synchronized to view the business as a process. If an organization is understood as a set of relational networks, its viability shows up by decreasing matter/energy variability, a by-product of the quality in which the processes are managed that constitute the business as such. This involves taking into account the axes of organizational tenability and sustainability.

From our perspective, we define processes as a coordinated and configured Relational Dynamic: in other words, relationships, established among the people in the network, are coordinated in such a way that they create a form that is interchangeable with other networks. Given the above definition, the Strategic Intelligence Process (SIP) aims to anticipate the production of singularities within the overall process. Singularities are gaps or breaks in the communication that turn into the presence or absence of those elements with the capacity to produce loss of speed, flexibility, integration, and innovation in the overall process. Therefore, SIP has as its objective to establish—through simulations of scenarios—the where and the when these kinds of events can be produced so as to introduce corrective practices into relational networks.

Designing organizational sustainability strategies means assessing the relational coherence and congruence in decision-making processes in order to reduce the variability of the overall process, which directly impacts production costs and increases productivity. The magnitude of the impact can be surprising. When the concept of six degrees of separation began to be looked at seriously, the general public was astounded that two unknown persons situated in different parts of the globe are only six steps away from each other if we see the globe as a network. In a business, even a large one, the degrees of separation are much fewer. When these contact points are networked so as to produce coherence and congruence, a huge
amount of invisible waste is removed, wastes that are invisible until removed, their presence appreciated by their absence. The cost of these wastes impacts directly the bottom line, so their removal can often double or triple net profits.

This text comes as a need to make explicit some concepts and tools we have been using for a number of years in the context of bringing about changes in the structures and processes that support the organization of organizations, assuming many of the epistemological questions proper to the theoretical framework in which we have placed ourselves; nonetheless, as we move forward, many other related conceptual possibilities will become clearer. It is important to understand that this book exhibits an approach to work more than the development of the theory focused on relationships—with all its scope and meanings—because we understand that addressing these concepts merits a text all of its own.

In our content, we have made a distinction between tenability and sustainability. Some themes, however, involve both concepts, but we prefer to go on using each of them according to the aspects that are being dealt with. Thus, our approach is referenced primarily to what we mean by systemic relational feasibility and the smallest unit of knowledge-organization relationship. On this basis, we will define the concepts associated with processes, especially their aesthetic forms, and analyze the object-based organizational perspectives and their relational counterpart. We will narrate the application of this vision in the here-and-now and the impact that it has brought about in organizations when hierarchies and the market begin to dissolve as an explanatory principle, and begin to lose their legitimacy as the sole tautology for generating, as far as creativity is concerned. This is almost certainly the end of industrial Capitalism and the advent of a new economy, and the task for our reader will be to assess whether we are facing a new paradigm of management and organizational design or a newer version of the multiple disjunctions around the knowledge-organization unit.

Today, there is a lot of chatter about the mutation of industrial capitalism to cognitive capitalism; this is a new form of appropriation and concentration of wealth. The question immediately arises: is something really mutating or will this be just another way to appropriate creativity, as has always happened, although no longer possible to disguise it in light of current forms and styles of thinking?

Knowledge theft (i.e., not paying for it) is not new—ask Tesla—since the paradox that produces the relationship knowledge-value-price has always been self-regulated in the process of capital accumulation. We will show how human contribution to the creation of wealth, whether hands or know-how, has been reified and associated with transactional exchange, first salt (salary) then coins (maybe bitcoins someday). The problem today is that when the wealth investment takes place—this understood as the explicit productive expression of the process of knowing—the relationships within the capitalist system cannot be sustainable since an asymmetric
appropriation of the *cognitive* force production is not possible. This is one of the fundamental problems today in organizations, since the generation of wealth implies a dissociation in the knowledge-value ratio so that the value in use and value, of which merchandise is made, lack meaning for the common man. So purchasing a watch on the street, produced by children somewhere in the world, at a ridiculous price, carries no implications for the purchaser since it allows him or her to join the network of legitimacy. It’s not even a ticket for a neoclassical journey.

Our focus does not deal with organizations only as forms, but sounds a warning for the Machiavellian game around organizational production and design within the current global-economic context. Taking this into account, we try to avoid the need for the reader to be a specialist, but have not found a way to avoid that the language employed be of a trans-disciplinary type. We hope that some chapters open up possibilities for decision makers to build bridges and allow them to generate other bridges from the viewpoints of sociology, or to understand the secret of value, getting closer to Cognitive Sciences, and forging an inventive path such as we have done from a number of unexpected domains.

**FROM PIECEWORK TO RENSWORK**

The final decades of the 20th century have disclosed a forking of the paths in what previously seemed to be a cognitively grounded trail; this process of bifurcation has been christened *change*. This change in path traverses multiple fields of knowledge, epistemology, even aesthetics, and challenges the traditional discourse of organizational decision-making.

As different voices make reference to change, a set of questions arises: Where do these distinctions come from in the first place? Are they emerging as the expression of a process of shared *semiosis*? Has there somehow been a change in those delicate norms bred in the bones of the shadowy hierarchies of the past that contrived somehow to create a sense of certainty about the world in its conceptual and axiological forms of organization? Are the old tautologies still able to command obedience to hoist the shields of objectivity?

This suspicious “fork in the path,” in which sensitive markings have been erased, displays a number of new signs. The most visible of those point out that capital and labor, as far as the creation of the wealth of nations is concerned, are no longer differentiators and generators of sustainable competitive advantage. Intangibles, especially knowledge, have caught the attention of enterprise and governments as well. We can affirm that this collapse of certitude has shown paradoxically that knowledge acquisition has now become a key indicator in sociological and economic models on a global scale. This change has come to express itself in a rich concep-
tual diversity, embracing such notions as knowledge society, information society, knowledge-based economies, the society of uncertainty, knowledge management, organizational learning, and others.

Nonetheless, even while becoming one of the most important axioms of contemporary sociology and economy, the phenomenon of knowledge continues to be trivialized from reductionist, objective, linear, and summative points of view. The forking of paths alluded to is not alien to the clashes in discourse between the defenders of Newtonian mechanics and quantum theory, the latter a demonstrably more convincing explanation of the world, the former still defended for purposes of practicality.

The new path is being treaded even deeper by the phenomenon of acceleration taking place throughout the world fueled by the increasing global integration of open systems and energy flows, signaling what many have called a “paradigm shift.” To make sense of this new reality, we must focus on those anchor points that give origin to the novel tautological process of configuring-creating-taking action in this new world. The risk involved in failing to understand the nature of this cognitive shift is to place in danger the purpose of both government and enterprise, background noise now emanating from the so-called “Arab Spring” and other similar social and economic phenomena.

The anchor point central to this process is relational semiosis. By semiosis we mean that all signs merge into all signs in a regressive and progressive stream. Stated in another way, it is not really possible to separate the sign—the word, for example—the meaning of the sign—the object the word is pointing to—and the interpreter of the sign—we—as the Cartesian and mechanistic world would have led us to believe until derailed by the arguments of quantum physics. This means, in effect, that we can no longer speak of “ourselves here” and “that world and other stuff out there” as though they were different and separate orders of things. We emerge together.

This may seem confusing initially, but suffice it to say at this time that the so-called “objective” notions that we have been taught to believe in and which, for a time, seemed a reliable basis for organizational theory and design, have lost their relevance, a compass gone awry, notions whose path is increasingly risky and sometimes downright dangerous to follow. Relational semiosis is, then, an ongoing conversation which con-figures and re-configures itself relationally (among conversants, signs, and meanings) as it unfolds, not held together by the logic of deduction or induction but rather abduction, roughly understood as pattern recognition. This might be viewed as an ongoing change in a shared landscape, the landscape taking on different shades, sense, emotions, affects, shapes, and forms as the conversation
unfolds, both purposeful and aesthetic. Relational semiosis is not essentially representational, although participants may view it as such, the representation being an interpretation coming into mind. We create our own sense.

Coming to grips with the woven texture behind the current relational system in the unfolding of its relations through dialogue, at once aesthetic and purposeful (goal-oriented), means making sense of a *cultural shift* with an array of social flavors, something not seen or understood within the former scope of process management. Of vital importance, then, is the study and appreciation of culturally related themes, the place and role of symbolic and artistic practices, as well as the processes underlying the construction of scenarios and paradigms based on certain prescriptions, as they impact the formation of citizenry, practices of political participation, and the events of everyday life. At the same time, technological change and social mobility have generated transformations in the forms of agency and pertinence that oblige us to look beyond traditional connections among culture, identity, and territory, and to incorporate other coordinates, from where it becomes necessary to explain who we are and where we are going: territoriality seen as effective and transformational cognition.

This bifurcation process has taken place in a world in which unemployment, underemployment, labor flexibility, and job insecurity are part of the process of de-industrialization and the consequent growth of the informal economy. We are traveling, in some or in many ways, towards a new kind of capitalism in which the collapse of hierarchies results in the dematerialization of production and the de-territorialization of production processes. To resist this scenario, it is no longer possible to reproduce hierarchical organizational models (unions, political parties, etc.), coherent spaces of opposition to the new kind of capitalism. This requires changing the relational structure from a hierarchy to a *relarchy*, triggering organization as networks of relationships that become synchronized, seeing themselves effectively, in all their efforts, as a single process, something akin to the Arab Spring. If an organization is defined as a system of relational networks, its condition of viability or conservation becomes expressed through the increasing structural complexity of its organization, both internally and in its engagement with other networks. It is ultimately a matter of changing value diffusion strategies to accelerate decision making, increasing in this way their cohesion and coordination, decentralizing their conduction. This opens the way to move forward with new forms of territorial action since an organizational form has not yet matured. This forward thrust is what can be called “Strategic Intelligence” and the process that shapes it “territoriality.”

This book is designed from a cross-disciplinary point of view. It is an invitation to participate in a voyage of no return where the port of departure is the critical assumption or Euro-occidental theory in the slippery space of de-disciplinarity and in building a conceptual framework consistent with leading contemporary polem-
ics and needs, to rethink the current enclaves from the spaces of our own creative emergence. It is an invitation to weave the story of Relational Networks Systems, what will be referred to from now on as “RENS.”

So, the displacement of declarative spaces towards our own, as a divergent and epistemologically pertinent territoriality, is a guarantee from the incorporation of solid explanations as well as a methodology that prioritizes the collective participation and construction of alternatives.

The different topics proposed for each chapter establish the foundation for developing a formation oriented towards the design of processes in which the relationships that generate organizations are healthy, that is where reciprocity substantiates heterarchy. The intended clients are those readers who carry with them, as their navigational charts, uncertainty, crisis, and innovation.

The aim of this book is to lay the relational and epistemological bases to explain the change that has occurred during the last decades, one that has severely battered human structures, particularly business organizations, which begin to wither in the generation of wealth as their roots absorb such rarified spirits as knowledge. The market as an explanatory principle has already begun to lose its legitimacy as a legitimate tautology for the generation of value when confronted with creativity. This is perhaps the end of Industrial Capitalism and the advent of a new economy. To confront this, we have made an effort to navigate from the epistemic to the base of cognitive engineering in order to free up the spiral of knowledge that has already broken through and is now impossible to stop.

ORGANIZATION OF THE BOOK

This book consists of 10 chapters, which are tied together in the following way:

Chapter 1: From Autono-Mine to Autono-Yours

This chapter opens the way to understand that what we designate as the self is always in relation to someone or something; it is always an eco-autonomy and not a divorced autonomy. In our history of individualism and individual “liberties,” we enter this chapter with historically derived cognitive blindness in any number of domains.

Chapter 2: From Hierarchical Structure to Relational Networks

When we think of organizations, an organizational chart comes to mind, a chart with an organizational head, a General or a General Manager, with direct reports in boxes connected by solid or dotted lines (indicating direct or indirect reporting), and
under each first level reports there are other reports, and so on, until a considerable pyramid of boxes portrays the organization of the organization. It is a chart with lots of black boxes with even more white space in between. These organizations are called “functional” and derive from the need for specialized actions in sequential domains; therefore, coordination within each sequence can be separated into logical domains. Each domain is controlled from start to finish, triggering upon completion of its domain of action the beginning of action in the following domain. This chapter invites us to challenge this organizational form, stimulating us to deconstruct the hierarchy and to emphasize the white spaces more than the square boxes: an essential exercise when parallel processes are taking place and even more when organizational contexts are uncertain or dynamic and require extensive coordination and collaboration in reduced periods of time. This leads us to make explicit in some way, the relational forms of relational networks or what we call RENS (relational networks). We discover that the greatest challenges for organizations have to do with the world of invisible connections in the white space where most of the value in contemporary organizations is created.

**Chapter 3: From Manufacture to Mindfacture**

Whatever is “normal” in our day-to-day lives is taken for granted. It is transparent and assumed until something breaks down, until something unexpected just happens. No one goes around thinking about labor relations until there is a strike, and if the strike happens to be particularly violent, it forces us to ask why? and to examine the past construction of the present we live in such a way as to expose the origins of the failure, those root causes that have nurtured the process that has led us to where we are today. This chapter looks into the transparency that we consider to be perfectly normal, such as “wages” and where and how they originate, even the concept of organization as we know it and the practices and routines that have developed in certain historical moments and now seem to have outlived their usefulness, or don’t seem to be able to respond to the velocity of change, or seem to be moving us in the direction of serious confrontations and possible collapse. This chapter brings into focus a profound paradigm shift that has taken place in such domains as the creation of value and wealth, a shift that still has not been accounted for and which is a risk until it is. It is a profound shift that changes the nature of “work,” value creation, in fundamental ways that could upset entirely the competitiveness of business organizations unless they understand that evolution may no longer be the key to survival.
Chapter 4: Mind Value Processes

The aim of this chapter is to explain, from a relational epistemology, how knowledge is transformed into value. To be more exact, from building the relationship and its consequences between the definition of knowledge and the duality of use value and exchange value, we propose a method to evaluate the process of transforming knowledge into value. For this, we use the framework of cognitive science, both representational and non-representational schools, and the early concepts underlying the theory of value, the theory of dynamic networks, and theory of viable relational systems.

Chapter 5: Value Creation Process

Productive Cognitive Capital can be viewed as the knowledge process associated to both exchange value and value in use, something unique to the relational process. This implies Productive Cognitive Capital is directly joined to the relational quality of the network that produces it. This chapter searches for alternatives, both theoretical and methodological, to assess Productive Cognitive Capital.

Chapter 6: Organizational Relational Viability

If we see the world as causal, we must, then, see it also as sequential and consequential. This view is satisfactory for Industrial Era enterprises engineered in a certain order to run in a certain way, whether mining, telegraphs, or manufacturing plants. It can also be applied to conventional type warfare where planning incorporates strategic objectives to be achieved in the air, on land, or sea. This view gets into serious trouble trying to cope with Al Qaeda, the mafia, and the Twitter generation behind the generatively organized Arab Spring uprisings. When the world accelerates, it requires flexibility, and when flexibility is required, integration is required. These attributes and competencies are relatively easy to achieve in network organizations and can be near impossible to achieve in hierarchical type functional organizations, especially in the face of dynamic change. Organization must be tenable, a first step, but to survive, they must be sustainable. This requires different kinds of competencies.

Chapter 7: The Strategic Intelligence Process

This chapter looks at the competencies that must be developed to anticipate, manage, and cope with disruptive events while diffusing value in the organizational network.
Chapter 8: Emerging Design: The Warp Network

In a relational unit or network, design emerges as an integral part of a strategic process aimed at achieving a coherent coupling between its relational configuration (tenability) and its matter/energy system (sustainability), so that the identity of the relational unit is not at risk. This chapter shows how we can translate viability in designing or re-designing processes contemplating the possibilities for reconfiguration of the network of relations itself.

Chapter 9: Why Not? New Thinking for an Emergent Networked World

The history of philosophy revolves around two dichotomies, the atomistic versus holistic views of the world. Atomistic views are easier to demonstrate since they can demonstrate how units can be broken down into parts and give innumerable examples of cause-effect. This way of thinking was able to produce something as powerful as Newtonian Mechanics, which, for a time, seemed to explain almost everything. Quantum Physics, however, turns Newtonian Mechanics upside down.

Someone once asked if it would be possible for a square to describe a circle and vice versa. This could be a metaphor for the Cartesian version of a cause-and-effect-based view of the world, adopted and managed by organizations for millennia, as opposed to relational organizations that “adapt” to chaotic (causeless) environments as a surfer rides the waves.

In the cause and effect world, the question “why?” is very important; it looks to the past to explain a breakdown in the present, which, if corrected, may create a better future. In the dynamic “Devo” (development) world of today, the question “why?” does not make much sense. Today’s world is a world of possibilities, a world of what could be, more than the world of the matter-of-fact, that which has been, the world inherited as a legacy. Even the word “adaptation” is becoming obsolete. Organizations today must ask themselves what should be possible within the interpretation or “emergent discourse” around what is happening, then ask themselves the question “why not?” This question does not explain anything. It does, however, along with other things, unveil the presence of critical absences, and these are the central spaces for innovation in relational networks, even global.
Chapter 10: The Sound of the Spiral

The purpose of this chapter is to develop the use of aesthetic interfaces and non-discrete matrices that might then be used as analog modelers to understand complex cultural structures. Something happens in networks as they co-create themselves in time and space. We see this in terms of a spiral in which there is an obvious coherence and congruence, but each spire of the spiral, while being part of the whole, is also an evolving source of a certain kind of enrichment within the evolving whole.

Leonardo P. Lavanderos  
Sintesys, Chile

Kenneth W. Massey  
Process Edge Consulting Group, Chile