

Organizational Paradoxes and Metamorphosis in Collective Action

Alberto F. De Toni ¹ , Giuseppe Zollo ² and Alberto De Zan ^{1,*}

¹ Polytechnic Department of Engineering and Architecture, University of Udine, 33100 Udine, Italy; detoni@uniud.it

² Industrial Engineering, University of Naples Federico II, 80138 Naples, Italy; giuzollo@gmail.com

* Correspondence: alberto.dezan@gmail.com

Abstract: This paper addresses the subject of organizational paradoxes through the lens of complexity theory. The first part of the study focuses on the formalization of the key elements in order to better understand the concept of organizational tension through the presentation of related constructs, i.e., dilemmas, dialectics and paradoxes. The second part of the paper introduces the key to interpreting complexity theory, highlighting how the characteristic of emergence in complex systems makes it possible to identify two different levels: that of organizational elements and that of organizational forms, both of which are impacted by tension. That reflection leads the authors to postulate that metamorphosis is the process by which organizations, constantly crossed by tension, regenerate the organizational forms' level on the basis of evolving tensions between organizational elements.

Keywords: organizational tension; dilemma; dialectics; paradox; metamorphosis; complexity

1. Introduction to 'Organizational Paradoxes'

When approaching the analysis of organizational action, it can be framed in two distinct concepts: hierarchy, understood as organizational models (structure); and processes, understood as sequences of activities. As will be explained, the introduction of the concept of 'tension', and its declinations of dilemma, dialectic and paradox, brings forth a third framework of organizational action, namely situational logic.

Together with tensions, situations emerge as a new key: situations with the customer, situations of conflict, situations of urgency, etc. With this new concept the focus shifts to the social networks that emerge and disintegrate in organizational action, networks that can be cooperative and competitive, thus manifesting themselves as tensions that permeate the social system. The proposal of this paper therefore focuses on understanding the ways in which tensions, particularly in their manifestation as paradoxes, shape the framework of situations and what approaches can be deployed to create new 'game spaces' and activate processes of organizational metamorphosis.

This paper focuses on this concept, providing a comprehensive analysis of how these organizational dynamics can be described. It then addresses the issue of how to manage this new framework, which cannot be managed as a 'coherent' system due to the presence of the paradox, but must therefore be managed as a complex system. That is, a system in which: predictions have limits; diversity is a value and not something to be avoided; and conflict has a wealth of objectives to consider. Everything that in linear thinking is something marginal or harmful becomes, in complex thinking, a source of value for the organization.

The word 'paradox' generally refers to a construct that belongs to philosophical, logical and organizational contexts (Cameron and Quinn, 1988 [1]; Smith and Lewis, 2011 [2]; Poole and Van de Ven, 1989 [3]; Putnam et al., 2016 [4]). Braathen (2016) [5] nevertheless highlights how it is possible to connect paradoxes back to three main classes:

- Rhetorical paradoxes;
- Logical paradoxes;
- Social paradoxes.



Citation: De Toni, A.F.; Zollo, G.; De Zan, A. Organizational Paradoxes and Metamorphosis in Collective Action. *Systems* **2023**, *11*, 241. <https://doi.org/10.3390/systems11050241>

Academic Editor: Mitsuru Kodama

Received: 29 March 2023

Revised: 27 April 2023

Accepted: 10 May 2023

Published: 12 May 2023



Copyright: © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

In the first class, paradoxes are stimuli that spark the attention of the reader or challenge rigid truths, subsequently expanding the horizons of understanding or laying the groundwork for innovation and creativity. In the second class, paradoxes are dealt with in the field of logic, where, starting with Aristotle's *Metaphysics*, attempts have been made to suppress paradox, that is, to impose the concept by which a statement cannot be true and not true at the same time (the 'law of excluded middle'). The third class is the most important one in terms of this study. Social paradox is identified not so much as a logical contradiction, but rather as 'forms of tension' between incompatible positions and tendencies. On an organizational level, this type of paradox emerges as a 'paradoxical situation' in which individuals and groups are surrounded by a field of tensions.

2. Organizational Tensions

Organizational tensions emerge when the members of an organization encounter, in their work, 'incompatibilities' and 'dilemmas' that create states of anxiety, stress and discomfort in making decisions or acting in specific situations. Tension thus appears in the form of a veritable emotional state that is the result of frustration, interruption, uncertainty and even paralysis when managing contradictory situations (Lewis, 2000 [6]; Smith and Lewis, 2011 [2]). As we will illustrate in this paper, those contradictory situations derive from the complexity inherent to the situation itself. Complexity is manifested in the impossibility of applying a linear, reductionist approach aimed at decoding and breaking down the situation into elementary components, and in the impossibility of precisely and exhaustively defining the resources available and the objectives that are to be pursued.

In the literature, the word 'tension' is often ambiguous and used improperly to describe various dynamics, which are not necessarily paradoxical. The word 'tension' is also used when the members of an organization encounter dilemmas, i.e., when they are forced to make a choice between two equally valid options which are diverse but not necessarily contradictory (Cameron and Quinn, 1988 [1]).

Table 1 below lists a few definitions of 'tension'.

Table 1. Definitions of tension in the literature.

Definitions of Tension
Discomfort caused by a clash of ideas, principles, and actions in response to antagonisms of opposites. (Fairhurst, Cooren and Cahill, 2002 [7]).
Stress, push–pull dilemmas which increase as the result of competing tendencies and struggles between opposites (Fairhurst and Putnam, 2014 [8]).
Stress, anxiety and discomfort in making decisions, responding or taking action in organizational contexts (Putnam et al., 2016 [4]).
Dilemmas and conflicts situated in human activities seen as a normal condition of the organizational activity rather than a rift or problem (Trethewey and Ashcraft, 2004 [9]).
Opposite needs or sources of contradiction and paradox that arise from complex and ambiguous systems (Lewis, 2000 [6]; Lewis, Andriopoulos and Smith, 2014 [10]; Smith and Lewis, 2011 [2]).

The definition provided by Fairhurst, Cooren and Cahill (2002) [7] is based on the idea that tension arises from a clash of ideas, principles and actions that produce a state of discomfort. Trethewey and Ashcraft (2004) [9], on the other hand, introduce the concept of tension as something intrinsic to the very nature of organizations, and suggest that tension can be seen in a positive, accepting light. A third definition refers to an understanding of organizations as complex systems: tensions characterize the relational complexity tied to the development of the social system, which implies the creation of organizations characterized by ambiguous and changing traits in the formulation of resources, relationships and objectives.

From the literature, two distinct stances in relation to tension thus arise: one that is negative, which sees tension as the manifestation of a problem to avoid; and one that is

positive, which sees tension as an intrinsic characteristic in complex social systems, a trait that is essential and feeds into their vitality.

3. Categorizing Tension

Within the literature focusing on organizations, three approaches to the characterization and management of tension by decision-makers take shape: dilemma, dialectic and paradox.

3.1. Dilemma

The definition of tension as dilemma provided by Cameron and Quinn (1988) [1] refers to the 'poles' that exist in an either/or relationship and in which one is generally asked to make a choice between two options (see Figure 1) that are equally attractive or unattractive (McGrath, 1981 [11]). Putnam et al. (2016) [4] ponder the intrinsic nature of the dilemma that is usually one-shot, despite being something that generates stress and anxiety in the person who is asked to make the choice. The hypothetical decision-maker is thus asked to conduct a sort of trade-off analysis, thinking of the pros and cons before making a definitive selection.

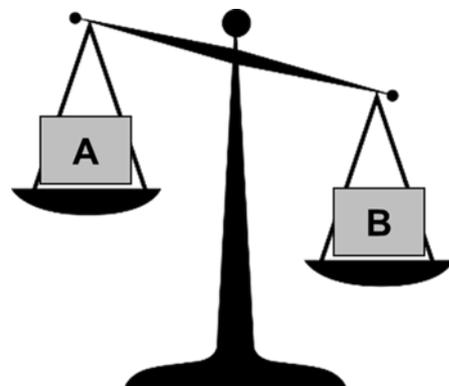


Figure 1. A visual representation of dilemma. (A,B) represent the alternative choices of the dilemma.

3.2. Dialectic

According to the tension-as-dialectic approach, opposites are interdependent and subjected to attracting and repelling forces in a dynamic interaction, with a focus on the unity of the opposite sides (rather than on the choice between them) and on the forces and processes that connect them (Putnam et al., 2016 [4]). The representation is the usual one (see Figure 2) of the relationships between thesis and antithesis in Hegel's dialectics, which presupposes the existence of a thesis (A) and an antithesis (B), which evolve into a synthesis (C), i.e., the evolution and unification of the two opposites. The dialectic is configured as a duality that, starting from the contradiction between A and B, takes a step forward and indicates the final unity of the opposites (Bledow et al., 2009 [12]). In this dialectic, the two poles are connected in a relationship of continuous comparison and dialogue. This dynamic makes it so that tensions emerge and then evolve, dissolve or multiply.

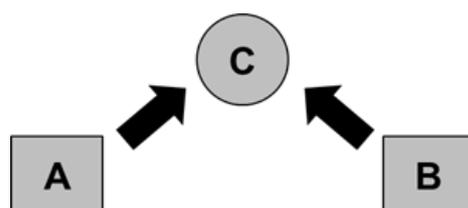


Figure 2. A visual representation of the dialectic approach. (A) represents the thesis, (B) the antithesis and (C) the synthesis of the dialectic.

In essence, the dialectical approach is a process of tension resolution which makes use of the generative integration of contradictory theses and antitheses, which gives rise to a synthesis. That synthesis is based on creative construction starting with tension. The interaction between thesis and antithesis can be seen as a source of energy and creativity (Cameron and Quinn, 1988 [1]; Seo and Creed, 2002 [13]; Smith and Lewis, 2011 [2]). In the end, the dialectic is a factor that can produce organizational change. That very same organizational change and development can be conceived of as an ongoing dialectical context between convergent and divergent forces: the former tend to encourage stability, while the latter tend towards change (Poole and Van de Ven, 1995 [14]; Farjoun, 2002 [15]).

3.3. Paradox

Paradox is characteristic of the contradictions that persist simultaneously and synergistically over time, which does not happen with dilemmas and dialectics. The opposites that characterize paradox seem logical if taken individually, but irrational and inconsistent when compared (Lewis, 2000 [6]; Smith and Lewis, 2011 [2]; Lewis and Smith, 2014 [16]). Paradoxes appear as absurd situations in which it is impossible to define a line of action by breaking down the problem. To the contrary, the intricate relational dynamic that binds the opposite terms together must be taken into consideration.

The opposites A and B (represented in the Figure 3 by the yin and yang symbol) are disassociated, opposed and mutually exclusive if considered in static relation to each other, but they are also interdependent, synergistic and interrelated if envisioned as the photography of a dynamic system, in a 'more than' logic. Each opposite has internal borders that create distinction and opposition and refer to solution rationales of the 'either-or' type, but they also intermingle, having a shared outer edge which creates a sort of overall 'unit'. That edge encourages interaction and synergy, i.e., it links the original opposites and keeps them linked, 'forcing' the creation of dynamics and relationships that ensure persistence over time through continuous metamorphosis.

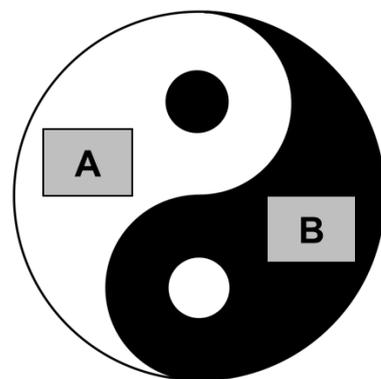


Figure 3. A visual representation of paradox. (A,B) represent the poles of the paradox.

3.4. Dilemma, Dialectics and Paradox

As explained, the main concepts that must be considered are paradox, dilemma and dialectics. The three constructs cannot be considered perfectly distinct, as they share blurred edges that could make their clear definition difficult.

In that regard, Smith and Lewis (2011) [2] note how even dilemmas and dialectics in certain conditions can be paradoxical. To that end, they explore how the three concepts (paradox, dilemma and dialectics), despite being conceptually distinct, in reality can blend together and share similar characteristics: even dilemmas and dialectics can have paradoxical traits.

Dilemmas demonstrate paradoxical characteristics over the long term, when the choice made between A and B ends up being only temporary and not definitive. In that case, the 'suppressed' opposite resurfaces, demonstrating its interdependence and persistence. Effectively, this issue can arise from the incorrect definition and comprehension of the problem at

its base. Cameron and Quinn (1988) [1] note how the application of dilemma-based reasoning to tensions (rather than dialectical) entails the resurfacing of the non-chosen opposite.

Unlike the dilemma approach, the dialectical approach tries to resolve the tension, leveraging the similarities between the poles (rather than the differences), though we can also note how it has paradoxical characteristics when synthesis C collides with a new antithesis, bringing about the same characteristics of the previous thesis and antithesis (A and B, see Figure 2). Clegg (2002) [17] states how dialectical tension becomes equal to a paradox when one thesis exists not regardless of the antithesis but because of it, i.e., when each opposite in dialectical tension needs the other opposite to exist.

Essentially, unlike the logics of dilemmas and dialectics, which try to eliminate organizational tensions in a different way, the logic of paradox envisions that not only is it impossible to suppress the tensions present in an organization, but that they are its essential driver, without which the organization would be unable to express its validity. The real problem is that managing tension in terms of paradox requires a difficult passage from one reductionist and mechanistic vision of the organizational entity to a vision that embraces the constructs and methods fine-tuned by complex thought in recent decades.

4. Paradoxes and Complex Thought

Complex thought is the legacy of the scientific revolution in the 1900s, whose various fields of knowledge changed our vision of reality and the way we see the relationship between the observer and the thing being observed. Quantum physics has shown that what we call reality is far from having certain, consistent foundations. But the biggest disruption of quantum physics is that it provided experimental evidence of a particle that presents properties that are logically mutually exclusive and which changes its nature, becoming a particle or a wave, depending on the conditions of the experiment. It is a contradiction that, as stated by Morin (2015, p. 52) [18]: ‘indirectly strikes the principles of identity, contradiction and the law of excluded middle’. The only possibility remained that of accepting the union of the terms of the contradiction, determining that they were complementary.

In the field of logic, Godel (Nagel and Newman, 2005 [19]) has demonstrated that, if a system of axioms is consistent, then it is not syntactically complete. Turing and Arrow have formulated similar theories about impossibility in the computation and social fields (Barrow, 1999 [20]). These discoveries (and others) have demolished the postulates of the scientific method which was fine-tuned in the 17th century: the principle of order (reality is governed by consistent and imperative laws), separation principle (between object and environment, subject and object), reduction principle (that of the object into simple components) and the logic principle (deductive/inductive reasoning) (Morin, 2015 [18]).

Complex thought excludes the possibility that antagonistic terms can be reabsorbed in a larger entity, which is precisely what dialectical thought does when thesis and antithesis vanish into synthesis. The opposing entities are a constituent part of reality; they’re the continuous source of tension that holds the world together, not just the physical one, but the social, biological and mental ones too. Moreover, tension is the cause of the continuous transformation of the world, of its dynamism, and the chemical/physical/biological/cognitive processes that generate continual metamorphosis.

When complex thought turns its attention to living organizations, including social organizations, it underpins organizational processes with the tension between opposing requirements. The living organization is a *Unitas-Multiplex*, where multiple elements give rise to a totality precisely by virtue of a field of tensions between the different components, and not as a simple assemblage of components and activities that fit together like the inner workings of a motor. The presence of antinomian requirements ensures the validity of the organization and the ability to react to changes in the environment, sparking learning processes.

In terms of complexity, tensions can be found in every organized entity. Those tensions are found in matter, such as opposite charges (positive and negative), and in chemical bonds. They form the basis of thermodynamic processes and the physiology of living systems.

In any aggregate, they are the base of every process of transformation and construction of complex entities. Tension also underpins the transformation of social entities and the biological and cognitive processes of humans. They are a property of the world.

On the other hand, the nature of dilemma, contradiction and paradox is different. These constructs pertain to the relationship that the observer establishes with the reality in which the tensions appear, by how they characterize the situation, which ends they intend to pursue and which capabilities the action possesses.

With this premise, we can consider dilemma to be a cognitive and emotional condition of the observer that, immersed in a field of organizational tension, must choose between option A and option B. For example, if company productivity drops, a corporate decision-maker may decide to choose between focusing on motivation, leaving people to work independently, or to reinforce the monitoring system. The decision-maker knows that there is no general criterion and that any decision will produce benefits and problems. Once the situation has been categorized as a dilemma, it follows that the two opposites are mutually exclusive. Dilemmas are cognitive constructs.

The dialectical approach requires a different type of effort from the observer. In the case of a choice between independence and monitoring, the decision-maker knows that it is impossible to dissolve the tension between the two and that said tension cannot be eliminated simply by choosing one of the two alternatives. The decision-maker who acts according to the logic of dialectics will believe that the tension between independence and monitoring is an integral part of organizational life. For that reason, they will try to change the underlying organizational model so as to enable a new synthesis between the opposite needs.

And what about paradox? Let us look at an example: a judge must make a ruling on a question of mutual wrongdoing caused by a persistent atmosphere of tension between spouses. It is very hard to determine who is right. The wrongdoing between the spouses is the result of a self-powering process that has lasted over time. It is hard to establish what the first spark was and who is responsible in the game of action and reaction. The relational dynamic between a couple is incredibly intricate. There is always a shadowy area that rational exploration is unable to illuminate. Complex thought holds that tension is a constitutive and generative part of social life, from which it follows that:

1. All tension is part of a multidimensional tensional field, in which various tensions act contemporaneously, such as those between individuals and the group, innovation and maintenance, and short and long-term objectives;
2. Paradoxes, that is, the coexistence of opposites, are the foundation of the tensional field necessary to put agents into action;
3. Paradoxes cannot be eliminated from any operation of synthesis,
4. The tensional field produced by paradoxes is continuously transforming through the action of agents;
5. That which the decision-maker can do is comprehend the tensional field and the dynamic generated (the way in which the situation is 'leaning') and place herself in the more efficient point to take advantage of it or change it (Jullien, 2017 [21]).

Essentially, if the decision-maker defines that tension as a decisive crossroads, then they will treat the tension as a dilemma. If that tension is deemed to contain opposition that can be joined together in some way, then the decision-maker can redefine the opposing terms of the tension through a dialectical approach. If, lastly, the decision-maker is aware that tension is an unavoidable paradox, the only option is to find a way to take advantage of the dynamic tensional energy that it produces, generating a metamorphosis of collective action. That requires placing the concept of paradox within the conceptual framework of complex thought, accepting the organization of collective action as a unit that emerges from a multitude of tensions. Returning to the example of the judge: the difficulty encountered is not so much in deciding who is right and who is wrong in the dispute, but in finding new elements on which a new discussion or coexistence can be based, since in the current situation the elements present have generated a 'destructive' conflict. The situation should

be managed before forcing the judge to choose between two opposing alternatives. The goal must therefore be to find a new ‘game’ and new rules. If one only looks at the past in search of who is right and who is wrong, a solution cannot be found because the complexity of relationships and events is such that it cannot be resolved. A space must be created where a restart can be generated through a sort of ‘dynamic’ compromise. In short, instead of the judge we would need a diplomat.

In particular, the following concepts about complexity are pertinent:

- **Emergence.** Emergence indicates the capacity of complex systems to generate orderly structures starting from local interactions and small fluctuations. The properties of the structures generated by emergence processes cannot be connected to the properties of its components through a reductionist approach. That implies the need to view complex systems as entities constituted of multiple levels, each with its own dynamics and characteristics.
- **Self-organization.** Self-organization is the process of producing a form starting from the field of existing tensions, such as the alignments of iron filings in a magnetic field or the convection cells in boiling water. The course of a river that carves its riverbed, the flame of a candle and the vortex of a hurricane are shapes that exist by virtue of the self-organization processes of tensions that exist in the system.
- **Attractor.** This word is used to indicate the totality of states into which a system’s dynamics merge. The attractor is the orbit formed by a single state (the attractor is a limit point), or by a number of states that is finite (the attractor is a cycle that repeats continuously) or infinite (the attractor is chaotic). If the dynamic flows into an orbit with infinite states that are too close together, such as the threads of a wool mattress, then it is a ‘strange attractor’, which characterizes a quasi-order.
- **Edge-of-chaos.** Every complex adaptive system, such as living systems and social organizations, operate on the edge of chaos, in the borderline that separates the order of formal processes, rules, routines and habits from the disorder of human necessities, unexpected events, change, competition and innovation. The relationship between order and disorder is vital to every complex system, as Prigogine (1980) [22] and Morin (2015) [18] have shown. Every organizing system is incomplete and leaves that which it is unable to map in a state of disorder; on the other hand, unorganized and chaotic processes, once in contact with the constraints imposed by the conditions at its edges, can generate persistent, orderly processes. On the edge of chaos, disorder is generated by order and order is nourished by disorder.

In other words, in complex adaptive systems, opposing elements endure in the organization, generating a dynamic that, according to the limits imposed, can be chaotic or organized.

Back again to the example of the judge, the creation of the new ‘game’ and new rules enables the system to evolve on the basis of complexity concepts. By setting new constraints and new rules, a new process of self-organization can be triggered. New rules mean creating a new ‘game spaces’ where the concepts of self-organization and emergence can be implemented.

By using the concepts of complexity to characterize the relationship between organizational tensions and paradoxes, we can confirm that the tension between the elements in an organizational system generate a dynamic that, thanks to the processes of self-organization, gives rise to the emergence of a new form (an attractor) that displays properties other than those of its constituting elements. The new form is placed on a different level than that of its elements. As a result, two logical levels are created, that of the elements and that of the form.

5. Tension, Paradox and Metamorphosis

The idea that a complex organization is an entity made of multiple levels is particularly fertile in the study of living systems, from biology to social organizations and ecological systems. For example, there are at least seven levels in the study of organisms: molecules, cells, tissues, organs, systems, organisms and populations. Each level contains elements

that interact with each other, giving rise to the entities on the next level up. In turn, those levels contain more complex entities that interact and thereby bind the interactions of the entities on the level below them. The study of human physiology requires analysis of the interactions between all levels, because a fluctuation in molecular dynamics can influence the stability of cellular dynamics and so on, rising up through the levels. Vice versa, a change to the dynamics of populations can influence the dynamics taking place on the levels below.

Complex thought embraces the idea of a structured system on multiple levels with the idea of ‘emergence’ (see Anderson, 1972 [23]), a concept that is particularly characteristic of social systems (Sawyer, 2005 [24]).

Sawyer defines a social system as a building with five floors (see Figure 4): (A) the first floor is where we find individuals with their own unshakable details; (B) on the second floor there are flowing micro-interactions between individuals; (C) the third floor is where early properties in terms of roles, ways to participate and types of relationships begin to take shape, which Sawyer calls ‘ephemeral emergents’; (D) on the fourth floor, the ephemeral emergents begin to become stable, with the formation of groups, subcultures, etc.; (E) lastly, on the fifth floor, persistent social structures such as procedures and laws begin to appear.

<p>Social Structure (level E) Written text (procedures, laws, regulations); material system and infrastructure (architecture, urban design, communication and transportation network)</p>
<p>Stable Emergents (level D) Group subcultures, group slang and catchphrases, conversational routines, shared social practices, collective memory</p>
<p>Ephemeral Emergents (level C) Topic, context, interactional frame, participation structure; relative role and status assignment</p>
<p>Interaction (level B) Discourse patterns, symbolic interaction, collaboration, negotiation</p>
<p>Individual (level A) Intention, agency, memory, personality, cognitive processes</p>

Figure 4. K. Sawyer, Social Emergence, 2005 [24].

All the levels interact with those above and below them. New properties and new capacities for action, new ways to cooperate and, of course, new conflicts arise on every level. Going up a level, the space of action, although broader, is subjected to a greater number of restrictions.

All the levels coexist in the social structure and co-evolve according to dynamics that influence each other. Moreover, the actors that appear on a certain level operate as components of the complex actors on the levels above them. For example, an individual, who appears on the lowest level, is an actor that has intentions (level A), interacts (level B), has roles (level C), and belongs to one or more groups (level D).

The multi-level social structure model, each level with emerging properties, its own dynamics, and continuously interacting with the other levels, can help us understand the relationship between tensions and paradoxes within an organization.

To simplify the logic, we will consider any two levels of the social structure, calling them upper and lower. We will call the lower-level entities ‘elements’ and the upper-level ones ‘forms’. According to the multi-level model, the lower-level elements, reacting to their boundary conditions, develop complex interactions between each other, asserted by the existing tensions. The dynamics of the lower level can threaten the persistence of the upper-level entities and tease out new forms of collective action. Vice versa, the forms of the upper level, once they have been defined, add new restrictions to the interaction of the elements of the lower level. The term ‘form’ is used here to mean a configuration of

the elements that expresses one's identity and emerging characteristics, such as the group compared to its components.

The fact that the entities present on the various levels coexist and evolve in parallel, pushed by the tensions that exist on their level and by the stimuli coming from the other levels, has real impact. On each level, there are forms that come undone and forms that are shaped along the way, giving rise to a continuous metamorphosis of the entities present within it. The concept of metamorphosis highlights the fact that the surfacing of new entities always starts from a past where other entities existed. The creation of new entities does not arise from nothing and it does not go towards nothing, like in a system without memory: new entities are the result of changes, where elements of innovation and elements of conservation are mixed.

6. Managing Paradox

Putnam et al. (2016) [4] highlight how approaches to the management of contradictions and paradoxes can be classified into three categories: either–or approaches, which see the opposing sides as distinct, independent entities; both–and approaches, which see the opposing sides of the tension as inseparable and interdependent; and more–than approaches, which try to connect the opposing sides to create new relationships.

In general, either–or approaches (Putnam et al., 2016, p. 122 [4]) are static approaches that move within a mechanistic paradigm, and view tension as an obstacle and a threat to an orderly organizational machine. The actions implemented are aimed at restoring the pre-existing order. In most cases, they tend to treat paradoxes as dilemmas to resolve or conflicts to neutralize. We define the set of actions implemented as a 'defensive orientation'.

The both–and approaches analyzed by Putnam et al. (2016, p. 123 [4]) take on an evolutionistic organizational outlook. The actions implemented consider contradictions and paradoxes to be an integral part of organizational life, and as such they cannot be gotten rid of. They are framed in a dialectic between opposites to be managed, varying the tendency towards one pole or the other over time, or seeking out equilibrium between the two opposites. We define these types of actions as 'evolutionistic orientation'.

Lastly, more–than approaches, unlike the others, try to take advantage of the tension inherent to paradox to spark structural change within the organization. In that sense, the actions put into place are aimed at generating new organizational structures and new spaces for action, with the belief that the energy activated by paradox can support the continuous metamorphosis of the organization. We call the set of actions of this type 'generative orientation'.

6.1. Defensive Orientation

This type of orientation is expressed through actions aimed at activating defensive mechanisms, selecting one of the opposites and their separation. These actions are characterized by a negative focus in relation to the tension they address, tension that is seen as an obstacle to organizational action.

The three classes of actions listed in Table 2 include dividing up the opposites and eliminating them or separating them when possible. The literature agrees that these orientations are not optimal for paradoxical tensions as the elimination of the dichotomy leads to the loss of the synergy of the opposite sides. In the case of actions aimed at defense, the tendency is to the negation of the existence of the tension and the interaction between the opposites (Smith and Berg, 1987 [25]; Vince and Broussine, 1996 [26]). Selection entails the choosing of one of the poles, a choice that happens minimizing or entirely eliminating the opposition, thereby selecting one side of the dichotomy (Seo et al., 2004 [27]). Baxter and Montgomery (1996) [28] note how this approach leads to a loss of information, i.e., the information connected to the antipode that is eliminated. Lastly, their separation includes not just the separation of the antipodes of the tension but their assignment by members of the organization to different people or units (Lewis, 2000 [6]; Seo et al., 2004 [27]). However,

Tracy (2004) [29] suggests that the division of duties with the scope of separating opposing sides often leads to an increase in tension, rather than a reduction of it.

Table 2. Defensive orientation.

Defensive Orientation	
Actions	Examples
Defend yourself from paradoxes	<ul style="list-style-type: none"> • Treat opposing tensions as separate and independent. • Counteract the tension. • Exit the scene.
Select an antipode	<ul style="list-style-type: none"> • Neutralize the tension. • Eliminate one of the opposing sides of the tension.
Separate the antipodes	<ul style="list-style-type: none"> • Assign the antipodes of the tension to different people. • Create a power imbalance.

6.2. Evolutive Orientation

This orientation refers to actions that, unlike defensive orientation, treat the antipodes of the source of tension as interdependent and inseparable (Smith and Lewis, 2011 [2]). The actions listed in Table 3 describe the ability of organizations to recognize paradoxes, to waver between the antipodes arising from tension, or to balance the tension in question.

Table 3. Evolutive orientation.

Evolutive Orientation	
Actions	Examples
Recognize paradoxes	<ul style="list-style-type: none"> • Increase cognitive abilities to recognize and work with paradoxes. • Promote the opening up to paradoxes. • Develop individual capabilities.
Oscillate between antipodes	<ul style="list-style-type: none"> • Oscillate between two opposing sides. • Temporal differentiation of the tendency towards one of the opposing sides.
Balance the tension	<ul style="list-style-type: none"> • Come up with a compromise through fusion (willing or forced) of the opposing sides. • Neutralize the tension in a zero-sum union. • Seek a balance point.

The actions that include recognizing paradoxes refer to the development of ‘paradoxical thinking’, that is, the development of cognitive abilities with which to identify opposites, ask questions, reflect upon them, and change one’s point of view. Good and Michel (2013) [30] talk about divergent thinking, defined as the ability to generate as many answers as possible to a specific stimulus, while Clarke (1998) [31] asserts that paradoxical thinking is necessary so that individuals’ minds are able to operate according to logic that accepts both the antipodes without having to negate one or the other. Poole and Van de Ven (1989) [3] introduce the fluctuation approach as one of moving back and forth between the tensional antipodes at different temporal moments or in different contexts. As a result, the distinction between the antipodes is accentuated by a subsequent reunion through ‘spiraling inversion’. The concept of spiraling inversion was picked up by Considine and Miller (2010) [32], who define it as the ‘ebb and flow’ between the poles of the contradiction over time. Lastly, actions designed to balance tension were introduced by Seo et al. (2004) [27] as the attempt to find a compromise or a middle ground between the tensional opposites, at times also forcing their fusion. Similarly, balancing actions seek out a way to embrace both antipodes, accepting the contradiction, working on the tension they create, and finding balance between them (Smith and Lewis, 2011 [2]). The main problem connected to a balancing system can be found in its static nature: the approach attempts to find the point in which they are balanced, which is unlikely to function with a dynamic organization.

This goes against the idea of complex adaptive systems according to which living on the brink of chaos, far from points of balance and in continuous dynamism, is necessary.

6.3. Generative Orientation

The third category of action, which is for the most part consistent with complex thinking, is that of generative orientation (see Table 4). These actions focus on connecting the antipodes to create a new relationship between them (Putnam et al., 2016 [4]). Smith (2014) [33] and Smith and Lewis (2011) [2] state that this process represents a further step in the direction of a new, creative synergy between the opposing sides, characterized by ‘Janusian’ thinking. Using the work of Putnam et al. (2016) [4] as a springboard, it is possible to identify three categories of actions aimed at generating new structures, new spaces of action and new meanings.

Table 4. Generative orientation.

Generative Orientation	
Actions	Examples
Create a new structure	<ul style="list-style-type: none"> • Use the interaction of the opposing sides to create a new entity. • Forge new relationships between the opposites. • Overcome existing limits.
Create a new space of action	<ul style="list-style-type: none"> • Obtain new energy for the action from the tension between the antipodes. • Develop a new space of action, acting upon new zones of ambiguity. • Create contexts for collaborative dialogue.
Create new meanings	<ul style="list-style-type: none"> • Guide the emotions at play in the tensions. • Use tension to discover new meaning. • Challenge conformism through play.

The generation of new structures (reframing) happens when the two antipodes, which are opposed in a given system, are reformulated in a new relationship in which they are no longer in opposition. Seo et al. (2004) [27] refer to such actions as a way to manage dualities, transforming the dichotomy into a new outlook; duality is ‘transcended’ in such a way that the original tension no longer exists. Putnam et al. (2014) [34] define reframing as ‘embracing’ both sides and working via a new approach to connect the dualities, so that the members of the organization are able to generate situations in which the poles exist simultaneously.

The second action category belongs to the generation of new spaces. For Seo et al. (2004) [27], the connection corresponds to the practice of engaging the opposite sides in continuous dynamic interaction, seeking out ways to embrace and extract energy from polarity. Instead of oscillating between the antipodes, uniting them or fusing the dichotomies together, the connection suggests embracing their differences.

Lastly, the third action category foresees the creation of new meaning. In ‘reflective practice’, Barge et al. (2008) [35] identify the ability to generate a context in which participants experiment with and become aware of the dynamic relationship between the antipodes of the duality, and in this sense reflective practice does not try to overcome the antipodes, going beyond the situation. Instead, it involves redefinition, which allows for reflective interaction between the existing antipodes. The concept of ‘serious playfulness’ refers, on the other hand, to practices that are based on emotional reactions instead of reactions dictated by reason. Beech et al. (2004) [36] introduce the concept of a ‘serious game’ in which the interaction between individuals happens through rules and through the introduction of individual emotional factors that are spontaneous. This ‘serious game’ makes it possible to maintain the paradox since:

- It is not completely rational, but instead is also emotional;
- It encourages creativity and not just conformism;

- It introduces ‘jokes’ and wordplay that have multiple meanings, which can explore the multiple realities of the paradox;
- It makes it possible to challenge common social barriers, partaking in discussions and comparisons and challenging each other in a way that is not usually allowed in everyday life.

The approaches just described are particularly useful for types of organizations where value production is centralized on the ‘human’ factor, such as research centers, universities, schools or consulting companies. In such organizations it is difficult to achieve a standardization of collective work, and the third organizational framework, namely that of situations, emerges through networks of cooperation between individuals. Such approaches have been tested in various contexts among which we mention: a study conducted at Italian schools highlighting that there is a positive correlation between self-organization capabilities and innovativeness of learning environments (De Toni and De Marchi, 2018 [37]), a study based on the study of organizational learning as a response to project complexity (De Toni and Pessot, 2022 [38]), a study on competency management in knowledge-based firms (Zollo and Michellone, 2000 [39]), a study on situationalist perspective to competency management (Capaldo, Iandoli, Zollo, 2006 [40]) and a study on learning organizations (Iandoli and Zollo, 2007 [41]).

As highlighted, such approaches lend themselves in organizations where value is generated by human action and are therefore less suitable and less appropriate in an environment where organizational models are established and structured. In such contexts, where the value lies in standardization and definition of practices, such approaches would fail.

Figure 5 presents the matter at hand in grid form. Dilemmas, dialectics and paradoxes, understood as the cognitive constructs of a hypothetical actor in a field of tension, are classified according to the approach used, the process triggered, the orientation used and the final state. More precisely, the construct of paradox is the most advanced: in this approach, tension is perceived as something to exploit, as the generator of energy for the organization. The process that involves the tension antipodes is, in this case, that of metamorphoses that, through actions traceable to a generative orientation, make it possible to obtain, in the final state, a new form on a higher level.

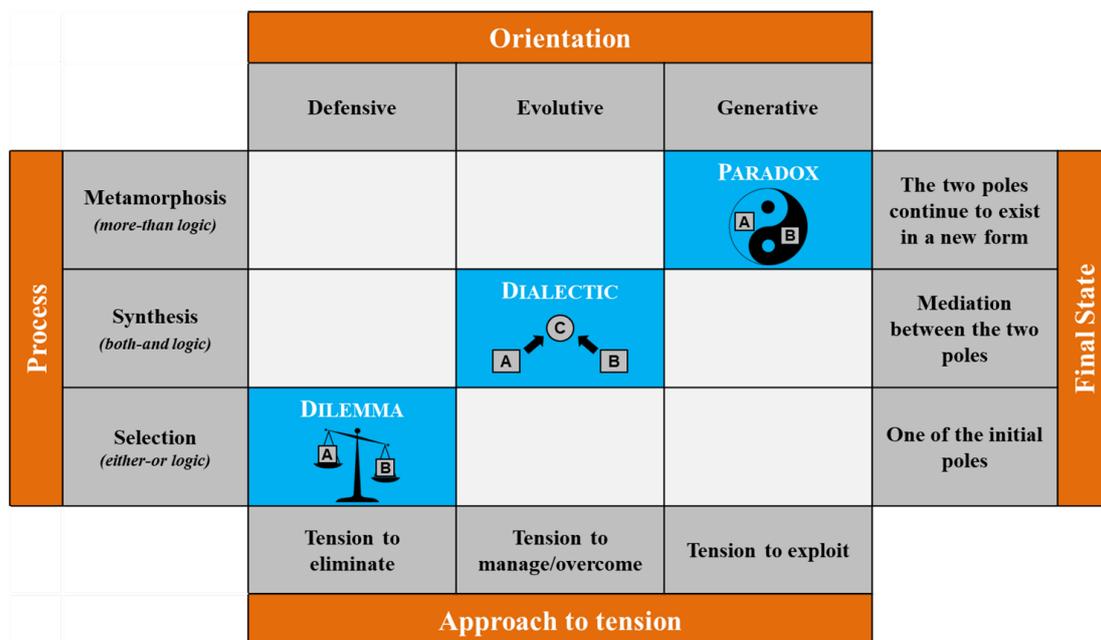


Figure 5. Dilemmas, dialectics and paradoxes as cognitive constructs of tension.

7. Conclusions

Based on the dissertation, it is evident that conflict is a necessary phenomenon within organizations, as long as it is managed; too much conflict is not good as too little. As Page (2019) [42] points out, organizations are permeated by different viewpoints, different orientations and different perspectives. Such differences are necessary for ‘internal complexity’ to prevail over ‘external complexity’. Conflict must therefore be managed as an organizational asset. Organizational tensions are an expression of the organization’s vitality. All the actors in the organization are immersed in a dynamic environment, i.e., a force field, that drives them to develop a dynamic of transformation. In addition to the traditional levers of hierarchy and processes, there is a third lever which is the field of tension and its paradoxical manifestation.

Moreover, complex thought assumes that all human organizations are intrinsically paradoxical. Even the simplest human system becomes more efficient in its actions and ability to adapt if it is able to keep contrasting needs alive. The most meaningful consequence of the persistence of paradox in social systems is that it gives the organization the essential tension it needs to ensure it is not derailed towards one or the other dual terms, which would lead to death by organizational hysteresis.

In other words, the tension between the dual terms of the organization’s paradoxes is a necessary trait of collective action. It creates a field of tension, similar to the opposite charges of a battery, whose potential difference triggers the flow of electricity, and thus the capacity for work.

It follows that paradoxical tension cannot be eliminated, choosing just one of the antipodes (as in defensive orientations). Even when tension is neutralized through synthesis (as happens in evolutive orientations), the solution is temporary.

Paradoxical tension is a structural property of human organizations, the continuous source of collective action. The generative capacity of tension ensures the continuous adaptation of the collective action to the constraints and resources dictated by the circumstances within which the action is carried out.

Ovid’s *Metamorphoses* provides us with an excellent example of what should be meant by the form generated by situational tensions. The poet illustrates over 250 myths, whose dominant trend is metamorphosis, understood as a response to the tensions between the subjects involved. Let us look at the story of Daphne and Apollo as an example. Daphne, whose virginity is threatened by the amorous pursuit of Apollo, asks for help from her father Peneus, who turns Daphne into a laurel tree. In her new form, Daphne remains a virgin and Apollo continues to express his love for Daphne in the form of a laurel crown, which he uses to crown poets.

In short, as in Ovid’s myths, the response to tension is metamorphosis, the generation of a new form starting from the previous one.

Author Contributions: All authors contributed equally to this manuscript. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Quinn, R.E.; Cameron, K.S. *Paradox and Transformation: Toward a Theory of Change in Organization and Management*; Ballinger Publishing Company: Pensacola, FL, USA, 1988. ISBN 978-0-88730-156-8.
2. Smith, W.; Lewis, M. Toward a Theory of Paradox: A Dynamic Equilibrium Model of Organizing. *Acad. Manag. Rev.* **2011**, *36*. [CrossRef]
3. Poole, M.S.; Van De Ven, A.H. Using Paradox to Build Management and Organization Theories. *Acad. Manag. Rev.* **1989**, *14*, 562–578. [CrossRef]
4. Putnam, L.L.; Fairhurst, G.T.; Banghart, S. Contradictions, Dialectics, and Paradoxes in Organizations: A Constitutive Approach. *Acad. Manag. Ann.* **2016**, *10*, 65–171. [CrossRef]
5. Braathen, P. Paradox in Organizations Seen as Social Complex Systems. *Emerg. Complex. Organ.* **2016**, *18*, 191–206. [CrossRef]

6. Lewis, M.W. Exploring Paradox: Toward a More Comprehensive Guide. *Acad. Manag. Rev.* **2000**, *25*, 760–776. [[CrossRef](#)]
7. Fairhurst, G.T.; Cooren, F.; Cahill, D.J. Discursiveness, Contradiction, and Unintended Consequences in Successive Downsizings. *Manag. Commun. Q.* **2002**, *15*, 501–540. [[CrossRef](#)]
8. Fairhurst, G.T.; Putnam, L.L. *The SAGE Handbook of Organizational Communication: Advances in Theory, Research, and Methods*, 3rd ed.; SAGE Publications, Inc.: Thousand Oaks, CA, USA, 2014. ISBN 978-1-4833-1541-6.
9. Ashcraft, K.L.; Trethewey, A. Developing Tension: An Agenda for Applied Research on the Organization of Irrationality. *J. Appl. Commun. Res.* **2004**, *32*, 171–181. [[CrossRef](#)]
10. Lewis, M.W.; Andriopoulos, C.; Smith, W.K. Paradoxical Leadership to Enable Strategic Agility. *Calif. Manag. Rev.* **2014**, *56*, 58–77. [[CrossRef](#)]
11. McGrath, J.E. Dilemmatics: The Study of Research Choices and Dilemmas. *Am. Behav. Sci.* **1981**, *25*, 179–210. [[CrossRef](#)]
12. Bledow, R.; Frese, M.; Anderson, N.; Erez, M.; Farr, J. A Dialectic Perspective on Innovation: Conflicting Demands, Multiple Pathways, and Ambidexterity. *Ind. Organ. Psychol.* **2009**, *2*, 305–337. [[CrossRef](#)]
13. Seo, M.G.; Creed, W.E.D. Institutional Contradictions, Praxis, and Institutional Change: A Dialectical Perspective. *Acad. Manag. Rev.* **2002**, *27*, 222–247. [[CrossRef](#)]
14. Van De Ven, A.H.; Poole, M.S. Explaining Development and Change in Organizations. *Acad. Manag. Rev.* **1995**, *20*, 510–540. [[CrossRef](#)]
15. Farjoun, M. The Dialectics of Institutional Development in Emerging and Turbulent Fields: The History of Pricing Convention in the Online Database Industry. *Acad. Manag. J.* **2002**, *45*, 848–874. [[CrossRef](#)]
16. Lewis, M.W.; Smith, W. Paradox as a Metatheoretical Perspective: Sharpening the Focus and Widening the Scope. *J. Appl. Behav. Sci.* **2014**, *50*, 127–149. [[CrossRef](#)]
17. Clegg, S.R. *Management and Organization Paradoxes*; John Benjamins Publishing: Amsterdam, The Netherlands, 2002. ISBN 978-90-272-9782-2.
18. Morin, E. *La Sfida della Complessità. La Défi de la Complexité*; GaiaMente; Le Lettere: Firenze, Italy, 2015. ISBN 978-88-6087-457-3.
19. Nagel, E.; Newman, J.R. *Godel's Proof*; Routledge: London, UK, 2005. ISBN 978-0-415-35528-5.
20. Barrow, J.D. *Impossibility: The Limits of Science and the Science of Limits*; Oxford University Press: Oxford, UK, 1999. ISBN 0-19-851890-0.
21. Jullien, F. *Essere o Vivere. Il Pensiero Occidentale e il Pensiero Cinese in Venti Contrasti*; Universale Economica; Feltrinelli: Milano, Italy, 2017. ISBN 978-88-07-89027-7.
22. Prigogine, I. *From Being to Becoming: Time and Complexity in the Physical Sciences*; WH Freeman and Company: San Francisco, CA, USA, 1980.
23. Anderson, P.W. More Is Different. *Science* **1972**, *177*, 393–396. [[CrossRef](#)]
24. Sawyer, R.K. *Social Emergence: Societies As Complex Systems*; Cambridge University Press: Cambridge, UK, 2005. ISBN 978-0-521-60637-0.
25. Berg, D.N.; Smith, K.K. *Paradoxes of Group Life: Understanding Conflict, Paralysis, and Movement in Group Dynamics*; Jossey-Bass Wiley Imprint: San Francisco, CA, USA, 1987. ISBN 978-0-7879-3948-9.
26. Vince, R.; Broussine, M. Paradox, Defense and Attachment: Accessing and Working with Emotions and Relations Underlying Organizational Change. *Organ. Stud.* **1996**, *17*, 1–21. [[CrossRef](#)]
27. Seo, M.G.; Putnam, L.L.; Bartunek, J.M. Dualities and Tensions of Planned Organizational Change. In *Handbook of Organizational Change and Innovation*; Poole, M.S., Van de Ven, A.H., Eds.; Oxford University Press: Oxford, UK, 2004. ISBN 978-0195135008.
28. Baxter, L.A.; Montgomery, B.M. *Relating: Dialogues and Dialectics*; Guilford Press: New York, NY, USA, 1996. ISBN 978-1-57230-101-6.
29. Tracy, S.J. Dialectic, Contradiction, or Double Bind? Analyzing and Theorizing Employee Reactions to Organizational Tension. *J. Appl. Commun. Res.* **2004**, *32*, 119–146. [[CrossRef](#)]
30. Good, D.; Michel, E.J. Individual Ambidexterity: Exploring and Exploiting in Dynamic Contexts. *J. Psychol.* **2013**, *147*, 435–453. [[CrossRef](#)]
31. Clarke, M. Can Specialists Be General Managers? Developing Paradoxical Thinking in Middle Managers. *J. Manag. Dev.* **1998**, *17*, 191–206. [[CrossRef](#)]
32. Considine, J.; Miller, K. The Dialectics of Care: Communicative Choices at the End of Life. *Health Commun.* **2010**, *25*, 165–174. [[CrossRef](#)] [[PubMed](#)]
33. Smith, W. Dynamic Decision Making: A Model of Senior Leaders Managing Strategic Paradoxes. *Acad. Manag. J.* **2014**, *57*, 1592–1623. [[CrossRef](#)]
34. Putnam, L.L.; Myers, K.K.; Gailliard, B.M. Examining the Tensions in Workplace Flexibility and Exploring Options for New Directions. *Hum. Relat.* **2014**, *67*, 413–440. [[CrossRef](#)]
35. Kevin Barge, J.; Lee, M.; Maddux, K.; Nabring, R.; Townsend, B. Managing Dualities in Planned Change Initiatives. *J. Appl. Commun. Res.* **2008**, *36*, 364–390. [[CrossRef](#)]
36. Beech, N.; Burns, H.; Caestecker, L.; MacIntosh, R.; Maclean, D. Paradox as Invitation to Act in Problematic Change Situations. *Hum. Relat.* **2004**, *57*, 1313–1332. [[CrossRef](#)]
37. De Toni, A.F.; De Marchi, S. *Scuole Auto Organizzate verso Ambienti di Apprendimento Innovativi*; Fabbri: Milano, Italy, 2018. ISBN 978-88-915-3849-9.
38. De Toni, A.F.; Pessot, E. *La Nave e L'aliante. Apprendimento Organizzativo Come Risposta Sistemica alla Complessità dei Progetti*; Guerini Next: Milano, Italy, 2022. ISBN 978-88-6896-450-4.

39. Michellone, G.; Zollo, G. Competencies Management in Knowledge-Based Firms. *Int. J. Manuf. Technol. Manag.* **2000**, *1*, 20–41. [[CrossRef](#)]
40. Capaldo, G.; Iandoli, L.; Zollo, G. A Situationalist Perspective to Competency Management. *Hum. Resour. Manag.* **2006**, *45*, 429–448. [[CrossRef](#)]
41. Iandoli, L.; Zollo, G. *Organizational Cognition and Learning: Building Systems for the Learning Organization*; IGI Global: Hershey, PA, USA, 2007. ISBN 978-1-59904-313-5.
42. Page, S.E. *The Diversity Bonus*; Princeton University Press: Princeton, NJ, USA, 2019. ISBN 978-0-691-19153-9.

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.