

Modern International Politics Towards the Dissipative-Bifurcating Order

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Abstract

The international system is in the transition phase from a simple and linear system to a complex and chaotic one, within the framework of multicomponent systems, which has created new challenges in explaining the order in it. The international relations literature has studied order from a simple and classical point of view and has a linear conception of it, while this system is complex and chaotic. A new paradigm of order is emerging that existing theories of international relations are incapable of explaining it. Based on this, the main question of the current study is based on the centrality of the theoretical model explaining the complex and chaotic order of the complex international system. The main purpose of conceptualizing such an order is that the author uses the ontological and epistemological foundations of complexity theory and its theoretical propositions and uses an innovative method approach. The model of distributed branch order is an innovative theoretical model for the scientific community of relations between international relations.

Keywords

Complexity, The Branch-Distributive Order, The Branch Power Balance, The Complex International System, The New World Order.

1. INTRODUCTION

With the collapse of the Soviet Union, the Cold War order changed and the international system was confronted with many emerging realities. Prominent manifestations of such realities can be seen in the structures of order and its networking, increasing the level and density of communications within the international system and the formation of internal and external feedback flows and mechanisms, a variety of behaviors, strategies, and controls. On the other hand, the complexities of systemic and interconnected dynamics, as well as their simultaneity, the stable transition in the international system, and the nonlinearity and adaptability of control systems have changed the pattern of controlling order. The scope of international relations' theorizing is confronted with an accumulation of such emerging realities.

Among one of the most prominent challenges is the alteration in the structures of order and the emergence of multicomponent systems, which is a manifestation of the complexity and transition of classical systems to complex and chaotic systems. In such systems, the dynamics of power and control are very prominent and heterogeneous from classical international systems, which have had theoretical and functional consequences in explaining the systemic order. Changes in the systemic order of international relations can be conceptualized in terms of the concept of complexity and turmoil of the international system and its place in the analytical framework of complexity theories.

Complexity is defined on the basis of two foundations for distinguishing levels of order and the relationship between structures and their dynamics. The model of the new international order, unlike previous models which defined on the basis of power polarizations, today is based on the

complexity and diversity of organs and the entanglement of separate systems to each other. In such a model, the international system is an accumulation of correlated systems, each of which, in addition to having its own order, has cycles of connection with others. In such a situation, it is possible to move the regulating or disruptive currents of one system to another without facing a fundamental deadlock. These bodies may be linked to each other by a linker, or they may have thematic, spatial, or functional interference with each other. Finally, such systems operate non-linearly in the sense of disproportion in their inputs and outputs.

In general, the pattern of the new order can be defined as heterogeneous from the past and as a pattern that is multifaceted in terms of instruments, has a nonlinear process in terms of dynamics, Dissipative Process, and is nonlinear in terms of behavioral dynamics and its processes are also defined as Circularity. The behavioral patterns of the system and its parts will be unpredictable and will appear in the body of the emerging pattern and in the Attractor points that represent the point of formation of such patterns. Third, order, which reflects feedback control and the various levels of national, local, regional, and global feedback mechanisms, as well as the interrelationships between them, is definable.

On the other hand, in the field of international relations, the dynamics of power and its transformation into a tool of control are considered strategic research. In other word, power is defined by the process of its formation, its transformation into forms of control, and finally the emergence of a model of proper order, including theoretical inquiries, in the field of knowledge of international relations and the practical scope of its actors' policies. Following the metamorphosis of the international system and its increasing complexity, a body of international relations literature emerged that sought to address other elements in the realm of international order. The question of the complexity and chaos of the international system is so valuable that some suggest a fifth campaign in international relations based on the campaign between linear and nonlinear systems. The existing literature, meanwhile, has a special emphasis on the regionalization of the international system of orders, which can be examined in the context of the branching of the world order.

Theoretical currents of international relations, in the last two decades, have been diligent in reconstructing their concepts in order to adapt to systemic and operational changes.(see Bousquet and Curtis, 2011; Geller, 2011; Harrison, 2012; Juntunen and Virta, 2019; Kavalski, 2007, 2008, 2015). Part of the international relations literature has paid attention to the model of the new world order and what it is (see Cox, 1996; Holm, 2019; Nye, 1992; Stephen and Zürn, 2019; Van Langenhove, 2016). In the analytical spheres of the structures of order, modern regionalism has grown against traditional regionalism (see Fawcett, 2004; Fukuyama, 1989; Hettne, 1999, 2006; Hettne and Söderbaum, 1998; Huntington, 2000; Söderbaum, 2016; Söderbaum and Shaw, 2003; Väyrynen, 2003).

In the domain of the dynamics of order, a new literature has been formed that has highlighted some of the conflicting dynamics against the dynamics of military power (see Adler, 2005; Geyer, 2003; Hopf, 1998; Spandler, 2015; Wendt, 1999). Also, some international relations literature also insists on changing power cycles in the world order (see DiCicco and Levy, 1999; Lemke, 2002; Lemke and Tammen, 2003). A group of international relations literature has put the facts related to order control systems and its changes in their research agenda (see Arie, 2016; Feng and He, 2017; Filippidou, 2020; Frantzen, 2020; Knopf, 2010; Lebow, 2020; Moffat, 2003; Paul and et al., 2009; Wilkinson, 2020). In response to the new realities, a fifth campaign has been formed in international relations, which has placed complexity at its core theoretical focus (see Kavalski, 2007, 2008, 2015). Thus, the existing literature shows a paradigm shift in the analysis of order. At the heart of this change, like other areas of the humanities, is the tendency toward the complexity of the international system and the formation of a complex and chaotic order. In the science of

international relations, the theoretical explanation of the emerging order suffers from fundamental backwardness. The existing literature lacks a coherent analytical apparatus for analyzing the phenomenon of order. Although Kavalski (2007, 2008, 2015) has shown some limitations to overcoming this analytical apparatus and introduced elements of it following the announcement of the Fifth Campaign, the scientific scope of international relations has taken lame steps in this direction.

In general, considering the emerging realities in the field of international politics and the inefficiency in the answers of the existing literature, the main theoretical question that has been put forward by the theorists of international relations is how to conceptualize such an order. The main goal and concern of the current study is also to conceptualize such an order that goes through the period of emergence. Coherence with the scientific currents of recent decades, in various fields, especially theories of complexity and turbulence that shape the direction of science in its evolution, is essential. Benefiting from the theoretical range of complexity leads us to new foundations for the analysis of order in the modern international system. The emergence of the analytical apparatus of the emerging order in the science of international relations is based on the logic of complexity of the necessity of dealing with such an emerging issue.

2. CONCEPTUAL FRAMEWORK

The most prominent methodological dimension of conceptualizing analytical apparatus of emerging order, by following the perpetually active model, in theoretical inference and benefiting from the presuppositions of complexity-chaos theory is in the scope of science and its conceptualization in complex international relations. The Abductive method is suitable for situations that are associated with a lack of confidence and certainty. Abduction refers to explanatory reasoning in establishing a hypothesis and inferring the best explanation. Explanatory arguments in justifying hypotheses are the basis of the second concept. The complexity of international relations is based on feedback and recursive causality, which leads to various causal passages in the formation of international relations phenomena. On the other hand, diversity in the dimensions of a reality or, at the same time, the existence of different but related realities puts the science of international relations in a state of lack of certainty. Correct identification of reality, a accurate theoretical explanation of it, and finally, optimal control and management, in order to create the desired order, are among the requirements for the efficiency of international relations in a complex situation. Abduction, in order to achieve the best explanation, is more or less unknown in the system.

In general, the three types of inductive reasoning (i.e., inductive, deductive, and abductive reasoning) are different from each other. There is a general rule in deductive reasoning on the basis of which a phenomenon is explained. In other words, the rule is the case and the result of the steps of such an inference. In inductive inference, case, result, and rule are introduced, respectively, and in abduction, order, result, and case are important (Svennevig, 2001). In this case, it can be argued that all systems with type A features will be of the complex type. The emerging international system has these features. The new international system is therefore subject to the rules of complex systems. Thus, research based on this method has steps: examining emerging facts and their implications; recognizing and adapting these facts to general rules; diagnosing the phenomenon in a special grouping that determines its rules; and finally, autopsy is being studied. On this basis, the type of method can be considered hypothetical. Therefore, abduction begins with observing emerging realities. These observations can be accompanied by hypotheses that attribute them to specific rules.

2.1 The International Politics between Norms and Emerging Realities

The collapse of the Soviet Union has exposed many emerging realities. These facts can be seen in various dimensions of order. The first emerging reality can be seen in the structures of order. The

first result of the collapse is the formation of new regional structures. Although the region has been a stable reality in social and international life, regional order has become more prominent and has emerged in the form of a multi-level order of regions in which states have prioritized regionalism. The international system has become a system consisting of distinct but interconnected regional orders. The international system was relieved of the structural pressures of strategic competition between the two poles. Thus, the duplex structure gave way to a new structure, which some translated as the globalization of the structure of order.

The collapse of this structure has led to the formation of controversy over new structures of order. The survival of the United States and the notion of victory in the Cold War order introduced the hegemonic structure as an alternative. The Gulf War and the New American Order are thought to be part of an effort to replace such an old structure with the old one. The activation of the dynamics of the international system, including the dynamics of economics, culture, and communication, posed a fundamental obstacle to structural homogenization.

The second emerging fact was related to the increase in the level and density of communications within the international system and the increase in feedback streams. This fact has led to the transformation of the international system into a network system, one of the characteristics of which is the formation of intertwined structures. This has changed the concept of hierarchy in the international system, and the Edo hierarchy has also introduced cyclical structures as a new concept. The third systemic reality is related to system dynamics. The complexity of dynamics should be considered as a new variable. In the past, despite the different dynamics, a kind of parallel or hierarchical performance was observed between them. In the parallel state, there is a kind of dynamic isolation, and in the hierarchy, domination over each other is formed. In the state of complexity, there is a kind of recursive causal relationship between the dynamics that causes the formation of a Circularity relationship between them. Today, the dynamics of the international system, both simultaneously and recursively, are interconnected within the framework of positive and negative feedback mechanisms. The simultaneous interference and interconnection of such dynamics has led to the formation of distinct but intertwined networks.

The fourth fact must be sought in the diversity of agents and their presence in system dynamics. For example, the presence of multinational corporations in economic dynamics, or non-governmental armed groups in military dynamics, or non-governmental organizations in the field of cultural dynamics illustrates such facts. The diversity of brokers has provided systemic conditions for the formation of international relations phenomena of the proxy type. The formation of proxy wars in West Asia is an example of this fact. The fifth emerging reality in the field of diversity of behaviors of units and the international system as a whole is that units and systems, in a particular area, have the ability to exhibit different patterns of that behavior. For example, in the field of war, today there are various patterns, such as full-scale, limited, asymmetric, combined, hybrid, economic, cyber, and so on. Even today, wars are fought with non-governmental agents on behalf of proxies. Finally, the sixth fact is about controlling and distinguishing it from the past. The new control is more of a network type and self-organizing. The deterrent is out of the initial and reciprocal state and acts as a network. Symmetrical deterrence has been replaced by asymmetrical deterrents.

2.2 The Complex-Chaotic Systems of International Politics

Emerging realities in the international system lead the field of international relations to a theoretical approach to complexity and turmoil. These facts are very similar to the situations that led to this scientific approach. The complexity approach provides new horizons for theorizing about order as an emerging phenomenon.

2.3 The Rise of Complexity-Chaos Order

Complex and chaotic systems have several principles and foundations that are conceptualized, the most important of which are in the framework of the characteristics of nonlinearity, branching of order, sensitive dependence, fuzzy places meaning places where the system has a certain behavioral pattern unfamiliar fascinator means emerging and unpredictable patterns of behavior, evolutionary, dynamic stability, asymmetric order. On the other hand, these systems have different types, including multicomponent, organic, and cyber systems (Auyang, 1999; D'Agostino and Scala, 2014). All complex systems are manifested within the concept of network. However, these networks will have different configurations and types, such as random networks without a specific design and program, clustered ones without a strong connection between them, will be organized, and so on. Complex and chaotic systems are based on the following principles and foundations:

Network as a framework of order, based on complexity with the characteristics of nonlinearity, branching, sensitive dependence, the presence of voids, unfamiliar fascinator and emerging behavioral patterns, evolution, dynamic stability and asymmetric order. Systemic pressures as a constant phenomenon and the beginning of the emergence of emerging orders. The operation of the system is at the edge of turmoil, in the sense that any change in the initial conditions of the system, even to a small extent, can cause the system to leave the threshold of stability and enter the turbulent and disorderly area. Evolution as the basis for providing mania in a state of complexity, in the sense that gradual, adaptive and innovative change replaces revolutionary change in the system. Branching of order is based on operating codes that indicate the path that the system can take to obtain the necessary capital to respond to systemic pressures and eliminate them. Operational codes are like a map that shows the distribution of situations and opportunities over the scope of the international system and the path to access them. formation of clusters, multiplicity of clusters, multiplicity of order patterns, multiplicity of equilibrium points, specialization of clusters, and the formation of an autonomous life cycle in each of them. Linkage between clusters and the formation of a single dynamic between them, as well as synergy between clusters in the process of evolution, clustering and their combination, are recurring phenomena in the complex system and are considered in the context of adaptive and innovative cycles in political order.

In the meantime, bifurcating order is one of the prominent principles of complex and chaotic systems. The principle of bifurcating in complex systems is based on the assumption that such systems face a host of pressures from the environment. These pressures can push the system towards the bifurcated order, i.e., the formation of sub-orders. In this model, instability will increase by creating pressure on the system. In addition, changes resulting from stress can be maximized at certain points. At this point, the system will have to rebuild itself. Bifurcating can be considered as a political innovation in the international system in response to various environmental pressures. The result of bifurcating is the formation of various sub-systems, each of which, having a special order pattern, tries to meet their growing needs by establishing feedback and linkages. This will lead to object scattering structures in the whole system and turn the system into a network consisting of various networks. For this reason, new theoretical assumptions are cited, the most prominent of which are:

The international system has deep and fundamental structures that, although many of them will not be visible, their consequences are observable. The universal system and its arrangements are evolving according to fundamental laws. One of the most prominent laws is the law of increasing bifurcating of the system against systemic pressures. The growing number of countries or regional regimes speaks volumes when it comes to globalization. The world system is conceived as a complex and chaotic system that operates non-linearly. Nonlinear operation indicates that the input and output of the system are disproportionate. Input, however small, can have very

serious consequences, and vice versa. In complex and turbulent international systems, local dynamics will be important and largely due to the world order, which is the result of the functioning of these dynamics. Systemic pressures on units are fundamental, as they cause confusion in the international system that continues to operate at the edge of turbulence. It can cause chaos and disorder in the international system. Integration and disintegration exist in complex and chaotic international systems simultaneously. It will be a bifurcating system, resulting in local and regional order as an emerging condition, and larger networks will emerge from the integration of subnets emerging from the new branches of order.

3. METHODOLOGY

The author uses a qualitative descriptive-analytical research method and library data collection to study a new paradigm of order is emerging that existing theories of international relations are incapable of explaining it. The main purpose of conceptualizing such an order is that the author uses the ontological and epistemological foundations of complexity theory and its theoretical propositions and uses an innovative method approach.

The science of complexity and turbulence, which has been formed in proportion to the period of complexity of order, comprehensively imagines new features for systems. Inspiration from this range of disciplines leads us to the bifurcated order model as an alternative explanation for the scattered theoretical views of world order. Based on the mentioned model and its benefits, order in general, in the dimensions of physical structures, international system dynamics, cycles derived from dynamics, behavioral patterns and their orientation in the international system, as well as control structures and strategies, tests bifurcating and operate on the basis of a distribution pattern.

3.1 Formation of Polymorphic Structures in International Relations

Order in a state of complexity and turmoil is a highly disciplined order that is conceptualized in the context of polymorphic structures and distribution systems (Dingjun and et al, 1997; Sun and Luo, 2006; Yu, 2006). Such systems, in order to increase their internal order, are in dynamic interaction with the surrounding environment, and in this way, they increase their internal order through bifurcating. The multi-body system is one of the new formations of the international system (Chaudhary and Saha, 2008). Such systems consist of a multitude of blocks, each with different inputs and outputs and various feedback loops. Through such mechanisms, the blocks of the international system are interconnected by means of linking elements, exercising power and regulating the flow of communication (Schiehlen, 2013). International polymorphic systems are bifurcating out from both structural and process structural dimensions. The existence of heterogeneous but interconnected regional orders with obvious maneuvering power, various communication circuits between them, point-to-point and functional connections between heterogeneous bifurcated orders, and interference of dynamics, are the characteristics of such systems in the field of international relations.

3.2 The Bifurcating Out Order of Multi-Faceted International Order and Systems

The explanation of the bifurcated order in the state of complexity falls into the more pervasive category of Emergentism. Ontologically, bifurcating is based on the premise that the system as a whole is separate from its components. Epistemologically, the system can be identified and received through the structures and rules at the general level (Bedau, 2008; Goldstein, 1999; Tanaka, 2017). The international system has Nodal points that have since tested Emergentism features, including bifurcating. The new disciplinary bifurcations will be an emerging situation in which the equilibrium point, the number of equilibrium points, and so on will change. In the bifurcating process, the system is at least divided into two parts (Dubitzky and et al, 2013). Each

bifurcate shows one of the system's tracking capabilities. In complex international systems, the system goes through two fundamental steps in bifurcating. The first is positive synergy, in which the system bifurcates out to internal disorder, thereby increasing its internal power to confront disorder. The second passage is related to negative synergy. In this process, the bifurcating of the system arises from the processes of extraction and strategic alliances. The international system needs more capital when it is under internal or external pressures. Bifurcating is a way to take advantage of new capital. This is especially evident in the geopolitical structures of order or the expansion of markets for economic gain.

Bifurcating complicates the question of structural stability. The system has structural stability when the change in the conditions of the first system does not cause structural change in the system (Dingjun and et al, 1997). Structural stability is directly related to structural pressures. The complex international system is steadily facing structural pressures and is said to be on the brink of turmoil. For increasing the desired stability and order require the foundations that are drawn to its bifurcating. As structural pressures increase, the structure of international systems also changes. Although this change indicates instability, the international system is entering a new cycle of stability through this passage. The functional interference of two or more balanced bifurcated regional orders, or heterogeneous orders, or some of the balanced orders with unstable orders, causes the formation of pressures and the appearance of beginnings of bifurcating. If systemic pressures in the complex state of the international system are considered a permanent phenomenon, the bifurcating out of order is also a permanent phenomenon.

Multidimensional systems, structurally, have a model of scattered structures. Bifurcates of order are forming subsystems with their own structures. Each bifurcates of order is equal to the material structure through which the exchange of power takes place. Given the existence of different branches, an accumulation of distinct structures within the international system can be identified. The flow of power is both within each of them and such a flow is exchanged between them. Such a pattern of existence of various structures can be conceptualized in the context of scattered structures. On the other hand, the international system with this feature has a distributed structure. The distribution structure focuses on the production, availability, and decline of power and related flows. The model of the distribution structure appears in a networked system whose structure is highly layered. Each layer, as a distinct network, acquires part of its power by exchanging with other layers. The quest for power leads to a nested network between which the flow of power is exchanged in the form of positive and negative feedback mechanisms.

3.3 Power Dynamics in Open International Multicomponent Systems

Power dynamics is one of the dynamics that is subject to bifurcating. Power is the source as well as the end of systemic pressures. The power balance is the beginning of the path that leads to the stability of the system and the end of its functional transformation. Power balance in bifurcating systems is explained based on the connection between the bodies, the connection patterns, and the organization of the feedback flow between the bifurcates. Systematic strategic stability, resulting from point and functional links between bifurcates and the density of communication within the feedback mechanisms between them is conceptualized in the context of feedback stability or strategic feedback deadlock, in which units have the power to destabilize the system. The equation of strategic strength and stability is a fundamental issue in the order of the international system. Although stability is considered a desirable phenomenon, many units do not want to remain in such a state because they lose the power to impose their will on the system and its units. In other words, stability prevents the increase in relative strength of units. In this regard, bifurcating out from systemic order is a way to escape the strategic impasse resulting from such stability.

Power in the network state of relations is formed on the basis of the centrality of the network (Hafner-Burton and et al, 2009). Power dynamics are based on focusing on the density of communication flows, connectivity, and the ability to exit the network in a state of need. Power dynamics in international systems, like other anarchist systems, tend to focus. For this reason, the question of the concentration of power is considered to be one of the most prominent issues in the field of searching power. The Realist literature considers polarity as an analytical concept in explaining the dynamics of power and order (De Keersmaecker, 2016). At present, in addition to the notion of polarity, some have proposed cluster polarity (Ibid), which is closer to recognizing power in a state of complexity. In identifying polarity, three analytical elements of polarity have been used as structural issues: grouping around polarity, collisions between groups, and ideas (Ibid).

In the international multi-body system, the centrality, or in other words, the degree of centrality of the units in communication flows, is considered a threat to other units. Therefore, the formation of centrality and its mechanisms, and secondly, conscious strategies to deal with it, are important. In addition, mechanisms related to synergy and the type of selective patterns of synergy occurring within or between bodies can increase focus.

Focusing on communication, bifurcating and power distribution, and the formation of power distribution structures are the three dynamic characteristics of power in such systems. In such international systems, in identifying power, centrality will replace system polarity (Brandes, 2005; Montgomery, 2015). Centrality is considered in some network literature.

Power in such systems is of a situational Power. The status of having the foundations forming the power, productivity, bonding, transmitting, and the amount of consumption of the communication flow are the factors shaping the power of the units. Communication is a characteristic of power through which the will of one is imposed on another or others. The intersection of demands takes place through communication. This connection is made through circuits or communication channels. In multiprocessor systems, two types of communication circuits are responsible for transmitting power: first, the transmitter circuits within each body, and second, the communication circuits between the bodies. Power generation, transmission, and power consumption sites will be connected in this way. Feed loops will give the power transmission circuits a cyclic character. Through communication, units both transfer their power to others and are influenced by the flow of power from others.

Two types of power feedback mechanisms can be seen here. The first is the internal feedback that the system output, within the system boundaries, is reconstructed and re-entered into the system. Again, two types of internal feedback flows of power are formed. The first is the feedback that flows within the body, which is reconstructed within the body and re-enters the same body. Alternatively, it involves the flow of internal feedback throughout the system. The second type of feedback stream is of the external type, which can be identified at both the level of the body and the whole system. In this model, the power feedback stream of one body will be reconstructed to and from other bodies and will re-enter the previous fundamental rotation. Another case is related to the external environment of the system, in which the external feedback stream is reconstructed inside this environment. Due to its global scope, the international system is more prone to the first type of feedback. Power dynamics is a multilevel dynamic based on a variety of feedback mechanisms. The dynamics of feedback power underlie the order and balance of power in the international order.

One of the emerging features of complex and chaotic international systems is the dynamic fusion of power with other systemic dynamics. Power in such a state arises from the fusion of various systemic dynamics. In this regard, four patterns of behavior, including the balance of hard

military, soft institutional, asymmetric, and complex branch balancing, can be proposed. The existence of feedback mechanisms provides the basis for the automatic power balance that is considered by some realistic theorists. In multi-body feedback systems, the balance has various mechanisms for feedback and is organized in its own way. Feedback bifurcating and the links between them are the basic tools of such a system.

4. RESULTS

Today, balancing is not possible in the traditional context. For this reason, the author has presented a bifurcating balance as a concept as well as a new model of balance in the complexity of the international system. Using the knowledge of Edward Lorenz (1963) complexity and turbulence pattern, it can be said that the balancing system has two regions of stability and turbulence. In the steady state, the input and output of the system are in a steady state of equilibrium, and the severity of the communication imbalance is not such as to place the system on its high behavioral threshold. In this situation, the equilibrium of resilience increases with communication and its behavior is somewhat predictable. Increasing the intensity of communication puts the input and output of the system at a high threshold and the system is at the doorstep of nonlinear behavior, which is the same as the performance at the chaotic edge. Here, any change in control system inputs and control behaviors, as well as a change in system size, strikes a balance with nonlinear consequences.

In this situation, the emerging features of the balancing system arise from the collision between two distinct types of behavior by the status quo units and the revision units. The behaviors of the units also depend on the distribution of the sensitive dependency between them as well as the balancing system. Disproportionate distribution of sensitive dependencies increases systemic pressures and balances are divided into two or more bifurcates. On the other hand, based on the theory of catastrophe, Thom René (1975) behavioral rupture resulting from the branching of order provides the ground for changing the structure of the balance of power system. Lack of alignment resulting from the entropies of the balancing system will cause the order of oscillation of the balance of power to have a fundamental role in the evolution of the system of balance of power through Fluctuation. Order by Fluctuation is the main pattern in the bifurcating of the power balance system.

The bifurcating balance is of the basic system type. Bifurcating balancing emphasizes the pairing and manipulation of the degree of freedom of operation of the system. Changing the scope and boundaries of a system is part of Bifurcating balancing strategies. In this regard, a distinction can be made between internal and external Bifurcating. Internal Bifurcating is related to the network and its clusters and does not change the boundaries of the network. External clustering is a state that the network as a whole will test and in which the boundaries of the network will change.

4.1 Interference of Network Dynamics and Bifurcating Balancing

In multi-dimensional international systems, power dynamics, through Bifurcating orders, leads to the formation of distributed power balance systems. For distribution systems, (see Barrett, 2019; Brogliato and et al, 2007; Lozano and et al., 2000). In this regard, the balance of power, based on the change of system elements and the direction of the system to pressures, is faced with a point or points of symmetry. This point indicates the situation in which the balance must choose one of the options ahead to increase internal stability. One of these options is the Bifurcating and bifurcating of order, which leads to the formation of distributed structures. Balance, in addition to Bifurcating in the structural domain, also branches in the process domain.

The distributional balance system faces two issues of order and disorder. These types of systems use the external environment and their foundations to increase the internal order and meet the

deficit of the foundations to establish the balance through the external environment. In such a situation, the establishment and increase of internal order is associated with the creation or increase of disorder in the external environment. This disorder itself can eventually spread to the internal order and destroy it. Therefore, in the system of distribution of forces, one of the most prominent security issues is the equation of internal order and external or environmental disorder. The solution to this issue is found in organizing the feedback of the internal and external environment of the system.

In such balancing systems, organizing structures and their distribution processes become one of the central issues. Every process of power requires coordinated structures. For instance, structures with a large range, along with various Bifurcates of order, require a certain amount of power, also of the type of wide power. This kind of power should be able to control and neutralize the centralized power of the Bifurcates, but this kind of balancing system, as the environment expands, may not be able to cover it, despite the increasing complexity and internal order. It may lag behind the outside environment. For order and entropy, (see Brooks and et al, 1988). This will be the source of further pressure and re-branching.

5. DISCUSSION AND CONCLUSION

Order is at the heart of scientific conflicts in international relations. The last theoretical campaign is related to the campaign on linear and nonlinear order. In addition, the international system is in transition, moving towards new alignment points. The complexity and turmoil of the international system is one of the realities of modern international relations, which have led to a new campaign in the field of theorizing in this area. One of the consequences of complexity is the formation of multicomponent structures and a nested network within the international system. In this regard, polymorphic structures, patterns of connection between bodies, degree of freedom and maneuverability of bodies, and dynamics are among the power dynamics in open-loop, closed-loop, and controlled multi-body systems. For this purpose, the current study, by establishing a link between the theory of multicomplete and complex systems, has presented a new conceptual framework in the framework of distribution and Bifurcating order. The distribution-Bifurcat order has the following basic features:

First, in terms of physical structures, the mentioned order has multi-body structures that, in addition to being interconnected with each other, have heterogeneous properties. One of the most prominent features of such a structure is the existence of an internal feedback system in which each of the body acts like a system in which they use the environment to increase internal order. Accordingly, in increasing their stability, they motivate the disorder of the other or others. At the same time, they will be affected by the external environment through feedback mechanisms and will themselves experience strategic instability. Internal feedback mechanisms confuse nested and intertwined networks in which suborders are interlocked.

Second, the physical structure of the international order is manifested within a system that is of the dispersion type. These types of international systems are far from equilibrium and active on the edge of turbulence, and due to the presence of entropies, their power decreases over time. Therefore, in order to reproduce their power, they have to connect with the environment and other subsystems and acquire the necessary capital.

Third, in this model, the international system, as a complex system, has a variety of Bifurcating order, each of which acts as a distinct system. The result was the formation of polyglot instruments. According to the complexity approach, the international system is a network of different networks that have a layered structure in the sense that each layer is located within a larger layer. Each layer, in a special order, is connected to the other layers and, as a network, feeds

and nourishes the other layers. Due to this reality, the international system as a whole has a variety of distinct structures within it.

Forth, Bifurcating, as a feature of complex and chaotic systems, imposes itself on all components of order. Thus, the complex international order is highly bifurcated in terms of physical structure, dynamics, strategic cycles of countries and systems, patterns of behavior of units and systems, and control. On the other hand, its general structure is a kind of distribution in which each of the microsystems in the whole system, through communication with the environment 'i.e., other systems', gains the necessary power and strength. The international system with a dispersed structure has a set of intertwined feedback mechanisms within it. Therefore, there are two basic conditions for the formation and survival of distribution structures, which include openness and the state of imbalance in the international system.

Fifth, the theoretical concept of strategic stability changes from a traditional perspective. In the new order model, strategic stability is derived from the operation of nested and networked feedback systems. In this model, the concepts of strategic feedback stability and feedback deadlock are introduced to the scope of international relations and strategic research. Feedback stability is temporal, short-term, and momentary, and at the edge of turbulence, the system is stable. Layered and nested hierarchies are one of the theoretical concepts explaining the new bifurcating order. In this model, centrality replaces polarity. Order has two properties at the same time, which include cyclicity and hierarchy based on focal, layered, and nested hierarchy. Polarity is associated with the concepts of control and command, while centrality is closer to the concept of management and coordination. If the centrality increases too much, it can turn into polarity. The existence of efficient feedback mechanisms prevents the formation of such a situation.

Sixth, the general interference of systemic dynamics and its bifurcating characteristics and dispersion are other new theoretical concepts. The dynamics of the international system are that they fuse with each other, and on the other hand, they will be distributed as a bifurcate and distributed throughout the system. In addition, the variety of cycles resulting from partial and total dynamics within the concept of branch dynamics is one of the new theoretical concepts that form the behavioral patterns of systems and units. Bifurcating-distribution controls based on the fundamental role of bifurcates in system control, this is a new concept in explaining order.

Seventh, one of the most prominent security puzzles in the distribution control system is the equation of internal order and external or environmental disorder. This type of order control system, in addition to benefiting from internal capabilities, needs to establish a connection with the environment and establish new bifurcates. In other words, they increase their order through disorder in other systems or the external environment. Thus, the evolution of equilibrium systems is a branch through oscillating equilibrium.

REFERENCES

- Adler, E. (2005). Barry Buzan's Use of constructivism to reconstruct the English School: Not all the way down. *Millennium*, 34(1), 171-182. doi:10.1177/03058298050340011701

- Arie, K. (2016). Complex deterrence theory and the post-cold war security environment. *NIDS Journal of Defense and Security*, 17.
- Auyang, Y. (1999). *Foundations of complex-system theories: in economics, evolutionary biology, and statistical physics*. Cambridge: Cambridge University Press.
- Barrett, N. (2020). Dissipative systems and living bodies. *Adaptive Behavior*, 28(1), 47-48. doi:10.1177/1059712319841306
- Bedau, A., & Humphreys, P. (Eds.). (2008). *Emergence: Contemporary readings in philosophy and science*. MIT Press. <https://doi.org/10.7551/mitpress/9780262026215.001.0001>
- Bousquet, A and Curtis, S. (2011). Beyond models and metaphors: complexity theory, systems thinking and international relations. *Cambridge Review of International Affairs*, 24:1, 43-62, DOI: 10.1080/09557571.2011.558054
- Brandes, U. (2005). *Network analysis: methodological foundations*. Switzerland: Springer
- Brogliato, B, Lozano, R, Maschke, B., & Egeland, O. (2007). Dissipative Systems Analysis and Control: Theory and Applications. *IEEE Transactions on Automatic Control*, 52(7),1357-1358 10.1109/TAC.2007.900820
- Brooks, R, Wiley, E. O., & Brooks, D. (1988). *Evolution as entropy*. Chicago: University of Chicago Press.
- Chaudhary, H.,& Saha, K. (2008). *Dynamics and balancing of multibody systems*. Switzerland: Springer.
- Cox, W. (1996). *Approaches to world order*. Cambridge: Cambridge University Press. Switzerland: Springer.
- D'Agostino, G., & Scala, A. (2014). *Networks of networks: the last frontier of complexity*. Switzerland: Springer.
- De Keersmaecker, G. (2016). *Polarity, balance of power and International Relations theory: Post-Cold War and the 19th Century compared*. Switzerland: Springer.
- DiCicco, M.,& Levy, S. (1999). Power shifts and problem shifts: The evolution of the power transition research program. *Journal of Conflict Resolution*, 3(6), 675-704
- Dingjun, L, Xian, W, Deming, Z.,& Maoan, H. (1997). *Bifurcation theory and methods of dynamical systems*. Singapore: New Jersey : World Scientific,World Scientific.
- Dubitzky, W, Wolkenhauer, O, Yokota, H.,& Cho, H. (2013). *Encyclopedia of systems biology*. Switzerland: Springer.
- Fawcett, L. (2004). Exploring regional domains: a comparative history of regionalism. *International Affairs*, 80(3), 429-446.
- Feng, H.,& He, K. (2017). Soft Balancing. In *Oxford Research Encyclopedia of Politics*. Retrieved from: <https://doi.org/10.1093/acrefore/9780190228637.013.549>. (Accessed 20 March 2022).
- Filippidou, A. (2020). Deterrence: Concepts and Approaches for Current and Emerging Threats. In: *Deterrence Concepts and Approaches for Current and Emerging Threats (Advanced Sciences and Technologies for Security Applications*. Switzerland: Springer. 1-18.
- Frantzen, A. (2020). Hybrid Deterrence. *IFS Insights*. Retrieved from <http://hdl.handle.net/11250/2636837>. (Accessed 20 March 2022).
- Fukuyama, F. (1989). The end of history? *The national interest*, (16). 3-18.

- Geller, A. (2011). The use of complexity-based models in international relations: a technical overview and discussion of prospects and challenges. *Cambridge Review of International Affairs*, 24(1), 63-80, DOI: 10.1080/09557571.2011.559191
- Geyer R. (2003). Beyond the Third Way: The Science of Complexity and the Politics of Choice. *The British Journal of Politics and International Relations*, 5(2):237-257. doi:10.1111/1467-856X.00105
- Goldstein, J. (1999). Emergence as a Construct: History and Issues. *Emergence*, 1(1), 49-72, DOI: 10.1207/s15327000em0101_4
- Hafner-Burton, M, Kahler, M., & Montgomery, H. (2009). Network Analysis for International Relations. *International Organization*, 63(3), 559-592. doi:10.1017/S0020818309090195
- Harrison, E. (2012). *Complexity in world politics: Concepts and methods of a new paradigm*. New York: SUNY Press.
- Hettne, B. (1999). *Globalization and the new regionalism: the second great transformation*. In Globalism and the new regionalism, pp. 1-24.
- Hettne, B. (2006). *Beyond the New Regionalism*. In: Key debates in new political economy. London: Routledge. 136-168.
- Hettne, B., & Söderbaum, F. (1998). The New Regionalism Approach. *Politeia*, 17(3), 6-21.
- Holm, H. (2019). *Whose world order?: uneven globalization and the end of the Cold War*. London: Routledge.
- Hopf, T. (1998). The promise of constructivism in international relations theory. *International Security*, 23(1), 171-200 .
- Huntington, P. (2000). *The clash of civilizations?* In Culture and politics. Switzerland: Springer. 99-118.
- Juntunen, T., & Virta, S. (2019). *Security dynamics: Multilayered security governance in an age of complexity, uncertainty, and resilience. Leading Change in a Complex World: Transdisciplinary Perspectives*. Tampere: Tampere University Press.
- Kavalski, E. (2007). The fifth debate and the emergence of complex international relations theory: notes on the application of complexity theory to the study of international life. *Cambridge Review of International Affairs*, 20(3), 435-454, DOI: 10.1080/09557570701574154
- Kavalski, E. (2008). The Complexity of Global Security Governance: An Analytical Overview. *Global Society*, 22(4), 423-443, DOI: 10.1080/13600820802366391.
- Kavalski, E. (2015). *World politics at the edge of chaos: Reflections on complexity and global life*: SUNY Press.
- Knopf, W. (2010). The Fourth Wave in Deterrence Research. *Contemporary Security Policy*, 31(1), 1-33, DOI: 10.1080/13523261003640819
- Lebow, N. (2020). *Deterrence and Compellence*. In A Democratic Foreign Policy, 75-102.
- Lemke, D. (2002). *Regions of war and peace*. Cambridge: Cambridge University Press.
- Lemke, D and Tammen, L. (2003). Power Transition Theory and the Rise of China. *International Interactions*, 29(4), 269-271, DOI: 10.1080/714950651
- Lorenz, N. (1963). Deterministic nonperiodic flow. *Journal of the atmospheric sciences*, 20(2), 130-141

- Lozano, R, Brogliato, B, Egeland, O., & Maschke, B. (2000). *Dissipative systems*. In *Dissipative Systems Analysis and Control*. 111-166.
- Moffat, J. (2003). complex theory and network centric warfare: CCRP. *DEFENSE TECHNICAL INFORMATION CENTER*. Retrieved from: <https://apps.dtic.mil/sti/citations/ADA457288>. (Accessed 20 March 2022).
- Montgomery, H. (2015). *Centrality in transnational governance: How networks of international institutions shape power processes*. *New Power Politics: Networks, Governance, and Global Security*, ed. Deborah Avant and Oliver Westerwinter. UK: Oxford University Press.
- Nye, S. (1992). What new world order?. *Foreign Affairs*, 71(2). 83–96
- Paul, V., & Morgan, M and Wirtz, J. (2009). *Complex deterrence: Strategy in the global age*. Chicago: University of Chicago Press.
- Schiehlen, W. (2013). *Advanced multibody system dynamics: Simulation and Software tools*. Switzerland: Springer.
- Söderbaum, F. (2016). *Old, New, and Comparative Regionalism*. *The Oxford handbook of comparative regionalism*. Oxford: Oxford University Press.
- Söderbaum, F., & Shaw, M. (2003). *Theories of new regionalism*. *Theories of new regionalism*. New York: Palgrave Macmillan. 1-21.
- Spandler, K. (2015). The political international society: Change in primary and secondary institutions. *Review of International Studies* 41(03), 601-622
- Stephen, D., & Zürn, M. (2019). *Contested World Orders: Rising Powers, Non-governmental Organizations, and the Politics of Authority Beyond the Nation-state*. Oxford: Oxford University Press.
- Sun, Q., & Luo, C. (2006). *Bifurcation and chaos in complex systems*. London: Elsevier Science
- Svennevig, J. (2001). Abduction as a methodological approach to the study of spoken interaction. *Norskrift*. Retrieved from https://www.researchgate.net/profile/Jan_Svennevig3/publication/251398301. (Accessed 20 March 2022).
- Tanaka, M. (2017). Reconceptualizing regional order: a critical/scientific realist (CR/SR) intervention. *Journal of Contemporary East Asia Studies*, 6(1), 79-105, DOI: 10.1080/24761028.2017.1312763
- Thom, R. (1975). *Structural Stability and Morphogenesis: An Outline of a General Theory of Models*. (D. H. Fowler, trans.). Reading, MA: Benjamin-Cummings.
- Van Langenhove, L. (2016). *Building regions: the regionalization of the world order*. London: Routledge.
- Väyrynen, R. (2003). Regionalism: old and new. *International Studies Review*, 25-51.
- Wendt, A. (1999). *Social theory of international politics*. Cambridge: Cambridge University Press.
- Wilkinson, E. (2020). *Resilience and Deterrence: Exploring Correspondence Between the Concepts*. In *Deterrence – Concepts and Approches for Current and Emerging Threats*. Switzerland: Springer, 19-33.
- Yu, P. (2006). *Bifurcation, limit cycle and chaos of nonlinear dynamical systems*. Edited Series on Advances in Nonlinear Science and Complexity, DOI: 10.1016/S1574-6909(06)01001-X , 1-125.

