

**Revolutionary Chaotic Peace:
Reinforcing a Peaceful Global International
Relations Metamorphosis through the Collapse of the
Cancerous Status-quo**

Devrim Şahin

Submitted to the
Institute of Graduate Studies and Research
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy
in
International Relations

Eastern Mediterranean University
December 2022
Gazimağusa, North Cyprus

Approval of the Institute of Graduate Studies and Research

Prof. Dr. Ali Hakan Ulusoy
Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Doctor of Philosophy in International Relations.

Prof. Dr. Ahmet Sözen
Chair, Department of Political Science
and International Relations

We certify that we have read this thesis and that in our opinion it is fully adequate in scope and quality as a thesis for the degree of Doctor of Philosophy in International Relations.

Prof. Dr. Ahmet Sözen
Supervisor

Examining Committee

1. Prof. Dr. Mustafa Aydın

2. Prof. Dr. Nejat Doğan

3. Prof. Dr. Ahmet Sözen

4. Assoc. Prof. Dr. Nilüfer Türksöy

5. Asst. Prof. Dr. Aylin Gürzel

ABSTRACT

The international relations (IR) system has experienced a revolutionary metamorphosis in its evolution from an anarchic structure that lacks central authority to a chaotic system in which reactions, or feedbacks, exert transformative characteristics. The chaotic IR view is a shift from the paradigm of simplifying generalizations of the traditional Newtonian model, which is determinist, simplifying, and linear, to the paradigm of complexity based on Heisenberg's quantum mechanics, which instills a level of uncertainty into the analyses. The chaotic model considers the complexity of an international system that is sensitive to and, dependent on, non-linear feedback loops that can create contradictory behavior.

This study reviews the paradigm of complexity and quantum science from which theories and hypotheses on chaotic systems are drawn. It characterizes chaotic systems by its generativity (the ability to produce or create) and sensitive dependence on non-linear dynamics that produce feedbacks. It then tests competitively by connecting the conceptual framework of the chaotic understanding of international relations system to the case of Turkey's engagement policies from 2002 until the early-2010s. The chaotic nature of the international system multiplies the effects of negative feedbacks that have transformed the global political system into a cancerous system. The chaotic logic provides a more realistic and effective understanding of the transformation of the international system than the conventional theories. This systemic transformation calls for the willingness of relevant actors to avoid negotiating in terms of fear and to negotiate instead with the hope of creating a legal

framework that meets the expectations and the needs of a pluralistic global society.

Keywords: international relations theory, anarchy, selectivity, generativity, feedback, complexity

ÖZ

Uluslararası ilişkiler (Uİ) sistemi, merkezi otoriteden yoksun anarşik bir yapıdan tepkilerin veya geri bildirimlerin dönüştürücü özellikler sergilediği kaotik bir sisteme dönüşümü yaşamaktadır. Kaotik Uİ görüşü, belirleyici, indirgemeci ve doğrusal olan geleneksel Newton modelinin basitleştirici genelleme paradigmasından, analizlere bir belirsizlik düzeyi katan Heisenberg'in kuantum mekaniğine dayanan karmaşıklık paradigmasına bir geçiştir. Kaotik model, tutarsız davranışlar yaratabilen doğrusal olmayan geribildirim döngülerine duyarlı ve bunlara bağımlı bir uluslararası sistemin karmaşıklığını dikkate alır.

Bu çalışma, kaotik sistemler üzerine teori ve hipotezlerin çıkarıldığı karmaşıklık ve kuantum bilimi paradigmasını gözden geçirmektedir. Çalışma kaotik sistemleri geribildirim yaratan üretkenlikleri ve doğrusal olmayan dinamiklere hassas bağımlılıkları ile nitelendirmektedir. Ardından önerdiği devrimsel kaotik uluslararası ilişkiler teorisinin kavramsal çerçevesini, Türkiye'nin Adalet ve Kalkınma Partisi (AKP) iktidarı döneminde 2002'den bugüne, 2022 Eylül'üne kadar angajman politikaları örneğine bağlayan çalışma karşılaştırmalı bir analiz sunuyor. Uluslararası sistemin daha geleneksel teorilerden daha gerçekçi ve etkili bir teorisini sağlayan uluslararası sistemin kaotik doğası, ui sistemini kanserli bir sisteme dönüştüren olumsuz geri bildirimlerin etkilerini çoğaltmaktadır. Bu sistemsel dönüşüm, ilgili aktörlerin meselelerini korku bağlamında görüşmekten kaçınması ve bunun yerine çoğulcu bir küresel toplumun beklenti ve ihtiyaçlarını karşılayacak yasal bir zemin oluşturma umuduyla görüşme istekliliğini gerektirmektedir.

Anahtar Kelimeler: uluslararası ilişkiler kuramı, anarşi, seçicilik, üretkenlik, geri bildirim, karmaşıklık

DEDICATION

To My Family and Sophie

ACKNOWLEDGMENT

I would like to record my gratitude to Prof. Dr. Ahmet Sözen for his supervision, advice, and guidance from the very early stages of this thesis as well as for his mentorship throughout the work. When most needed, he was always there to encourage and support me in the way ahead. His ideas, experiences, his very passions have been a source of inspiration and truly enriched my growth as a student. I am indebted to him more than he can know, and not just because of his advice and encouragement, but also for his many acts of generosity and kindness. No one could ask for a better mentor, friend and big brother. He has been all those things to me and more along the way.

I would also like to acknowledge the members of my graduate committee Prof. Dr. Mustafa Aydın, Prof. Dr. Nejat Doğan, Assoc. Prof. Dr. Nilüfer Türksoy and Asst. Prof. Dr. Aylin Gürzel. Their detailed and constructive comments and suggestions contributed so much in terms of making my dissertation richer and more convincing. Also, I want to thank Aylin Hocam especially for believing in my ability in terms of political science.

My thanks too to Brian Kelly and Susan E. Michael, both of whom helped support and encourage me with timely and welcome guidance and feedback as my studies and this thesis progressed.

Of course, special thanks go to my family for their constant support and understanding during the time of this thesis. They always stand beside me -- my

mother Remziye Şahin's whose support is a constant and my father Ömer Şahin who has always been an inspiration to me.

A very special thank you to my wife Ferza Şahin whose empathy throughout the challenges I faced helped encourage and motivate me in tackling the arduous task I set out for myself. I am deeply grateful for her understanding and support, especially considering it was the time of our baby's arrival, truly the busiest and most significant event of our family life. Sophie somehow always managed to give me the space to continue with my writing and when I became too preoccupied insisted I take a break, taking me away from my desk for quick restorative walks.

PREFACE

I have a genuine interest and commitment to helping resolve international problems as well as to help promote regional and global peace. This aspiration derives from the discipline of international relations (IR) established in the aftermath of the First World War. The inability of international organizations and international law to avert that war and the instability it generated proved to be the catalyst behind the new IR mission dedicated to prevent and inhibit the recurrence of such devastating wars. From that time onwards, the mainstream of IR theories has taken as its starting point the assertion of international legal scholars like James Lorimer that the international system has meant anarchy, a static structure that implies the lack of any central governing authority. Sometimes, scholars of the constructivist or critical approach, such as Alexander Wendt or Barry Buzan, have moved away from this view. However, they have never claimed an explicit end to anarchic assumption, anything else being accepted as inapplicable to IR theory.

This dissertation suggests a new theoretical approach which differs from the existing theories in the literature by calling for an end to the anarchic assumption of the international system. Its central theoretical argument argues that the international system is not anarchic but chaotic -- in other words, a very complex dynamical system which is generative and path-dependent on non-linear feedback loops. The structural framework of the dissertation attributes vital importance to facilitating the self-consciousness of the impact of feedbacks by which the outcome of a given behaviour impacts and transforms the next action. International affairs can be analyzed more effectively by accepting the transformative characteristics of the

feedbacks that this dissertation uses as a basis to analyze the complexities of the international affairs examined.

We live in a world that is no longer anarchic, but rather has changed and acquired a chaotic nature by which feedbacks would trigger the transformation of the whole IR system. This organizational change in how the IR system works raises the obvious question of the continued relevance of the mainstream theories since they are incapable of offering a comprehensive normative account that recognizes the transformative characteristics of reactions, or feedbacks. Chaotic view, instead, provides a comprehensive and empirical interpretation of all international interactions and indeed, the very existence of the international system. The foundational bases of the anarchic assumption links back to reductionist, linear and determinist Newtonian mechanics which is no longer popular in physical studies. Rather, the chaotic logic derives from Heisenberg's uncertainty principle which is at the core of quantum mechanics.

Shifting from the paradigm of simplifying to the paradigm of complexity might not meet the expectations from the IR discipline regarding its essential objective to predict wars and internationally developing events. Nonetheless, considering the self-consciousness of the unpredictability of actions and reactions provides more realistic analyses when compared with portraying a very complex international system as simple for the sake of providing practical analyses that lead to manipulative provisions. The focus of this dissertation on the chaotic nature of the international system is a shift from the simplifying paradigm that pursues the ability of IR discipline to predict as its main purpose. The primary goal of the chaotic view, instead, seeks to contribute to a healthier international system by advocating more

comprehensive scientific analyses that depends on the acceptance of the principle of complexity.

One of the underlying reasons for my interest in the paradigm of complexity is the experience of living in Cyprus. The island's location is ideal for fostering the kind of examination and understanding that will generate an authoritative reformulation of peaceful global political system. The people of Cyprus have been challenged with the Cyprus problem that demonstrates characteristics of path-dependent complex adoptive systems. The characteristics of chaotic systems are explained by the classic butterfly effect metaphor, commonly used in literature, whereby the outcome of a story can differ at the moment of an apparently minor event leading to two significantly different outcomes. Similarly, we could ask what might have been had the outcome of the US presidential elections been different in 2000 and what significant repercussions that might have had on the Cyprus problem and, indeed, the whole world.

In winning the 2000 presidential elections by taking Florida by a margin of 537 votes (0.009%), George W. Bush shifted the world onto a different path – from a community of power (as led by the US until the advent of Bush) to a balance of power. This attests to massive feedback in a dynamical system that essentially turned on the unilateral and aggressive actions of the Bush administration. For example, the US unilateral war on Iraq in 2003 has generated critical repercussions that worsened Washington's relations with its traditional allies, particularly with the European Union (EU) and Turkey. There have been multidimensional ruptures in relations between the US and Turkey in terms of their governments, military, media and people that dampened the alliance between the two countries. I believe these rifts

have been consequential with regard to the US attitude that failed to keep the promises given to Turkish Cypriots in return to their 'Yes' vote to the 2004 Annan Plan - the only comprehensive settlement plan initiated by the UN to end the protracted Cyprus problem.

Ankara's discontent about the insincerity of the West added to the problem which became even more complicated when Cyprus attained EU membership under Greek Cypriot representation, an outcome that generated action-reaction spirals that prevented parallel expansion of the EU and NATO. Following deadlock on the Cyprus negotiations, the EU partially suspended Turkey's EU accession negotiations in December 2006, thereby weakening Brussels's soft power in Ankara. Ankara, in turn, has sought to strengthen Turkey's security system through unilateral engagements with the Middle East which further inhibits the country's effective cooperation with its former Western allies. The repercussions of these fragmentations within the transatlantic security system are now evident in the confrontation experienced in the Eastern Mediterranean over maritime and energy development issues since the early 2010s. It could be safely argued that any further confrontation in the Eastern Mediterranean might lead to the risk of larger, possibly devastating events.

The empirical analysis of the dissertation introduces the causal logics of the chaotic approach and competing theories and proposes a testable hypothesis that analyses the counteracting forces in the relationship between the US, the EU, Turkey and the Middle East. There is an immense literature on the US and the EU relations with Turkey and the Middle East. It widely focuses on systemic pressures on states or recent foreign policy discourses and state practices to explain their cooperative or

conflictual behaviour. The dissertation adds to the existing literature by offering a process-tracing framework based on counteracting feedback loops in the relations between the West and Turkey and the Middle East that highlights internal attributions of states as a cause of systemic transformations.

The causal logics of the chaotic approach lead us to expect something other than the anarchic view of international relations system. The findings of the empirical test of the dissertation highlights the sensitive dependency of complex systems on the nonlinear, dynamic interactions by which the effect (Turkey's unilateralism) of any activity (the excessive securitization in the post-9/11 era) can feedback on itself. The chaotic logic explains how post-9/11 era fears influence Turkey's relations with the West and how this in turn affects the current crisis of the international system that proves very difficult to coordinate national interests. These findings prove the dissertation's core theoretical argument that the international system is more complex adaptive than it is portrayed by the theories generated by traditionalist state-centric realist and liberal approaches as well as the critical approaches.

The chaotic metamorphosis, or transformation, of how the international system operates calls for bringing self-consciousness and willingness to bear on the urgent task of negotiating a responsive legal framework. This legal framework should comprehensively articulate the interests of a global pluralistic society in which diverse groups of social or political forces exist more or less peacefully together. The international legal order reflects an anarchic international society, yet today's international society has a universal nature. The understanding of "collective action" and "universal society" is essential for achieving enduring peace yet the international community is still far from permanent peace and collective action. Short-term and

individual political interests and ambitions are the main reasons for this. The problems of collective action could be overcome by embedding the rules of international law within national legal systems as control and braking mechanisms and somehow intertwining them.

TABLE OF CONTENTS

ABSTRACT.....	iii
ÖZ	v
DEDICATION	vii
ACKNOWLEDGMENT	viii
PREFACE	x
LIST OF FIGURES	xviii
1 INTRODUCTION	1
2 COMPLEXITY AS A NEW PARADIGM	19
2.1 Knowledge of Knowledge: From Newtonian to Quantum Logic	20
2.1.1 The Uncertainty Principle and Quantum Science.....	20
2.1.2 The Complex Paradigm of Organization	24
2.2 The Development of Complexity Phenomena	34
2.2.1 The Use of Complexity in Various Disciplines	34
2.2.2 The Methodology of Complexity	44
3 THE NATURE OF THE IR SYSTEM	56
3.1 The Anarchic Claim	58
3.1.1 Mainstream Theories	58
3.1.2 Alternative Theoretical Debates	69
3.2 Chaotic Logic	79
3.2.1 Path Dependence on Non-linear Dynamics	79
3.2.2 Complex Adaptive System	85
4 A CHAOTIC VIEW OF TURKEY’S CHANGING BEHAVIOR IN SYRIA	92
4.1 Turkey versus the Cancerous Status-quo in Syria.....	94

4.1.1 Turkey's Increased Engagement with Syria	94
4.1.2 Explaining Turkey's Shifting role in Syria.....	104
4.1.3 Non-linear Equilibriums in Turkey's Engagement with Syria	109
4.2 A Responsive Legal Framework to Reverse Negative Feedback	118
4.2.1 The Role of Strong Control Mechanisms in Political Transformation....	118
4.2.2 International Rules' Increasing Role in the Area of Sovereignty	126
5 CONCLUSION	137
REFERENCES.....	144

LIST OF FIGURES

Figure 1: Turkey's 3-Pillar Engagement Policy.....	31
Figure 2: The Mandelbrot Set And Fractals.....	46
Figure 3: A Cybernetic Loop	52
Figure 4: Dynamics of 3-Pillar Policy	115

Chapter 1

INTRODUCTION

This study proposes a new theory of International Relations (IR) that draws on chaos and complexity thinking and serves as a fundamental critique of many streams of contemporary IR theory.¹ The international political system has experienced a revolutionary metamorphosis in its evolution from an anarchic structure to a chaotic one since the end of World War II in 1945.² In this post-war incarnation of IR, while the pre-WWII international system emphasized a static structure, the post-WW II system moved to an emphasis on a dynamic and complex system.

The concept of anarchy that was so prevalent in the pre-1945 international structure implies a lack of effective centralized governing structures in which authoritative decisions are made (Art and Jervis 2014, 16; Milner 1991, 68).³ Instead, this study's

¹ Throughout the rest of the study, the author follows the popular convention that "IR" with capital letters refers to the field of study, whereas lower-cased "ir" refers to the empirical reality of international interactions and world events.

² The term *chaotic* is often used as a synonym for complex(ity). The original meaning of *complexity* derives from the word *complexus* in Latin, denoting that which is intertwined together.

³ Helen Milner stresses that critiques of the assumption that international politics is anarchic "have assumed that anarchy is a well-understood concept. Their attacks have not focused on what IR scholars mean when using the term." Milner argues that "the notion of anarchy is not so well understood as is commonly implied. It suggests that an emphasis on the assumption of anarchy can be misleading and may have heuristic disadvantages. Even within a positivist framework, this assumption may be degenerative, posing anomalies and inhibiting new insights by separating international politics too radically from other politics." She also argues that "the assumption is not progressive in the sense that Lakatos proposes. The propositions it generates do not lead to new questions and their answers." See Lakatos 1970. Milner also points out that "clarification of this central concept in international relations is important since such a key term should not be used without knowing what is meant by it." However, the primary aim of this dissertation is to examine the mainstream assumption: it does not build on this conceptual foundation or assumption but breaks with the anarchic assumption of the ir to present an end to the claim.

use of the concept “chaotic” presupposes a complex organization of dynamics that are intertwined to the degree that a subtle difference in any one of them triggers the transformation of the entire international system.⁴ This change in thinking about how the international system works raises the obvious question of the continued relevance of the mainstream theories as well as interpretations of what they provide as only a partial understanding of the IR system.⁵

Analyses of global political affairs often derive their findings from the traditional mainstream model, or what some term “the Newtonian model,” which describes a system of precise laws that are “determinist, reductionist and linear” (Wallerstein 2000, 31). While this traditional model, which was adopted by social studies, is no longer a popular model in the study of physics, it remains, ironically, still in use in social studies and exerts a fundamental influence over the assumption that the IR system is anarchic (Art and Jervis 2014, 7; Gilpin 1981, 7; Waltz 1979, 88; Axelrod 1984, 3; Oye 1985, 1).

International politics was first defined as anarchic in the late 19th century by scholars of international law (Dickinson 1916; Lorimer 1877). The concept was then used intermittently to imply the unstable character of the international system, as “no agency exists above the individual states with authority and power to make laws and settle disputes” (Art and Jervis 2014, 16).⁶ It should be noted that scholars claiming that the international system is anarchic do not imply that the system lacks order

⁴ This manuscript uses the term “chaos,” but not the way IR scholars use the term “anarchy,” which implies the chaos and disorder often associated with the existence of a state of war. See Milner 1991, 69.

⁵ System consists of structure, “a system-wide component that makes it possible to think of the system as a whole,” and of interactions by which “units relate with one another.” See Waltz 2015, 47–48.

⁶ See also Acharya and Buzan 2019, 3.

entirely: the international system does exert an element of control over the behavior of states. Instead, they observe an “anarchical society” or an “anarchical system” that exercises a remarkable number of behavioral regularities and order (Waltz 1979, 102; Bull 1977, 8).⁷

Among the influential studies on the anarchic perception of international system is Kenneth Waltz’s *Theory of International Politics* (Waltz 1979, 12). Waltz presents his concept of systems as a non-reductionist or holistic alternative to several previous reductionist systems theories. However, in his attempt to be parsimonious to describe events and reality in all its details, Waltz (1979, 12) eventually suggests a simplified model of IR. For example, Waltz’s structural realism simplifies the interactions between the system and its components into a linear and determinist relationship by overlooking systemic effects on the behavior of state components. This model has been adopted by academic disciplines such as realism and liberalism and by very broad orientations of IR that perceive the international system as anarchic.

However, the anarchic claim has drawn criticism in that it falls short of explaining the concept of change, which can be defined as a variation in the original conditions of a system or its components that generates a reconfiguration in the organization of the system’s dynamics. Critiques also stress that the analysis of change must incorporate other variables such as the non-linear dynamic causation (any causation in which the degree of change of the relevant dynamics is not constant) and the

⁷ While Bull’s “anarchical society” implied “a society of states” or “international society” with common interests, accepted common rules and common institutions, Waltz’s “anarchical system” stressed the influence and limitations of the international structure on its interacting units. See also Oye 1985, 226; Gilpin 1981, 28; Miller 1991, 70; Weber 1978, 54; Jervis 1982, 370.

vitality of feedbacks (Waltz 1979, 18; Kaplan 1979, 37–41; Ruggie 1983, 225; Milner 1991, 67; Jervis 1982, 360).

While the simplified state-centric approaches call attention to an interaction level located between the systemic and state levels, the chaotic view of IR emphasizes the dynamics of internal characteristics of state-units that can generate systemic transformation (Gunitsky 2013, 50). This is accomplished by considering the potential impact of the internal characteristics of states on the IR system in general (Gunitsky 2013, 37). Because it recognizes the transformative characteristics of reactions or feedbacks, the chaotic IR view provides a comprehensive and empirical interpretation of all international interactions and indeed, the very existence of the international system. Reaction is the behavior, action or thought generated in response to a situation or event. Feedback is the process by which the outcome of a given behavior impacts and may transform the next action.

Developments in world politics since the end of WWII have generated feedbacks that achieve not only transformations within the global political system (such as power shifts within the system itself) but also the transformation of the very system. This transformation has been evident since the mid-twentieth century, which marked a shift from the Westphalian type of state-centric international system to a fragmented one—a functional and decentralized differentiation of various aspects of society (Koslowski and Kratochwil 1994, 215).

The transformation of the IR system is formed by any kind of disorder in the world order brought about by “global turbulence” (Rosenau 1990, 244–245). Since 1945, advances in people’s capabilities through better education and sophisticated

technologies, the rise of new actors, and the decline of state authority have generated both deeper fragmentation and greater integration throughout global system (Rosenau 1997, 7). This apparent contradiction is understandable when we recognize that as humanity undergoes counteracting processes of fragmentation and integration, it is united in a common destiny when it faces the same existential threats. Human beings' casting their lot with each other has been evident in the world's fighting with the coronavirus pandemic since 2019.

This reality of a shared future should have strengthened a common self-consciousness of the existence of a global pluralistic society. Such self-consciousness should have resulted in the greater integration of humanity through the development of global norms and practices that would bind together and encourage different ethnic and religious groups together while creating solidarity among them. However, the opposite has occurred (Levy 2002, 1).

Despite the positive developments since WWII in global cooperation and governance, humanity as a whole has faced the disastrous effects of genocides, industrial rivalries, authoritarian governments, the dawn of the atomic age, and climate change. However, every such tragic event has been accompanied by a paradoxical characteristic: a tremendous hope in the future that prevailed and kept humanity afloat in the face of the horrors of everyday life. Hope is defined by the Oxford English Dictionary as the "expectation and desire combined for a certain thing to occur."

For example, when the Cold War ended in the early 1990s, almost every international leader expressed at least a degree of faith in a bright future where a new

world and better, i.e., more humane, societies would emerge. The West firmly believed that it was building a rising society throughout the world, a belief shaped by the continued myth of the “thirty glorious” years – the name coined by France to the post-WWII period of expansion of the liberal international order. Again, Russia and China as well as Third World countries (a term used to describe non-aligned countries during the Cold War and currently used to describe the developing countries of Africa, Asia, Latin America, and Oceania) were also declaring bright futures for all.

This hopeful air of the early 1990s, however, has been shattered by the 2000s and replaced by uncertainty, fear, and anxiety. The global political system has exhibited profound negative feedback based on these fears and attendant feelings of insecurity and uncertainty, particularly since the September 11, 2001 (9/11) terrorist attacks in the United States (US). This pervasive sense of hopelessness implies that the future will also be overwhelmingly uncertain.

This collapse of optimism separated, partitioned, and fragmented the sense of the common purpose of humanity. Too many people and states now hide behind a specific national and/or religious identity. Their fear of strangers who are not part of their “tribe” diminishes their hospitality to the refugee or immigrant or anyone who belongs to a minority religious or ethnic group.

These effects of post-9/11 fears have transformed the IR system into a cancerous system, one that exhibits the general spread of destructive, even malignant behaviors—the very thing that states and the international system in general are

expected to avoid. This study uses the term “cancerous” in the sense that the nature of the present crises that humanity faces exhibits the typical characteristics of cancer.

The World Health Organization (WHO) defines cancer as “the rapid creation of abnormal cells that grow beyond their usual boundaries, which can then invade adjoining parts of the body and spread to other organs, the latter process is referred to as metastasizing.”⁸ Through an analogy between cancer and the IR system, we may argue that the growth of negative (“abnormal”) activity of many nations has come to represent a status quo that exemplifies the spread of cancerous behavior in the entire world.

The cancerous status-quo exhibited by the current IR system is marked by certain intractable challenges. These challenges include economic recession, transnational terrorism, mass immigration, excessive populism, increased authoritarianism, democratic deficits, polarized power struggles, sectarian conflicts, brutal regime violence, unfair distribution of sources, and (recently) pandemics (Şahin and Sözen 2022a, 64). This metastasis has spread throughout the body of IR and resulted in the diffusion of these transnational threats from their unstable roots to more once-stable states, such as from the chaotic Middle East to stable countries such as France and Belgium.

Based on this definition, the dissertation argues that terrorist groups (abnormal cells) have grown beyond their root countries (the usual boundaries of such groups) and have invaded neighboring countries (i.e., adjoining parts) of the global system. This

⁸ This World Health Organization (WHO) definition of cancer is from its website, who.int, April 10, 2016.

behavior exhibits carcinogens that have spread globally (to other organs) as an outcome. Metastasis, then, has transformed the course of IR by strengthening a cancerous, chaotic status-quo.

In the interest of raising the consciousness of such negative behaviors and underscoring the importance of the willingness to change the course of the reactions of the international system, this study demonstrates the links between the cancerous behavior and the chaotic nature of the system. It seeks to reflect the evolution from the anarchic structure depicted by established systems theory to the chaotic system that is evident in contemporary IR. In order to establish new approaches to counter the systemic chaos of IR today, the study draws on insights from biology and digital engineering. It investigates characteristics of biological organisms and computer programs, such as their self-replicating and evolving behavior in order to conceptualize the core logic of chaotic systems.

The current chaotic tendency is most apparent in studies of climate change and global resource management. Chaos is apparent in the complexity of the organizational behavior of both climate change and global resource management where feedback plays an important role in their sensitively dynamic behavior. But the chaos in ir is also putting its mark on relatively traditional field of relations between states.

The core assumptions of chaotic IR view that form the foundation of this study's argument are derived primarily from the works on complexity theory in IR. These works goes back to James Rosenau, an American political scientist and international affairs scholar who has written seminal works on complexity theory that have

prompted discussion in recent years. Many of the conceptual foundations presented in this study have been developed by pioneers such as John Gerard Ruggie (1982), James Rosenau (1990), Friedrich Kratochwil (1993), Barry Buzan, Richard Little, Charles Jones (1993, 45), and Robert Jervis (1982, 376). Their works compare the terms equilibrium, self-adjustment, non-linearity, heterogeneity, contingency, and feedback-loops of the chaos argument with the claims of Waltz's systems approach, neo-liberalism, Marxism, feminism, critical approaches, and constructivism.

There are many other explanations for the excessive fear that has pervaded IR since 9/11, including securitization and explanations drawing on rational behavior and expected utility theories.⁹ Nevertheless, liberals criticize the elitist approach of securitization for being a simplifying approach that overlooks individual citizens' perceptions of insecurity and threats against their survival (Wilkinson 2007; Hansen 2000; Huysmans 1998; Eriksson 1999). The critics also argue that the statist framework of securitization oversimplifies the complexity of the international system. In reality, the workings of the international system are more complex than these theories imply (Cudworth and Hobden 2012, 177). Also, the effort of the behavior approach to explain state behavior and its decision-making process by drawing on cognitive biases, emotions, contexts, and social sciences is only partially complete (Wendt 2015, 107).

⁹ Securitization is a political and subjective process by which political or military elites attract public attention and establish consensus on an issue. See Buzan 2007; Buzan, Wæver and Wilde 1998, 25; Bain 2006; Kilroy 2018; Kessler and Pan 2003. For the behavioral approach, see Hafner-Burton et al., 2017, 1; Herrmann 2017; Kahneman and Tversky 1979; Mulford and Berejikian 2002; Thaler and Sunstein 2009.

Yet explanations based on complexity, including insights from quantum decision theory, argue that shifting away from behavioral approaches are “not anomalies at all, but precisely what we should expect” (Wendt 2015, 107). These findings add to our understanding of IR theory and contribute to the literature of the role of global institutions and legal frameworks in shaping state behavior.

Still, there is need to make sense of these earlier foundations of knowledge, i.e., the methods used to understand science, since no explicit end to the anarchic perception of international structure has been claimed yet. Moreover, the anarchic perception of IR could lead to misleading conclusions. This study shares the aforementioned pioneers’ appreciation for complexity thinking and its core premises in particular. Nevertheless, by criticizing the simplified and deterministic approaches to the global political system and calling for an explicit end to their anarchic claim of the international system, this study differentiates itself from the earlier contributions that have already applied chaos theory and complexity theory to IR in both qualitative and quantitative terms.¹⁰

An understanding of the global political system through the lens of complexity strengthens the analysis of the relevant dynamics of international affairs and allows us to see a holistic picture of world politics. Such an understanding would help global actors make decisions on the future of global political system by bridging past, present, and future. For instance, the over-exaggerated US reaction to the 9/11 terrorist attacks based on the then US President George W. Bush’s doctrines, including unilateralism, pre-emptive attack, and regime change, catalyzed the US

¹⁰ For contemporary application of complex systems to political affairs in quantitative terms, see Earnest 2008; Cioffi-Revilla and Rouleau 2010; Cederman and Girardin 2010.

justify the 2003 Iraq War (Caprioli and Trumbore 2005, 773). Adherence of the US to the pre-emptive strike doctrine by the US as a formal justification for the unilateral use of force against Iraq has since been adopted by countries such as Israel and now, in the case of Ukraine, by Russia. In his justification of Russia's invasion of Ukraine in February 2022, President Vladimir Putin has argued that Russia is using force in self-defense, pursuant to Article 51 of the UN Charter, to prevent the maturing of an existential threat.

Given the acts of terrorist organizations, we would acknowledge the complex and chaotic nature of the system and would argue that the time has come to transform civilization and shape a new world together. The remedy for the current paralysis of the global political system in the face of the aforementioned feedbacks calls for a comprehensive normative framework that articulates the interests of a global pluralistic society in which diverse groups of socio-political forces co-exist rather peacefully. Hybridizing and solidifying the ideals and imaginations of such groups would allow us to recapture hope as the only true antidote to the fears that tear humanity apart.

The willingness of relevant international actors to avoid negotiating from a position of fear and start negotiating from a position of hope instead depends on the conscious application of complexity thinking in analyses of global political affairs. However, given that it has neither ontological nor epistemological underpinnings, complexity thinking still lacks a recognized methodology (Gunitsky 2013, 36). This has led to three different schools of thought, or approaches, as to what complexity thinking entails. While some scholars see it as mere metaphor, other scholars, who are known as "restricted" complexicists, insist on adhering to their own selective set of

assumptions while rejecting all other assumptions (Morin 1992, 372; Cudworth and Hobden 2012, 172–176; Gunitsky 2013, 36). A third group, “general” complexicists, apply a broader range of assumptions completely without rejecting any assumption of the complexity thinking. Drawing on the third group’s approach, this study scrutinizes the precise analytical value to be found in the core assumptions of complexity through the general approach.

This study seeks to find a satisfying answer to the following question: what analytical value do concepts such as “complex systems” and “chaotic systems” actually hold for improving IR theorizing? Addressing this question will clarify exactly how chaos theory differs from the received wisdom of the conventional theories that simplify to suggest generalized models and will increase scholars’ confidence in the value added by using chaotic approach. This general approach would also help define a theoretical argument about the puzzle of the nature of the structural transformation of the international system and why it is puzzling, i.e., the impact of this transformation in analyzing global political affairs. Examining the nature of the structure of the international system and arguing that the chaotic system has significant explanatory power over the anarchic system would help construct a more realistic and effective global political system because the decision makers will consider the unpredictability of the results of their preferences.

The second section of the dissertation elaborates on the evolution, the characteristics, and the use of complexity paradigm in scientific knowledge (Rosenau 1990, 480; Jervis 1997, 4–7; Thompson 1967, 9; Byrne and Callaghan 2014, 224; Peak and Frame 1994, 40; Lorenz 1963, 130; Thiétart and Forgues 1995, 21; Cilliers 1998, 19; Bar-Yam 2004, 23). The phenomena of complexity thinking are derived primarily

from works on complexity theory, including quantum theory, which proclaims an essential boundary to the accuracy of scientific methods as foundations of knowledge (Brandt 1973, 61; Rosenblum and Kuttner 1999, 229; Bitbol 2020, 181; Heelan 2004, 61; Pylkkanen 2004, 165; Filk and Müller 2009, 59; Kuttner 2011, 331; Fellingham and Schroeder 2006, 33). Scientific disciplines are no longer governed by the simplifying generalizations of traditional models. Instead, they are being revolutionized by the advent of quantum theory in the examination of physical studies. These works consider systems as relations rather than as structures. For instance, dynamic interactions between the whole and component parts of organizations behave in a complex and restricted deterministic manner in the *mathematical* sense because they demonstrate a non-linear relationship based on feedback loops (Thompson 1967, 6.; Rosenau 1990, 481). These feedback loops could lead to unintended consequences that cause complexity scholars to take a position against the universal principles of “universal determinism,” “reduction,” and “disjunction” (Morin 2005, 6–7). The shift away from the principle of disjunction, i.e., the separation between disciplines, leads to a split in complexity thinking. This split may be broken down into three methods (metaphoric, restricted, and general, as detailed above) on how to apply complexity in scientific systems to the (social) discipline of IR.

The third section of this study seeks to develop a new theoretical understanding as an alternative to the existing ones. It distinguishes the causal logics of the chaotic IR view that are derived from the core assumptions of complexity thinking from those of the anarchic claim of traditional mainstream IR theories and their critiques. The section then proposes an analysis of both the added merits of the chaotic logic and the limits of its “restricted determinism” to explain why the causal logics of chaos

theory leads us to expect something other than predictions generated by conventional theories. Some complexity scholars stress that chaos might not always involve disorder and unpredictability, but could contain a degree of determinism predicated entirely on the system's initial dynamics—in other words, a form of “restricted determinism” (Cudworth and Hobden 2012; Gunitsky2013; Cilliers 1998).

The fourth section of this study operationalizes chaos theory by linking it to an empirical study of Turkey's foreign policy in Syria from the end of 2002 until the immediate aftermath of the Arab Spring in the early 2010s. Given the focus of the dissertation about the systemic transformation, it would seem more appropriate to include the case study of policies of the US which exerts a certain degree of hegemonic influence. The chaotic claim of the dissertation emphasizes not only the systemic pressures on the agents but also the transformative characteristics of the internal characteristics of the agents. This is not to neglect the systemic pressure on the agents but to imply a bi-lateral way of transformation that includes the role of internal characteristics of agents in systemic transformation. The use of Turkey fits well to the aims of the dissertation that aims to highlight the bilateral way of systemic transformation and internal attributions of states as a cause of systemic transformations. Counteracting feedback loops in the relations between Turkey, the West and the Middle East help the analysis establish its hypothesis that inform the system as not only a static structure but also dynamic relations between the whole and the parts.

The case study provides specific hypotheses drawn from the application of chaotic logic combined with the idea of a cancerous system as a metaphor. The chaotic IR view demonstrates how Turkey's engagement policies, for which Syria has been at

the core since 2002, have been increasingly configured by post-9/11 fears (see Figure 1). The first specific hypothesis characterizes Turkish government's engagement policies with Syria in its early years in power (from 2002 to the early-2010s) in a very positive sense by noting that Ankara's accomplishments deserved a much stronger positive response than they received. The second specific hypothesis argues that the collapse of Ankara's engagement policy resembles metastasizing behavior while its increased authoritarianism reflects the reverse of Turkey's internal restoration process since the early-2010s.



Figure 1: Turkey's 3-Pillar Engagement Policy (Şahin and Sözen 2022a, 55).

Finally, the logic of chaotic view helps one to establish hypothesis that the excessive securitized and populist behaviors of the US and the European Union (EU) in the post-9/11 era have influenced Turkey's metastasis, which strengthens the cancerous status-quo of the wider international system. This chaotic analysis explains how Western reactions to 9/11 dampened Turkey's initially positive engagement policies and how the reverse of Turkey's initially positive engagement policies, in turn, affected changing Middle East dynamics. A case to the point is the rise of sectarian conflicts and organized rivalries in Syria in the past decade (Agdemir 2016, 223; Aras and Falk 2016, 2252).

A second example for how the analysis of this study proves the chaotic nature of the international system is that the unilateral and over-exaggerated US reaction to the 9/11 terrorist attacks constituted a profound negative feedback that has generated systemic change in the broader sense. As a very dramatic consequence of the changes marked by fears and attendant feelings of insecurity and uncertainty, the international system shifted from a 'community of power' that the US championed until the George W. Bush administration; to a 'balance of power' shaped through organized rivalries (Stokes 2018, 149).

Chaotic logic is also commonly used in the IR literature with "what if" cases where one story that differs at the moment of an apparently minor event results in two significantly different outcomes. For instance, one could ask what would have happened if President George W. Bush had encouraged stronger multilateralism, closer consultation, and wider interaction with traditional US allies in the run-up to the US invasion of Iraq in 2003, rather than his obvious overconfident and aggressive approach (Sanger 2002). A less aggressive, less unilateral, traditional approach might have aligned better with the traditional American approach that championed the US's leadership role in the global system while inviting other countries to join as partners in a given international undertaking (Turan 2008, 94).

When faced existential challenges in the twentieth century, the US championed a community of power, not a balance of power expressed through organized rivalries. For example, US President Woodrow Wilson insisted one hundred years ago that the balance of power should end forever and argued that a lasting peace requires a community of power through organized common peace (Link 1982, 536). The nature of such challenges might have changed since the twentieth century, but to meet these

hardships, the US should grant an opportunity for others to join together in creating a new world order of peace to assure the survival and the success of liberty.

This study proposes an analysis of both the added merits of chaotic logic and the limits of its “restricted determinism” as empirical tests of its hypothesis, which links chaotic logic to the empirical case. It applies the assumptions of complex systems to the case of political and policy developments in the current international system by focusing on the theoretical consequences rather than those derived from the quantitative application based on agent-based models (Kreutzer 1986; Gunitsky 2013, 44; Earnest and Rosenau 2006, 144; Lakatos 1980; Snyder and Jervis 1993; Jervis 1997). This chaotic analysis argues that the cancerous behavior of the international system can be better understood as the nonlinear interaction of positive and negative feedbacks rather than as the effects of anarchy that is often emphasized by simplifying approaches.

The study concludes that the causal logics of the chaotic IR view are a partial complement to the characteristics of the cancerous behavior of the international system. Transnational threats, which act as cancerous cells, threaten the existence of an effective and functioning global system of international relations. The self-consciousness on the part of international actors raises their awareness of the pervasive strengthening of the cancerous status-quo as a result of negative feedbacks.

Such awareness of a chaotic international system would strengthen the willingness on the part of both national and international decision makers to negotiate a responsive legal framework in order to respond to the pursuits and concerns of a

pluralistic global society.¹¹ This legal synthesis should provide the global legal system with the capacity to preside over national legal systems to combine national rules and regulations in the pursuit of a peaceful global political system. This requires tackling these external carcinogens as well as internal tumorous cells such as terrorism at their roots before they threaten the existence of a pluralistic global society. Thus, the global legal rules governing the global political system should focus not only on interstate but also intrastate relations in order to tackle transnational threats before they spread to other democratic states.

¹¹ This study suggests an overall analysis and proof of the transition to provide feedback for decision makers to restructure the IR system and relations between governments and people through a comprehensive legal framework that reflects the modification of socio-economic and political changes and the normative vacuum experienced. See Falk 1998.

Chapter 2

COMPLEXITY AS A NEW PARADIGM

The term “chaotic” is often used as a synonym for “complexity,” a concept that is derived from the Latin term “complexus,” which means something that is intertwined. This intertwining of chaotic and complexity is confusing when it is linked to the concepts of chance and disorder. Accordingly, the ambiguous use of the term complexity calls for a refining of its definition. The core assumptions of complexity thinking discussed here are derived primarily from works on complexity theory that are no longer governed by traditional Newtonian model, which is determinist, over-simplified, and linear when applied to human behavior. Instead, applying complexity theory to the IR injects a level of uncertainty, which is a necessary, even critical component in an international system based on both human behavior and the behavior of states.

There is a plethora of literature about the definition and core assumptions of complexity. However, there is no consensus about how the core assumptions of complexity thinking should be ranked in terms of a hierarchical order of characteristics intrinsic to complex systems (Thompson 1967; Lorenz 1963; Rosenau 1990; Morin 1992; Cilliers 1998; Earnest and Rosenau 2006; Morin 2008; Jervis 1997; Jervis 2012; Cudworth and Hobden 2012; Gunitsky 2013). This section discusses definitions of complexity in order to explain how complex systems resonate with the characteristics of the international system in ways that cannot be

explained by the structuralist and reductionist approaches. Because complex systems are sensitive and dependent on feedback loops, many characteristics of complex systems are non-linear and can create contradictory behavior that lies somewhere between determinism and indeterminism (Cilliers 1998, 66).

This section first examines the difference between the complexity paradigm, the paradigm of simplification, and the core assumptions of complexity thinking. It then discusses the use of complexity in various disciplines with a particular emphasis on social disciplines. The final part of this section classifies the view of complexity into three main groups: the metaphoric approach, the general approach, and the restricted approach.

2.1 Knowledge of Knowledge: From Newtonian to Quantum Logic

2.1.1 The Uncertainty Principle and Quantum Science

In their 2012 article “The Foundations of Complexity, the Complexity of Foundations,” Erika Cudworth and Stephen Hobden (2012, 163) investigate the debate over foundations. They discuss whether there are bases for the claims of knowledge we possess. In proposing that core assumptions of complexity may provide a “contingent foundation” for IR theories, they define foundations as the base upon which an assertion of knowledge can be made, one from which all other theoretical claims can be derived (Cudworth and Hobden 2012, 163). They point to the debate over the possibilities for “foundations of knowledge,” which is seen as central to the IR discipline, believing that the discipline can be founded on “law-like regularities” from which claims can be derived to explain “how the ‘international’ operates” (Cudworth and Hobden 2012, 164).

The specific epistemological, ontological, and methodological perspective of positivism (the scientific study of the social world) views deductive logic (knowledge through analysis independent of experience) and empirical evidence (knowledge proven by experience) as the exclusive sources of all certain knowledge (Jackson and Nexon 2013). Empiricism contributes to the foundation as a basis for any such claims derived from statistical methods (Moravcsik 2003). Cudworth and Hobden (2012, 163) cite the foundational claim of empiricists “that observation and measurement provide the basis of knowledge.” The employment of a scientific method as a secure foundation, nevertheless, has come under question, even in physical systems (Mearsheimer and Walt 2013; Reus-Smit 2013, 589). Critics of such a foundational claim suggest that the political character of empiricism would likely imbue such a claim with political language (Wilczek 2008).

The German physicist Werner Karl Heisenberg’s study on the nature of reality, one of several works that advance our knowledge by challenging the notion of a secure foundation, explains “what we observe is not nature itself, but nature exposed to our method of questioning” (Law and Urry 2004, 395). Similarly, Thomas S. Kuhn’s 1962 work on the nature of scientific revolutions implies that what is constructed as knowledge is a form of prejudice due to its acceptance of facts and theories of previous paradigms (Kuhn 1962). When added to the work of Heisenberg and Kuhn, Michel Foucault’s 1970 work on the concept of regime of truth puts knowledge as a function of power in a circular relationship, within which systems of power produce and sustain truth, which, in turn, becomes essential for the functioning power by inducing and redirecting its effects (Foucault 1970).

An alternative approach to assessing these issues is the study of complexity, a phenomenon that is observable through an array of physical and social systems. The French social scientist Edgar Morin (1992, 376) defines complexity as “inscribed in phenomena.” In his research for a new paradigm of complexity that can inform all theories, regardless of their discipline or application of the phenomena in question, Morin (1992, 372) maintains that our consciousness is constructed and shaped by the paradigm of simplification.¹²

He advocates instead that we should review the shortcomings of all explicatory rules stemming from simplification. Accordingly, complexity is not only the “phenomenal froth of reality” but rather the “principle” itself (Morin 1992, 381). In Morin’s words, “the physical foundation of what we call reality is not simple, but rather complex” (Morin 1992, 381). This complexity cannot be simplified because it compels uniting ideas that are reciprocally exclusive within the scope of the reductionist norms, it generates mutual effect among concepts, and it leads a complex view of causality.

Complexity behavior has been observed in the studies of various disciplines, but was initially observed in the analysis of physical phenomena (ecosystems, weather systems, or brain structures, for example) (Morin 1992, 379). As an interdisciplinary approach, complexity thinking is a shift from the Newtonian view of the world that appears similar to “a gigantic calculating machine the outcomes of which are regular, repeatable, and predetermined” (Cudworth and Hobden 2012, 176). The 1902 work of Pierre-Simon Laplace, titled “A Philosophical Essay on Possibilities,” considered

¹² A paradigm herein is designated as “the set of fundamental relations of association and/or opposition among a restricted number of master notions – relations that command or control all thoughts, discourse, and theories.” Morin 1992, 372.

an intelligence to be adequately extensive when it can include in the same principle the behavior of the biggest bodies in the universe and the behavior of the simplest atom (Laplace 1902, 4). For this type of intelligence, “nothing would be uncertain and the future, as the past, would be present to its eyes” (Laplace 1902, 4).

Considering that various physical conditions can be measured simultaneously, classical physics views the study of actions of a physical system as a simple task most of the time. This traditional simplifying view stems from Isaac Newton's clockwork universe, in which everything behaves in adherence to precise rules (Cudworth and Hobden 2012, 176–177). Accordingly, it is not difficult to calculate all variables of an object with precision and accuracy simultaneously at a singular moment once the initial conditions are known. The Newtonian view did not account for the limitations of the ability of advanced procedures and techniques to further reduce measurement uncertainties. This reductionist logic considered it possible that with adequate attention and precision, all information could be specified.

The simplifying view, nevertheless, has been fundamentally excluded as a foundation for physical studies, particularly in the study of quantum mechanics, a branch of physics advocating a strict distinction between subject and object on the basis of a Newtonian view of the world. Originally introduced by Heisenberg in 1927, the “uncertainty principle” (also known as the Heisenberg Uncertainty Principle) shifts from the simplifying approach of the Newtonian view by injecting a level of uncertainty into quantum theory (Law and Urry 2004). The uncertainty principle is any of a diversity of nonlinear mathematical theories proclaiming an essential boundary to the certainty by which one might envisage the values for specific pairs of the physical magnitude of a particle from original conditions.

The mathematical structure of quantum mechanics opposes the view of instantaneously well-defined conjugate features denoted by a particular value. The uncertainty principle highlights the difficulty in calculating the value of a quantity with arbitrary certainty, even when whole original conditions are known. It maintains that it is not possible to measure both the momentum and position of a particle simultaneously. In other words, as specific as the position of a particular particle may be, it becomes harder to calculate its momentum from original conditions and vice versa. In his search to measure multiple quantum variables simultaneously, Heisenberg suggests that there is a lower limit to this accuracy, which makes our knowledge about a particle characteristically uncertain. In sum, the uncertainty principle postulates a universe of chaos (complexity) where everything occurs coincidentally.

2.1.2 The Complex Paradigm of Organization

Morin argues that advances in our knowledge of organization in recent decades demand a revolutionary way of thinking capable of addressing the play of interactions between the parts involved and the whole. He quotes French mathematician and physicist Blaise Pascal's argument that it is as impossible to understand the "parts" without understanding the "whole" as it is to understand the "whole" without understanding the "individual parts" (Pascal 1966, 93). Thus, the understanding of knowing the whole without knowing its individual parts is a holistic approach that pursues an accounting "at the level of totality," although stemming from the same simplifying principle of an opposed reductionist paradigm that pursues interpretation "at the level of elementary components" (Morin 1992, 372).

Morin invokes a way of thinking that accepts that explanations of the parts through the whole and the whole through the parts are not mutually exclusive, but, rather, can

complement each other. Accordingly, the latter process is a retroactive motion which represents a shift from the logic of simplification to the logic of complexity at the level of the paradigm (Morin 1992, 372). The complexity view considers systems as not only homogeneous but also heterogeneous. Morin (1992, 372) considers a system to be “a composition of unity out of diversity” as well as “a composition of internal diversity out of unity.” He insists on a method of understanding that interacts in a loop between two mutually-exclusive explanatory rules whereby “the unifying way of thinking becomes increasingly homogenizing and loses diversity” and “the differing way of thinking becomes a mere catalogue and loses unity” (Morin 1992, 372).

Morin formulates a framework for the complex character of the relationship between the whole and the parts. Within this framework, basic notions such as being, existence, and life are recognized as not primary (or radical or essential) qualities but “global emergent qualities” stemming from all interactions between the whole and the parts (Morin 1992, 374). Without addressing the interactions and organization, the relationship between parts and whole is insufficient to unlock and understand the puzzle of system. It is not the parts and the wholes, but the *process of interactions* between them that organizes the majority of systems. Morin illustrates organisms that are formed not by their cells, but by the interactions between these cells. He points out that the cluster of these interactions sets up the organization of the system.

According to Morin (1992, 376), the macro-concept of system consists of three distinct notions involving system, interaction, and organization. The notion of “system” extracts the complex harmonization and phenomenal nature of the whole, as well as the complex of interactions between the whole and the parts (Morin 1992,

372). The notion of “interaction,” then, is the arrangement of intertwined relationships, actions, and reactions which together generate a system (Morin 1992, 376). Finally, “organization” is the constitutive nature of these interactions that provides the very idea of system with its conceptual backbone (Morin 1992, 376).

Morin defines the bond between these three notions as “indissoluble” insofar as each of them entails the rest, while the macro-concept of system becomes null and void should any of these notions prove deficient. He also implies that the paradigm of simplification is the base upon which our consciousness is constructed. The point here is that the idea of organization originally emerged in the sciences under the name of structure, “an atrophied concept” which implies more the idea of order (“invariant laws”) than that of organization (Morin 1992, 376).

The traditional type of simplifying and structuralist thinking (in which order is the only rule of explaining) can perform simply by ignoring concrete “beings and existents” or simply by exposing and laying emphasis on “the reality of existing beings” (Morin 1992, 376). Morin (1992, 378) advocates a new way of thinking that he terms “recursive thinking” as a way to address systems without eliminating the idea of being and existence, in which the idea of self-organization is both an effect and an outcome. Recursive thinking differentiates from the traditional approach by including intertwined interactions between the concepts of organization, system, interaction, order, disorder, being, and existence. Based on this distinction, Morin observes “a new knowledge of organization” that “is capable of creating a new organization of knowledge” (Morin 1992, 378).

The complex explanatory principle rejects the reductionist approach, since the latter is likely to reduce the phenomena of the system to the structure that generates it, while overlooking the recursive process by which outcomes or end-results generate a feedback to the initial state (Morin 1992, 378). Recursive thinking is capable of recognizing a dynamic and generative feedback loop that results from the process of interaction and organization between the parts and the whole. Feedback is normal in the course of natural life. It characterizes systems in which the outcome first affects initial conditions, for example, oxygen and hydrogen in water for example, and then completely transforms the entire operation of the systems, as when oxygen and hydrogen components exhibit diverse behavior as they interact in ice or water.

The core assumptions of the complexity approach offer dynamic non-linear causation that suggests sensitive dependence on initial conditions (Lorenz 1963, 130). This sensitive dependence means changes that might seem of little importance in terms of original dynamics anywhere in the world could trigger large and perhaps multiple outcomes further down the line. In this scenario, the term chaos might imply more than the conventional scientific usage specifying randomness (Peak and Frame 1994, 122). In the mathematical sense, it specifies a behavior of the system that is determined entirely by its initial conditions and its dynamics (Bar-Yam 2004, 16). Modifications in the initial conditions are carried out by systems through feedback loops that blend new input and outcome in the dynamic characteristics of systems (Cudworth and Hobden 2012, 169).

A dynamic system is a set of functions that identify how variables can and do change over time. A linear system has a deterministic character in the sense that its future condition is more predictable than random, i.e., a stable system. Its condition is

absolutely determined by a rule of change called “dynamic” (Peak and Frame 1994, 122). Linear dynamic systems are those whose dynamics are changed linearly with parameters such as position and velocity. Nevertheless, the dynamics of linear systems that reveal a constant linear relationship need not exhibit a simple and direct relationship (Anderson 1999, 216). Thus, a linear dynamic might produce a non-linear outcome which, in turn, changes deterministic rules (Feigenbaum 1979, 669). Nevertheless, comparisons of the deterministic patterns can be found in the natural world.

Generally, the unpredictability of complex systems is associated with their dependence on their initial dynamics, in which small alterations can generate devastating modifications while “a lot of ‘chaos’ results from simple re-iteration of simple equations” (Dalglish 1999, 348). Emphasizing changes that happen within prescribed borders, Angus Dalglish, a professor of oncology, questions whether complex systems can demonstrate deterministic behavior (Dalglish 1999, 348). He concurs that reiteration of simple equations generates highly chaotic configurations, but stresses that the variations in initial dynamics always seem to occur within a specific range of possibilities. The variability of outcomes as a result of chaotic iterations always interacts within an inherent predictability.

Dalglish (1999, 348) cites the example of weather conditions that are very hard to predict accurately three-to-four weeks in advance that in a year’s time will be somewhat similar to the prevailing conditions, while noting that seasons follow in a recognizable pattern of change. Weather systems demonstrate the behavior not only of random unpredictability, but also of a level of determinism since randomness rests within the borders of specific parameters. Reiteration of some of the non-linear

equations can lead to chaotic arrangements that could increasingly vary at more complex magnification. Such chaotic arrangements, nevertheless, are always being observed as returning to its initial form, with numerous repetitions of recognizable forms or fractals (similar to those of seasons) observable at various levels of magnification. (A fractal is a curve or non-regular geometric figure built from simple repeated patterns that are reduced in scale every time they are repeated.) Figure 2 below shows the famous Mandelbrot set within which a recurrent form of the fractal evolves out of iteration of an equation as an ever-increasing magnification generates complex patterns.

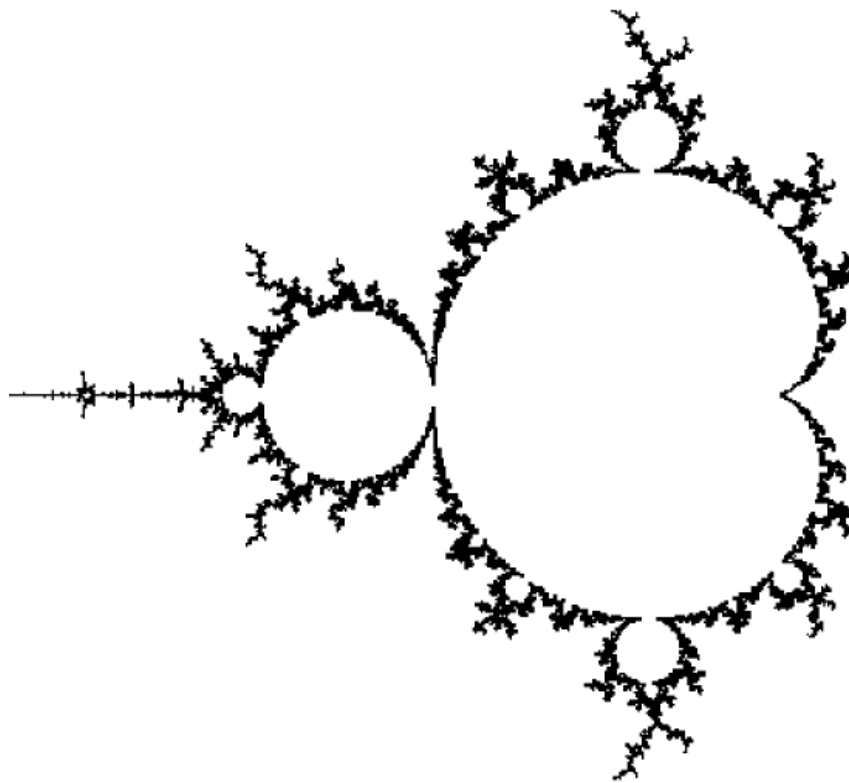


Figure 2: The Mandelbrot Set and Fractals (Douady and Hubbard 2009, 9).

Edward Lorenz’s “strange attractor,” a set of fractals generating a complex pattern of behavior in a chaotic system, was the earliest finding to observe that repetition of selected equations produces unstable outcomes (Lorenz 1963, 130). This occurred

when he was attempting to forecast the configuration of meteorological conditions during WW2 (Anderson 1999, 218). Somewhat poetically, Lorenz compares this atmospheric behavior to “the flap of a butterfly’s wings which creates, a few months after, a storm somewhere else on the planet” (Thiéart and Forgues 1995, 22). Although this “butterfly effect” discovered by Lorenz is used commonly in meteorology to present chaotic systems, evidence exists that no matter the agents, different systems can share common properties that determine behavioral patterns (Wilson 1999, 3).

Characteristics of living systems share many similarities with those of complex systems, including the inherent repetition of self, fractal structure, and the existence of strange attractors. Another similarity with the characteristics of complex systems is the notion of emergent properties (Holling and Gunderson 2002, 41). Besides physical studies, complexity thinking has also contributed to biological studies, especially when applied to the emergence of new life structures. Stuart Kauffman’s studies concerning the evolution of species reveal that evolution extends beyond that of Darwin’s natural selection (Kauffman 2000, 243). Cudworth and Hobden point to systemic characteristics of auto-creation that function jointly with selection to generate the staggering evidence of increased variety and complexity (Kauffman 2000, 243).

The characteristic variability in biological systems is markedly similar to that of complex systems that are capable of forming repeatable deterministic configurations over varying ranges in addition to returning to the initial dynamics of their configurations. Complex systems may not only show evidence of chaos. Their arrangement may also show the emergence of natural phenomena adapting to their

environments (Ruggie 1998a, 139). In other words, the behavior of living systems can be explained by complex systems that allow their adaptation to prevail within specific limits. Complexity scientists used to refer to systems as being “nested,” with bigger systems (their environment) encircling numerous smaller systemic processes (Cudworth and Hobden 2012, 169). One of the most shared core assumptions of the complexity view of systems is the difference between a system and its environment. A system has frontiers, is delineated, and differentiates itself from the latter environment in order to illustrate everything that is outside its boundaries.

The concept of co-evolution is used to explain the complex ways systems accommodate themselves to their environment. Raymond A. Thiétart and Bernard Forgues, in their attempt to apply complex properties to organizations, explain organizations as a set of interdependent parts which together make up a whole to which each contributes and receives something in exchange (Thiétart and Forgues 1995, 23). Organizations exhibit a co-adoptative characteristic in which parts adapt themselves to systemic effects of the whole, while the whole adapts itself to the effects stemming from the behavior of its components. This co-adaptive behavior results in a form of interdependence with a larger environment. Thietart and Forgues claim that organizational behavior is subject to not just internal forces but also to the external forces of the system. Through a diverse agenda, these forces seek to coordinate actions in the present that are activated by past actions undertaken by other actors and will influence actions to be initiated by other actors.

Cudworth and Hobden maintain that according to this view, natural systems are characterized by “constant, unpredictable, and sometimes dramatic change” through interactions (Cudworth and Hobden 2012, 169). Because of their specific internal

characteristics, systems, rather than simply impacting themselves, exhibit complex reactions to relations with other systems. All unique systems (often of varying levels of complexity and extent), when interacting, contribute to change in each other. Therefore, it is not easy to predict how systems will change as a result of their interactions (Maturana and Varela 1980, 73–76). Nevertheless, the sensitive dependence of non-linear systems on initial conditions means that minuscule changes that might seem of little importance to original dynamics could produce widely different outcomes in any part of the world (Peak and Frame 1994, 122).

Changes are generated by systems through feedback loops (Byrne and Callaghan 2014, 36). In the words of Cudworth and Hobden, “feedback can result in stability, or if there is positive feedback and a change is reinforced rather than dampened down, dramatic shifts can take place and a system can be said to have become ‘path dependent’” (Cudworth and Hobden 2012, 169). Change is both transitory and sequenced, and the concept of path dependency has been vital as a means of recognizing how the effects of the past are transmitted into the present.

In complexity terms, path dependency explains the way actions taking place at a given moment can have repercussions and effects in the future (Capra 1996). In this scenario, chaos might not connote disorder and unpredictability, but instead convey, in the mathematical sense, a meaning that specifies a degree of determinism within the randomness of the system that is predicated entirely on its initial conditions and its dynamics (Bar-Yam 2004, 16). “Effects and decisions are rarely direct and instantaneous,” Thietart and Forgues (1995, 21) state, quoting Pettigrene’s admonition to recognize that “changes have multiple causes and are to be observed by loops rather than lines.”

Morin (1977, 291) suggests that some characteristics of complex systems that stem from characteristics of organizations are active in many physical systems, including in all biological systems. Their activeness generates entropy (gradual degeneration to disorder or unpredictability) as well as negentropy (restoration of order), two forces that are intertwined through complex interactions (Morin 1977, 291). Morin (1977, 291) regards both conditions as the repeated “reorganization” of a system with a tendency to disorganization, on the one hand, and as repeated “self-reorganization.” His focus is the organization of living beings that includes mutual opposition between the generativity and phenomenality (the ability of a fact, occurrence, or circumstance to be observed).

According to Morin, the concept of organization encompasses far more than a set of structural principles. In looking at it as a higher paradigmatic concept, he differentiates from the classic reductionist view of organization as a “principle of order” (Morin 1992, 377). What he proposes is not to use organization in place of order but rather to link the two by accepting that these concepts, as well as the concept of disorder, cannot be explained by a simplifying principle. Morin maintains that organization generates order by generating its own specific systemic determinism “which can be flexible, containing zones of randomness, free play, and freedom” (Morin 1992, 377). Simultaneously, the interactions related to organization generate disorder as an undetachable characteristic of itself (Morin 1992, 377). This complex paradigm of organization demands that we replace reductionist thinking, which overlooks complexity, with a more comprehensive form that recognizes and does not eliminate complexity along with its uncertainties and contradictions.

2.2 The Development of Complexity Phenomena

2.2.1 The Use of Complexity in Various Disciplines

The conceptual bases of complexity derive from the study of thermodynamics in the 19th century, which introduced complexity with no explicit recognition of the concept. Complexity behavior is now addressed in various disciplines, but was first used in the analysis of physical phenomena (Morin 1992, 377). Microphysics and cosmophysics introduced indeterminism and involved appropriate approaches to address the issue of uncertainties. Mathematicians and engineers used complexity as a concept in the 1940s and 1950s to explain the extent of change in a specified system. While the disciplines of mathematics and engineering have been associated with Information Theory, Cybernetics, and General Systems Theory, they remained separate not only from the human and social sciences but also from the natural sciences. The new idea of complexity emerged in the early 1900s but remained separate from the human and social sciences.

Louis Kauffman, former President of the American Society for Cybernetics (from 2005 to 2008), defines cybernetics as “the study of systems and processes that interact with themselves and produce themselves from themselves” (Kauffman 2007). Cybernetics is a practical tool used to explain systems, including circular causal networking. Figure 3 below illustrates a circular causal networking by which the system initiates some change within its environment that causes reactions (feedbacks) within the system that produces a systemic transformation.

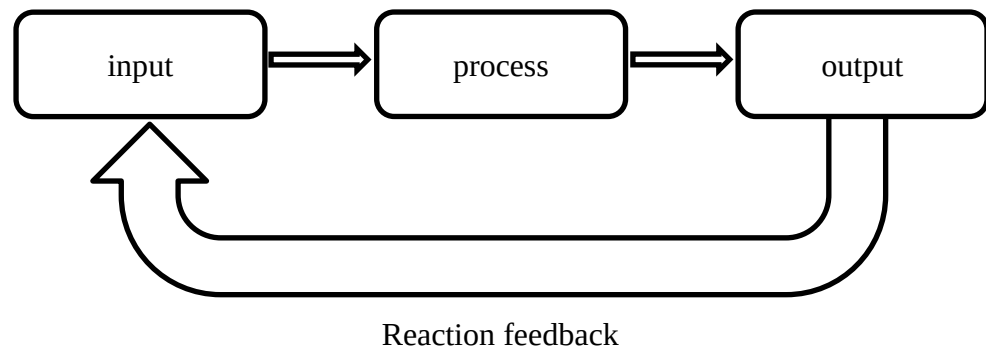


Figure 3: A Cybernetic Loop (Author).

Figure 3 tells us that cybernetic systems are self-generating organizations that feed back to themselves throughout a circular loop. John von Neuman, a Hungarian-American scientist who combined both mathematics and computer science, argued in his 1949 work “Theory and Organization of Complicated Automata” that the concept of complexity is “vague, unscientific and imperfect” (von Neumann 1949, 78).¹³ He offered a remarkable contribution to the field of cybernetics with the systems of the cellular automata and the universal constructor. His 1966 book *Theory of Self-Reproducing Automata*, which was completed by Arthur W. Burks after Neumann’s death, is considered the foundation of the study of complex systems, as well as of automata theory and artificial life. Based on Neumann’s previous work in the 1940s, Burks’s book published core features of a self-replicating machine that functions like a complex system by producing other machines like itself or by reproducing itself (Von Neumann 1966, 29).

Heinz von Foerster, an Austrian-American physicist and philosopher, developed a second-order of the study of cybernetics. While first-order cybernetics studies the

¹³ Discussion of von Neumann’s work is based on transcripts of his lectures delivered at the University of Illinois in December 1949, which were then edited for publication by Arthur W. Burks in 1966.

observed systems in which the core belief is that the system is empirically predictable, second-order cybernetics is interested in observing the system in which the observer is involved in the observed system.

Argentinian-American mathematician and computer engineer Gregory Chaitin's algorithmic randomness, which stresses the probability of the halting of a randomly formulated program, is an additional valid contribution to the study of complexity (Chaitin 1987, 135–149). Norbert Wiener (1950, 9), an American mathematician and philosopher who is considered the founder of cybernetics, defines cybernetics as the scientific inquiry of “control and communication in the animal and the machine.” His 1950 book titled “*The Human Use of Human Beings: Cybernetics and Society*” highlights the similarities between automatic systems (such as a regulated steam engine) and human institutions (Wiener 1950, 9).

Another scientific revolution began in the 1960s that designates the earth as a complex natural system and gathers together different physical and biological disciplines such as geology, seismology, vulcanology, and meteorology. These studies seek to understand the ecosystem as a body of scientific knowledge and explore how it evolves and changes over time. Since the late 1950s, mathematicians, engineers, cyberneticians, and neurologists began to use the concept of self-organization. The 1972 book, *L'organisation Biologique et La Théorie de L'information (Biological Organization and Information Theory)*, by Henri Atlan, a French biophysicist and philosopher well known for his works on theories of self-organization and complexity, sought to apply these concepts to living organizations by suggesting the principle of “complexity from noise” (Atlan 2011, 68). Atlan

defines complexity from noise by emphasizing the relation of noise to self-organization in which any deviation restricts the transmission of information.

In addition to physical studies, complexity thinking has also contributed to biological studies, especially when applied to the emergence of new life structures. Two other scientists and their work have also contributed to the study of evolution. French naturalist Jean Baptiste Lamarck pioneered the concept of evolution and English naturalist, geologist, and biologist Charles Darwin discuss variation and competition as drivers of evolution (Morin 2005, 3–4). Post-Darwinism, in particular instances, moderates the radical nature of the conflict between creation and evolution by preferring to use not the terms “invention” or “creation,” but the term “change” in order to define new shapes of living organization.¹⁴

Jacques Monod, one of the primary founders of molecular biology who also contributed to the discipline of philosophy, extends and deepens Darwin’s notions in his 1970 book titled *Chance and Necessity* (Monod 1971, 180). Monod (1971, 180) argues that the course of evolution indicates that life is merely the product of natural processes that occur by “pure chance.” In his words, “Man at last knows that he is alone in the unfeeling immensity of the universe, out of which he emerged only by chance” and “neither his destiny nor his duty have been written down” (Monod 1971, 180). Monod focuses on a philosophy centered on life’s emergence ability, such as characteristics and attributes of biological systems that emerge when the organization of a living system is formed.

¹⁴ The concern of creation derives from the denial of creationism by science, for example, the thought of God as the creator of the universe. But the denial of creationism ended in encompassing the creativity that reveals itself in the past of life and in the past of civilization.

French philosopher Henri Bergson derives his hypothesis from the continued creation theory of René Descartes by claiming that the latter's theory has a double contradictory interpretation: continued creation and conservation (what he regarded as continuous re-creation) (Descartes 1985, 133). The Greek-French philosopher Cornelius Castoriadis, influenced Alain Touraine by suggesting a wealth of empirical data that defines "being" as creation through which innovation emerges, whether consciously or not, without being necessarily determined by preceding past conditions (Joas and Meyer 1989, 1184).

Indicating the expansion of the ecological conception to the whole biosphere that has dominated the discussion of complexity theory since the 1970s, Morin (2005, 18) argues that once the concept of self-organization becomes recognized, "this will arrive in the social sciences, although they are extremely resistant." While the paradigms of the traditionalist approaches continue to be used in the social sciences, some unfamiliar concepts have come to the fore recently. For example, French mathematician Rene Thom uses the term "catastrophe" in his attempt to study and predict the evolution of forms in nature that occur through sudden large changes (Sanns 2012, 32). The principles of catastrophe theory have also been used in the social sciences to explain a diversity of circumstances, for example, unexpected outbreaks of mob violence. However, the complexity approach has not been adopted to a measurable degree in the natural and social sciences.

The view of the change of the sciences in human history operates within two approaches. While the internalist concept views discoveries in sciences independent of historical and social events, the externalist concept attributes a deterministic role to social advancements. The two concepts can be associated with the dialogue among

scholars. For example, one might attribute the scientific backwardness of the Ottoman Empire to internal factors such as an outdated education system. On the other hand, others might cite external developments such as the disruption of the classical concept of empire following the French Revolution, which is considered by historians and social scientists to be the cornerstone of the bourgeoisie's victory over the feudal-agrarian order in Europe in the 18th century.

While the pioneering scientists of 7th century were also pioneering philosophers, the relationship between science and philosophy in the modern age has been overlooked as specialization within the disciplines brought about separation from each other. Nevertheless, the most sophisticated sciences have recently begun to move closer to the philosophical puzzles of existence. This inquiry is now conducted in the context of the complexity approach, such as the particular dynamics of its origin of self-organization and the dynamics of the emergence of its productive functions that go beyond biology. While the failure of traditional paradigms to explain complex systems has been challenged, the concept of emergence has been suggested as a philosophical approach. Bergson (1998, 45) points to the creative evolution by which we can envisage the potential of forming life while considering the variety of complexities arising out of creation.

Traditional science underlines explanatory principles, including universal determinism, reduction, and disjunction at the expense of complexity. The conventional wisdom based on these principles led to the tremendously talented, notable, and constructive advancement of conventional wisdom by Newton, Laplace, and others whereby the boundaries of knowledge became more imperative than their

explanations. This logical concept deliberately ignores the notion of complexity, which is typically associated with disorder and uncertainty (Morin 2006, 1).

According to Morin, the statement “it is complex” in reality points to an obstacle to defining or explaining. Complexity phenomena stems from uncertain conditions, which contradicts the norms of traditional science, i.e., to explain truth by searching for simple models of complex systems. Moreover, the disjunction of the scientific discipline from other disciplines is not because science is “peculiar” but because it is *perceived* as “peculiar.” Complexity is hidden and purposely neglected in the sciences not because the disciplines are self-enforcing but because they are seen as not affecting each other, when indeed they do.

Any scientific knowledge must incorporate an epistemological thought into its fundamental underlying rules and boundaries. As a result of misconception, the sciences view complexity not as a scientific puzzle but as a philosophical one. This understanding is correct but only to a limited degree. The complexity surrounding an object fades when the object is isolated by being separated from its natural environment and therefore the puzzle becomes a non-scientific one. The complexity appears only when the isolated objects are associated.

While complexity was first examined and observed in the context of studies of scientific systems in the 1940s, some studies of social systems began expanding their analytical focus to cover complexity as well (Cudworth and Hobden 2012, 165). Complexity thinking is now widely used in social disciplines such as economics, management science, and sociology. It has contributed significantly to analyses of electoral behavior, stock markets, and the escalation of armed conflicts. For example,

English mathematician, physicist, meteorologist, psychologist, and pacifist Lewis Richardson (1922, 218) has made important contributions to quantitative IR by using meteorological models to analyze the outbreak of wars. It is possible that the non-linear dynamics used to model scientific systems (e.g., weather systems) are also applicable to social systems (e.g., the IR system). Hence, the illuminating vision that small changes in weather conditions altering atmospheric conditions can inspire and promote advances in the field of complexity that might offer new insights when examining and explaining shifts in the international system.

Complexity thinking also would expand social sciences' thinking to include the discussion of essential public matters as well as approaches to social theory that emerge beyond social disciplines boundaries (Weisberg 1998, 369; Ball 2004; Bousquet 2009, 163). Complexity thinking can help sociologists expand their inquiries to avoid being pre-occupied with purely self-posed problems that are not in the public's interest and to prevent losing their influence in social and human-scientific disciplines. In contemporary debates of sociological theory, Jurgen Habermas and Anthony Giddens express a keen interest in increasing the awareness of sociologists by expanding their focus of analysis. Habermas and Giddens argue that European social theory can be studied without neglecting agency-structure integration. According to Habermas and Giddens, the emergent properties that are generated as a result of agency and structure relations cannot be studied separately (Giddens 1984; Habermas 1987). However, sociologists cannot expand their enquiries by simplifying approaches of their own intellectual means and methods of the social disciplines; such an expansion of their enquiries calls for consideration of the complexity principle (Joas and Meyer, 1989, 1184).

Cudworth and Hobden (2012, 165) attribute a particular character to social systems as being embedded in scientific systems (i.e., non-social systems). They argue that the complexity phenomenon suggests a foundation for analyses of international affairs insofar as its characteristics are observable and empirically applicable: “The social sciences in general have ignored the links between the social world and the rest of the material world” (Cudworth and Hobden 2012, 165). The factors limiting the application of the complexity approach to IR are the lack of agreed-upon foundations as well as the lack of a recognized methodology.

Initial complexity studies in IR argue that attention be paid to an interaction level located between the systemic and state levels. Past contributions to systems theory initiated the discussion of politics by seeking to add agents of change and properties of complexity to the discussion. This tendency is apparent from the contributions of Niklas Luhmann (1975, 154), who argues for addressing the communications within the parts of whole as the core of systems that are surrounded and characterized by their environment. Luhmann’s system theory is influenced by the Austrian biologist Ludwig von Bertalanffy’s general system theory and American sociologist Talcott Parsons’ structural functional social systems theory that model system analyses used in biology (Von Bertalanffy, 1968). The efforts of American systems theorists such as David Easton and Helmut von Bertalanffy in the 1950s and 1960s, and analysts like Ruggie, Kratochwil, and Kaplan, and the many members of the English School (including Buzan, Little, and Jones) have tried to constructively improve upon Waltz’s original analysis of international structure as anarchic (Easton 1953, 78; Kaplan 1979, 34; Ruggie 1983, 265–266; Kratochwil 1993, 1; Buzan and Jones 1981; Kaplan 1957, 34.; Buzan, Little and Jones 1993, 73).

While James Rosenau's *Turbulence in World Politics*, published in 1990, is seen as pioneering the application of complexity thinking to IR, his subsequent work in 2003 observes that although works on complexity are restricted to predictions, they "challenge prevailing assumptions that political, economic and social relationships adhere to patterns traced by linear processes" (Earnest and Rosenau 2006, 143). In addition to Rosenau, complexity thinking is also advanced by American political scientist Robert Jervis who, in his 1997 book *System Effects*, utilized core assumptions of complexity to help in the study of resilience in systems-based studies (Jervis 1997, 293).

Moreover, Lars-Erik Cederman, in his 1997 book *Emergent Actors in World Politics*, contributes to the theoretical development of complexity thinking by applying the emergence notion as a basis for the assessment of the progress of countries and their people (Cederman 1997). In terms of international political affairs, the concept of emergent properties implies that characteristics of the international system cannot be drawn merely from the characteristics of its elementary components (Gunitsky 2013, 36). John Lewis Gaddis, in his 2002 book *The Landscape of History*, suggests complexity thinking as a way to acquire a more profound understanding of history. Furthermore, Neil E. Harrison sets the framework of network analysis in his 2006 book *Complexity in World Politics* (Gaddis 2002, 183; Harrison 2006, 183).

There are many other explanations such as securitization theory (Buzan 2007; Buzan, Wæver, and de Wilde 1998, 25; Bain 2006; Kilroy 2018; Kessler and Pan 2003) or explanations drawing on behavioral theories (Hafner-Burton et al., 2017, 3; Herrmann 2017; Kahneman and Tversky 1979; Mulford and Berejikian 2002) that consider complex dynamics in world politics. However, these approaches remain

state-centric approaches that overlook both individual citizens' perceptions of insecurity and threats against security (Wilkinson 2007; Hansen 2000; Huysmans 1998; Eriksson 1999, 311–313; Booth 1997, 83; Galtung 1985, 141). There is also a good deal of work around pragmatism, practice theory, resilience studies, international political sociology, and recent governance research that naturally deal with complexity thinking on a daily basis (Hellmann 2009; Habermas 2013; Rosenau 1997). Complexity is an obvious issue in the work of governance researchers in environmental politics and climate change (Deere-Birkbeck 2009). In debates on international practices, for instance, researchers deal with the dual nature of practices between order and change as an obvious matter of ontology (Adler and Pouliot 2011, 1).

Even more promising is the discussion of the shift from Newtonian physics that leads to the view of quantum mechanics as phenomena that can advance the philosophical debates in the social sciences, which continue to be “governed by the laws of classic physics” (Zohar and Marshall 1994; Wendt 2015; Busemeyer and Bruza 2012). Alexander Wendt's 2015 book *Quantum Mind and Social Sciences* builds on Danah Zohar and Ian Marshall's 1994 book *The Quantum Society*, which targets a general audience and is focused on philosophy. Wendt suggests a more IR-focused analysis of the implications of quantum mechanics for social relations.

2.2.2 The Methodology of Complexity

In his 2007 book *The Fifth Debate and the Emergence of Complex International Relations Theory*, Emilian Kavalski (2007, 435) posits the complex view as a foundation leading to a fifth debate, which would discuss the emergence of complex IR theory. However, many scholars look askance at the promise of such an approach. Adding to his contention that complexity appears “at first glance to be precisely the

paradigm we need to understand global politics today,” Rosenau notes how seldom political science scholars utilize the insights of complexity thinking (Earnest and Rosenau 2006, 144). Underlining the limited use of deductive logic and empirical evidence, in a 2006 article titled “Signifying Nothing?,” Rosenau and David Earnest consider agent-based models as “little more than thought experiments on a computer – much ado about nothing” (Earnest and Rosenau 2006, 144). Typically-applied complexity thinking in analyses of global political affairs is based on agent-based models that are used to draw hypotheses and propose testable predictions about the consequences of changes in the initial dynamics of political systems. Citing the works of Robert Axelrod and Wolfgang Kreutzer, Seva Gunitsky (2013, 44) argues that agent-based models are “neither inductive nor deductive”: as with deduction, the model begins with explicit suppositions yet does not test hypotheses. And, just as with induction, the model applies data to envisage results, yet derives the data not from real-world observations but from a set of principles.

The school of positivism is based on deductive logic and empirical evidence. The agent-based model differentiates from these two foundations of knowledge and also differentiates from the positivist emphasis on verifiable hypotheses. Thus, the use of agent-based models in the mainstream approaches of social disciplines remains unlikely, making it more likely that they are used as a complementary guiding spirit for existing theories. In doing this, however, many scholars “make the mistake of conflating complex systems with agent-based modeling,” according to Gunitsky, who argues that “while often connected, the two concepts are not synonymous” (Gunitsky 2013, 44). Imre Lakatos, in his 1980 book *The Methodology of Scientific Research Programmes*, maintains that simulation models are not a component of

studies on complex adaptive systems but rather a means for verifying theories derived from the guideline rules of these models (Lakatos 1980, 47).

When agent-based models are excluded from their framework, complexity approaches are unlikely to state hypotheses that can be proven, replicated, and used to test relevant theoretical approaches. Pointing to the coincidental characteristics of the global political system and actors' limitations in detecting and disrupting patterns, Rosenau and Earnest (2006, 148) stress that "the same axioms are likely to produce different, even divergent, outcomes." Nevertheless, stressing that systemic effects generate regularities or order, Gunitsky (2013, 44) argues that "the system imposes itself upon the choices and preferences of the actors through recurring, identifiable, and non-obvious mechanisms." Accordingly, the core assumptions of complexity thinking do not rely on the methodology of simulation models but can function as a useful means for advancing relevant studies about global political affairs and underlining overlooked inadequacies and shortcomings in mainstream social science theories.

Roy Eidelson, in his 1997 book *Complex Adaptive Systems in the Behavioral and Social Sciences*, stresses that the lack of consensus on the core assumptions of complexity thinking has been the key reason behind its reluctant acceptance among social scientists (Eidelson 1997, 42). According to Eidelson (1997, 42), the interdisciplinary character of the approach suggests that "even careful definitions can vary widely across different fields." Noting how hesitant IR scholars are to recognize the core assumptions of complexity, Gunitsky (2013, 35) argues that the focus of complexity thinking on "strategic interaction and unintended consequences" makes it particularly appropriate for the study of discipline. He links the absence of scholarly

endorsement to two related obstacles. First, scholars are vague about key notions, which marginalize complex systems and categorizes them as being nothing more than “a superficially appealing but theoretically vacuous metaphor” (Gunitsky 2013, 35). Second, Gunitsky (2013, 35) argues that there is “little agreement about the specific ways complex systems can help improve theories of international relations.”

Also, given that it has neither ontological nor epistemological underpinnings, complexity thinking still lacks a recognized methodology (Gunitsky 2013, 35). This has led to a rift among complexity scholars. Approaches addressing the core assumptions of complexity are so lacking in convergence that, as Cudworth and Hobden claim, the differences reduce complexity to an absurdity. In their view, “the elasticity of the concepts and their usage has meant that social theorists not only mean very different things in their deployment but suggests either the existence or negation of foundations [of knowledge]” (Cudworth and Hobden 2012, 172). These scholars classify the core assumptions of complexity into four principal approaches that treat complexity as a metaphor, a unified science, a network, and a differentiated concept (Cudworth and Hobden 2012, 172–175). This study’s author argues that the split in complexity thinking breaks down into three main groups: (i) embracing complexity as a metaphor, (ii) the general approach based on attempting to apply assumptions wholesale, and (iii) the restricted approach, which adheres to a specific set of assumptions while ignoring others.

The metaphoric approach uses the concept of complexity in order to understand global affairs in complexity terms (Urry 2003, 105). In examining the relevance of the concept for providing insights about developments related to “global ordering,” John Urry (2003, 58) argues that complexity thinking is a source of “productive

metaphors,” i.e., metaphors that consider mobility and time in social life and metaphors that are used at the expense of the mechanistic, linear, and symmetrical notion of clock-time (Urry 2004, 25). He concludes that the complex view offers a collection of assumptions as a means to understand the social system as opposed to a disciplinary view in terms of “an inherent quality of material reality” (Urry 2003, 105). In his 1997 book *The Complexity of Cooperation*, Robert Axelrod defines the complexity approach as a “generative” methodology that helps to achieve the constraints of reductionist approaches while envisaging the consequences of specific global political affairs (Axelrod 1997, 4; Epstein and Axtell 1996, 20). Critiques such as John Maynard Smith and Lee Green, on the other hand, dismiss the complexity approach as merely a “fact-free science” and “a festival of bad metaphors” (Smith 1995, 30; Green 2010, 292). According to Cudworth and Hobden, the metaphoric approach to complexity limits the promise of the concept because it fails to move the social disciplines beyond the social. They maintain that this approach cannot elaborate on either “the coconstituted qualities” or the distinctions between social and physical systems (Cudworth and Hobden 2012, 174).

The general approach, on the other hand, attempts to apply the core assumptions of the complexity approach wholesale by offering a unified approach to discipline. This approach demands an epistemological reassessment that would involve the organization of knowledge itself. Morin defines generalized complexity as a paradigmatic puzzle from the point of view that a paradigm of reduction dominates mainstream theories by compelling a basis of reduction and a basis of disjunction to any understanding of knowledge. Instead, he argues, “there should be a paradigm of complexity that would impose a principle of distinction and a principle of conjunction” (Morin 2005, 6).

In contrast to reduction, complexity requires an attempt to understand the interaction between the whole and the parts, rather than simply acknowledging the units of the system or acknowledging the system as a whole. Thus, the rule of reduction is replaced by a rule that considers the interaction of system-unit reciprocal effects by scrutinizing the loop of interactions to gather the knowledge of the system and its units. Chengxin Pan's quantum holographic ontology not only provides new conceptual tools to rethink IR as holographic relations that involve dynamic processes and quantum mechanics, but also transforms our way of seeing relations (Pan 2021, 14).

The rule of disjunction, or separation, needs to be replaced by a rule that does not end the distinction but seeks to determine the association of parts and whole. The rule of determinism should be replaced by a rule that envisages an association between order, disorder, and organization. The principle of disjunction, i.e., of separation (between objects, disciplines, and notions, and between the subject and the object of knowledge) should be substituted by a principle that maintains the distinction but tries to establish the relation. The principle of determinism should be substituted by a principle that conceives a relation between order, disorder, and organization. Keep in mind that order does not mean only laws, but also stabilities, regularities, and organizing cycles. And disorder is not only dispersion or disintegration, it can also be blockage, collisions, and irregularities (Morin 2006, 7).

Warren Weaver notes that the 19th century was a period of "disorganized complexity," including the introduction of "the second law of thermodynamics and its consequences" (Weaver 1948, 536–544). However, he suggests that the 20th century should have been that of "organized complexity," that is, the organization of

systems should include complexity (Weaver 1948, 536–544). According to Morin (2006, 7), the relation is a major puzzle that IR theory needs to address by considering both disorganized and organized complexity. The restricted complexity approach does not fully consider the existing notions of complexity, such as the notions of system, emergence, and organization.

Another epistemological split between generalized complexity and restricted complexity emerges because the latter approach establishes its specific field, or its area of study, within one of the sciences by focusing primarily on dynamic “complex” systems. The focus of the generalized complexity approach includes all fields while also relating them “to our knowledge as human beings, individuals, persons, and citizens” (Morin 2006, 21).

The 1998 work of Edward Osborne Wilson, *Consilience: The Unity of Knowledge*, discusses consilience, which is a gathering together of principles from different approaches, and elaborates on approaches that have been applied to unite the disciplines that might be capable of synthesizing knowledge from various disciplines within the humanities (Wilson 1998). In other words, social discipline insights can be derived from non-social disciplines. This approach offers two options, one based more on mathematics, the other based more on social disciplines. Francis Capra, in his 2003 book *The Hidden Connections*, argues that there is an essential unity to life in which various living systems display similar “patterns of organization” (Capra 2003, 70). Accordingly, comprehension of these patterns suggests an increased understanding of the mechanisms of social life (Cudworth and Hobden 2012, 173). Applying the two-option approach to complexity thinking, Cudworth and Hobden

argue, only highlights its inadequacy when it comes to providing insights for the specific characteristics of social systems.

The general approach could include those works of scholars who explain complexity by referring to networks in which mathematical and computational systems assist the analysis of social affairs. Cudworth and Hobden classify the view of complexity as networks that are a separate approach to core assumptions of complexity. Networks exhibit continuous behavior in social and non-social fields.

In *Small World: Uncovering Nature's Hidden Networks*, published in 2003, Mark Buchanan goes even further, arguing “that many of the inherent complexities of human society have little to do with the complex psychology of humans” (Buchanan 2003, 2). Buchanan (2003, 2) suggests that the existence of similar patterns in numerous social settings is evidence that “conscious beings” do not have a role in society at all. He contends that it is instead the complex networks of social patterns that have a role in society. Yet Cudworth and Hobden maintain that the view of complexity as networks places inadequate focus on “the multi-leveling of complex systems” (Cudworth and Hobden 2012, 174).

The restricted approach is similar to what Cudworth and Hobden define as a differentiated approach to complexity. They see an analytical split between social and non-social systems. Their approach considers particular characteristics of the social, while considering complexity in both social and non-social organizations and the probability of “overlapping, interrelating, and co-constituting” characteristics of social and non-social systems (Cudworth and Hobden 2012, 174). Furthermore, they argue that “the impacting and co-constituting systems” are shaped by the interaction

of “human social systems and those involving non-humans” (Cudworth and Hobden 2012, 174).

The restricted complexity approach helps achieve significant progress in formalization, which expands the social complexity theory, and the use of complexity in modeling, which facilitates the capacity for “complexity approach” in various disciplines (Gunderson et al. 2002, 63). Moreover, the restricted approach suggests that the principles of complexity are located somewhere in the epistemology of traditional approaches, as if these approaches actually create the complexity principles. While this approach establishes a hybrid between the rules of mainstream approaches and those of complexity, it negates the primary puzzle of complexity, which is “epistemological, cognitive, and paradigmatic,” as Morin puts it. In so doing, the restricted approach acknowledges complexity, but by simplifying it and without comparing it to existing paradigms.

Cudworth and Hobden (2002, 174) argue that “self-organized interactions” neither dissolve the social into the physical (contrary to what network and concilience approaches may suggest), nor do they dissolve the physical into the social (contrary to what metaphoric approaches tend to do). Instead, these interactions distinguish specific qualitative and quantitative characteristics of human social systems from natural ones. These interactions emphasize the advantages of the self-organizing properties of human social systems compared to those of natural social systems (Westley et al. 2002, 104–105). Both systems are complex systems in and of themselves and might be influenced and organized in complex ways (Westley et al. 2002, 104–105). However, “signification,” which is specialization of the social sciences and helps social systems to distinguish themselves to a certain extent from

time and space, is the critical arrangement aspect of ecosystems (Westley et al. 2002, 104–105). In addition to this differentiation, the reiteration (or, the repeated loops) of social systems signifies the possibility of changes occurring in social systems, i.e., more revolutionary changes when compared to non-social systems (Westley et al. 2002, 104–105). Moreover, while non-social systems are capable of “remembrance,” or memory, humans and intra-human social systems exhibit characteristics of “consciousness and reflexivity,” in other words, awareness and reactions (Cudworth and Hobden 2012, 175).

Social systems can more readily adapt themselves to change by which social and non-social systems face devastating results such as the struggle of humanity during the coronavirus pandemic. Cudworth and Hobden (2012, 175) define social systems as “complex adaptive systems” that reiterate and deliver patterns of “relational social power.” Because they assert that the reputed characteristics of social systems demand a lot if complexity is to be applied effectively to the analysis of social affairs, they offer a differentiated approach.

The differentiated approach requires allowing for the possibility of a range of social dynamic systems that are operated by diverse institutional systems (e.g., capitalism or patriarchy) within the context of social affairs that “implicate multiple species, and ecosystems in which various kinds of human collectivities are embedded” (Cudworth and Hobden 2012, 175). Noting that social and non-social systems have different characteristics, Cudworth and Hobden (2012, 175) argue that the two systems are “co-constitutive, overlapping, and intersected.” Their approach acknowledges distinctive, interactive, and co-constitutive characteristics of systems. However, the differentiated approach overlooks specific features of social systems that Cudworth

and Hobden (2012, 175) define as “the operation of systems of social exclusion and inclusion and multiple power relations.”

Jack Snyder, in a 1993 article titled “New Thinking About the New International System,” employs the complexity approach not as “a new theory of the international system,” but rather as a basis for “suggestions and illustrations for thinking in new ways about international system effects” (Synder 1993, 20). Gunitsky shares Snyder’s view that the complexity approach is “more than a metaphor but less than a theory,” and, like Snyder, thinks that the guiding rules of complex adaptive systems are sufficiently extensive to design a testable theory of global political systems (Synder 1993, 20; Gunitsky 2013). He also believes that the assumptions of complex adaptive systems theory can be conceptualized as an analytical framework or a set of epistemological principles that highlight mechanisms that can be used for examining the underlying assumptions of commonly used theories.

According to Morin, systems offer a generic notion whereby a new methodology can be utilized in a general way without needing a general theory of systems that insists upon traditional links to reduction, homogenization, and abstraction. Instead, the organization/systemic aspect should be built into all theories which, in turn, should be subject to reassessment in order to identify how they are linked to the main assumptions of the organization. Such a systemic methodology is also a way to assess and monitor dynamic feedback iterations among terms that are simultaneously complementary, competitive, and antagonistic (Morin 2005, 16).

This restricted approach implies that before specifying a testable hypothesis of the logic of the chaotic IR view and “non-linear dynamic systems” by analyzing social

affairs, we must first highlight the difference between social systems and scientific systems that “act” in the mathematical sense (Cudworth and Hobden 2012, 178). In mathematical terms, a system is a relationship of networking dynamics with similar characteristics such as a shared aim, constituencies, boundaries, structures, and functional circumstances. The behavior of social systems share similar characteristics with scientific systems but differ in their dependency on the consciousness and willingness of the relative dynamics involved. The relationship of the relevant dynamics is at the core of social systems, which is also crucial for any analysis of social affairs that requires us to provide feedbacks. These feedbacks raise the issues of self-consciousness and the willingness of the system to reconsider its behavior.

Chapter 3

THE NATURE OF THE IR SYSTEM

Scholars of global political affairs present their findings based primarily on the ontology of Newtonian principles, rather than on the ontology of relations, which are “the important missing dimension in most theories of IR (Wight 2006, 296). In his 2000 book, *From Sociology to Historical Science*, Immanuel Wallerstein (2000, 31) defines the traditional model from which simplifying approaches derive as “far from describing the totality of natural phenomena, in fact, descriptive of very special and limited cases.” Nevertheless, the Newtonian substantialist ontology of things still exerts influence on the widely held perception of the international system as anarchic in nature – that is, as lacking effective centralized governance (Wallerstein 2000, 31). This anarchic claim falls short on several counts (Schmidt 2006, 12). In the first place, it assumes that the international system only *appears* to be anarchic (Waltz 1979, 88). Also, the anarchic claims of international system are generally derived from the Westphalian view of the global political system as state-centric. Furthermore, the anarchic claim focuses on a view of states as homogeneous and the view that transnational threats emerge from interstate threats. Last but not least, the anarchic claim overlooks non-linear dynamic causation and the vitality of feedbacks within a complex international system that exhibits selective, emergent, and co-adaptiveness characteristics.

Wallerstein (2000, 31) believes that it is noteworthy that complexity scholars reverse almost the entirety of traditional Newtonian principles by insisting on the “arrow of time” as well as “the end of certainties.” The arrow of time refers to the sensitive dependence of complex systems on the initial changes in time-dependent variables that generate action-reaction spirals, through which the forces of change are multiplied as time passes. Such a chaotic relationship triggers a dramatically different evolution of the system compared to the envisaged outcomes, which signifies the end of certainties.

Complexity scholars seek to understand the character of turning points, i.e., changes in initial conditions that generate feedback loops through which revolutionary paths are implemented. Iterations are important to comprehend paths throughout time. These nuances that help explain complexity thinking represent a shift from the reductionist generalizations of traditional linear approaches to social science. The causal logics of the chaotic view of the nature of the international system suggest a comprehensive description of natural phenomena by borrowing many characteristics of complex systems, which are characterized by generativity, selectivity, emergence, co-adaptiveness, heterogeneity, and non-linear interactive dynamics that produce feedbacks. Thus, the chaotic logic extends its focus to view systems as path-dependent, an approach that is more helpful in our efforts to understand social change (Walby 2007, 449).

This section of the thesis concentrates specifically on the distinguishing characteristics of the anarchic claim and the chaotic logic of the international system. The causal logics of traditional mainstream IR theories overlook these core assumptions of chaotic logic that view the nature of the international system *as a*

complex system. Because they theorize ideal types, mainstream neo-realist and neo-liberal theories and their critical attempts provide only a partial understanding of the international system. They offer simplistic interpretations that ignore feedbacks and the complexity exhibited throughout the relationship of relevant dynamics because a simplified model is easier to study and analyze (Walby 2007, 449). In so doing, the social sciences fail to emulate the revolutionary methods of physical and mathematical studies, such as the advent of quantum mechanics and the principle of uncertainty that replaced the paradigm of simplification in these non-social sciences.

3.1 The Anarchic Claim

3.1.1 Mainstream Theories

International politics was first defined as an “anarchy” in the late nineteenth century by scholars of international law such as James Lorimer (Jenks 1940, 44; Lorimer 1877, 184; Acharya and Buzan 2019). Lorimer (1877, 184) had been a strong advocate of the preponderance of anarchy over order. "I do not say that perpetual peace will always be impossible even in this world” Lorimer says and adds that:

I say, without hesitation, that perpetual peace is impossible at present, and that, in my opinion, it will be impossible during any period of time, or under any conditions, of which jurisprudence can take cognizance. I consequently dismiss it altogether and at once from the objects of the positive law of nations. No form of national organization has ever reached the point of eliminating the elements of disorder from national life, and it is vain to hope that international law should yield higher results within the sphere of international life. The preponderance of order over anarchy is all that has been attained in the one case, and all that I hope for in the other. Beyond this, human will, as yet, appears to be as impotent as when brought into conflict with the destructive forces of physical nature. (Jenks 1940, 45.)

The term anarchy was then used recurrently in the field of international law to denote the lawless nature of the international society. For example, Goldsworthy Lowes Dickinson (1916) invoked it in 1916 in order to explain the outbreak of First World

War (WW1). He introduces his 1916 book by a short reminder of “the great and tragic history of Europe” throughout which “there is a turning-point that marks the defeat of the ideal of a world-order and the definite acceptance of international anarchy” (Dickinson 1916, 13). Dickinson (1916, 13) identifies this turning point as “the emergence of the sovereign State at the end of fifteenth century” and adds:

it is symbolical of all that was to follow that at that point stands, looking down the vista of the centuries, the brilliant and sinister figure of Machiavelli. From that date onwards international policy has meant Machiavellianism. Sometimes the masters of the craft, like Catherine de Medici or Napoleon, have avowed it; sometimes, like Frederick the Great, they have disclaimed it. But always they have practiced it. They could not, indeed, practice anything else.

These early authors also argue that anarchy does not mean the lack of order (Oye 1985, 226; Gilpin 1981, 28; Waltz 1979, 102). Rather, they observe that relationships among states are usually marked by a remarkable number of behavioral arrangements and order by which the international system regulates the behavior of states (Gilpin 1981, 28). The question then, is this: if law does not provide order to ir, what does? Three answers to this question that Lorimer provided in 1877 have blazed through IR theory ever since: balance of power, independence, and international law (Lorimer 1877, 184). Linking the ineffectiveness of international legal system to the lack of adequate force behind it, Lorimer (1877, 208) criticizes legal authorities who struggled “not to found international institutions corresponding to national institutions, but to discover substitutes for them, confessedly less complete and symmetrical, but professedly more attainable.”

In his 1940 article “The Significance Today of Lorimer’s ‘Ultimate Problem of International Jurisprudence,’” Wilfred Jenks alludes to balance of power as one such substitute. He cites Lorimer’s disagreement with the principle of the balance of

power based on “not that it involves the yielding of right to might,” but that it “only permits might to make itself right by being prepared to resort to war, which is an uneconomical arrangement.” Jenks (1940, 46) includes the following quotation from the Lorimer:

It is the necessity of ascertaining, on each special occasion, the side on which might really lies, and the possibility of the temporary triumph of ultimate weakness, that is the cause of international war, and the removal of that cause does not lie, even theoretically, within the scope of the doctrine of the balance of power.

A century after Lorimer’s inquiry on the possibility of order, Hedley Bull, a prominent scholar of the English school who will be discussed later in this study, repeated the same question in 1977 about what provides order or stability to the international system. Bull (1977, 8) defined order as “a pattern of activity that sustains the elementary or primary goals of a society of states or international society” and added some ordering principles, including diplomacy, international organizations, and war. He made a big point of the fact that an “anarchical society” did not imply lack of order since “at no stage can it be said that the conception of the common interests of states, of common rules accepted and common institutions worked by them has ceased to exert an influence” (Bull 1977, 8.). The literature on international regimes has maintained a similar stance, according to which regimes regulate the international system by constraining and guiding states’ behavior in line with norms and rules for all and thus generating “possible patterned, or orderly behavior” (Milner 1991, 70; Weber 1978, 54; Jervis 1982, 370).

Waltz also hints of regularities that are exhibited in his anarchical system model through which a recurring configuration of balances of power provides a means for

regularized patterns of relations between states (Waltz 1979). The anarchic claim is cleverly articulated- by Waltz, who first outlined neo-realism (structural realism) by extending the earlier realists' individual level analysis to the systemic level.¹⁵ In fact, the source of the birth of neo-realism as a new theory was the realization in the aftermath of WW2 of the failure of institutions and idealism to avoid armed conflict and outright wars.¹⁶

Waltz places a strong emphasis on the rational calculations of sovereign states that focuses on the issues of military power and distribution of power among states in an international system with an anarchic nature. In this anarchic structure, there is no central supreme authority over states that provides collective security for individual states. Under these circumstances, each individual state is responsible for ensuring its own security. This anarchic assumption pushes states toward competition with each other to advance their relative gains by which their gain is the loss of their rivals (Schmidt 2002, 25). Duncan Snidal describes this behavior as relative gain problem “which is widely argued to be a major impediment to cooperation under anarchy” (Snidal 1991, 701). These competitive behaviors are defined as collective action problems that prioritize short-term incentives to act selfishly.

¹⁵ Classical realist scholars Hans Morgenthau, E. H. Carr, and George Kennan linked the causes of conflicts to human nature, including several qualities and characteristics of individuals as well as their psychology. They suggest that a deciding factor for states is to maximize their power or national interests in order to ensure their self-security. These views of political realism were not new but derived from the ancient wisdom of Thucydides, the ancient Greek historian and general who is called the “father” of the political realist school. In his book, *History of the Peloponnesian War*, Thucydides examined the story of security competition between the ancient Greek city states of Athens and Sparta in order to determine the causes of wars. He defined fear and pride as basic characteristics of human nature and as the main drivers of wars, particularly when coupled with manipulative human characteristics that prioritized national interests. Slaughter, Tukumello, and Wood 1999, 370.

¹⁶ While there is no scholarly agreement on how to conceptualize idealism, at the most general level it means an approach to global politics that aims to advance certain ideals or moral goals, such as a more peaceful world. Idealism is very much about institutions by which groups of rules or norms regulate a particular subject issue, such as the League of Nations, which was established in 1920 to prevent wars and settle international disputes. Keohane 2012, 125–126.

In the 20th century, realism remained the dominant security school particularly in the American theoretical school of security studies, which was marked by a theoretical intra-realist debate between offensive and defensive realism.¹⁷ Realism explains very well the Cold War strategies of the US that generally acted as realism depicts (Snidal 1991, 701). During that period, the US relied on regional allies like Turkey to uphold the balance of power in the Middle East. Nevertheless, this realists' focus on the issues of military power and distribution of power among the states limits their analysis to the military security factor and to the state actors by overlooking scholarly disciplines that addressed the great damage that humanity suffers in war.

Drawing on Willam Fellner's microeconomic theory and inspired by Émile Durkheim, Waltz's theory dovetails nicely with theories of complex systems (Waltz 1979; Fellner 1949; Durkheim 1893). He would have agreed fully with the claim that the empirical world (IR) is complex, as is obvious from first part of his *Theory of International Relations* (Waltz 1979, 12). But it is equally obvious that for Waltz, the task of IR is not to describe events and reality in all their details but to make a simplified model of it, and, in tune with the principle of Ockham's Razor, to use as few variables as possible. Waltz criticized and rejected several previous systems theorists for being reductionist and presented his own structural theory as a non-reductionist or holistic alternative—an attempt that irritated several self-declared systems scholars, including Morton Kaplan, who wrote an entire book to refute Waltz's argument (Waltz 1979, 18; Kaplan 1979).

¹⁷ The arguments of defensive realism stem from threat perception and lead decision makers to mobilize power not to destruct but to take caution against potential threats. On the other hand, the main goal in offensive realism for actors is to continuously strengthen their power. Walt 2018, 6.

Structural realism maintains that the repeated interaction of states generates anarchy as the dominant emergent characteristic of an international system in which states that can successfully safeguard their own-security will survive while those that cannot will be eliminated (Gunitsky 2013, 39). Cudworth and Hobden (2012, 177) cite Waltz's 1979 work that envisioned a linear relationship between the international system's polarity and features, in which the rival superpower claims to global domination would have secured a longer-lasting stability than that of a dominant single hegemony. According to Gunitsky (2013, 39), anarchy is "an emergent property" that acts as a limit on the action of its elementary units and does so irrespective of "their intentions, behaviours, and characteristics." He also argues that structural realism borrows core principles from complex systems and illustrates "the rigid separation of systemic and unit-level effects" as well as "the notion of emergent properties instantiated by anarchy (Gunitsky 2013, 37).

The logic of structural realism is similar to chaotic logic insofar as both refer to differentiation of unit-level effects from systemic-level effects and to emergent characteristics (Miller and Page 2007, 27). Nevertheless, the former differentiates from the latter in that structural realism insists on a static approach to global political affairs that overlooks systemic effects on state characteristics (Gunitsky 2013, 37). The theory fails to extend its analysis to cover the impact of systemic pressure on the behavior of its elementary components and to lay out the interactions by which these reactions occur. In Gunitsky's terms, "by focusing on state behavior at the expense of state attributes, structural realism ignores the dynamics of domestic transformation embedded in its core principles" (Gunitsky 2013, 50).

Critics highlight the inadequate focus of the structural realism theory in analyzing process, transformation, and adaptation (Gunitsky 2013, 50). Considering the above discussion, this inadequacy stems from structural realism's neglect of the fact that the international system shapes not only the behavior of its components (state-units) but also their characteristics. Besides failing to consider internal change in state-units, other relevant limitations of the structural realism include its neglect of the causes of systemic transformation.

Cudworth and Hobden (2012, 177) cite Waltz's 1979 work that envisioned a linear relationship between the international system's polarity and features, in which rival superpower claims to global domination would have secured a longer-lasting stability than that of a dominant single hegemony. Because structural realism fails to adequately consider the interactions between the system and its components in its structural framework, it simplifies this interaction into a "one-way relationship" (Gunitsky 2013, 50). By doing so, structural realism neglects the causes of systemic shifts that "logically emerge from its focus on relative power as the central element of international relations" (Cudworth and Hobden 2012, 177).

Structural realism's ignorance of change is a result not of its limits, but rather the theory's core assumptions that fail to fully framework the effects of system dynamics (Cudworth and Hobden 2012, 177). Structural realism favors a "continuity-oriented framework" that focuses on the international system (which it views as dominant on unit characteristics) at the expense of the internal characteristics of states-units (Ruggie 1983; Ashley 1986; Kratochwil 1993; Schweller 1996; Spruyt 1996). By over-emphasizing the anarchic structure as dominating the decisions of internal components of its state-units, Waltz overlooks how the internal characteristics of

state-units can play an important role by pressuring for international change, for example, through grassroots movements.

Insistence on the continuous systemic limits upon unit characteristics leads to the obvious inadequacy of the realism theory in explaining systemic changes. This theory considers the international system to be a static structure that is solidified as a result of the interactions between states in such a way that it identifies their behavior as a driving force even though it always remains static. According to Waltz, systemic level analysis is more appropriate to the study of continuousness, while the unit level analysis explains transformation (Nexon and Goddard 2005, 30–34). Nevertheless, several other neo-classical realists such as Gilpin that depart from Waltz by extending their focus to address not only continuity but also change within the international politics (Gilpin 1981). Similarly, Gunitsky argues that structural-functional theories are not only relevant with static and ahistorical explanations of international system (Gunitsky 2013, 51). He suggests that they recognize that “mechanisms of both unit-level and systemic change are perfectly compatible—are indeed an essential element—of any structural theory of international politics” (Gunitsky 2013, 51).

Gunitsky hints at some uncertainty in Waltz’s 1979 work on the subject of “whether anarchy is an input or an emergent property of the system” (Waltz 1979, 100). Wendt, a key contributor to quantum social science and to social-constructivism (discussed later in this thesis), examines structural realism by focusing on a duality in its theoretical argument that implies that states not only shape the international system but also are themselves shaped by the system (Wendt 1987, 341–43). Gunitsky’s terms, “this duality serves to emphasize the feedback-loop nature of the

argument” by which “the system and the states exist in a state of constant co-adaptation” (Gunitsky 2013, 48). From the viewpoint of chaotic logic, the international system does not appear as an exterior and solid structure as structural realism defines it. Accordingly, its emergent characteristics, stemming from the repeated interaction of its elementary parts, are neither constant nor purified from its elements.

The structural realism theory frames democratic types of government as exhibiting a greater ability, compared to other forms of government, to adapt themselves throughout the process of selection and socialization directed by anarchy and, as a result, more adept at inspiring others to model their success. Nevertheless, structuralist causality explains phenomena in terms of the cause or the means by which they arise rather than the end purpose or goal they aim to bring about—i.e. that democracy is the rational purpose or position of regime evolution.

The selection procedures are structured by the type of systemic pressure, while “the nature of this pressure is subject to change due to exogenous shocks or transformations in the nature of the actors” (Gunitsky 2013, 48). This type of government changes according to differences in its environment. For example, a nascent international system may select state characteristics that do not function as a democratic government.

Avoiding anarchy in national systems requires the constraint of individual sovereignty. Similarly, managing anarchy in the international system requires the limiting of national sovereignty, which is attainable through global leadership or dominance (e.g., by a hegemon or a group of great powers) or through the

consolidation of interests among sovereign states. Stressing the hardship of maintaining either the hegemony or great power cooperation, Gunitsky argues that “the emergent properties of the international system are always defined by anarchy” (Gunitsky 2013, 48). He notes that “over the past few centuries, abrupt hegemonic transitions—that is, periods of sudden rise and decline of great powers—have created short-lived but immense opportunities for systemic transformations” (Gunitsky 2013, 48). The core assumptions of structural realism explain these systemic transformations as being the result of geopolitical catastrophes generated by rapid transitions in relative power.

Neo-liberalism, which emerged as a response to structural realism, differs from the latter in its belief that anarchy can be managed and its emphasis on the importance of institutions as non-state actors that are able to tackle anarchy.¹⁸ Yet, neo-liberalism, like neo-realism, still recognizes the anarchic structure of international system and takes rational states as the core subject of its analysis. According to the neo-liberal view, the problems deriving from anarchic structure can be properly managed by promoting mutual trust as well as establishing norms, regimes, and democratic institutions that develop mechanisms to enforce international treaties and agreements to decrease the possibility of anarchy.

In the words of Charles Kegley “realists believe that leaders’ goals and their corresponding approach to foreign policy choices are the same,” and, thus, “the decision making processes of each state can be studied as though each were a unitary

¹⁸ Major neo-liberal influences are the works of Robert O. Keohane (*After Hegemony*), Joseph Nye (*Power and Interdependence*, co-authored with Robert O. Keohane), Charles P. Kindleberger (*Hegemonic Stability*), and Stephen Krasner (*International Regimes*). Evans 1998.

actor—a homogeneous or monolithic unit with few or no important internal differences that affect its choices” (Kegley 2008, 67). Neo-liberalists differ from neo-realists in that they highlight the complexity of the states, including the constitution of political parties, specific interest groups, politicians, and voters rather than homogeneous actors, although they share the neo-realist belief that states are unitary and rational interest-maximizing actors (Kegley 2008, 67). This view of states as rationalist actors suggests that their preferences are fixed and overlooks the social processes that help to understand how state interests adapt to change.

Neo-liberalism suggests a much wider definition of state interests than structural realism in its claim that states primarily pursue absolute gains, by which their absolute gains are also gains for their rivals, unlike the structural realists’ focus on relative gains (Snidal 1991, 771). However, the neo-liberal focus on institutions that depend on state consent in order to function effectively remains state-centric (again, like realism) and overlooks the chaotic nature of international politics. The international system is infinitely more complex and interdependent than anarchy: the choices of individual human agents of system can have significant and potentially devastating global effects (Ruggie 1998a, 139).

Joseph S. Nye and Robert Keohane, who are core contributors to liberal thought, developed the concept of interdependence (Keohane and Nye 1989, 23–24). According to their interdependence theory, while anarchy plays a part in the international system, it is not the only part. Nye has sought to reconcile the views of anarchy by emphasizing the lack of central control and interdependence in anarchic systems and by citing the greater influence of the interaction of various political dynamics. He has also defined the concept of interdependence as several factors that

become intertwined in complex relationships between states that are characterized by cooperation, dependence, and interaction in various areas (Nye 1993, 160).

Interdependence theory may seem attractive because of its emphasis on the reconciliation of anarchy. Nevertheless, it runs the risk of avoiding or blurring the essential question rather than providing an answer for whether the international system is still by definition anarchic. It still views states as rational units and central actors of the international politics that can employ force as a useful tool to pursue their interests. While interdependence theory assumes that the international system lies somewhere between realism and complex interdependence, it still does *not* advocate an end to the claim of anarchic structure of the international system. It is instead the chaotic IR view of international system that advocates the end to the claim of anarchic structure of the international system and helps depict international politics as closer to what it really has become—chaotic.

3.1.2 Alternative Theoretical Debates

Marxism, feminism, and critical theory have emerged as alternative explanations that use different language than mainstream/orthodox realist and liberal approaches (Çali 2010, 37). Marxism focuses on class struggles and views international system as reflecting the ideologies and interests of transnational capital (Williams 2005, 135). Feminist theories view the international system as gender-based and dominated by masculine tendencies (Williams 2005, 135). Robert Cox maintains that while traditional mainstream theories focus on the global affairs as they are, critical theory focuses on global affairs as they should and must be (Abbott 1999, 367). However, Marxism, with its focus on classes, feminism, with its focus on gender, and critical theory with all its contradictions (regarding to both the static and dynamic aspects of

social structures) are only partial explanations rather than comprehensive schools of thought that deal systematically with the chaotic nature of the international system.

Other prominent theoretical debates about IR theories concern specific interpretations, such as democratic peace theory, which derives its hypothesis from the liberal school of thought (Russett 1993). The US's stated reason for declaring the 2003 Iraq War in order to extend democracy in Iraq was grounded in the theory that democracies do not fight one another, but may use war as a democracy-building tool triggered devastating results (Matthews 2006). The democratic peace theory advocates the expansion of democracy by which the effective participation of the society in the decision making process and democratic institutions will prevent decisions to declare war and will lead to a reduction of conflicts (Matthews 2006). However, this focus on institutions that depend on state consent in order to function effectively remains state-centric and still fails to recognize international system complexities.

The English School, which was influential during 1980s in particular, has sought to find a moderate way between realism and liberalism. While recognizing the anarchic international system, the English School argues that not only power but also ideas shape the behavior of global politics. Hedley Bull, a prominent English scholar, points to the existence of a society of states "which not merely form a system, in the sense that the behavior of each is a necessary factor in the calculations of the others, but also have established by dialogue and consent common rules and institutions for the conduct of their relations" (Bull and Watson 1984, 1). While this approach improves upon the state-centric approach, it does not deal with the complexity of global political system.

The anarchic claims of the international politics are generally derived from the Westphalian view of the international system as state-centric and fail to adapt to the ever-changing international context. Prominent international legal and IR scholar Richard Falk (1998, 3) points out that the Westphalian type of sovereignty has been in transition since the end of WW2. The end of Western colonialism, coupled with the end of the Cold-War, has facilitated both the globalization and legalization processes in the global political system (Falk 1998, 3). Since it began in the 1980s, this legalization has already proven to be an uneven and prolonged process by which states have become involved in legalizing institutions such as the International Criminal Court, International Court of Justice, World Trade Organization, and European Court of Justice, and have delegated traditional state dispute settlement competences to these self-governed authorized actors (Falk 1998, 3). They have sought to tackle transnational threats stemming from the anarchic nature of international system.

The unpredictable proliferation of the legalization process coupled with increased institutionalization grants ordinary people and groups access to their procedures (Keohane and Nye 2000, 74). This transnational nature of international legal institutions has also challenged the prior status of states as solely global actors. Falk (1998, 15) questions whether this process is a “deep transition from the statist framework of Westphalian to some differently constituted, emergent, and normatively enhanced world, after the style of ‘the Grotian Moment’ but this time in reverse.” The Grotian Moment refers to the transition from one type of world order to another as the Westphalian model reflects the transition from medieval society to the sovereignty-based state system in the mid-17th century (Falk 1998, 4). The “Grotian solution” sought to understand a stage of transformation of the global

political system by accepting the end of the medieval world because of the loss of authority associated with Christian supra-nationalism and the emergence of a modern positivist international system that entailed construction of a new international nature (Falk 1998, 15).

The EU's model of pooled sovereignty, which began with the establishment of supra-national EU institutions through the Treaty of Rome in 1957, promotes this process of moving away from the Westphalian statist framework. Neo-realism explains the EU as relying on regional alliance to uphold the balance of power in the Europe, while neo-liberalism advocates that the EU member-states transfer their authority to reduce the costs of addressing the problems deriving from anarchic system as a rational decision. Nevertheless, this state-centric focus of the neo-realists and neo-liberalists on the issues of rational calculations among the states limits their analysis to state actors and overlooks the way supra-national EU institutions make many of their decisions: by consensus on the executive level without seeking the consent of all member states.

In line with this transition from the statist framework of Westphalian system, state-centric approaches began to be diminished in the post-Cold War era when international developments gave rise to a third debate in IR between rationalists and constructivists. In the 1990s in particular, individuals came to the forefront of analyses and theoretical approaches such as social constructivism, which emerged at that time. Wendt (1992, 393), Nicholas Onuf (1989, 367), Peter J. Katzenstein (1998, 291), Emanuel Adler (1997), Michael Barnett (1998), John Ruggie (1998b), Kathryn Sikkink and Martha Finnemore (Finnemore and Sikkink 1998) are leading social constructivist scholars who focus on the concept of identity to explain how culture,

values, and norms are reconstructed within the international system. According to these constructivist scholars, countries and their interests are not fixed, but created by shared understandings as well as legitimate norms.

Wendt considers interests and identity as not a given—as the realists argue. However, he stresses the importance of understanding how identities and interests are affected by the system by focusing on systemic variables. While rationalism maintains that process and institutions affect not identities and interests but behavior, Wendt considers the role of international institutions as key in the reshaping of state identities and interests. In their assumption of states as dominant actors and security in terms of self-interest, neo-realists and neo-liberals view anarchies as self-help systems that trigger security dilemmas and collective action problems. Wendt differs from the structural and deterministic view of anarchy as shaping interactions by suggesting self-help not as a result of anarchy but rather as the interaction of the units in the system. He argues that it is the process of interstate interaction with each other rather than state interaction with structure that defines whether the result is characterized by self-help. Thus, an anarchic system is not the initiator, but rather the permissive cause of self-help identities.

Both Adler and Wendt suggest that the constructivist school is positioned as a middle way between two positions: 1) the rationalist position of Emile Durkheim and Max Weber's neo-classical approach and 2) the reflectivist position of Friedrich Nietzsche and Michel Foucault and Jacques Derrida's post-modernist approach. Seeking to bridge the gap between realist-liberal and rationalist-reflectivist debates, Wendt's (1992, 394) approach is "drawn from structurationist and symbolic interactionist

sociology, on behalf of the liberal claim that international institutions can transform state identities and interests.”

Adler and Wendt distinguish constructivism from reflectivism. While ontologically favoring post-positivists, Wendt epistemologically favors positivists who are optimistic about social science. By contrast, Adler implies constructivism as the middle ground between rationalist and relativist approaches. According to Adler, unsustainable assumptions of the reflectivist approaches reject the separate existence of both foundational truth and an independent reality.

Constructivist disagreement with traditional mainstream theories is ontological, not epistemological. The constructivist position shares common methodological and epistemological notions with rationalist position that privileges states as the main actors and social science as the method of study. Wendt’s approach differs from Nickholas Onuf’s and Freidrich Kratochwil’s approach regarding the type of theory that is appropriate for the examination of the social world. Wendt favors positivist and naturalist positions, as rationalists do, regarding the issue of knowledge, according to which specific types of entities in the social world can be analyzed through the methods used in the natural sciences. In contrast, unlike the rationalists, Onuf and Freidrich Kratochwil view the social and natural sciences as distinct worlds that require distinct and different analytical approaches.

Critics view constructivism not as a fully developed theory, but rather as an approach that prefers the recommendation of diverse perspectives and various agendas such as reconciliation between neorealism-neoliberal and rationalist-reflectionist debates. The constructivist approach has been criticized for omitting reality in explanations of

IR by taking a partial interpretation of reality and claiming that it exists independently. Critiques stress that constructivism's analytical and especially normative power is limited. Wendt has been widely criticized for not including the level of domestic politics but rather remaining committed to "scientific realism." Identity is a key issue for Wendt, who treats it as stable and corporate, that is, formed by the self-organizing structure that distinguishes "self" from the "other." Nevertheless, it might be a debatable issue whether identity, which does not exist apart from articulation and contextualization, is corporate or stable, as Wendt argues, or whether it has no clear bounds and is not rationally consistent.

Diverging variations of constructivism emphasize the "psycho-social" nature of the international system, i.e., the interrelation of psychological and social behavior, and includes ideas and values as determinative of the policy making process (Wendt 1992, 393). Constructivism moves beyond the state-centric by extending its focus within the subjects, including other actors, individuals, and the public. Yet, it does not offer a chaotic analysis that investigates the non-linear interaction of several external dynamics, internal dynamics, and characteristics of these internal dynamics.

Some constructivist scholars such as Christian Reus-Smit (2004) are more inclined to legalistic interpretations that signify the importance of feedback effects in the interaction between international law and international politics (Çali 2010, 40). While constructivism explains how Islamophobia (i.e., prejudice against Islam and Muslims) is securitized throughout the West in the post-9/11 era, its expectations that legal institutions and regimes stand for a set of principles are not met. For example, global institutions could not prevent the brutality of the Syrian regime against its own people in recent years, but neither could they have reinforced a set of universal

rights. Furthermore, constructivism does not offer a quantitative analysis that investigates the non-linear interaction of the internal dynamics of involved actors, such as how the absence of EU monitoring mechanisms in Turkey's political and legal system reversed the country's initial positive behavior in Syria. In other words, the incompetence of global legal institutions and regimes contributed to the further provocation of Syrian conflict. Constructivism would suggest that if global rules, regimes, and institutions were organized in order to tackle intrastate relations, they would be more influential in preventing the conflict in Syria.

Beyond these mainstream theories and critical attempts to explain the metamorphosis of the international system, the specific predictions generated by mainstream interpretations in works such as *The End of History and the Last Man*, *The Clash of Civilizations*, and *The Coming Anarchy* are also only partially designed. That is, they fail to explain the uncertain and protracted tectonic shifts in values, beliefs, ideas, and behavior experienced gradually as well as implicitly that are based on widely held perceptions (Schmidt 2006, 12). Questioning whether the downfall of the long-standing Westphalian state system can be characterized as a Grotian Moment, Falk (1998, 4) investigates alternative concepts of the Grotian solution. The most well-known concepts are Francis Fukuyama's, Samuel Huntington's and Robert Kaplan's interpretations of the metamorphosis of the nature of international structure in the search for a comprehensive explanation about what is shifting and what is impending in the restructuring of the international system in the post- 9/11 era.

Fukuyama's *The End of History and the Last Man* identifies Western values and political structures as having a certain universality due to the end of the struggles and shifts throughout the hierarchical power structure of the international system

(Fukuyama 1992, 115). He also argues that the US will continue its hegemony as the sole power throughout the world. However, by placing a strong emphasis on the superiority of one power, Fukuyama fails to explain the very rapid and uneven power struggles and shifts in the post-Cold War era. This change of power structure among state categories was prolonged during that period.

Huntington's doctrine posed in his book *The Clash of Civilizations*, on the other hand, proclaims that in the post-Cold War era nations and groups of different civilizations rather than national states would be the determining factor in the formulation of national security strategies (Fukuyama 1992, 115). However, as Falk suggests, what has captured the interest of IR scholars is Huntington's forecasting of a religious war between Christian and Muslim civilizations as well as inter-civilizational rivalries. These rivalries between "the West versus the rest"¹⁹ have generated both Western concerns about Islamophobia and non-Western concerns about a possible trajectory of Western imperialism, which is widely perceived as an expression of the intentions of US leadership and as supportive of chauvinistic reactions to economic globalization (Huntington 1996, 199). Huntington (1996) fails to explain how civilizations would manage to expand their geographical territory in order to unite and live together in harmony under the circumstances of reemerging geopolitical struggles. This requires overcoming the challenges confronted by today's cosmopolitan structure, which consists of different ethnic groups or other interest groups (that are not ignored) managing to live together cooperatively.

¹⁹ According to Falk, the point to be emphasized in Huntington's interpretation was rather more "conceptual," as Huntington claimed that civilizations rather than states were expected to act as determinative agents, and that not only inter-civilizational relations and norms but also intra-civilizational values and traditions should be considered.

Last but not least, Kaplan's interpretation in *The Coming Anarchy* places the expansion of the anarchic situation in Africa and the Middle East in the mid-1990s into protracted and devastating patterns. He identifies these patterns as international systems' behavior indicators for the future because of the decline of states and the strengthening of ethno-religious identities (Kaplan 2000, 18). The terrorist attacks of ISIS (Islamic State of Iraq and Syria—one of the strongest radical Islamist groups in Syria) in various EU states in recent years have already exhibited metastasizing effects. The expansion of the Middle East's cancerous status-quo into the middle of the EU is unlikely because of the prolonged internal peace among EU countries. Kaplan claims that the US as the hegemonic power should tackle rogue states as global problems that have implications throughout the blurring territories of an intertwined international system. However, by defining all states as "failed states" in the early 1990s, Kaplan's analysis fails to provide feedback in order to emphasize the importance of the potential role that some states like Turkey could have played in spreading peace and democracy to their regional neighbors (Kaplan 2000, 18). (See this study's analysis of Turkey's recent role in the Mideast in Section 4 below.)

To summarize, the international system has undergone a metamorphosis since the end of WW2 in 1945 that has transformed its nature beyond anarchy. This has fostered theoretical puzzles about the quantity and scope of the metamorphosis that has occurred in the nature of the global political system. Traditional mainstream theories and their critical attempts fail to help us understand the recent transition of the international system into a chaotic system. They are simplifying approaches that divide the whole into smaller units in order to study the related phenomena, which is an ill-advised approach when dealing with an environment in which the characteristics of systems cannot be fully understood if approached on a unit-by-unit

basis (Waltz 1979, 18; Waltz 1986, 342; Nexon and Goddard 2005, 10; Gunitsky 2013, 45). The particular social processes to which the concept of international politics refers incorporate many components, including state as well as non-state actors that are not the same in nature but are indissolubly intertwined. The chaotic IR view provides new and universal horizons for facilitating this self-consciousness. In order to maximize employment of the chaotic logic of global political system, it is necessary to consider its scope in terms of its uses and its boundaries.

3.2 Chaotic Logic

3.2.1 Path Dependence on Non-linear Dynamics

In his 1997 book *System Effects*, Robert Jervis (1997, 20) argues that the international system is a chaotic system, i.e., a network of inter-connection in which “a small change in any one of several elements can set off other changes in the same direction, leading to drastic alterations in the system and its elements.” Jervis (1997, 20) sets out a comprehensive explanation of chaotic systems, arguing that they are complex dynamic systems sensitively dependent on their initial conditions.

The sensitive dependence of complex systems suggests that the international politics is not a simple linear model. Thus, chaotic logic extends its analysis to cover non-linear dynamic causation and feedbacks stemming from the chaotic nature of the international system that are ignored by traditional mainstream theories and their critics. As a complement to the chaotic IR view, non-linear equilibriums provide a comprehensive analysis to explain how the feedback loops of securitizations in the post-9/11 era provoked the paralysis of the international system and global insecurity. Various interactions between diverse actors in the real world mean that the global political system is most correctly explained as being non-linear, which

might be very difficult to analyze (Jervis 1997, 20). It is often difficult to predict results when it comes to non-linear behavior given that significant inputs can result in small changes in the initial conditions, while seemingly slight shifts in the original conditions can lead to drastic changes.

Gunitsky (2013, 36) uses the complexity approach in his study of “the problem of theorizing change in structural realism, and the dynamics of democratization across state borders.” He points out how the complexity approach can provide insights for critiquing mainstream IR theories, primarily by what it tells us about the dynamics of change in IR (Gunitsky 2013, 36). Gunitsky (2013, 39-40) illustrates this non-linear causality by citing how “the assassination of a Balkan archduke may blossom into a global conflagration” and suggests that “consequences of even seemingly insignificant actions are often very difficult to predict.” He therefore cautions that “a single event can have multiple unintended effects as it ripples throughout the system.” Gunitsky (2013, 40) goes on to suggest that a linear view leads to “common, intuitive, and often false” principles in social systems, since social systems seldom operate in line with linear systems.

The sensitive dependency of non-linear systems on initial dynamics is the underlying logic behind the core assumption of disorder and unpredictability as complex systems’ distinguishing characteristics. Nonlinear behavior, as Elliot and Kiel stress in their 1997 work, *Nonlinear Dynamics, Complexity, and Public Policy: Use, Misuse, and Applicability*, raises questions about “the extent to which we may be capable of both prediction and control in social and policy systems” (Elliot and Kiel 1997, 68). In its insistence on non-linear causality, the chaotic logic of social affairs does not overlook the very specific limitations of predictability. Thus, it suggests a

view less comfortable for the IR discipline and its founding purpose “to put controls on the operation of the social world, specifically to find and put limits on the occurrence of warfare” (Cudworth and Hobden 2012, 178).

It should be noted that while many of the studies of complex systems consider disorder and unpredictability to be their distinguishing characteristic, the unpredictability claim comes with its own contradictions (Cudworth and Hobden 2012, 169). Those arguing that mathematical and computational approaches can be applied successfully to the social sciences (on a methodological level), epistemologically consider that complexity thinking may help when it comes to predicting social affairs (Buchanan 2003, 2; Miller and Page 2007, 4; Cudworth and Hobden 2012, 173). Putting complex systems on a par with Newton’s “Laws of Motion” in their 2007 work, *Complex Adaptive Systems*, John Miller and Scott Page argue that mathematical and computational tools are inherently appropriate to the social problems, “as they easily embrace systems characterized by dynamics, heterogeneity, and interacting components” (Miller and Page 2007, 27). This deterministic claim of complex systems is contradictory to the concept of dynamic and non-deterministic complex systems (Cudworth and Hobden 2012, 174.).

The heterogeneous and non-linear dynamic interactions between components and the system are characterized by attributes of complex organizations. James Thomson, an American sociologist, explains complex organizations as a set of interdependent parts which together make up a whole (Thompson 1967, 6). This logic is similar to the logic of interdependence theory in that both refer to situations in which dynamics or events in different parts of a system affect each other (Ruggie 1998a, 139).

Nevertheless, the international system is much more complex and interdependent than Nye and other mainstream IR theories and their critics describe it.

In their effort to explain systemic behavior in terms of the state actor's preferences and power, mainstream theories of IR emphasize structures rather than the international characteristics of internal components. A chaotic system is different from the assumption of neo-realism and neo-liberalism that structures, including states and international institutions, are powerful and matter more than the international characteristics of the internal components such as specific interest groups or groups with diverging views within political parties.

From the point of view of advocating a deep metamorphosis from the Westphalian view of the international system as state-centric, the chaotic IR logic extends its focus by analyzing the behavior of not only state actors, but also the behavior of states' internal components. This causal logic is another characteristic that distinguishes the chaotic IR view from traditional mainstream theories. The conceptual framework of Louise Diamond and John McDonald—the “multi-track diplomacy system”—promotes a stimulating concept that underscores the metamorphosis of the international system from including only states to also including internal components of states.²⁰

²⁰ It is a widely held view that peace making and conflict resolution are practiced through the diplomacy and participation of both “Track One” and “Track Two” diplomacy, which include official efforts by state officers and unofficial efforts by non-state actors respectively to address global crises. The multi-track diplomacy concept is exceptional in its systemic approach to peace making and peace building processes throughout a community because it identifies contributing participants and activities as not only official state tracks, but nine additional tracks that include internal components of states that are complementary to each other. These components operate collectively as a system of global diplomacy to mediate and resolve conflicts. Diamond and McDonald 1996, 6.

The chaotic IR view's focus on internal components of systems brings its causal logics into the realm of transnational threats that have shifted from interstate to intrastate in origin. The international system is now experiencing contemporary threats that constitute new transnational challenges, including the spread of biological diseases, cross-border pollution, hostage-taking by terrorist groups, movement of refugees and asylum seekers, and proliferation of weapons of mass destruction. These, in turn, trigger the risk of more exposure to possible carcinogens, metaphorically speaking, including polarization, geopolitical power struggles, emerging authoritarian regimes, diminishing democratic values, and a high level of income inequality.

The increased unjust distribution of global capital throughout the globalization process has facilitated the ability of specific interest groups to exert influence and control throughout the state's decision making mechanisms as internal components of a state's system. This facilitates their ability to choose to restructure intrastate and interstate relations through both threats and fear-mongering and by positive, constructive means. The causal logic of the chaotic IR view is inclusive: it focuses on the entire system and does not ignore the effects of the interaction of internal components, such as the intrastate threats involved (Bell, Howard, and Amos 1988, 88).

The causal logics of the chaotic IR view also shift attention away from the widely held anarchic view of states as unitary and homogenous actors (Buzan 1996, 210). Chaotic logic maintains that states are heterogeneous actors. The shifting nature of threats from interstate to intrastate, in turn, has fostered questions about the quantity and scope of globalization process that the unitary state system has also undergone in

its metamorphosis from homogeneous to heterogeneous. This metamorphosis demands an appropriate comprehensive response, that is, a new legal synthesis to allow global legal rules access to the frontiers of the sovereign state in order to reorganize intrastate relations. The development of this new synthesis is already underway as the focus of a growing number of global legal rules shift from interstate relations to a given government's capacity and will. Such a legal synthesis can help change individual nations' incentives to tackle new transnational threats or to avoid acting selfishly.

One result of these systemic effects has been the deviating pursuits and concerns of a global pluralistic society. The chaotic logic of states as heterogeneous actors explains how state interests adapt to change better than they are articulated in mainstream neo-realist and neo-liberal theories. Traditional mainstream theories fail to explain the uncertain and protracted tectonic shifts in values, beliefs, ideas, and behavior experienced gradually as well as implicitly that are based on widely held perceptions (Schmidt 2006, 12). While structural realism overlooks "systemic effects on state attribute," complexity thinking instead extends its analysis to cover the impact of systemic pressure on the behavior of its elementary components and lays out the interactions by which these reactions occur (Gunitsky 2013, 37).

According to Gunitsky (2013, 37), systemic pressures can illustrate "the sources of continuity in state behaviour and the sources of change in state organization." The complexity approach, therefore, considers democratization as "a global process of interstate competition and socialization" directed by the systemic pressures such as globalization process (Gunitsky 2013, 37). The increased movement toward decentralization throughout nation state systems as well as greater fragmentation

within the legal global system have been furthered by the rapid advancements in information systems and the transformation of capabilities.

James Rosenau, a pioneer in the globalization studies field, conceptualizes “global turbulence” as global chaos that is formed by any kind of disorder in order to express that advances in people’s capabilities through better education and technologies, the rise of new actors, and the decline of state authority promote both greater fragmentation as well as greater integration throughout global system (Rosenau 1990, 244–245). Rosenau (1990, 244–245) defined global chaos as shorthand for the changes brought by global turbulence for the fragmentation and decentralizing tendencies that are altering the identity and number of actors. These tectonic shifts within the international system have helped the complex organization of the IR system that is directed by feedbacks.

3.2.2 Complex Adaptive System

The causal logics of the chaotic IR view recognize feedbacks, which are an important IR component overlooked in particular by neo-realism and neo-liberalism theories. By underscoring the significance of its counter-intuitive qualities of both positive feedback and negative feedback, chaotic logic suggests a more nuanced sense to explanations of change in the global political system. Non-linear interactions can generate loops of positive feedback, by which a cause and outcome reciprocally reinforce one another. The prevalent notion of transformative power is an example of positive feedback that triggers the self-reinforcing expansion of a phenomenon, such as the transformation of Syria into a zone of peace and stability.

Nevertheless, change in the global political system might follow what is called a “punctuated equilibrium,” in which stages of relative stability collapse due to

unexpected and dramatic transformation. The value of the punctuated equilibrium is that it can provide an understanding of rapid change in interstate relations and the importance of norms in international politics. The transnational diffusion of liberal democratic values cannot be comprehended separately from the resistance it causes, while universalism, implying commonly accepted rules on a global scale, triggers particularism, implying specific interests of special powers within a homogeneous community.

Similarly, it is not possible to comprehend the globalization process separately from the resistance to it – while competition facilitates counteracting. In complexity terms, “positive feedback in the form of self-reinforcing mechanisms often produces negative feedback in the form of self-dampening mechanisms, and in doing so can help explain the Janus-faced nature of democratic diffusion (Gunitsky 2013, 38). From this point of view, the overriding authoritarian populist reaction of the governing elites in recent decades is a vital negative feedback generated by resistance to democratic movements and globalization tendencies that occurred throughout the 1990s and continue to this day.

Nevertheless, the concept of feedback has been simplified without thoroughly considering the epistemological effects. A feedback is a process which complexifies cause and effects. But the implications of this are not elaborated on the epistemological level. Morin (2006, 11) stresses that feedback is “already a complex concept, even in non-living systems.” Wiener (1948) suggests the concept of a loop within the concept of negative or positive feedback. While negative feedback dampens the changes that are continuously disposed to form, positive feedback is

generated when an organizing system is not capable of dampening the changes and thus changes then strengthen and contribute to a kind of widespread system collapse.

In the 1950s, Magoroh Maruyama suggested that positive feedback, for example, escalating social deviance, is a cause that facilitated social transformation in the past. Morin illustrates the social deviations that triggered momentous transformation of social life. These deviations, Morin (2006, 11) argues, include “the monotheist deviation in a polytheist world, the religious deviation of the message of Jesus within the Jewish world, then, deviation in the deviation, its transformation by Paul within the Roman Empire, deviation, the message of Mohammed driven out of Mecca, taking refuge in Medina.” Maruyama also notes the emergence of capitalism in the feudal world, the founding of modern science in the seventeenth century, and socialism in the nineteenth century as processes that were triggered by social deviances that, if they are not eliminated, are then capable of generating “chain transformations” (Morin 2006, 11).

Concerning the interaction between the local and the global: we live in a complex world in which people are required in our global age to think about both the local and the global and aim to behave both locally and globally simultaneously. This is important: regional rights can become global wrongs and global rights can result in regional wrongs. As Morin (2006, 11) argues, “the truth of the need to fight against terrorism can lead to interventions, which will favor even more the development of terrorism,” and cites Iraq as a powerful example.

Along with emergent properties and non-linear interactions that generate loops of feedback, co-adaptation is an inherent characteristic of complex dynamics derived

from repeated interactions by which a system can shape its elementary dynamics that also shape the entire system (Gunitsky 2013, 43; Thompson 1982; Jervis 1997, 48–49). In the social-political system, powerful actors drive the transformation of systems by generating effects upon them. Complex systems exhibit not just co-adaptive characteristics but adaptive ones, too.

Gunitsky (2013) distinguishes adaptation from evolution, two distinguishing characteristics that are often used interchangeably. In adaptation, the focus is on strategic actors such as social systems that can predict how others may act and plan ahead based on knowledge acquired from past experiences. Evolution, on the other hand, uses local maximization as a restraint. For example, when it comes to learning, predicting, and acting, the mechanisms of biological systems are limited by their past experiences (Gunitsky 2013). Then, the processes of “social reproduction and inheritance are continuous in adaptive processes,” in contrast to those of evolutionary systems in which “mechanisms of biological reproduction and inheritance are distinct—that is, proceeding from generation to generation” (Gunitsky 2013). This difference matters, especially when the analysis of adaptive processes overlooks evolutionary analogies or critiques.

The international system acts as a selection mechanism through which specific institutional characteristics prevail over others, while selection norms may differ over time. Within this selection mechanism, competing units of the international system (primarily states but also international organizations, NGOs, and multinational corporations) will fail or survive based upon their relative adaptiveness (Waltz 1979, 25). While socialization generates norms that urge these units to adopt the attributes of their successful rivals, their ability to survive depends on the choices they make as

well as on how they are organized (Waltz 1979, 25). The international system operates as facilitator for a continuous and penetrating course of “turmoil”—what Gunitsky (2013, 46) defines as “change both within surviving states, and in the combination of states that comprise the international system.” Therefore, systemic pressures can provide insight into continuity in internal behavior as well as discontinuity in internal institutions (Gunitsky 2013, 46).

Similar to its neglect of the underlying forces of unit change by its concentrating on state behavior at the expense of unit characteristics, structural realism is absorbed with the relative power of states (that they have in relation to other states) at the expense of co-adaptive characteristics of the international system from which the causes of systemic changes emerge. The distinguishing characteristics of chaotic logic, on the other hand, can provide insight for both domestic and international levels of transformation. In terms of the domestic, the core assumptions of chaotic logic explain how the interaction of systems and components can be extended to cover the analysis of the characteristics of states’ elementary parts as well as their behavior.

Also, while considering systemic change, chaotic logic differs from the logic of structural realism insofar as the former considers co-adaptation, by which the relations between the whole and elementary parts are considered reciprocal. In other words, while the international system drives the behavior and characteristics of states within it (as its elementary units), states can also change the system, which means that not only can the system influence its units but the units, particularly those actors with exceptional material power, can initiate the transformation of the system.

To summarize: the distinguishing causal logics of the chaotic IR view argue for an end to simplifying anarchic and deterministic approaches. These include a focus on the chaotic nature of the international system, which relies on the characteristics of complex organizations such as selectivity, emergence, and adaptiveness as well as co-adaptiveness that are ignored by traditional mainstream theories and interpretations. This belief in the complex organization of the international system leads to advocacy of the importance of the internal components of states, such as transnational threats that emerge from not only interstate but also intrastate threats and a view of states as heterogeneous, not homogeneous, actors. Gunitsky (2013, 39) warns that “cautious, security-seeking states may therefore create an unstable and conflict-prone world because they lack sufficient information about the motives of others and fear a pre-emptive attack.”

We now turn to the example of Turkey during the time period from 2002 to the mid-2010s as an example of path dependence on non-linear feedback loops and complex adaptive systems. The rift in its EU accession process that drove Turkey’s unilateral engagement with Syria proves that countries such as Turkey exhibited a dependence on the US preferences during the George W. Bush administration (2001-2009), in line with selectivity characteristics of chaotic systems. Indeed, the Bush administration’s preference for a unilateral US war on terrorism as a response to the 9/11 attacks generated a major negative feedback that weakened US influence on its former allies, the EU and Turkey, which demonstrates the complex adaptability of chaotic systems (Kaplan, 2008; McAllister 2003, 16. Sözen 2010, 55). The US unilateral war on Iraq in 2003 generated mutual securitizations, global financial crises, and populist-nationalist tendencies (Larrabee and Lesser 2003, 135–36). These negative feedbacks dampened the pro-EU influences within the ruling

administration in Turkey and reversed Turkey's EU-led democratization and, thus, its transformative role in Syria.

Chapter 4

A CHAOTIC VIEW OF TURKEY'S CHANGING BEHAVIOR IN SYRIA

As a methodology, the chaotic IR view highlights very effectively how Turkey's foreign policy engagement policies, which had been implemented since 2002 until the early 2010s, has been increasingly configured by post-9/11 fears. Turkey's initial engagement with Syria was positive: it included intensifying diplomatic ties, economic agreements, and joint armed agreements (Sözen and Şahin 2012). However, the decrease of Turkey's initial positive behavior in Syria in the early-2010s provides us with the opportunity to apply the chaotic view to world politics in empirical terms. Employing the chaotic logic in a specific international affairs issue also demonstrates how IR scholars can translate some of their conceptual ideas around the chaotic system of IR.

This section of the thesis presents the findings drawn from an examination of Turkey's changing perceptions of threat and how these perceptions altered the role it has pursued in Syria. The Syrian status-quo is a good case to use to assess how chaotic logic differs from mainstream interpretations and theories that address the global political system from an anarchic view, which, as we have seen, often overlooks the path dependency on non-linear feedbacks that are an important part of international system.

Chaotic logic offers a concise analysis of how the post-9/11 fears generated negative feedbacks that provoked self-dampening forces on Turkey's EU-led internal restoration process and its bid for a transformative role in its region. From a chaotic IR view, a testable hypothesis can be derived by considering the feedbacks drawn from the interaction of the relevant dynamics of the Turkish government's policies of internal restoration and increased engagement with the West and the Middle East. This would focus on the self-consciousness and willingness of Turkey and the relevant dynamics of the country's engagement in Syria in order to reconsider these involved actors' behavior.

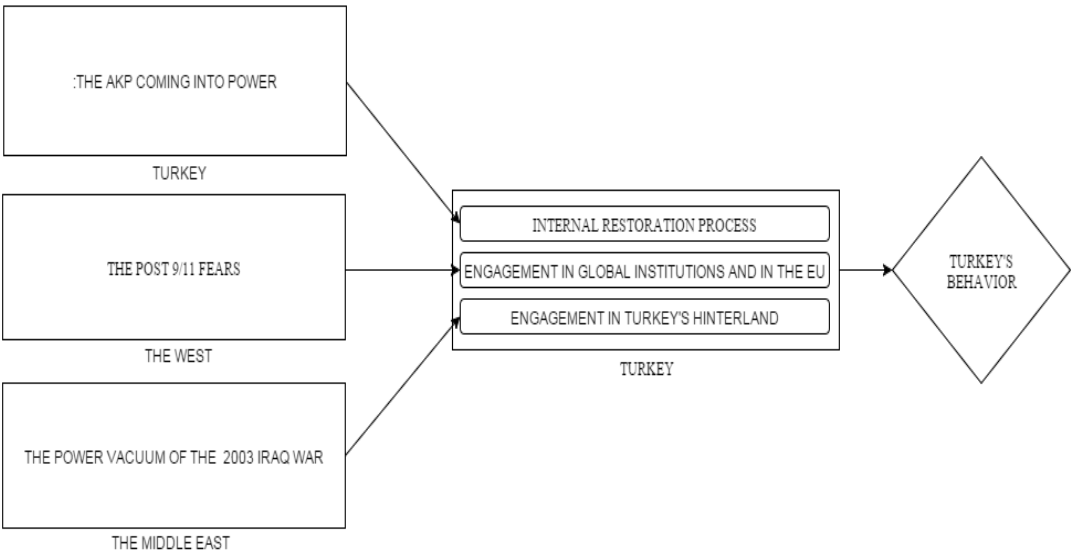


Figure 4: Dynamics of 3-Pillar Policy (Şahin and Sözen 2022a, 62).

The remainder of this section then concludes from its findings that the ongoing transformation of the current world order exhibits the need for a more sensitive and comprehensive framework of international law that could meet the pluralistic demands and security concerns of a pluralistic global society. As the international realm undergoes contra processes of fragmentation and integration, it is united in the

common destinies with which it faces both interstate and intrastate threats that overwhelm the capacity of state-centric solidarity. The transnational nature of international society and international order invokes the urgency and inevitability of pluralistic norms and institutions that would provide essential global level coordination and early warning mechanisms.

4.1 Turkey versus the Cancerous Status-quo in Syria

4.1.1 Turkey's Increased Engagement with Syria

After 2002, Turkish leadership in Ankara sought to set in motion Turkey's "internal restoration process" together with its engagement policies that sought increased cooperation with both the West and the Middle East. The EU-led democratization process of which Turkey was a part reinforced democratic decisions by the Ankara government that generally reflected public opinion in Turkey. Meanwhile, Turkey pursued a transformative role in Syria that sought to bridge its experience of EU-led transformation with the Middle East, all in the early 2000s.

The Ankara government's initial actions, however, were dampened by the excessive securitized and populist tendencies of the ruling elites in the US and the EU in the post-9/11 era. Post-9/11 fears, coupled with the repercussions of the 2001 Afghanistan War and the 2003 Iraq War, successfully generated a new international parameter: "a fundamental cause for international crises and wars and as a decisive factor in the re-adjustment of the international system" (Davutoğlu 1997, 1). Under this parameter, which was driven by the overriding authoritarian populist reactions of some of the Western governing elites (which constitute negative feedbacks), the EU did not summon the self-consciousness and willingness to support Turkey's transformative behavior.

When the EU reactions to the 9/11 attacks, coupled with the rift in EU-Turkey relations over the Cyprus negotiations in progress at that time, reached a stalemate in 2007, the EU partially suspended EU membership negotiations with Turkey. Turkish public opinion about these developments can be summarized as “if they don’t want us, we don’t want them” (Şahin and Sözen 2022a, 65.). These internal pressures, along with the aforementioned Western reactions to 9/11, dampened Ankara’s initial drive toward Turkey’s internal restoration and the expansion of this political transformation to its Middle Eastern neighborhood.

The rift in the EU-Turkish accession process convinced Turkish leadership in Ankara to unilaterally increase its engagement with the Middle East. Meanwhile, the strong geographical, economic and imperial bonds with Syria acted as the basis of Ankara’s bid for increased regional role to reconnect Turkey with Syria. At this time, then-Turkish Prime Minister Ahmet Davutoğlu defined the country’s immediate sphere of influence in the former Ottoman territories as including Syria, together with northern Iraq, i.e., Turkey’s historical hinterland. In political terms, hinterland refers to an alternative geography in which the territory of a state is perceived relatively less important than territories where the state posits strong geographic, historical, economic, cultural and theological ties. Turkey was ambitious: it wished to pursue a regional leadership and order-promoter role in the Middle East region to contribute to a regional transformation and, in so doing, to gain leverage in its relations with the EU (Şahin and Sözen 2022a, 58-63).

Having adopted a more independent approach, i.e., one that transcends its previously NATO-oriented foreign policy, Turkey now pursued an ambitious regional leadership role while seeking to become an energy center that connected Middle

Eastern and Caucasus energy resources to Europe (Johnson and Gramer 2019). However, Turkey's changing role in the region faced sudden challenges once political problems arose in the region, most notably during the Arab Spring protests in the early-2010s. Throughout the Arab uprisings, Middle Eastern citizens challenged their current administrations and political regimes in an effort to carry out deep and rapid reforms that would address the violence, scarcity, and insecurity that many Middle Eastern societies faced. However, these regimes did not have the capacity to offer an acceptable response to the public outcry. As a result of these political developments and the impasses they caused, the on-going economic and social hardships (as carcinogens) challenged the Middle Eastern people at the lowest levels of society. Furthermore, the irresponsibility of governing elites exacerbated these challenges throughout this turbulent period.

Ankara initially sought to have the wind of the Arab Spring at its back by claiming a regional leadership or even a kingmaker role in addition to its transformative role. However, the developments on the ground surpassed Turkey's capacity because it lacked a foreign relations anchor, that is, a Western ally. Turkey's bid for a such a leadership role was also under direct challenge because the Arab Spring diffused to Syria. In addition to Turkey's bid for a transformative role, Syrian leadership in Damascus was at the core of Ankara's pragmatic strategy to have a say in the regional developments, particularly in the aftermath of the 2003 Iraq War, which provided armed Kurdish groups with a safe zone in the northern part of Iraq.

Ankara's feeling of insecurity and mistrust of the credibility of the West and NATO in its struggle with the Kurdistan Workers Party, the PKK—"a designated terrorist organization which has fought a bloody insurgency inside Turkey," increased as the

Kurdish administrations in northern Iraq and northern Syria had become more apparent and more engaged with the West (Şahin and Sözen 2022d, 27). While Turkey dealt with its problems within the context of the NATO alliance forged during the Cold War, NATO has never been a solution for Turkey's PKK (the armed Kurdish militants) problem. Many NATO members were reluctant to support Turkey's military operations against the PKK, and the PKK was tolerated when it came to giving its militants asylum in NATO countries such as Belgium, Denmark, and the Netherlands (Sander 2016). Ankara's increased hostility toward its former Western allies prompted Turkey to reconsider its relationships within its perceived hinterland, that is, former territories like Syria and Iraq where Turkey does have strong historical, cultural, political, theological, and geographical ties (Sözen and Şahin 2013, 47).

During the 1980s and 1990s, the Turkey-Syria relationship was strained because of the Damascus's backing of the PKK, which is seen by the Turkish ruling elite as a terrorist organization that is a vital threat to its integrity (Aras and Fidan 2009, 195). Syria had been at the core of government's engagement policies when Ankara began to act together with its neighbors in order to enhance its situation and establish alliances with countries sharing similar problems with increased Kurdish nationalism. In line with *realpolitik*, Syria's Kurdish people have been a remarkable motive for the ruling Bashar Assad regime of Syria to collaborate with Turkey's priority to suppress the materialization of Kurdish nationalism that would trigger a quasi-Kurdish state (Aras and Fidan 2009, 195). These mutual interests initially offered an opportunity for Turkey's pragmatic and proactive policies in the region.

Turkey's economic agreements with Syria offered conditionality to motivate Assad regime's goals of compliance with the West and democratize its governance, as liberals suggest. Furthermore, Turkey's engagement with Syria had initially included an offer to assist the Assad regime, which had proved incapable of responding to the demands of both Syria's own people and global society. This assistance would "offer protection from internal and external threats, deliver basic health services and education, and provide institutions that respond to the legitimate demands and needs of the population" (Weinstein 2004, 9). These self-reinforcing mechanisms toward Syrian transformation (as antioxidants) were what the 2004 report of the Commission on Weak States and U.S. National Security of the Center for Global Development, a Washington-based independent and nonpartisan research institution for global prosperity, had already suggested.

Turkey's increased engagement with Syria in the past decade has nevertheless remained unilateral and has become differentiated from the vision of Ankara's engagement policy emphasis on a transformative role.²¹ Turning its back on the West, Turkey risked losing its Western orientation (Martin 2011). It was the Western anchor of Turkish foreign policy that initially facilitated the evolution of Turkey's internal restoration process and increased its credibility as well as its relative strength in the region. However, Ankara's increased engagement with the Middle East faded as Turkey shifted back to its priority-based foreign policy, which is limited by its threat perceptions toward the PKK in particular.

²¹ Turkey, together with the US and EU member states, was involved in the formation of an informal, apolitical, multilateral Global Counterterrorism Forum in New York on September 22, 2011. This was an informal multilateral government network that engaged foreign ministers and related officials in tackling terrorism. Participants worked toward this goal by sharing their knowledge, tools, tactics, and capacity while operating on the margins of the UN General Assembly. Slaughter and Burke. 2006, 334.

When the political situation worsened in Syria in 2011 due to the Syrian regime's violence against its own people, Ankara adapted its engagement policies in line with the demands of protestors by balancing its already established pragmatic relations with the governments of the Muslim Arab protestors. Syria is populated by heterogeneous ethnic and religious sects. As the violence against Syria's protestors increased in April 2011, Turkey supported certain proxy groups among these sects through external intervention by a policy of outright regime change. Turkey adopted this policy, which included conventional deterrence and border defense strategies, in August 2011, when Turkish leadership's calls for the Assad regime to reform proved fruitless.

Using the terms of the cancer analogy used in this thesis, the continued oppression by Assad's regime exhibited self-dampening feedbacks (carcinogens) that surpassed the capacity of the Syrian opposition to initiate social and/or political change. The behavior of the Assad regime has been characterized as a drive to "commit human rights abuses, provoke humanitarian disasters, drive massive waves of immigration, and attack their neighbors"—what (Fukuyama 2004, 92) identifies as the general behavior of weak states. These carcinogens reversed the initial changes offered by Turkey while strengthening the cancerous Syrian status-quo that has been characterized by insecurity and uncertainty stemming from increased sectarian violence and transnational terrorism.

By the end of 2011, the relative strength of Turkey's capacity to counter Assad's regime diminished because of the absence of a Western anchor for its engagement policies and the incongruity of an outsider like Turkey promoting peace inside Syria. In addition, the Assad regime has been strongly backed by competing order-

promoters such as Russia and Iran, which generated a counter-mobilization against the forces toward promoting change in Syria. Facing these obstacles, Turkey adapted and reshaped its foreign policy toward Syria according to the factors of Russian and Iranian involvement (which can be seen as external carcinogens).

Fears about the uncertainty of the results of the protests in Syria convinced the Turkish leadership in Ankara to seek a tactical approach (“random policies that at best can offer only short-term gains rather than securing a long-term arrangement”) that sought to prevent the emergence of an “independent Kurdish state” but at the cost of contradicting its initial courageous and transformative behavior (Şahin and Sözen 2022c, 93). Turkey abandoned the policy of engagement in favor of a new policy that pursued increased engagement with the *people* of neighboring countries, not with corrupt regimes. Meanwhile, Turkey partnered with Qatar to remove the corrupt Syrian regime, mobilizing a mixture of armed coercion against Assad to force him to understand that he would get nowhere by resorting to the use of force, as well as diplomatic initiatives to convince him to give up power.

During the 2010s, the Syrian civil conflict continued unabated between Sunni-majority Islamist rebel groups and Assad regime forces backed by Syrian religious (Alevite) and ethnic (Kurdish) minorities. Turkey had geopolitical motives to provide assistance to particular Islamist groups who were fighting against the rebelling Kurdish factors in particular. By late 2011, the Turkish leadership in Ankara arguably began providing one-sided support for Sunni Islam in Syria at the expense of other groups such as the Kurds and Alevites. As a result of these polarized power struggles, the Syrian civil conflict became increasingly sectarian from 2011 onward.

What further strengthened the sectarian nature of the Syrian conflict has been the power vacuum that arose when the US began to limit its engagement in different regions during US President Barack Obama's administration (2009–2017) (Feaver 2016). The gradual abandonment of the US Middle East strategy sought to help the US get rid of the weight, or the burdens, of the 2003 Iraq war period. However, the withdrawal of the US armed forces from the region has generated a power vacuum that transnational actors like ISIS sought to fill (Antonopoulos 2017, 416). The ensuing terrorist attacks perpetrated by ISIS in the Middle East and various EU states in recent years caused an immediate securitization of radical Islam as a result of the speech-acts of political or military elites throughout the world that attracted world-wide public attention and established a consensus on the ISIS threat (Aydın et al. 2018, 19).

In its fight against ISIS, the Obama administration pursued a short-term strategy of opening areas for regional actors to maneuver and, in so doing, to provide the US with the strategic flexibility in responding the new global challenges like transnational terror (Druckman 2019, 102-103). This behavior was explicit in Obama's policies in the Syrian crisis in 2014 toward the armed Kurdish groups, when the US pursued short-term policies such as strengthening regional actors like Syrian Kurdish People's Protection Units (YPG) as a resistance against ISIS (Görmüş and Özel 2018, 135). However, increased US cooperation with armed Kurdish groups has raised Turkish security concerns: many in Turkey began to believe that these US policies are the exact opposite of helping Ankara's policy priorities (Simon and Stevenson 2015, 2-3; Öniş 2014, 203; Ertem and Karadeniz 2019, 7). In return, Ankara has increased its political and military support to

particular Islamist Sunni groups, especially those rebelling against Kurdish influences (Kardaş 2020).

All these developments as effects of the Obama's gradual abandonment policy of the Middle East have contributed to the destructive security competition between regional actors in the Middle East and in other regions (Aras and Falk 2016, 2252; Agdemir 2016, 223). The sectarian nature of the conflict, coupled with the power vacuum caused by the decline of US influence in the Middle East, pulled other competing actors into the regional power struggles. Thus, Turkey's initial intention to provide a transformative role in Syria failed in an uncertain and polarized region and simultaneously strained its relations with the states of Syria, Iraq, Egypt, Qatar, United Arab Emirates, Russia, Israel, Iran, and the US. Again, according to our cancer analogy, these power struggles acted as carcinogens that created more cancerous cells that, in turn, have strengthened the Syrian status-quo by overwhelming Turkey's resources and capabilities in the absence of EU assistance.

In its increased engagement with Syria, Turkey experienced internal and external dynamics (as carcinogens) that had been influential in the changing behavior of Ankara. While internal pressures have been influential in dampening Turkey's transformative role in Syria, numerous regional and external pressures reversed Turkey's own internal restoration process. The ruling administration in Ankara consolidated its power throughout Turkey's internal political struggles that worked against the principle of separation of powers. This increased authoritarianism of the government was a clear indication of Turkey's stepping back from its EU-led democratization process.

What EU officials found unacceptable was the government's unjustified sending journalists and academicians to prison, confrontations with the judicial branch and non-governmental organizations, limiting freedom of thought, and frequently and arbitrarily eliminating the use of social media. These undemocratic actions by the government became even more evident when it responded to the 2013 Gezi Park demonstrations in Istanbul that aimed to defend liberal and democratic values. The government allowed police cruelty against the demonstration protesters, who were accused by the police and government of being linked to terrorist organizations.

The Turkish leadership in Ankara experienced a number of challenges to their administration at this time, including populism, public misperceptions about the West, nationalism, and regional pressures coming from the Middle East (Şahin and Sözen 2022b, 67–68). For example, the mass influx of Syrian refugees, particularly into Syria's neighboring countries and Europe, which started as early as 2011, brought tactical approaches forward in EU-Turkey relations. For example, the 2016 Turkey-EU Refugee deal was intended to achieve an urgent outcome: to block the refugee influx on the EU side and to gain leverage and avoid isolation from the West on the Turkish side. Nevertheless, these tactical approaches were at the expense of conditionality mechanisms by which “the EU generally makes membership conditional on a stable and institutionalised democracy, respect for human rights, and protection and recognition of minorities” (Şahin and Sözen 2022b, 75). This changing ground provided more than enough grist for the government's ambitions to monopolize power (Şahin and Sözen 2022b, 87; European Commission 2015, 7-9; European Commission 2016).

As the ruling administration in Ankara consolidated power throughout Turkey's internal political struggles that worked against the principle of separation of powers, Turkey further distanced itself from the EU and NATO, more evidence of the reversal of its policy of increased engagement with the West (European Commission 2015, 9). Literally adding salt to the wound was an attempted military coup in Turkey in July 2016. The AKP administration declared a state of emergency upon the advice of the National Security Council (NSC). The actions taken under the state of emergency regime signified Turkey's turning its back on EU conditionalities while no longer anticipating the prospect of the EU membership. By following a relatively independent line from that of the EU and the rest of NATO, Ankara also ventured to forge a pragmatic collaboration with Moscow, so much so that it was flirting with the possibility of finding itself in conflict with the West (Kahl 2017, Aljazeera 2018).

4.1.2 Explaining Turkey's Shifting role in Syria

The findings derived from an empirical analysis of the counteracting forces influential in the Syrian crisis raise the question about the relevance of the anarchic claim of international politics and urges the need to come to an explicit end to such a claim. While mainstream theories focus on economic and political interests, critical attempts to refine the list of issues involved suggest adding the issues of identity, social classes, gender, and contradictions (relating to both the static and dynamic aspects of social structures) to the analysis (Schmidt 2006, 12; Sinclair 1996, 7-8). However, these issues and specific predictions generated by mainstream interpretations are only partially designed and do not constitute a comprehensive analysis of the chaotic nature of the international system. Nonetheless, constructivists imply that the role of ideational factors as causal, i.e., the securitization of Islamophobia

throughout the West in the post-9/11 era that generate feedbacks, and open the path for more adequate interpretations of the chaotic nature of the international system. Chaotic logic adds a degree of uncertainty to analyses of these streams and additional issues by accentuating the non-linearity, path dependency, adaptability, generativity, and selectivity of the international system.

In their emphasis on rationalism, traditional realists stress the myopic interests and rational calculations of the countries involved in the Syrian conflict. Extending their analysis to offer a more systemic level analysis, structural realists highlight the anarchic nature of the international politics as the basis of regional rivalries. Through the lens of a systemic-level-analysis, neo-realists stress the decline of US hegemony in the Middle East as generating a balance of power system in the region by which involved countries sought to enhance their national security. However, insisting on an anarchic international structure and the homogeneous self-interests of rational actors, realists inadequately address the counteracting forces within the international system in their explanation of how state interests are changing.

In their emphasis on the importance of economic interests and the superiority of global institutions, neo-liberal doctrines also fail to explain the rapid and uneven power struggles and shifts in Syria during the period addressed here. Economic incentives and institutional mechanisms offered by Turkey during the 2000s and the early 2010s did not compel the Assad regime to adopt more compromising behavior. Global legal institutions, which liberals consider as crucial enforcement mechanisms to be used to tackle the structural problems of anarchy, could not prevent transnational terrorism and sectarian violence in Syria. Neither could they prevent the brutality of the Syrian regime against its own people. In the absence of IR

theories helping provide decision makers with an awareness of the chaotic nature of the international system within which action-reaction spirals play a vital role, states would not show enough support for obedience to state institutions.

Marxism also highlights the material and economic interests of modern states, but does not address the issue of the behavior of states in security-related situations. Marxists see the Syrian conflict as an imperialist war that is not driven by the struggle of people to establish democracy but waged by the capitalist ruling class for power in terms of political and economic interests. Marxism views the bourgeoisie as the dominating economic class that owns the means of production, property, and capital. Thus, it views the Syrian conflict as reflecting the ideologies and interests of these specific classes that manage transnational capital and are vital for the sustainability of the global economy. However, this Marxist explanation of the Syrian conflict is only partial: it overlooks the transformative role that the self-reinforcing mechanisms of positive feedbacks could have played.

Feminist theories suggest another partial analysis to the Syrian conflict and emphasize that gender-based leadership structures dominated by masculine assumptions are a matter of biological rather than social fact. But this feminist view of international affairs is a reductionist and static analysis rather than a comprehensive and empirical interpretation of dynamic IR interactions. Moreover, this reductionist, static analysis naturally draws pessimistic conclusions. It neglects the promise of a dynamic international system in which courageous and bold behavior as positive feedback can make small changes that increase incrementally may lead to the collapse of the cancerous status-quo in the case of the Middle East.

In contrast to other IR theories, Robert Cox's critical theory questions the governing system and seeks to identify which mechanisms advance whom. His critical theory focuses on the contradictions "that generate unacceptable risks as well as generate spaces for creative resistance and transformative political behavior" (Falk 2016, 501). However, his theory evaluates problems as an integral part of mainstream IR theories. For Cox, every theory is positioned within a historical framework; he views international affairs from the perspective portrayed by the framework, which represents the interests of specific groups. Cox views theories such as realism and liberalism as problem-solving theories that are blind to or ignore this inherently biased view. By portraying international affairs according to interests of specific groups, problem-solving theories, whether knowingly or not, contribute to a system that advances the interests of specific groups. From the viewpoint of critical theory—thoughts are shaped according to aims—the cancerous Syrian status-quo is a result of how conflict is portrayed by mainstream theories that serve the interests of specific groups that benefit from wars. Chaotic logic agrees that the way problems are interpreted influences outcomes, but it implies the reverse effect of simplifying approaches that blind relevant actors.

In line with various streams of theories about international behavior, the specific predictions of the mainstream interpretations focus on partial systemic characteristics and neglect others. The rapid and uneven power struggles and shifts in Syria in the past decade contradict Fukuyama's end of history doctrine, which argues for the superiority of one power. Huntington's clash of civilizations doctrine fails to explain the reemerging geopolitical struggles in Syria that are represented by the Western powers, Saudi Arabia, and United Arab Emirates on the one hand, and Russia and Muslim Iran on the other. Finally, Kaplan's view of all states as failed states

overlooks the potential role the regional states such as Turkey could have played in solidifying the EU's transformative power in the Middle East.

The continuing status-quo in Syria reveals that the causal factors of Middle Eastern organized rivalries are beyond the material and economic interests as mitigating factors and are much more complex than the explanations that partial interpretations provide. Instead, ideational factors are also evident in the rivalries between certain proxy groups among various sects in Syria, such as the Sunni radical Islamist organization on the one hand and Alevites and armed Kurdish groups on the other. Extending their analysis to also cover non-state actors such as individuals and the public, constructivists argue that the conflictual interests of organized rivalries are not fixed, but generated as a result of feedback loops of shared understandings and by legitimate social norms.

Various explanations provided by the constructivist model or viewpoint emphasize ideational factors. For example, the Copenhagen school of the constructivist model coined the concepts of regional security complex theory, securitization, and sectors that suggest the international roles and historical perceptions of friendship and enmity between states that determine their relationship.²² This point of view explains how changing the international role pursued by Turkey and its changing perceptions of friendship and enmity contributed to the cancerous status-quo in Syria. Simultaneously, with the fading prospect of Turkey's EU membership and its possible transformative role in the region, Ankara began to pursue an ambitious

²² The term 'Copenhagen School' was used first by Bill McSweeney in his critical review essay titled "Identity and Security: Buzan and the Copenhagen School". McSweeney 1996, 81; Collins 2016, 87; Baysal 2020, 3.

regional leadership role in Turkey's historical hinterland. Nevertheless, Turkey's ambitious pursuit of a more independent-minded and self-confident leadership role in the Middle East was contested by Russia, Iran, Saudi Arabia, and the United Arab Emirates, countries that also sought to play the role of order-promoter in the region.

In addition to the justifications in theories and interpretations discussed above, constructivism and its derivations also pay inadequate attention to non-linear feedback loops and path dependency that stem from the dynamics of an IR system exhibiting chaotic and indeterministic behavior. These very crucial characteristics of chaotic systems have significant impacts on the initial conditions (such as the initial transformative role of Turkey during the early-2000s) that transform the comprehensive operation of the system. The relationship between Turkey's internal restoration process and a transformative role in the Middle East based on its Western anchor can be adequately explained through the chaotic type of equilibriums, where the relationship between counteracting feedbacks is non-linear and path-dependent. Non-linear equilibriums as a complement to chaotic logic provide a comprehensive analysis that explains the cancerous behavior in the interaction between the dynamics of Turkey's transformative behavior through the collapse of the cancerous Syrian status-quo.

4.1.3 Non-linear Equilibriums in Turkey's Engagement with Syria

Non-linear dynamic systems such as weather include three types of equilibriums. The first type of equilibrium is a state of a system by which negative feedbacks reverse the initial changes in dynamics (Thieart and Forgues 1995, 19). This type of equilibrium explains Turkey's traditional isolationist foreign policies conducted by Turkish administrations before 2002, which exhibited reactive (offensive) behavior toward countries that were perceived hostile to Turkish foreign policy priorities.

Particularly since mid-1970s, these priorities stemmed from Turkey's fears based on its perceptions of hostility toward internal (Kurdish) and external (Cyprus or Armenian) problems. This reactive behavior helped shape an isolationist Turkish foreign policy foreign as a result of self-dampening effects on Turkey's foreign policy, particularly in its engagement with countries like Syria and Greece, states that Ankara perceived as enemies because of Damascus's supporting the PKK and Athens's Cyprus policy.

The second type of equilibrium takes place when the system is directed by positive feedbacks through which the initial changes experienced in one of the dynamics are reinforced and continue accumulating exponentially until they result in systemic change. It is difficult to predict where the system goes: it could end with the complete collapse of the system. The EU's evolution into a zone of peace exemplifies this type of equilibrium. Because the EU makes its membership conditional on candidate states' adopting the EU way of law, this conditionality self-reinforces the enlargement of the EU's zone of peace throughout the new members of the bloc. This diffusion is evident in the EU's expansion from being a coal and steel community forged by France and Germany into the current EU bloc of 27 member states. It must be noted too, that the global leadership role pursued by the US in the aftermath of the WW2 represented a major positive feedback that strengthened the peaceful transformation of Europe—until the George W. Bush Administration.

The third type of equilibrium occurs when the system experiences counteracting forces through which positive feedbacks drive the forces toward change, while negative feedbacks reverse the original change and tend to increase the status-quo,

which is what happened to Turkey's bid for a transformative role in Syria (Thieart and Forgues 1995, 19). An analogy to this type of equilibrium is the Turkish leadership's initial transformative behavior during the early-2000s that had boldly sought a shift away from Turkey's prolonged isolationist and reactive behavior but faced populist-nationalist reactions within the EU based on post-9/11 fears. While the shifting policies (positive feedbacks) initially represented Turkey's expected transformative role throughout the new global system that would run counter to the cancerous Syrian status-quo, EU anxieties (negative feedbacks) reversed Turkey's transformative power (initial change).

The political transformation of Turkey (the target system) required Turkish foreign policy dynamics to be driven by reinforcing mechanisms such as positive feedbacks, as had occurred in the early-2000s. This was necessary, particularly when there was progress in Turkey's EU accession process that encouraged Muslim Arabs as Turkey would have offered a model of modern and secular Muslim country engaging with the Western institutions such as NATO and now the EU. These positive feedbacks initially reinforced the transformative role of the EU in the internal restoration process of Turkey (the initial change made in one of the dynamics of Turkey's foreign policy engagement policies). The expectation was for Turkey to import the EU model of transformation to the Middle East by strengthening political restructuring of the region's countries in favor of democratization and stabilization of political situations (positive feedbacks). Such self-reinforcing forces would have led to the collapse of the cancerous Middle Eastern status-quo through, in this author's terms, a revolutionary chaotic peace (Thieart and Forgues 1995, 19).

The unstable forces of the EU that impacted Turkey's transformative role indicate that the same reason can produce both self-reinforcing and self-dampening dynamics which can then produce seemingly unlikely or even contrary results that may have the same explanation (Gunitsky 2013, 40). While Turkey's EU accession process reinforced the government to take democratic decisions in which public opinion in Turkey plays a crucial role, the decline of public support for EU membership in December 2006, in part in reaction to EU's partial suspension of Turkey's accession negotiations, dampened EU's soft power on Turkey (Müftüler-Baç 2016, 98).

Turkey's EU accession process is an example of the democratic spillover (a virtuous cycle of diffusion of democratic participation from an economic sector into socio-political spheres) that is a process of positive feedback, the long-term outcome of which generates reversal effects by way of "elite learning, counter mobilization, and revolutionary overstretch" (Gunitsky 2013, 41). Adverse events, including arms races or financial crises, are examples of self-reinforcing mechanisms that destabilize a system and are not easily anticipated. The concept of democratic spillover in global political affairs almost always generates resistance to diffusion, while anticipation of this resistance significantly influences the motivation of the actors and the resultant outcome (Gunitsky 2013, 37).

Such a resistance was evident among European citizens' fears about the idea of extending the EU's borders to the chaotic Middle East in the post-9/11 era by approving Turkey's entry into the EU. A new international parameter that recognized and adapted to the extent of post-9/11 fears in the West has successfully generated self-dampening dynamics. These negative feedbacks, coupled with others stemming from the 2001 Afghanistan War and the 2003 Iraq War, dampened Turkey's political

transformation while strengthening the cancerous status-quo in the Middle East. Arrogant US behavior in the post-9/11 era not only dampened its influence on the EU, it caused problems in its relations with Turkey (Yetkin 2004, 16). These self-dampening forces prevented the George W. Bush administration from supporting Turkey's EU membership, unlike the approach of US President Bill Clinton's administration (1993–2001) toward the EU's expansion and Turkey's candidacy. Furthermore, the repercussions of these costly wars resulted in the emergence of the global financial crisis in 2007 that revived the old vulnerabilities of economic as well as political nationalism in Europe (Brzezinski 2012, 26–29).

These ideational factors help explain how Western perceptions of hostility about the chaotic Middle East and Islam resulted in populist-nationalist feedbacks that helped separate Turkey from the West and away from its transformative role. We return again to system analysis using chaotic logic factors to help explain what happened in Turkey's attempt to carve out a transformative role in the Middle East. Path dependence on non-linear feedback loops, generativity, and adaptability as key characteristics of chaotic systems advance our understanding of the dramatically strengthening of the cancerous Syrian status-quo during the period under scrutiny here, as compared to the expectations of its transformation. The past of chaotic systems is co-responsible for their present behavior. For example, the cancerous Syrian status-quo demonstrates evidence of a high dependence on initial conditions and non-linear relations under the circumstances of post-9/11 fears. This path dependence is generative on the reverse of Turkey's transformative behavior in Syria (Lorenz 1963, 130).

The forces of feedback iterations seek to coordinate the actions undertaken by other actors in the past (such as the US reaction to the 9/11 attacks) and influence actions initiated by other actors in the future (such as the role of Turkey's reactive behavior on the cancerous Syrian status-quo) (Schmidt 2006, 3). US President George W. Bush's arrogant use of a policy that unilaterally declared the 2003 Iraq war caused a feedback loop by which insignificant variations of its dynamic relationship played no small role in the strengthening of Syrian cancerous status-quo (Dunn 2003, 285; Walt 2018, 3). Needless to say, the choices of individual agents, such as Bush's decision to overthrow Saddam Hussein's regime in Iraq, had significant and devastating global effects: transnational terror organizations expanded their influence in the Middle East to a great degree at the same time as they were influenced by US actions that eliminated Hussein, one of their strongest adversaries.

The generativity of chaotic systems explains how the 2003 Iraq war was both a result (effect) and a cause (feedback) of the securitization of identity between Western and Muslim countries in the post-9/11 era. The war was a result of the extreme security measures taken as a reaction against the 9/11 attacks. It also generated feedback loops by which the US turned out to be a security threat in the eyes of not only US rivals, including Iran, Russia, and China, but also among its former allies, such as Turkey. When a regional Kurdish administration in northern Iraq became apparent in the course of the 2003 War, Turkey began to lose its trust in and respect for the global supremacy role of the US (Knudsen 2003, 11; Tocci 2003; Walt 2005). Since it now lacked a reliable multi-lateral security framework, Turkey began to implement a unilateral foreign policy that was formulated independently of the US and NATO (Turan 2008). As a result, the US now has more limited control of and leverage on

Turkey, which is now a more independent-minded and self-confident country where public opinion plays a crucial role in its decisions and choices (Lake 2005, 21).

Turkey's shifting behavior can be explained by the adaptability characteristic of chaotic systems as open systems that "interact with their environment" and "operate under conditions far from equilibrium" (Cilliers 1998, 66). This complex interaction with the environment explains Turkey's behavior: its shift back to its traditional reactive behavior at the expense of the government's initial courageous and transformative behavior. Because Turkey and Syria share a border, the dangerously increasing disorder of Syria with regard to its Kurdish population had already created a provocative, potentially dangerous situation for Turkey. The interactions caused by the 2003 Iraq war realigned the Middle Eastern balance of power that not only Turkey but also Iran, Saudi Arabia, Qatar, Russia, and Israel have attempted to exploit.

As relevant dynamics in the chaotic systems would be unconscious of the behavior of the system as a whole, Turkey responded to information that a regional Kurdish administration in northern Iraq became apparent in the course of the 2003 War (Park 2016, 450). This information, available to Turkey "locally," was one of the major factors that pushed Turkey into the arms of its traditional western allies' adversaries. Despite the fact that Turkey is a rival of Russia and Iran in the Syrian conflict, they all share similar concerns about the territorial integrity of Syria (Dost and Wilson 2020). As Kurds come closer to declaring an independent state in Syria, Iran and Turkey could cooperate more closely with each other to prevent the emergence of a quasi-Kurdish state, given their substantial minority populations of Kurds. For Russia, on the other hand, the independence of a Kurdish administration is contrary

to the stability of the ruling regimes of Syria and Iran, countries with which Moscow established pragmatic relationships.

It is now evident that the repercussions of the 2003 Iraq War harmed US hegemony all over the world, especially in the aftermath of the gradual abandonment by the US of the Middle East, which is now marked by organized rivalries. By declaring war on Iraq in 2003 and then gradually abandoning the Middle East, the US has caused a significant power vacuum. Very gradually and very quietly, the attitudes of Middle Eastern leaders have been slipping away in recent years from relying on US leadership to seeking leadership from countries in the region. These regionalization and securitization processes have brought great power politics back to the region and has increased threat perceptions among Middle Eastern rivals in the aftermath of the Arab Spring (Kardaş 2011, 25). This balance of power system experienced by the IR system has resulted in Turkey, Russia, Iran, Qatar, Saudi Arabia, and the United Arab Emirates promoting their own order in the Syrian conflict.

The chaotic view of the IR system helps explain how the reactive and unilateralist US behavior in the post-9/11 era as an effect generated a feedback for the emergence of populist-nationalist tendencies and how this feedback, in turn, could cause the strengthening of balance of the current power system in the Middle East. The output (effect) of an equation (interaction), that is, the strengthening of the cancerous Syrian status-quo, is not directly proportional to the input (Turkey's unilateral engagement in Syria) of non-linear systems (Jervis 1997, 9; Bell and Tversky 1988, 88). The aforementioned impacts of the post-9/11 fears as an outcome of the 9/11 attacks has been multiplied as time has passed, which have triggered a dramatically different evolution compared to the expectations of a peaceful global system. The rivalries

organized to promote order in Syria have exhibited a behavior that is a key characteristic of chaotic systems, which indicates a high dependence on shifting US behavior from multilateralism to unilateralism (initial conditions) (Lorenz 1963, 130).

Chaotic logic suggests that the influence of changes to initial conditions, such as US unilateral behavior as a reaction to the 9/11 attacks that changed the traditional multilateralism approach of the US, can be altered in a number of ways. In other words, the undermining of the international system can be reversed. In line with this purpose, the US must return to a more internationalist behavior that advocates an international system based on international regimes and organizations; Washington should rely on multilateralism to address the transnational nature of present threats and focus on an internationalist role. Absent the US adopting more nuanced, multilateral behavior, lack of consideration of a chaotic international system further damages the US global role as a strong advocate of a healthier international system.

The metamorphosis of the international system's nature is a vital feedback of how the post-9/11 fears (as outcome) had an impact on the shifting behavior of the IR's original dynamics (as initial conditions). This shifting behavior, in turn, has already provoked malignant behaviors, which have resulted in the diffusion of destructive behaviors, such as terrorism, from their roots to more stable areas (i.e., from the Middle East to the EU) and altered the entire operation of the international politics. The Syrian conflict, which started as an internal conflict that appeared to be localized and particular to specific countries in the region, has the potential to disturb the

remainder of the international system to a degree that would be akin to turbulent times of transformation such as the Arab Spring.²³

4.2 A Responsive Legal Framework to Reverse Negative Feedback

4.2.1 The Role of Strong Control Mechanisms in Political Transformation

The empirical study of the cancerous Syrian status-quo demonstrates that “recognition of the global turmoil as the basic challenge of our time requires confronting complexity” (Brzezinski 1998, 177). Nevertheless, the feedbacks drawn from the relationship of internal and external forces that influenced Turkey’s engagement policies demonstrate that Middle Eastern affairs are global affairs that demand that the global legal system focus on both interstate and intrastate relations.

In 2004, the UN released a report of the UN Secretary General’s High-Level Panel on Threats, Challenges and Change titled “For a More Secured World: Our Shared Responsibility” (United Nations 2004). The report underscored the special importance of intrastate threats (carcinogens). It identified these intrastate threats as “poverty, infectious disease and environmental degradation; war and violence within states; the spread and possible use of nuclear, radiological, chemical and biological weapons; terrorism; and transnational organized crime” (United Nations 2004). Terrorist acts that emerge as intrastate threats (as possible carcinogens) can easily spread throughout a region and all over the world through metastasizing effects (Yourish at al. 2016). The carcinogens stemming from the simultaneous existence of significant intrastate and interstate threats has contributed to the increased stability of a cancerous status-quo in the Middle East.

²³ In December 2010, Arab uprisings, whose primary purpose was to highlight the economic and social hardships of people in the lowest classes of society and the irresponsibility of governing elites, triggered the Arab Spring. The impact of Arab Spring affected the entire Arab world and helped generate the Middle East’s current political restructuring.

It is through a negative feedback that the intrastate threats of the chaotic Middle East have become perceived as a major threat to the domestic security of the West. They demonstrate the need to create a global pluralistic society with common goals that would foster government capacity and the willingness of regional governments to address transnational threats at their roots.

In order to devise a remedy for changing the nature of threats, it is vital to construct a responsive international legal framework that will tackle carcinogens at their roots before they move to unaffected areas. The metamorphosis of the nature of the international system has already proven to be a phase of structural change from anarchic to chaotic. This self-consciousness of a chaotic international system requires the willingness of relevant actors to reconsider their behavior by avoiding reactive behaviors based on fears. Such a chaotic system calls for a comprehensive normative framework and a set of global legal rules that differ from existing normative and legal frameworks in IR by governing not only interstate relations but also intrastate relations. Further penetration of global legal rules in the national legal systems would foster the emergence of a realistic, responsive, and humanity-based international system.

Concentrating on the reversal effects of negative feedback facilitates our understanding of how movements of diffusion repeatedly consolidate and trigger “anti-democratic rollbacks” (Gunitsky 2013, 38). The early phases of diffusion generate self-reinforcing tendencies by which pro-democratization movements (such as Turkey’s transformative role) are first strengthened but then watered down as a result of either (populist-nationalist) elite opposition or the weakness of institutional prerequisites. The cause of failure of democratic diffusion hints at those

counteracting forces that initially trigger an “artificially high number of attempted transitions” upon which a period of democratic over-stretch prevails (Gunitsky 2013, 38). Focusing on the counteracting forces of positive and negative feedback, chaotic logic signifies a more “nuanced sense of temporality” in the dynamics of the course of social and political transformation (Gunitsky 2013, 41). As an analogy to such a temporality in the course of socio-political transformation, Turkey’s failed internal restoration experienced roller-coaster progress and proven that its internal dynamics were not enough to achieve genuine, effective political development.

Strong and independent institutions in democratic forms of governments help states maintaining a healthier social transformation (Huntington 1968). As the increased authoritarianism in Turkey reveals, the lack of strong and complex political institutions is primary among the various challenges during the political transformation of non-Western countries (Huntington 1968, 28). Political institutions and control mechanisms with a certain degree of elasticity and accountability are vital to managing the course of political transformation. Examples of such organizations include an independent and efficient judiciary as well as other accountable public offices (Huntington 1968, 33).

When a country (i.e., Turkey) lacks these institutions and mechanisms that allow newly emerging political groups (i.e., conservative groups) to adapt themselves into the political system, these groups would be in a position to cause reversal reactions throughout the process of political transformation. Such a tendency is evident in Turkey’s EU-led democratization process, which eliminated the role of military in politics from the early-2000s to the early-2010s, at which time the ruling administration as elected representatives of conservative groups monopolized power

by silencing all legitimate opposition (Patton 2006, 513). Such arbitrary behavior was possible because Turkey's political organizations were unable to influence domestic issues in the absence of external control mechanisms such as EU conditionalities pushed by the concrete prospect of EU membership.

A healthy relationship between political organizations and emerging political groups depends on independence from the specific interests of the individuals and groups that are within the scope of their enforcement. In a strong political system, the communication between political institutions and political groups would take place within a peaceful political transformation because long-term institutional interests will prevail over short-term personal interests of individuals. In the case of Turkey, political institutions were not sufficiently strong and independent enough for a healthy political transformation.

When Turkey became an aspirant candidate for EU membership, it was expected to reduce the influence of the military bureaucracy in Turkey's governance structure. The target of EU conditionalities was the influence of the National Security Council (NSC), "which was founded by the 1961 Constitution," and "became a constitutional body in the aftermath of the 1980 military coup d'état" (Şahin and Sözen 2022b, 78). The Council's role was "to symbolize the dominance of the appointed civilian and military bureaucracy over elected politicians, such as the prime minister and the government, until the beginning of 2000s" (Şahin and Sözen 2022b, 78).

The EU's expectations toward civilianization were intensified around the issue of the non-military settlement of political problems such as the Kurdish issue by bringing military decision making under civilian authority (Aydın and Açıkmeşe 2007, 269-

270). EU criteria also required Ankara to strengthen the internal control and supervisory mechanisms of civil authorities such as the Supreme Court, the Court of Auditors, and the National Assembly. Turkey's bid for EU membership motivated Ankara to consent to modify its national legislation according to EU laws and to recognize the authority of the EU to continually observe Turkey's internal affairs to ensure that the country fulfilled its responsibilities (Doğan 2006, 243).

These backstopping provisions of the EU accession process offered a series of fallback positions if Turkey's internal organizational components failed. They also strengthened Turkey's capacity and willingness to act against transnational threats more effectively and efficiently by controlling the potential resistance of influential groups. The conditionality requirements of the EU accession process mobilized national leadership in Ankara to qualify for EU aid and assistance that targeted the internal restoration of Turkey from the bottom up. The government also applied this political transformation to Turkey's Middle Eastern neighborhood (Şahin and Sözen 2022b, 76).

The EU's established standards and incentives applied in accession processes constitute a model of "pooled sovereignty" that seeks to spread the EU's internal peace and democracy far beyond its borders by instilling control mechanisms into the national legal systems of candidate states. The EU seeks to achieve this aim by extending member states' decentralized government networks as mechanisms of law making and codes of global best practices, where European law is typically made and executed. This component of the EU's vision has encouraged various forms of cooperation in the Middle East and North Africa. EU aid and assistance was vital to the development of Turkey's capacity and political will to tackle terrorism within its

borders before they spread elsewhere. Thus, the mechanisms of EU conditionality could have compelled Turkey to combine its internal components in the pursuit of a peaceful global political system.

Throughout the EU accession process, Ankara continued to address internal ethnic discrimination, inequalities in legal system and equitable distribution of income, the advanced level of corruption, democratic deficits within the political parties, the closure of opposition parties by governing parties, and Turkey's electoral system. However, Turkey's EU-accession process proved that mechanisms of conditionality depend on the concrete prospect of membership. A significant achievement throughout the democratization process was Turkey's placing of military decision making under civilian authority, which fulfilled one of the most fundamental EU expectations of Turkey (The Economist Editorial 2011, 48). Additionally, following this shift of power from military to civilian authorities, the EU expected Turkey to strengthen its internal control mechanisms on these civilian authorities. These mechanisms were expected to secure legal and institutional independence and embed checks and balances by aligning Turkey's democracy closer to that of EU member states.

While the European integration project strengthens reconciliation of power distribution and appropriate development of candidate states to secure lasting stability and peace within its borders, it has also sought to spread its aspirations through external assistance programs, the enlargement process, and its Common Foreign and Security Policy (CFSP). However, a major obstacle for the EU's external action to accomplish its goal of peace abroad has been the challenge of aligning the intergovernmental attitude of EU member states. The European ruling

elites' opposition to Turkey's EU membership in the face of post-9/11 fears (based on hostility perceptions toward the Middle East or Islamophobia) dampened the feedbacks on the political transformation of Turkey. These feedbacks were: the decline of support toward EU-led democratic reforms among various groups in Turkey, the country's unilateral engagement in Syria, increased authoritarianism and the backsliding of the internal restoration process.

Social or economic change came very rapidly to Turkey. However, Turkey's internal dynamics were not strong enough for the formation of political change through internal restoration. For political transformation, there is a need for change in the country's foreign policy or the international circumstances of the country, in this case, Turkey. While Turkey's dynamics were forcing internal restoration, it could have made a great deal of progress with the aid of the EU assistance, which included political and technical assistance as well as financial aid. However, when the EU anchor of Turkey's foreign policy pillars weakened, Ankara stopped seeing the EU as a priority in its foreign policy. Perhaps the Turkish leadership in Ankara concluded that its involvement in the EU process did not provide any benefits for the internal politics of Turkey. Nevertheless, since the government's foreign policy was driven by public opinion and there was no opposition party mobilizing pressure for democratic initiatives suggested by the EU, Turkey's willingness to reform in line with EU accession process decreased.

EU assistance was vital not only to Turkey's internal restoration process but to the country's role in bridging this transformative role of the EU in the Middle East. When the EU pillar of the Ankara's engagement policy weakened, Turkey's initial political transformation was also diminished. These negative feedbacks coupled with

each other and dampened Turkey's engagement policy in its region while strengthening the cancerous status-quo in the Middle East. Furthermore, Turkey's transformative power faded and proved ineffective when new threats and challenges in the Middle East provoked carcinogens that overwhelmed the country's resources and capabilities in relation to the relative strength of its engagement policy when its EU engagement failed.

It must be noted that the collapse of the internal restoration of Turkey also increased suspicions that the EU conditionalities had been cynically used by the Turkish leadership in Ankara as a justification for eliminating the military's guardianship role in politics in order to prevent the monopolization of power. Nevertheless, the ruling administration enjoyed such a space in the absence of strong internal opposition mobilizing pressure for the democratic initiatives suggested by the EU. Neither the opposition parties nor pro-EU representatives within the government objected to backsliding from the EU-led steps toward democratization. As mentioned above, since Turkish public opinion concluded that Europeans did not want Turkish people in the EU, the effectiveness of Turkey's democratic social forces advocating the EU conditionalities also weakened.

While EU officials in Brussels criticized the Turkish military elites' authority over the elected authorities, the army was pursuing a guardianship role to forestall any attempt to monopolize power in favor of political Islamist groups. Once the politicization of the army was eliminated, the influence of political Islamist groups spread unrestrained to dominate Turkey's political system in the absence of complex and effective control mechanisms. By the time the 2013 Gezi Park demonstrations

occurred, the government had become strong to the extent that the ruling administration's grip on power had been achieved (Şahin and Sözen 2022b, 75-76).

Such a monopolization tendency is not unique to Turkey; it is common in many transforming societies (Huntington 1968, 238). In many non-Western political transformations, once the authority of the military is brought under civilian rule, emerging political groups seek to monopolize the power (Huntington 1968, 238). Needless to say, "these ambitions are rendered more possible in the absence of strong political institutions and mechanisms designed to restrain groups that are strengthening in power" (Şahin and Sözen 2022b, 86).

The lesson drawn from Turkey's failed internal restoration process is that a country needs to strengthen its political control mechanisms *before* it strengthens its civil authority. Strengthening political control mechanisms protect civil authorities from manipulative ambitions as well as from internal and regional pressures. Also, there is a vital need for external control mechanisms to continually observe the functioning of these institutions to ensure a healthy relationship between the political system and various political groups.

4.2.2 International Rules' Increasing Role in the Area of Sovereignty

A widely held institutional view argues that "when constitutions limit the stakes of politics in ways valued by most citizens, the citizens are less likely to resort to extraconstitutional means to defend themselves" (Weingast 2002, 680). Constitutional checks on state authority transfer power to individuals which, in turn, strengthen state stability (Gunitsky 2013, 46). Autocratic states attach great importance to stability: they play down institutionalized mechanisms that provide rights to individuals and oppressively obligate everyone to obey the law.

The prospect of states' surviving increases if they opt to constrain the "stakes of politics" through a "selection effect" (Gunitsky 2013, 47). In other words, states could prefer (select) to be involved in risky action for issues they privilege and their actions could be more dangerous with greater impact as their incentives (stakes) on the issue are higher. Adolf Hitler's incentives and attempts in the 1930s and early-1940s to dominate the world led him to risk the destruction of Germany. The collapse of Yugoslavia in the late-1990s demonstrated how Serbian President Slobadan Milosevic raised the stakes (incentives) to unite all Serbs, which destroyed the chances of the Yugoslav Federation's surviving (Sell 2002). The same applies to the tragedies experienced by the people of Cyprus, Iraq, Syria, and many other states since the second half of the 20th century.

Institutions that advance credible obligations generate political and economic development that ensures a state's security and its ability to survive in an anarchic and competitive international politics (Gunitsky 2013, 47). For example, in the post-WW2 era, the US relied on its global leadership role to build an internationalist system based on international regimes and organizations in order to maintain a collective security system. Many countries like Turkey incorporated their security needs into this US-led international system. Another relevant example is the EU law by which the authority of supranational institutions prevails over the authority of member states in many areas of government in order to limit the political stakes, for example, the increased populism in Hungary and Poland in the past decade.

It appears that anarchy has been the most stable emergent characteristic of the global political system (Gunitsky 2013, 48). However, it is not the only possible one. The cancerous status-quo experienced in the Middle East and seen in Turkey recently is

not solid. As disorder emerges in the absence of a supreme authority, tackling problems stemming from anarchy is an exceptionally difficult issue. Nevertheless, citing international treaties can help a healthier international system coordinate interactions among international actors. Among these treaties are the 1648 Peace of Westphalia, the 1713 Treaty of Utrecht, the 1815 Congress of Vienna and Concert of Europe, the 1919 Treaty of Versailles that created the League of Nations, the 1944 Bretton Woods Agreement, the 1945 United Nations Charter, and the 1945 Potsdam Agreement.

However, despite their efforts to institutionalize the stability of the international system based on the collective actions of the most powerful states, these treaties failed to deliver what should have amounted to a community of power through organized common peace. The unfulfilled promises of these international treaties are proof that the influence of systemic limits reveals an inherent characteristic of social systems: they are very dependent on self-consciousness and self-willingness. In other words, the awareness (self-consciousness) of the dependency of social systems on feedbacks that can generate action-reaction spirals leading to systemic transformation is vital for policy making authorities' incentives (self-willingness) to restrain their risky political stakes in favor of a healthier international politics.

Unlike mathematical or physical systems such as von Neumann's cybernetic systems of automata, the operation of social systems is dependent on positive and negative feedbacks that generate self-reinforcing and self-dampening forces on systemic change. Systemic metamorphosis, or the transformation of the international system toward a community of power, demands the reinforcement of the collective by positive feedbacks that continue to accumulate exponentially until they result in

revolutionary chaotic peace. Herein, revolutionary chaotic peace refers to the collapse of the chaotic status-quo that is evident in Syria and beyond by instilling the mechanisms of international institutions and organizing systems into domestic ones to restrain political stakes such as those of the Assad regime in Syria.

In the meantime, under specific conditions and circumstances, such as both unipolar and bipolar international systems, powerful actors such as a single hegemonic power or a coalition of great powers can play a transformative role within the international political system (Hellmann 2009). This systemic influence allows these powers significant room to maneuver in order to limit the degree of material power of other countries and to mobilize pressure on regimes to comply with the hegemonic powers and compel them to join a global collaboration network. Thanks to such a strongly efficient powerful actor in terms of its military and economic strength, these actors can transform the emergent characteristics of a system by rearranging and altering systemic pressures.

For example, the US transformed the international system in the aftermath of the WW2 through its design of international organizations and according to rules aligned with material and normative US interests. It led the foundation of NATO and provided aid to Europe through the Marshall Plan to deter Soviet expansionism and nationalist militarism while encouraging European political integration. In doing so, it enjoyed a hegemonic power based on its global leadership role by exerting both political and economic influence. The US hegemony “considerably restricted the rights and powers of sovereign states to organize relations with other states and with their own subjects as they see fit” (Arrighi 1994, 50). Such a community of power

system required strong global leadership by the US along with its considerable capacity to deal with the systemic challenges involved.

To the extent that this global political system has been reinforced by the US since the early post-WW2 period, the post-9/11 unilateralism and isolationism of the US in the form of imperialist behavior has dampened its global leadership role. The decline of US hegemony and the accompanying balance of power system (the distribution of power among coalitions) that overwhelmed the community of power system are obvious indicators of the influence of systemic pressures and reflect that they are neither unchanging nor perpetual (Fravel 2010). Turkey, Russia, Iran, Qatar, Saudi Arabia, the US, and many other actors have been involved in the Syrian conflict and have pursued their own order. These competitors provide financial resources and arms to the fighting groups to extend their influence beyond their borders and force both their allies and adversaries to act in a way that would advance their interests. Nevertheless, the fact is that not one of these competing states possesses the vision-based behavior to bring democracy to the Middle East or the capacity or experience in conflict management that the US enjoyed at the end of Cold War. This has strengthened the cancerous status-quo in Syria and contributed to a tragedy marked by bloodshed, political struggles, and polarization that also intensifies the prevailing problems of transnational terrorism and sectarian conflicts.

In contrast to a unipolar system, the transformation of multipolar systems of the type that the current international system is evolving is more complicated because of the need to coordinate national interests. The failure of the 1815 Concert of Europe in 1914, which was established as a balance of power system, proves how complex it can be to establish a sustainable coordination of the varying interests of sovereign

states. While the Concert effectively provided stability in Europe as a mechanism for coordinating the resolution of political upheavals, its inability to do so after the Revolutions of 1848 attests to the complexity of managing systemic influences. Other than its dealing with systemic challenges, the Concert showed limited effectiveness and accountability when its members excluded the interests of non-European or colonized interests in its preference for more tactical measures. Resorting to war and armed conflict proved not to be unthinkable when applied elsewhere than Europe.

Because the recent transnational threats to international security have been global, the making of global peace should be based on negotiating legal and lawful facts, not on the fears of the states. This logic can provide feedback to raise the self-consciousness and willingness of states to make their domestic institutions compliant with critical coordination of global legal rules. This would strengthen the capacity and effectiveness of state forces to tackle transnational threats directly at their source before they extend into other countries. For example, global legal rules could be invoked to help strengthen the capacity or will of the ruling administration in Ankara when it is not capable of tackling the root causes of terrorist groups within its borders. In this way, the internal restoration of Turkey could be shaped according to the parameters of a global legal system, and Turkey's domestic institutions could be harnessed to meet the common interests of a global pluralistic society.

It is becoming increasingly evident that Turkey's metastasis threatens its "institutional independence and embedded checks and balances," mechanisms that are "most in need of capacity-building or compulsion to address threats and challenges at home before they spread" (Slaughter and Burke-White 2006, 348).

Penetration of these mechanisms into Turkey's political system could provide "pushing not only for particular substantive outcomes, but also for legitimate domestic processes to achieve those goals" (Slaughter and Burke-White 2006, 349). Global regimes can "balance a range of competing values—such as human rights and national security—rather than focus on one particular goal when compelling state action" (Slaughter and Burke-White 2006, 348). Herein, the development of specific mechanisms to instill global control mechanisms into national legal systems would play a significant role in balancing the issues of human rights and security in countries like Turkey, which perceives threats in specific issues (such as Kurdish irridentism) vis-à-vis its national security.

The most critical point is to act on what can be done to rid the political institutions of states of self-dampening influences, including domestic and regional pressures and manipulative attempts to advance short-term and selfish incentives that prevent collective action for long-term interests. Finding a remedy in such high-stakes political environments is no picnic; it depends on the global legal rules' increasing role from "independent regulation above the national state to direct engagement with domestic institutions through the strengthening domestic institutions, backstopping national governance, and compelling domestic action" (Slaughter and Burke-White 2006, 328). In other words, there is a need to reorganize global rules, regimes, and institutions by controlling the sovereign independence of states in order to strengthen their resources and capabilities. One possible method to do so already exists: the pooled sovereignty model of the EU offers a method for the international legal system to provide the mechanisms to strengthen government institutions (Slaughter and Burke-White 2006, 337).

The EU pooled sovereignty model suggests strengthening, backstopping, and compelling mechanisms that would align the domestic legal systems of individual countries with international law. Facilitating such an alignment of individual and collective interests would help strengthen individual countries. These mechanisms would strengthen the legitimacy of the international regime by aligning national legal rules with the rules of international law in order to establish a morally coherent normative force.

The strengthening mechanisms would also strengthen the capacity and willingness of individual states to act against transnational threats more effectively and efficiently by limiting the individual groups that act selfishly to advance their short-term incentives. In addition, the backstopping mechanisms would offer a series of fallback positions for domestic institutions when the internal organizational components of member states fail. In a global version of these mechanisms, conflict resolution mechanisms such as the International Criminal Court could intervene and guarantee the backstopping of ineffective national governance institutions (Slaughter and Burke-White 2006, 339). Last but not least, the global legal system would actively compel national governments to reverse their choices in favor of universal norms (Slaughter and Burke-White 2006, 343).

In other words, the global legal system and its accompanying organizations would be capable of reinforcing national capabilities by involving processes of the EU legal system (Slaughter and Burke-White 2006, 337). EU's pooled sovereignty model involves establishing institutions to administer particular subject fields in a state; the delegation of state sovereignty to global organizations would occur with the approval of domestic actors. Pooled sovereignty could "gird new political structures with more

expertise, better-crafted policies, and guarantees against abuses of power” in states lacking capabilities and capacity (Slaughter and Burke-White 2006, 338). This type of sovereignty would be in line with the centuries-long shift from the Westphalian state-centric international system.

The concepts of state loyalty and legitimacy as the only enforcer of international law upon which Westphalian international system has depended is shifting away from the state and moving up to a central international authority and down to the common man (Evans, Rueschemeyer, and Skocpol 1985, 3). Throughout this process, along with the accelerated homogeneity of social systems across the globe, the process of globalization has ironically triggered heterogeneity. This has happened through the fragmentation of the global legal system into self-ruling specialized regimes that lack a clear relationship, either to each other or to general global law. This, in turn, has triggered functional deviations, such as human rights law, environmental law, and international refugee law that have combined with the often conflicting pursuits and concerns of a global pluralistic society.

The profound shift from the Westphalian framework calls for a comprehensive reorganization of the functions of the global legal system that has not yet occurred. There is need for a responsive normative framework to trigger a juridical transformation by shaping new norms and modifying existing norms in order to reflect contemporary realities and expectations (Falk 1998). By recognizing the process of globalization and legalization tendencies, such a new legal synthesis would help respond to today’s varying expectations and transnational threats that are different from past circumstances. If the global legal system continues to reflect only state needs and past values, a “legitimacy deficit” and “disobedience” by the

participants of global legal system would be uncontrollably and injuriously increased (Higgins 1995, 20).

The overriding issue now is the urgent need for constitutionalization of the global legal system despite the challenges, because to date these legalized institutions do not have democratic legitimacy.²⁴ Overcoming the hardships of shifting to transnational democracy requires cooperation and collaboration through “increased” democracy that is based on a political framework and legal foundations. However, by seeing collaboration as a political action, sovereigntists and nationalists in individual states cannot feature collaboration because of their populism as well as their fears.²⁵ In fact, this populist-nationalist approach, which is characterized by a feeling of both superiority and security fears, is based on no facts other than the partial explanations that mainstream theories or interpretations provide.

It is the self-consciousness stemming from the anarchic logic that has provoked the very thing—the spread of transnational threats from their roots to the other parts as a metastasizing process—to be avoided. Western fears in the post-9/11 era have generated a negative feedback that has provoked metastasizing effects throughout a cancerous international system. The construction of a healthier global political system flows from self-consciousness and the willingness to negotiate not from fears that provoke carcinogens, but rather from hopes that operate as antioxidants in order

²⁴ In a speech titled “The Demanding Perspective of Constitutionalisation of International Law” that Habermas gave at the 23rd World Congress of Philosophy in Athens, Habermas illustrated the legitimacy crisis of the EU that frequently experiences overly technocratic administrations as a result of very low level participation of European citizens in the functioning of transnational institutions. Habermas 2013.

²⁵ Ibid. Habermas in his speech, which was focused on the “constitutionalization of international law” concluded by invoking European citizens to try hard to create the kind of political union that is crucial to establishing a political audit of economic interest groups and to maintaining a democratic balance between the market and politics.

to eradicate cancerous cells. This requires that the components of the international system face up to and deal with the cancerous cells, rather than continuing to turn their backs on their fears.

The self-consciousness drawn from the causal logic of chaotic IR view is that the cancerous status-quo diffuses through a chaotic international system that has already experienced a metamorphosis from an anarchic to a chaotic structure. This cancerous status-quo can be tackled not by the same level of consciousness used to create it, but rather by the way that cancer survivors struggle against fear in order to drive cancerous cells out of their systems. The main purpose of struggling against the cancerous status-quo is to prevent cancerous cells from invading the other parts of the global political system.

The recent metastasis experienced within the international system, most notably in Turkey, underscores the urgency of the reconstruction of a comprehensive normative framework. The ideal remedy is for an international system that flows from a responsive legal framework that should be established with a focus on the articulation of pluralistic interests of global society by harnessing the domestic institutions of states compliant with critical coordination of global rules. This legal framework should focus not only on interstate relations, but also on intrastate relations in order to tackle common threats to the existence of the global political system. This would diminish the impact of the initial dynamics of the post-9/11 IR system and reinforce the peaceful global metamorphosis by extending peace and democracy to broader areas of the world.

Chapter 5

CONCLUSION

The current crisis of the international system has been accelerated by the metamorphosis it has experienced in its evolution from an anarchic system that lacks central authority to a chaotic one characterized by a restricted determinism. This restricted determinism limits predictability that rests within the random quality of the system. It is almost impossible to estimate the results of action and reaction spirals within chaotic systems that are emergent and generative, thanks to their path-dependency on non-linear dynamic feedback loops, adaptability, and selectivity. The devastating consequences of the US President George W. Bush administration's unilateral and isolationist reaction to the 9/11 terrorist attacks on the US illustrate a chaotic international system by which negative feedbacks generate self-dampening forces on a community of power system while reinforcing a balance of power system.

The self-consciousness of such chaotic behavior calls for an explicit end to the anarchic perception of the international structure. Chaotic consciousness represents a shift from the linear simplifying and determinist generalizations of the traditional Newtonian model, which is still in use in social studies despite becoming no longer popular in physics. An intrinsic characteristic of social systems when compared to physical systems is that social systems rely on their own self-consciousness and willingness to determine their organizational behavior. It should be the task of IR to

inform international legal scholars about the chaotic nature of the international system in order to create a legal framework that incorporates the hopes of humanity as a primary component of the goal of creating a true international community of power.

The anarchic approach to the analysis of IR, however, decreases the willingness of relevant actors to avoid negotiating in terms of fears. Instead, the focus of the chaotic view on the complexity and uncertainty principles suggests avoiding risky politics as a result of which the consequences could be dire.

The chaotic nature that has emerged in world politics since the end of the WW2, including the shift from the Westphalian state system and the changing nature of global threats have generated both greater fragmentation and greater integration in the world. Besides positive developments, i.e., global cooperation and governance, humanity as a whole faced the disastrous effects of the events of the post-WWII era: genocides, industrial rivalries, an increase in authoritarian regimes, and the dawn of the atomic age. The international system now exhibits widespread destructive behavior based on feelings of insecurity and uncertainty that are both a result and a cause of the general spread of existential, geopolitical, and socio-economic threats. Compared to those times when humanity sustained hope even in most tragic situations, today humankind experiences great anxieties and fears about the future.

In addition to these uncertainties and anxieties, hyper-securitization of the international system through over-exaggerated threats has already strengthened the perception of the international politics as two camps clashing with each other—“the West versus the rest” (Huntington 1996). The West is now perceived by others as an

economically strong and over-armed empire that polices the world claiming that it represents democracy and liberty. The measures taken to provide people with security in the West are often threatening to those whom they target as threats, such as Iraq and its neighbors. As these people (the so-called “others”) have suffered and feared for long periods of time, their fears have now turned into hatred and have triggered the metamorphosis of a chaotic international system into a cancerous system.

The US unilateral war on Iraq in 2003 generated a major negative feedback that reversed the power of the community system through self-dampening forces marked by transnational threats, global financial and economic crises, populist-nationalist politics, and organized rivalries. These repercussions of the Iraq War also dampened the EU’s transformative role in Turkey when the fears of being a neighbor of the chaotic Middle East prevented EU leaders from suggesting the prospect of full EU membership for Turkey. This populist behavior generated another negative feedback that dampened Turkey’s ruling administration’s initial bid for political transformation of the country and the expansion of this transformation to its Middle Eastern neighbors.

In a chaotic IR system, it is difficult to forecast what direction the system will take. In the absence of EU assistance, the Ankara’s engagement policy used by Turkey in its Syrian affairs has not contributed to a peaceful transformation that was expected. Rather, Turkey’s engagement policies in Syria have further strengthened the cancerous status-quo, and its shifting policies have facilitated the abnormal increase of radical Islamist cells as carcinogens that have grown beyond Syria. As a result of the waning of Turkey’s confidence in the West, the Turkish leadership in Ankara has

shifted from its courageous transformative behavior to metastasizing behavior. This behavior has shaped Ankara's policies, including a fear-based policy stemming from the country's uneasy relationship with its Kurdish population.

When we use this author's cancer analogy, this process can be seen as a genetic mutation that triggered the metastasizing process of Turkey. (A genetic mutation is defined by WHO as the transformation of one normal cell into a tumorous cell as a result of the interaction of external carcinogens with a person's genetic factors—through which cancer occurs.) These carcinogens provoked the genetic mutation, if you will, triggered by the ruling administration, that sought to come around the Turkish President's constitutional limits and monopolize power in Turkey. Government's ambitions led to increased authoritarian behavior in Ankara and a retreat from the EU-led democratization process that was vital to Turkey's internal restoration process as well as to its credibility throughout the Muslim Arab world.

By emphasizing that “cancer arises from one single cell,” the WHO explains that “the transformation from a normal cell into a tumor cell is a multistage process, typically a progression from a pre-cancerous lesion to malignant tumors” (World Health Organization Website). Ankara's changing behavior facilitated the progression to malignant tumors that provoked metastasizing behavior by Turkey marked by increased government activism to silence opposition groups. This, in turn, undermined Turkey's international restoration process while extending the cancerous status-quo of Syria into Turkey.²⁶ The new challenges of transnational terrorism and sectarianism had begun to exceed its capacity when the Arab Spring protests

²⁶ The situation became even worse after the attempted coup in Turkey in July 2016, when the AKP strengthened its grip on the opposition even further.

extended into Syria in early 2011. Lacking its EU (foreign policy) pillar, Turkey's behavior proved to be limited to its Kurdish threat perceptions and it responded in that context in Syria. In other words, Turkey's reaction, based on its fears, was exhibited as carcinogens, which strengthened the cancerous status-quo of the chaotic international system.

Like a doctor infecting him/herself with a disease while seeking to find a remedy for it, Turkey has exhibited metastasizing behavior while interacting with Syria. What has been experienced throughout the Syrian conflict is the increased authoritarianism of the ruling administration in Ankara who, if you will, can be seen as a genetic mutation carrying the risk of contracting cancer to a much wider area through the metastasizing effects in Turkey's relationships. Nevertheless, it should be noted that the ruling administration in Ankara is not wholly responsible for the problems Turkey now faces. They are the outcomes of the self-dampening forces of international behavior based on fears that as a major negative feedback returned to transform the international system into a cancerous chaotic system. Turkish citizens have continued to support the Turkish leadership in Ankara because their fears (based on hostile perceptions toward Western imperialism) and hatred became embodied in them.

Syria is not the only country that has been fighting during the period under discussion here. The conflict includes the US on one side and Russia and Iran on the other side, and the Syrian people right in the middle of them all. Turkey's flip-flop approach of swinging between these organized rivalries worsens the situation of the Syrian people. Radical Islamist groups such as ISIS, Al-Nusra Front, Al-Qaeda-linked jihadist groups, and the Islamist Ahrar al-Sham brigade have already

suggested that they are as much against democracy as they are against the brutality of the Assad regime. They are using Syria as a proving ground for their war capabilities, including the use of chemical weapons and volcano rockets. One can argue that the radical Islamist groups are working to get a jump on democracies before the democracies are ready to face them, by attacking intertwined parts of the international body and then diffusing to other parts through metastasis.

The paralysis of the international system and the resultant destructive behaviors within it proved a very dramatic consequence of the balance of power system shaped through organized rivalries. The “conscience,” or the awareness of the chaotic nature of the international system underscores the need to end the balance of power forever because it generates securitization. What lasting peace requires is a community of power through organized common peace. The nature of the challenges that exist in the international system might have changed since the twentieth century, but to meet these challenges, the relevant actors should join together in creating a new world order of peace to assure the survival and the success of liberty.

If we learn anything from this study’s analysis of international foreign policy exhibiting characteristics of cancer, it is that over-exaggerating fears and defensive measures to mitigate such fears inevitably lead us to conclude that we will never feel safe enough. No matter how many security measures are taken, security fears will grip the minds of people and become a permanent condition. However, it is a widely-held belief that the only feeling stronger than fear is hope. Hope requires trust, which, of course, is very important in relationships. While the best way to win the trust of someone is to demonstrate that you believe in him/her, the most certain way to *not* win the trust of someone is to demonstrate that you do not trust.

The international system's actors should manage their fears rather than letting their fears as expressed by populism manage them. This challenge is about the realities of the international politics that can be improved depending on the international community's awareness of the metamorphosis of the international system from an anarchic structure to a chaotic system. This self-consciousness, or the realm of social cognition, would increase the willingness of involved actors to avoid negotiating in terms of the fears of organized rivalries and to negotiate from hope instead. This calls for a comprehensive legal framework that meets the expectations and the needs of a pluralistic global society by restructuring the international system so it might manage intrastate relations to prevent emerging transnational dangers that threaten the existence of a working global system.

REFERENCES

- Acharya, Amitav, and Barry Buzan. 2019. *The Making of Global International Relations: Origins and Evolution of IR at Its Centenary*. Cambridge: Cambridge University Press.
- Abbott, Kenneth. 1999. "International Relations Theory, International Law and the Regime Governing Atrocities in Internal Conflicts." *American Journal of International Law* 93 (2): 361–79.
- Adler, Emanuel. 1997. "Seizing the Middle Ground: Constructivism in World Politics." *European Journal of International Relations* 3 (3): 319–63.
- Adler, Emanuel. 2019. *World Ordering: A Social Theory of Cognitive Evolution*. Cambridge: Cambridge University Press.
- Adler, Emanuel, and Vincent Pouliot. 2011. "International Practices." *International Theory* 3 (1): 1–36.
- Agdemir, Murat A. 2016. "The Arab Spring and Israel's Relations with Egypt." *Israel Council of Foreign Affairs* 10 (2): 223–235.
- Aljazeera Editorial. 2018. "US Military: "No 'Support' for Kurdish YPG in Afrin." *Aljazeera*, June 16, 2018.
<https://www.aljazeera.com/news/2018/1/16/us-military-no-support-for-kurdish-ypg-in-afrin>

- Anderson, Philip. 1999. "Complexity Theory and Organization Science." *Organization Science* 10 (3): 216–32.
- Antonopoulos, Paul. 2017. "Turkey's interests in the Syrian war: from neo-Ottomanism to counterinsurgency." *Global Affairs* 3 (4): 405-419.
- Aras, Bülent, and Richard Falk. 2016. "Five years after the Arab Spring: a critical evaluation." *Third World Quarterly* 37 (12): 2252-2258.
- Aras, Bülent, and Hakan Fidan. 2009. "Turkey and Eurasia: Frontiers of a New Geographic Imagination." *New Perspectives on Turkey* 40: 195-217.
- Arrighi, Giovanni. 1994. *The Long Twentieth Century: Money, Power, and the Origins of Our Times*. New York: Verso Press.
- Art, Robert, and Robert Jervis. 2014. *International Politics: Enduring Concepts and Contemporary, 12nd edition*. London: Pearson.
- Ashley, Richard. 1986. "The Poverty of Neorealism." In *Neorealism and its Critics*, edited by Robert Keohane, 255–300, New York: Columbia University Press.
- Atlan, Henri. 2011. *Selected Writings on Self-organization, Philosophy, Bioethics, and Judaism*. New York: Fordham University Press, 2011.
- Axelrod, Robert. 1984. *The Evolution of Cooperation*. New York: Basic Books.

Axelrod, Robert. 1997. *The Complexity of Cooperation: Agent-Based Models of Competition and Collaboration*. Princeton: Princeton University Press.

Aydın, Mustafa, Sinem Akgul Acikmese, Cihan Dizdaroglu and Onur Kara. 2018. *Public Perceptions on Turkish Foreign Policy*, İstanbul: Kadir Has University Press.

https://www.academia.edu/36861092/Public_Perceptions_on_Turkish_Foreign_Policy.

Aydın, Mustafa, and Sinem A. Açıkmeşe. 2007. "Europeanization through EU conditionality: understanding the new era in Turkish foreign policy." *Journal of Balkan and Near Eastern Studies* 9 (3): 263–274.

Bain, William. 2006. *The Empire of Security and the Safety of the People*. New York: Routledge.

Ball, Philip. 2004. *Critical Mass: How One Thing Leads to Another*. New York: Farrar, Straus and Giroux.

Barnett, Michael. N. 1998. "Culture, Strategy and Foreign Policy Change: Israel's Road to Oslo." *European Journal of International Relations* 5 (1): 5–36.

Bar-Yam, Yaneer. 2004. "A Mathematical Theory of Strong Emergence Using Multiscale Variety." *Complexity* 9 (6): 15–24.

- Baysal, Başar. 2020. "20 Years of Securitization: Strengths, Limitations and A New Dual Framework." *Uluslararası İlişkiler-International Relations* 17 (67): 3-20.
- Bell, David E., Raiffa Howard, and Tversky Amos. 1988. *Decision Making: Descriptive, Normative, and Prescriptive Interactions*. Cambridge: Cambridge University Press.
- Bitbol, Michel. 2002. "Science as if Situation Mattered." *Phenomenology and the Cognitive Sciences* 1 (2): 181–224.
- Booth, Ken. 1997. "Security and Self: Reflections of a Fallen Realist." In *Critical Security Studies*, edited by Keith Krause and Michael C. Williams, 83-120, Minneapolis, University of Minnesota Press.
- Bousquet, Antoine. 2009. *The Scientific Way of Warfare: Order and Chaos on the Battlefields of Modernity*. New York: Columbia University Press.
- Brandt, Lewis. 1973. "The Physics of the Physicist and the Physics of the Psychologist." *International Journal of Psychology* 8 (1): 61–72.
- Brzezinsky, Zbigniew. 1998. *The Grand Chessboard: American Primacy and its Geostrategic Imperatives*. New York: Basic Books.
- Brzezinski, Zbigniew. 2012. "After America." *Foreign Policy*, January 3, 2012. <https://foreignpolicy.com/2012/01/03/after-america/>

Buchanan, Mark. 2003. *Small World: Uncovering Nature's Hidden Networks*.
London: Phoenix Books.

Bull, Hedley. 1977. *The Anarchical Society: A Study of Order in World Politics*.
London: Macmillan.

Bull, Hedley, and Adam Watson. eds. 1984. *The Expansion of International Society*,
Oxford: Clarendon Press.

Busemeyer, Jerome, and Peter Bruza. 2012. *Quantum Models of Cognition and
Decision*, Cambridge: Cambridge University Press.

Buzan, Barry. 1996. "The Level of Analysis Problem in International Relations
Considered." In *International Relations Theory Today*, edited by Ken Booth
and Steve Smith, 198–216. Cambridge: Polity Press.

Buzan, Barry. 2007. *People, States and Fear: An Agenda for International Security
Studies in the Post-Cold War Era*. Colchester: ECPR Press.

Buzan, Barry, and R. J. Barry Jones. eds. 1981. *Change and the Study of
International Relations: The Evaded Dimension*. London: Frances Pinter.

Buzan, Barry, Richard Little and Charles Jones. 1993. *The Logic of Anarchy:
Neorealism and Structural Realism*. New York: Columbia University Press.

- Buzan, Barry, Ole Wæver and Jaap de Wilde. 1998. *Security: A New Framework for Analysis*. Boulder: Lynne Rienner Publishers.
- Byrne, David, and Gill Callaghan. 2014. *Complexity Theory and the Social Sciences*. New York: Routledge.
- Capra, Francis. 1996. *The Web of Life: A New Synthesis of Mind and Matter*. London: Harper Collins.
- Capra, Francis. 2003. *The Hidden Connections: A Science for Sustainable Living*. London: Flamingo.
- Caprioli, Mary, and Peter F. Trumbore. 2005. "Rhetoric versus Reality: Rogue States in Interstate Conflict." *The Journal of Conflict Resolution* 49 (5): 770–791.
- Cederman, Lars-Erik. 1997. *Emergent Actors in World Politics*. Princeton: Princeton University Press.
- Cederman, Lars-Erik, and Luc Girardin. 2010. "Growing Sovereignty: Modeling the Shift from Indirect to Direct Rule." *International Studies Quarterly* 54 (1): 27–48.
- Chaitin, Gregory J. 1987. *Algorithmic Information Theory*. Cambridge: Cambridge University Press.

- Cilliers, Paul. 1998. *Complexity and Postmodernism: Understanding Complex Systems*. London: Routledge.
- Cioffi-Revilla, Claudio, and Mark Rouleau. 2010. "MASON Rebeland: An Agent-Based Model of Politics, Environment, and Insurgency." *International Studies Review* 12 (1): 31–52.
- Collins, Alan. 2016. *Contemporary Security Studies (4th ed.)*, Oxford, United Kingdom, Oxford University Press.
- Cudworth, Erica, and Stephen Hobden. 2012. "The Foundations of Complexity, the Complexity of Foundations." *Philosophy of the Social Sciences* 42 (2): 163–187.
- Çali, Başak. 2010. *International Law for International Relations*. New York: Oxford University Press.
- Dalgleish, Angus. 1999. "The Relevance of Non-linear Mathematics (Chaos Theory) to the Treatment of Cancer, the Role of the Immune Response and the Potential for Vaccines." *QJM: An International Journal of Medicine* 92 (6): 347–59.
- Davutoğlu, Ahmet. 1997. "The Clash of Interests: An Explanation of the World (Dis)order." *Perceptions: Journal of International Affairs* 2 (4): 1–17.

- Deere-Birkbeck, Carolyn. 2009. "Global Governance in the Context of Climate Change: The Challenges of Increasingly Complex Risk Parameters." *International Affairs* 85 (6): 1173–94.
- Descartes, Rene. 1985. "Discourse on the Method." In *The Philosophical Writings of Descartes*, edited by John Cottingham, Robert Stoothoff, and Dugald Murdoch, 111–51. Cambridge: Cambridge University Press.
- Dickinson, G. Lowes. 1916. *The European Anarchy*, New York: Mac Millan.
- Diamond, Louise, and John W. McDonald. 1996. *Multi-track Diplomacy: A Systems Approach to Peace*. West Hartford: Kumarian Press.
- Dost, Pinar, and Grady Wilson. 2020. "How Joe Biden can put US-Turkey relations back on track." *New Atlanticist*, December 3, 2020.
- Douady, Adrien, and John Hubbard. 2009. *Exploring the Mandelbrot set. The Orsay Notes*. Ithaca, New York, Cornell University Press.
- Doğan, Nejat. 2006. "Human Rights and Turkey's Bid for EU Membership: Will "Fundamental Rights of the Union" Bring Fundamental Changes to the Turkish Constitution and Turkish Politics?." *Turkish Studies* 7 (2): 243-259.
- Druckman, Daniel. 2019. "Unilateral Diplomacy: Trump and the Sovereign State." *Negotiation Journal* 35 (1): 101-105.

Durkheim, Emile. 1893. *The Division of Labor in Society*. New York: Free Press.

Dunn, David H. 2003. "Myths, Motivations, and Misunderestimations: the Bush Administration and Iraq." *International Affairs* 79 (2): 279–297.

Earnest, David, and James Rosenau. 2006. "Signifying Nothing? What Complex Systems Theory Can and Cannot Tell Us About Global Politics." In *Complexity in World Politics: Concepts and Methods of a New Paradigm*, edited by Neil Harrison, 143–164. Albany: State University of New York Press.

Earnest, David C. 2008. "Coordination in Large Numbers: An Agent-Based Model of International Negotiations." *International Studies Quarterly* 52 (2): 363–82.

Easton, David. 1953. *The Political System: An Inquiry into the State of Political Science*. New York: Alfred A. Knopf.

Eidelson, Roy. 1997. "Complex Adaptive Systems in the Behavioral and Social Sciences." *Review of General Psychology* 1 (1): 42–71.

Elliott, Euel, and L. Douglas Kiel. 1997. "Non-linear Dynamics, Complexity and Public Policy: Use, Misuse, and Applicability." In *Chaos, Complexity, and Sociology*, edited by Raymond A. Eve, Sara Horsfall and Mary E. Lee, 64–78, London: Sage.

- Epstein, Joshua M., and Robert Axtell. 1996. *Growing Artificial Societies: Social Science from the Bottom Up*. Washington, DC: Brookings Institution Press.
- Erich, Hörl. 2012. "Luhmann, the Non-trivial Machine and the Neocybernetic Regime of Truth." *Theory, Culture & Society* 29 (3): 94–121.
- Eriksson, Johan. 1999. "Observers or Advocates?: On the Political Role of Security Analysts." *Cooperation and Conflict* 34 (3): 311–330.
- Ertem, Helin S., and Radiye F. Karadeniz. 2019. "Lost In Translation: A System-Level Analysis of the Turkish-U.S. Alliance under the Obama and Trump Administrations." *Perceptions* 24 (1): 7-38
- Evans, Graham. 1998. *The Penguin Dictionary of International Relations*. London: Penguin Books.
- Evans, Peter B., Dietrich Rueschemeyer and Theda Skocpol, eds. 1985. *Bringing the State Back In*. Cambridge: Cambridge University Press.
- European Commission. 2016. "Turkey 2015 Progress Report 2015." European Commission.
http://ec.europa.eu/enlargement/pdf/key_documents/2015/20151110_report_turkey.pdf.
- European Commission. 2017. "Turkey 2016 Progress Report." European Commission.

https://neighbourhood-enlargement.ec.europa.eu/document/download/e703a769-bf7f-46d1-8a13-6a836683e838_en?filename=20161109_report_turkey.pdf

Falk, Richard. 1998. "The Grotian Moment: Unfulfilled Promise, Harmless Phantasy, Missed Opportunity?" In *Law in an Emerging Global Village: A Post-Westphalian Perspective*, edited by Richard Falk, 3–31. New York: Transnational Publishers.

Falk, Richard. 2016. "On the Legacy of Robert W. Cox." *Globalizations* 13 (5): 501–5.

Feaver, Peter. 2016. "A Grand Strategy Challenge Awaits Trump." *Foreign Policy*, November 29, 2016.
<https://foreignpolicy.com/2016/11/29/a-grand-strategy-challenge-awaits-trump/>

Feigenbaum, Mitchell. 1979. "Quantitative Universality for a Class of Nonlinear Transformations." *Journal of Statistical Physics* 21 (6): 669–706.

Fellingham, John, and Doug Schroeder. 2006. "Quantum Information and Accounting." *Journal of Engineering and Technology Management* 23: 33–53.

Fellner, William. 1949. *Competition among the Few*. New York: Knopf.

- Filk, Thomas, and Albrecht von Müller. 2009. "Quantum Physics and Consciousness: The Quest for a Common Conceptual Foundation." *Mind and Matter* 7 (1): 59–79.
- Finnemore, Martha. 1996. *National Interests in International Society*. New York: Cornell University Press.
- Finnemore, Martha, and Kathryn Sikkink. 1998. "International Norm Dynamics and Political Change." *International Organization* 52(4): 887–917.
- Foucault, Michel. 1970. *The Order of Things: An Archaeology of the Human Sciences*. London: Tavistock Publications.
- Fravel, M. Taylor. 2010. "International Relations Theory and China's Rise: Assessing China's Potential for Territorial Expansion." *International Studies Review* 12(4): 505–32.
- Friedman, Uri. 2019. "How Trump's 'Green Light' Moment in Syria Shook the World." *The Atlantic* (November 14, 2019). <https://www.theatlantic.com/politics/archive/2019/11/trumps-green-light-moment-in-syria-shook-the-world/601963/>
- Fukuyama, Francis. 1992. *The End of History and the Last Man*. New York: Free Press.

- Fukuyama, Francis. 2004. *State-Building: Governance and World Order in the 21st Century*. New York: Cornell University Press.
- Gaddis, John Lewis. 2002. *The Landscape of History: How Historians Map the Past*. Oxford: Oxford University Press.
- Galtung, Johan. 1985. "Twenty-Five Years of Peace Research." *Journal of Peace Research* 22 (2): 141-158.
- Giddens, Anthony. 1984. *The Constitution of Society*. Cambridge, England: Polity Press.
- Gilpin, Robert. 1981. *War and Change in World Politics*. Cambridge: Cambridge University Press.
- Gordon, Philip H., and Amanda Sloat. 2020. "The Dangerous Unraveling of the U.S.-Turkish Alliance: Washington and Ankara Still Need Each Other", *Foreign Affairs*, January 10, 2020. <https://www.foreignaffairs.com/articles/turkey/2020-01-10/dangerous-unraveling-us-turkish-alliance>
- Görmüş, Evrim, and Soli Özel. 2018. "US Policies Adrift in a Levant in Turmoil." *Uluslararası İlişkiler – International Relations Journal* 15 (60): 135-150.
- Green, Lee A. 2010. "The Implications of Measuring Complexity." *Annals of Family Medicine* 8 (4): 291–92.

- Gunitsky, Seva. 2013. "Complexity and Theories of Change in International Politics." *International Theory* 5 (1): 35–63.
- Habermas, Jurgen. 1987. *The Theory of Communicative Action. Vol. 2: Lifeworld and System*, translated by Thomas McCarthy, Boston: Beacon Press.
- Habermas, Jurgen. 2013. "The Demanding Perspective of Constitutionalisation of International Law." *Speech presented at the 23rd World Congress of Philosophy*, Athens, Greece.
- Hafner-Burton, Emilie M., Stephan Haggard, David A. Lake, and David G. Victor. 2017. "The Behavioral Revolution and International Relations." *International Organization* 71 (S1): S1–S31.
- Hansen, Lene. 2000. "The Little Mermaid's Silent Security Dilemma and the Absence of Gender in the Copenhagen School." *Journal of International Studies* 29 (2): 285–306.
- Harrison, Neil E. 2006. "Complex Systems and the Practice of World Politics." In *Complexity in World Politics: Concepts and Methods of a New Paradigm*, edited by Neil E. Harrison, 183–96. Albany: State University of New York Press.
- Heelan, Patrick. 2004. "The Phenomenological Role of Consciousness in Measurement." *Mind and Matter* 2 (1): 61–84.

Hellmann, Gunther. 2009. "Pragmatism and International Relations." *International Studies Review* 11 (3): 638–662.

Herrmann, Richard. K. 2017. "How Attachments to the Nation Shape Beliefs About the World: A Theory of Motivated Reasoning." *International Organization* 71 (1): 61–84.

Higgins, Rosalyn. 1995. *Problems and Process: International Law and How We Use It*. Oxford: Clarendon Press.

Holling C. S., and Lance H. Gunderson. 2002. "Resilience and adaptive cycles." In *Panarchy: Understanding transformations in human and natural systems*, edited by Lance. H. Gunderson and C. S. Holling, 25–62, Washington, DC: Island Press.

Holling C. S., Lance H. Gunderson, and Garry D. Peterson. 2002. "Sustainability and Panarchies." In *Panarchy: Understanding Transformations in Human and Natural Systems*, edited by Lance. H. Gunderson, and C. S. Holling, 63–102, Washington, DC, Island Press.

Huntington, Samuel. 1968. *Political Order in Changing Societies*. New Haven: Yale University Press.

Huntington, Samuel. 1996. *The Clash of Civilizations*. New York: Touchstone.

- Huysmans, Jef. 1998. "Revisiting Copenhagen: Or, On the Creative Development of a Security Studies Agenda in Europe." *European Journal of International Relations* 4 (4): 479–505.
- Jackson, Patrick Thaddeus, and Daniel H. Nexon. 2013. "International Theory in a Post-Paradigmatic Era: From Substantive Wagers to Scientific Ontologies." *European Journal of International Relations* 19 (3): 543–65.
- Jenks, C. Wilfred. 1940. "The Significance To-Day of Lorimer's 'Ultimate Problem of International Jurisprudence.'" *Transactions of the Grotius Society* 26: 35–65.
- Jervis, Robert. 1982. "Security Regimes." *International Organization* 36 (2): 357–78.
- Jervis, Robert. 1997. *System Effects: Complexity in Social and Political Life*. Princeton: Princeton University Press.
- Jervis, Robert. 2012. "System Effects Revisited." *Critical Review* 24 (3): 393–415.
- Jervis, Robert, and Robert J. Art. 2015. *International Politics: Enduring Concepts and Contemporary Issues, 12th Edition*. Boston: Pearson.
- Joas, Hans, and Raymond Meyer. 1989. "Institutionalization as a Creative Process: The Sociological Importance of Cornelius Castoriadis's Political Philosophy." *American Journal of Sociology* 94 (5): 1184–99.

Johnson, Keith, and Robbie Gramer. 2019. "Who Lost Turkey? The blame for Ankara's antagonistic stance to Washington lies with both sides, a product of decades of misunderstandings." *Foreign Affairs*, July 19, 2019. <https://foreignpolicy.com/2019/07/19/who-lost-turkey-middle-east-s-400-missile-deal-russia-syria-iraq-kurdish-united-states-nato-alliance-partners-allies-adversaries/>

Kahl, Colin. 2017. "Shadow Government: The United States and Turkey Are on a Collision Course in Syria." *Foreign Policy* 12 May 2017. <https://foreignpolicy.com/2017/05/12/the-united-states-and-turkey-are-on-a-collision-course-in-syria-trump/>

Kahneman, Daniel, and Amos Tversky. 1979. "Prospect Theory: An Analysis of Decision Under Risk." *Econometrica* 47 (2): 263–291.

Kaplan, Morton. A. 1957. *System and Process in International Politics*. New York: John Wiley & Sons Inc..

Kaplan, Morton A. 1979. *Towards Professionalism in International Theory*. New York: Macmillan.

Kaplan, Robert. D. 2000. *The Coming Anarchy: Shattering the Dreams of the Post Cold War*. New York: Random House, 2000.

Kaplan, Robert. 2008. "The US May Be in Decline, but Only to a Degree." *The Washington Post*, December 17, 2008.

- Kardaş, Şaban. 2011. "Turkish-American Relations in the 2000s: Revisiting the Basic Parameters of Partnership?" *Perceptions* 16 (3): 25-52.
- Kardaş, Şaban. 2020. "Turkey's Mission Impossible in Sustaining Idlib's Unstable Equilibrium." *German Marshall Fund of the United States*, April 4, 2020. <https://www.gmfus.org/news/turkeys-mission-impossible-sustaining-idlibs-unstable-equilibrium>
- Katzenstein, Peter J. 1998. "Cultural Norms and National Security: Police and Military in Postwar Japan." *The Journal of Politics* 60 (1): 291–93.
- Kavalski, Emilian. 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): 435–54.
- Kauffman, Stuart A. 2000. *Investigations*. Oxford: Oxford University Press.
- Kauffman, Louis. 2007. "Cybernetics." *CYBCON discussion group* September 20, 2007.
- Kegley, Charles. W. 2008. *World Politics: Trend and Transformation, 2007–2008 Update*. Boston: Thompson.

- Kessler, Glenn, and Philip P. Pan. 2003. "Missteps with Turkey Prove Costly; Diplomatic Debacle Denied a Strong Northern Thrust in Iraq." *The Washington Post*, March 28, 2003.
- Keohane, Robert O., and Joseph S. Nye. 1989. *Power and Interdependence: World Politics in Transition*. Boston: Little, Brown and Company.
- Keohane, Robert O., and Joseph S. Nye. 2000. "Globalization: What's New? What's Not? (And So What?)." *Foreign Policy* 118 (Spring): 104–19.
- Keohane, Robert O. 2012. "Twenty Years of Institutional Liberalism." *International Relations* 26 (2): 125–138.
- Kilroy, Richard. J. "Securitization." In *Handbook of Security Science*, edited by Anthony J. Masys, 1–19. Cham: Springer Nature Switzerland AG.
- Knudsen, Erik L. 2003. "The Quagmire of Northern Iraq: The Clash of US, Turkish and Iraqi Kurdish Interests." *Journal of South Asian and Middle Eastern Studies* 26 (4): 11–36.
- Koslowski, Rey, and Friedrich Kratochwil. 1994. "Understanding Change in International Politics: The Soviet Empire's Demise and the International System." *International Organization* 48 (2): 215–48.

Kratochwil, Friedrich V. 1993. "The Embarrassment of Changes: Neo-Realism as the Science of Realpolitik without Politics." *Review of International Studies* 19 (1): 63–80.

Kreutzer, Wolfgang. 1986. *System Simulation: Programming Styles and Languages*. Reading: Addison-Wesley.

Kuttner, Ran. 2011. "The Wave/Particle Tension in Negotiation." *Harvard Negotiation Law Review* 16 (1): 331–366.

Kuhn, Thomas S. 1962. *The Structure of Scientific Revolutions*. Chicago: Chicago University Press.

Lakatos, Imre. 1970. "Falsification and the Methodology of Scientific Research Programs." In *Criticism and the Growth of Knowledge*, edited by Imre Lakatos and Alan Musgrave, 91–195, Cambridge: Cambridge University Press.

Lakatos, Imre. 1980. *The Methodology of Scientific Research Programmes, Vol. 1*. Cambridge: Cambridge University Press.

Lake, Michael. 2005. *The EU and Turkey: A Glittering Prize or a Milestone*, London: The Federal Trust.

Laplace, Pierre-Simon. 1902. *A Philosophical Essay on Possibilities*, 6th edition.

Translated by Frederick Wilson Truscott and Frederick Lincoln Emory, New York: John Wiley.

Larrabee, Stephen F., and Ian Lesser. 2003. *Turkish Foreign Policy in an Age of Uncertainty*, Santa Monica: RAND Press.

Law, John, and John Urry. 2004. "Enacting the Social." *Economy and Society* 33 (3): 390–410.

Levy, Carl. 2002. "1918–1945–1989: The Making and Unmaking of Stable Societies in Western Europe." In *Three Postwar Eras in Comparison*, edited by Carl Levy and Mark Roseman, 1–38, London: Palgrave Macmillan.

Link, Arthur S. 1982. *The Papers of Woodrow Wilson, Vol. 40*, Princeton, NJ, Princeton University Press.

Lorimer, James. 1877. "Le Problème Final du Droit International ("The Final Problem of the International Right"). *Revue de Droit International et de Législation Comparée (Journal of International Law and Comparative Legislation)* 9 (2): 161–205.

Lorenz, Edward N. 1963. "Deterministic Nonperiodic Flow." *Journal of the Atmospheric Sciences* 20 (2): 130–141.

- Luhmann, Niklas. 1975. "Systemtheorie, Evolutionstheorie und Kommunikationstheorie." ("Systems Theory, Evolution Theory and Communications Theory"). *Soziologische Gids (Sociology Journal)* 22 (3): 154–168.
- Martin, Lenore. 2011. "Is Turkey Losing its Balancing Act in the New Middle East?" *Foreign Policy* (Spring).
<https://foreignpolicy.com/2011/05/26/is-turkey-losing-its-balancing-act-in-the-new-middle-east/>
- Maturana, Humberto R., and Francisco. J. Varela. 1980. *Autopoieses and Cognition: The Realization of the Living*. Dordrecht: Kulwer Academic.
- Matthews, Owen. 2006. "Who Lost Turkey?" *Newsweek*, December 11, 2006.
<https://www.newsweek.com/who-lost-turkey-105633>
- McAllister, Fred O. 2003. "Mad at America." *Time Europe* 161 (3).
<http://www.time.com/time/europe/magazine/>
- McSweeney, Bill. 1996. "Identity and Security: Buzan and the Copenhagen School." *Review of International Studies* 22 (1): 81–93.
- Mearsheimer, John J., and Stephen M. Walt. 2013. "Leaving Theory Behind: Why Simplistic Hypothesis Testing Is Bad for International Relations." *European Journal of International Relations* 19 (3): 427–57.

- Milner, Helen. 1991. "The Assumption of Anarchy in International Relations Theory: A Critique." *Review of International Studies* 17 (1): 67–85.
- Miller, John H. and Scott E. Page. 2007. *Complex Adaptive Systems: An Introduction to Computational Models of Social Life*. Princeton: Princeton University Press.
- Monod, Jacques. 1971. *Chance and Necessity: An Essay on the Natural Philosophy of Modern Biology*. New York: Alfred A. Knopf.
- Moravcsik, Andrew. 2003. "Theory Synthesis in International Relations: Real not Metaphysical." *International Studies Review* 5(1): 131–36.
- Morin, Edgar. 1977. *La Méthode: La nature de la nature (The Method: The nature of nature)* Paris Cedex: Seuil.
- Morin, Edgar. 1992. "From the Concept of System to the Paradigm of Complexity." *Journal of Social and Evolutionary Systems* 15 (4): 371–85.
- Morin, Edgar. 2005. "Restricted Complexity, General Complexity." *Paper presented at the Colloquium Intelligence de la Complexité: Épistémologie et Pragmatique (The Intelligence of Complexity: Epistemology and Pragmatics)*, translated by Carlos Gershenson, Cerisy-La-Salle, France, June 26, 2005.
- Morin, Edgar. 2008. *On Complexity*. Cresskill: Hampton Press Inc.

- Mulford, Matthew, and Jeffery Berejikian. 2002. "Behavioural Decision Theory And The Gains Debate In International Politics." *Political Studies* 50 (2): 209–29.
- Müftüler-Baç, Meltem. 2016. "Turkey's Ambivalent Relationship with the European Union: To Accede or Not to Accede." *Uluslararası İlişkiler* 13 (52): 89–103.
- Nexon, Danial H. and Stacie E. Goddard. 2005. "Paradigm Lost? Reassessing Theory of International Politics." *European Journal of International Relations* 11 (1): 9–61.
- Nye, Joseph S. 1993. *Understanding International Conflicts*. London: Addison-Wesley Educational Publishers.
- Onuf, Nicholas. 1989. *World of Our Making: Rules and Rule in Social Theory and International Relations*. Columbia: University of South Carolina Press.
- Oye, Kenneth. 1985. "Cooperation Under Anarchy." *World Politics* 38: 1–24.
- Öniş, Ziya. 2014. "Turkey and Arab Revolutions: Boundaries of Regional Power Influence in a Turbulent Middle East." *Mediterranean Politics* 19 (2): 203–219.
- Pan, Chengxin. 2020. "Enfolding Wholes in Parts: Quantum Holography and International Relations." *European Journal of International Relations* 26 (1): 14–38.

- Park, Bill. 2016. "Regional Turmoil, the Rise of Islamic State, and Turkey's Multiple Kurdish Dilemmas." *International Journal* 71 (3): 450–67.
- Pascal, Blaise. 1966. *Pensées. (Reflections)*. Translated by Alban J. Krailsheimer, London: Penguin Books.
- Patton, Marcie J. 2006. "The Economic Policies of Turkey's AKP Government: Rabbits from a Hat?" *Middle East Journal* 60 (3): 513-36.
- Peak, David and Michael Frame. 1994. *Chaos under Control: The Art and Science of Complexity*. New York: W. H. Freeman and Company.
- Pylkkinen, Paavo. 2004. "Can Quantum Analogies Help Us to Understand the Process of Thought?" In *Brain and Being*, edited by Gordon G. Globus, Karl H. Pribram, and Giuseppe Vitiello, 165–95. Amsterdam: John Benjamins.
- Reus-Smit, Christian. 2013. "Beyond Metatheory?" *European Journal of International Relations* 19 (3): 589–608.
- Richardson, Lewis F. 1922. *Weather Prediction by Numerical Process*. Cambridge: Cambridge University Press.
- Rosenau, James N. 1990. *Turbulence in World Politics: A Theory of Change and Continuity*. Princeton: Princeton University Press.

- Rosenblum, Bruce, and Fred Kuttner. 1999. "Consciousness and Quantum Mechanics." *Journal of Mind and Behavior* 20 (1): 229–56.
- Ruggie, John Gerard. 1983. "Continuity and Transformation in the World Polity: Toward a Neorealist Synthesis." *World Politics* 38 (2): 225–86.
- Ruggie, John Gerard. 1998. "Political Structure and Dynamic Density." In *Constructing the World Polity: Essays on International Institutionalization*, edited by John Gerard Ruggie, 137–54, London: Routledge, 1998.
- Ruggie, John Gerard. 1998b. "What Makes the World Hang Together? Neo-utilitarianism and the Social Constructivist Challenge." *International Organization* 52 (4): 855–85.
- Russett, Bruce. 1993. *Grasping the Democratic Peace: Principles for a Post-Cold War World*. Princeton University Press.
- Sanger, David E. 2002. "The World: First Among Evils?; The Debate Over Attacking Iraq Heats Up." *The New York Times*, September 1, 2002. <https://www.nytimes.com/2002/09/01/weekinreview/the-world-first-among-evils-the-debate-over-attacking-iraq-heats-up.html>
- Sander, Oral. 2016. *Türk-Amerikan İlişkileri (Turkish-American Relations)*, Ankara, İmge.

- Sanns Werner. 2012. "Catastrophe Theory." In *Mathematics of Complexity and Dynamical Systems*, edited by Robert A. Meyers, 32–48. New York: Springer.
- Schmidt, Brian C. 2002. "Anarchy, World Politics and the Birth of a Discipline." *International Relations* 16 (1): 9–31.
- Schmidt, Brian C. 2006. "On the History and Historiography of International Relations." In *Handbook of International Relations*, edited by Walter Carlsnaes, Thomas Risse, and Beth A. Simmons, 3–22, London: SAGE.
- Schmitt, Eric, and Maggie Haberman. 2019. "Trump Said to Favor Leaving a Few Hundred Troops in Eastern Syria." *The New York Times*, October 20, 2019. <https://www.nytimes.com/2019/10/20/world/middleeast/trump-troops-syria-turkey.html>
- Schweller, Randall L. 1996. "Neorealism's Status Quo Bias: What Security Dilemma?" *Security Studies* 5 (3): 90–121.
- Sell, Louis. 2002. *Slobodan Milosevic and the Destruction of Yugoslavia*, Durham: Duke University Press.
- Sinclair, Timothy J. 1996. "Beyond International Relations Theory: Robert W. Cox and Approaches to World Order." In *Approaches to World Order*, edited by Robert W. Cox and Timothy J. Sinclair, 3–18. Cambridge: Cambridge University Press.

- Simon, Steven, and Jonathan Stevenson. 2015. "The End of Pax Americana: Why Washington's Middle East Pullback Makes Sense", *Foreign Affairs* 94 (6): 2–10.
- Slaughter, Anne-Maria, Andrew S. Tukumello, and Stepan Wood. 1999. "International Law and International Relations Theory: A New Generation of Interdisciplinary Scholarship." *American Journal of International Law* 93 (2): 367–97.
- Slaughter, Anne-Marie, and William Burke White. 2006. "The Future of International Law is Domestic." *Harvard International Law Journal* 47 (2): 327–52.
- Smith, Steve. 1995. "The Self-images of a Discipline: A Genealogy of International Relations Theory." In *International Relations Theory Today*, edited by Ken Booth and Steve Smith, 1–37. Cambridge: Polity Press.
- Snidal, Duncan. 1991. "Relative Gains and the Pattern of International Cooperation." *The American Political Science Review* 85 (3): 701–26.
- Snyder, Jack. 1993. "Introduction: New Thinking About the New International System." In *Coping with Complexity in the International System*, edited by Jack Snyder and Robert Jervis, 1–23. Boulder: Westview Press.
- Spruyt, Hendrik. 1996. *The Sovereign State and its Competitors*. Princeton: Princeton University Press.

Sözen, Ahmet. 2010. "A Theoretical Evaluation of Different Faces of Power: US-Turkey Relations Towards Iraq." *Uluslararası İlişkiler* 6 (24): 55-78.

Sözen, Ahmet, and Devrim Şahin. 2022. "Turkish Foreign Policy during the Cold War: The Cyprus Issue and other Determining Factors," in *A Companion to Modern Turkey's Centennial: Political, Sociological, Economic and Institutional Transformations Since 1923*, edited by Alpaslan Özerdem and Erdi Öztürk, Edinburgh: Edinburgh University Press.

Sözen, Ahmet, and Devrim Şahin. 2020. "Cyprus Question and the Eastern Mediterranean." In *Turkish Foreign Policy II*, edited by Nejat Doğan and Ahmet Sözen. Eskişehir: Anadolu University.

Sözen, Ahmet, and Devrim Şahin. 2013. "Perception of Axis Shift in Turkish Foreign Policy: An Analysis through 'Butterfly Effect'." *İzmir Review of Social Sciences* 1 (1): 47-63.

Sözen, Ahmet, and Devrim Şahin. 2012. "The Potential of the Turkish Model/Experience for the Arab Spring." *Paper presented at the International Studies Association Conference*, San Diego, California USA, April 1-4, 2012.

Stokes, Doug. 2018. "Trump, American hegemony and the future of the liberal international order." *International Affairs* 94 (1): 133–150

Şahin, Devrim. 2022. "AB 2030: Işıklar ve Gölgeler." (EU 2030: Lights and Shadows.) *Euro Politika Journal* 13: 6–18.

- Şahin, Devrim. 2022. "Turkey's Foreign Policy in Post-Soviet Eurasia." *Middle East Politics* 29 (3): 67–84.
- Şahin, Devrim. 2021. "Doğu Akdeniz'de Rus Ruleti." (Russian Roulette in the Eastern Mediterranean) *Euro Politika Journal* 11: 7-21.
- Şahin, Devrim. 2015. "Chaos Theory and Turkish Foreign Policy: An Analysis of Turkey's proactive Cyprus Policy during the AKP Administration." In *Turkish Foreign Policy in the New Millennium*, edited by Hüseyin Işıksal and Ozan Örmeci, 313-325, Oxford: Peter Lang Publishing.
- Şahin, Devrim, and Ahmet Sözen. 2022a. "The Collapse of Turkey's Three-Pillar Engagement Policy as a Part of Reversed Third Wave." In *EU Conditionality in Turkey*, Edited by Ali Onur Özçelik and Cenap Çakmak, 55-74, London: Lexington Press.
- Şahin, Devrim, and Ahmet Sözen. 2022b. "A Search for Effective Governance at the Cost of Turkey's EU Democratization Process." In *EU Conditionality in Turkey*, 75-92, Edited by Ali Onur Özçelik and Cenap Çakmak, London: Lexington Press.
- Şahin, Devrim, and Ahmet Sözen. 2022c. "Turkey on the frontline between the West and the Middle East: A Buffer State or More." In *EU Conditionality in Turkey*, 93-110, edited by Ali Onur Özçelik and Cenap Çakmak, London: Lexington Press.

Şahin, Devrim, and Ahmet Sözen. 2022d. "The Complexity Effect in U.S.-Turkey Relations: The Restructuring of the Middle East Regional Security." *Uluslararası İlişkiler Dergisi* 19 (74): 21-35.

Şahin, Devrim, and Ahmet Sözen. 2018. "Maximizing the Potential of a Japan-Turkey Strategic Relationship: The Security of Middle Eastern Energy Supplies." In *Economic Dynamics of Global Energy Geopolitics*, edited by Ahmet Salih İkiz, 192-214, Hershey, PA: IGI Global.

Şahin, Devrim, and Ahmet Sözen. 2018. "Maintaining a Collaborative Environment Between Turkey and Israel on the Issue of Energy Resources: The Crisis Management Role of the United States." In *Economic Dynamics of Global Energy Geopolitics*, edited by Ahmet Salih İkiz, 242-261, Hershey PA: IGI Global.

Şahin, Devrim, and Safiye Kocadayı. 2022. "The Role of Media in the Perception of Syrian Refugees as Terrorists," in *Media and Terrorism in the 21st Century*, 28-42, edited by Elnur Ismayil and Ebru Karadogan, New York: IGI Global Publishing House, 2022.

Thaler, Richard H. and Cass R Sunstein. 2009. *Nudge: Improving Decisions about Health, Wealth, and Happiness*. New York: Penguin.

The Economist Editorial. 2011. "Israel and Turkey: Can it get worse?" *The Economist*, September 10, 2011.

<https://www.economist.com/middle-east-and-africa/2011/09/10/can-it-get-worse>

Thiéart, Raymond A., and Bernard Forgues. 1995. "Chaos Theory and Organization." *Organization Science* 6 (1): 19–31.

Thompson, James. 1967. *Organizations in Action*. London: Transaction Publishers.

Thompson, John. 1982. *Interaction and Coevolution*. New York: Wiley.

Tocci, Natalie. 2003. "Anchoring Turkey to Europe: the foreign policy challenges ahead." *Prepared for the CEPS/IISS European Security Forum*, Brussels, May 12, 2003.

<http://www.eusec.org/tocci.htm>

Tomgüshan, Turgül. and Devrim Şahin. 2022. "Critical Discourse Analysis of The Özgür Gündem Newspaper during Turkey's Resolution Process: from the Year 2013 to 2015." In *Media and Terrorism in the 21st Century*, 64–79, edited by Elnur Ismayil and Ebru Karadogan, New York: IGI Global Publishing House.

Turan, İlker. 2008. "The US and Turkey: Limiting Unilateralism." In *Hegemony Constrained: Evasion, Modification, and Resistance to American Foreign Policy*, edited by Davis B. Bobrow, Pittsburgh: University of Pittsburgh.

United Nations. 2004. *A More Secure World: Our Shared Responsibility : Report of the High-Level Panel on Threats Challenges and Change*. New York: United Nations Department of Public Information.

Urry, John. 2003. *Global Complexity*. Cambridge: Polity Press.

Urry, John. 2004. "The 'System' of Automobility." *Theory, Culture & Society* 21 (4–5): 25–39.

Walby, Sylvia. 2007. "Complexity Theory, Systems Theory, and Multiple Intersecting Social Inequalities." *Philosophy of the Social Sciences* 37 (4): 449–70.

Wallerstein, Immanuel. 2000. "From Sociology to Historical Social Science." *British Journal of Sociology* 51 (1): 25–35.

Waltz, Kenneth N. 1979. *Theory of International Politics*. New York: McGraw-Hill.

Walt, Stephen M. 2005. *Taming American Power: The Global Response to U.S. Primacy*. New York: W.W. Norton.

Walt, Stephan M. 2018. "US Grand Strategy after the Cold War: Can Realism Explain It? Should Realism Guide It?" *International Relations* 32 (1): 3–22.

- Waltz, Kenneth N. 1986. "Reflections on Theory of International Politics: A Response to My Critics." In *Neorealism and its Critics*, edited by Robert Keohane, 322–45. New York: Columbia University Press.
- Waltz, Kenneth. N. 2015. "The Anarchic Structure of World Politics." In *International Politics: Enduring Concepts and Contemporary Issues, 12th Edition*, edited by Robert Jervis and Robert A. Art, 47–65. Boston: Pearson.
- Weaver, Warren. 1948. "Science and Complexity." *American Scientist* 36 (4): 536–44.
- Weber, Max. 1978. "Economy and Society, An Outline on Interpretive Sociology." Edited by Guenther Roth and Claus Wittich, Berkeley: University of California Press.
- Weingast, Barry. 2002. "Rational Choice Institutionalism." In *Political Science: State of the Discipline*, edited by Ira Katznelson and Helen Milner, 660–92, New York: W.W. Norton.
- Weinstein, Jeremy, Stuart E. Eizenstat, and John Edward Porter. 2004. *On the Brink: Weak States and US National Security*. Washington: Center for Global Development.
- Weisberg, Herbert F. 1998. "Nonlinear Models of Electoral Change: The Implications of Political Time and Chaos Theory for the Study of Mass Political Behavior." *Electoral Studies* 17 (3): 369–82.

- Wendt, Alexander. 1987. "The Agent-Structure Problem in International Relations Theory." *International Organization* 41 (3): 335–70.
- Wendt, Alexander. 1992. "Anarchy Is What States Make of It: The Social Construction of Power Politics." *International Organization* 46 (2): 391–425.
- Wendt, Alexander. 2015. *Quantum Mind and Social Science: Unifying Physical and Social Ontology*. Cambridge: Cambridge University Press.
- Wiener, Norbert. 1948. *Cybernetics. Or Control and Communication in the Animal and the Machine*. Cambridge: MIT Press.
- Wiener, Norbert. 1950. *The Human Use of Human Beings: Cybernetics and Society*. Boston: Houghton-Mifflin.
- Wight, Colin. 2006. *Agents, Structures and International Relations: Politics as Ontology*. Cambridge: Cambridge University Press.
- Wilczek, Frank. 2008. *The Lightness of Being: Big Questions, Real Answers*. London: Allen Lane.
- Wilkinson, Claire. 2007. "The Copenhagen School on Tour in Kyrgyzstan: Is Securitization Theory Useable (sic) Outside Europe?" *Security Dialogue* 38 (1): 5–25.

- Williams, Paul. 2005. "Critical Security Studies." In *International Society and Its Critics*. Edited by Alex Bellamy, 135–150, Oxford: Oxford University Press.
- Wilson, Edward O. 1999. *Consilience: The Unity of Knowledge*. London: Abacus.
- Von Bertalanffy, Ludwig. 1968. *General system theory: Essays on its foundation and development*. New York: George Braziller.
- Von Neumann, John. 1951. "The general and logical theory of automata." In *Cerebral Mechanisms in Behavior: The Hixon Symposium*, edited by L. A. Jeffress, 1–31. New York: John Wiley & Sons.
- Von Neuman, John. 1966. *Theory of Self Producing Automata*. edited by Arthur W. Burks, Champaign. State: University of Illinois Press.
- Yetkin, Murat. 2004. *Tezkere: Irak Krizinin Gerçek Öyküsü*. (Resolution: The True Story of the Iraq Crisis), İstanbul: Remzi Kitabevi.
- Yourish, Karen, Derek Watkins, Tom Giratikanon, and Jasmine C. Lee. 2016. "How Many People Have Been Killed in ISIS Attacks Around the World?" *The New York Times*, July 1, 2016.
- Zohar, Danah, and Ian Marshall. 1994. *The Quantum Society: Mind, Physics and a New Social Vision*. New York: William Morrow and Company.