

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/379115937>

# From Decline to Renewal Towards a Sustainable International Order

Book · March 2024

---

CITATIONS  
0

READS  
53

1 author:



[Ingo Piepers](#)  
Global4cast

17 PUBLICATIONS 16 CITATIONS

[SEE PROFILE](#)

# From Decline to Renewal

Towards a Sustainable International Order



*Dr. Ingo Piepers*

## **From Decline to Renewal**

© Ingo Piepers, 2024

Version: March 2024

This publication and its contents may be freely distributed, provided that the author's name is cited.

Every possible effort has been made to ensure the accuracy of this publication. Nevertheless, the absence of typographical and/or printing errors, as well as inaccuracies and/or imperfections, cannot be guaranteed. The copyright holder accepts no liability for any consequences of such typographical and/or printing errors, inaccuracies, and/or imperfections.

## TABLE OF CONTENTS

### **CHAPTER 1. THE ORTHODOX APPROACH TO INTERNATIONAL RELATIONS AND DYNAMICS.**

<b>1.1</b>	Introduction	<b>9</b>
<b>1.2</b>	A number of concepts, terms, and views	<b>9</b>
<b>1.3</b>	The forming of states and the development of power	<b>18</b>
<b>1.4</b>	The international system	<b>21</b>
<b>1.5</b>	Objectives and Strategies of States	<b>23</b>
<b>1.6</b>	The Development of the International Order and the Balance of Power	<b>25</b>
<b>1.7</b>	Patterns and trends	<b>30</b>
<b>1.8</b>	War, Warfare and War Dynamics	<b>36</b>
<b>1.9</b>	What is going on now? An Orthodox Answer	<b>38</b>

### **CHAPTER 2. A NEW APPROACH TO INTERNATIONAL RELATIONS.**

<b>2.1</b>	Introduction	<b>40</b>
<b>2.2</b>	Decline and Renewal in Ecosystems	<b>41</b>
<b>2.3</b>	Complex and dynamic Systems	<b>43</b>
<b>2.4</b>	Phase Transitions and Critical Points	<b>44</b>
<b>2.5</b>	Chaotic dynamics	<b>47</b>
<b>2.6</b>	Dissipative structures	<b>49</b>
<b>2.7</b>	Growth, Acceleration and Finite Time Singularities	<b>54</b>
<b>2.8</b>	The Contours of a New Paradigm	<b>55</b>
<b>2.9</b>	What is going on now? An Answer based on New Insights	<b>58</b>

### **CHAPTER 3. FURTHER ANALYSIS BASED ON THE NEW PARADIGM.**

<b>3.1</b>	Introduction	<b>59</b>
<b>3.2</b>	The First Dissipative Structure (1500 - 1945)	<b>59</b>
<b>3.3</b>	The Structure and Lifecycle of a Cycle	<b>64</b>
<b>3.4</b>	Two Types of War: Systemic and Non-Systemic Wars	<b>65</b>
<b>3.5</b>	Abnormal War Dynamics	<b>66</b>
<b>3.6</b>	Developments after the Cold War up to the Present	<b>70</b>
<b>3.7</b>	The onset and contours of the next systemic war	<b>86</b>

### **CHAPTER 4. WHAT CAN WE DO NOW?**

<b>4.1</b>	Introduction	<b>90</b>
<b>4.2</b>	The Creation of an International Order and the Operation of the Powerful-Become-More-Powerful Effect	<b>90</b>
<b>4.3</b>	Influence, Governing Capacity, and Complexity	<b>98</b>

**CHAPTER 5. WHAT WE SHOULD DO NOW ANYWAY.**

<b>5.1</b>	Introduction	<b>102</b>
<b>5.2</b>	Actions and Measures	<b>103</b>
<b>5.2.1</b>	World Federation	<b>104</b>
<b>5.2.2</b>	Global Charter	<b>105</b>
<b>5.2.3</b>	European Federation	<b>105</b>
<b>5.2.4</b>	Strategy	<b>108</b>
<b>5.3</b>	In Conclusion	<b>108</b>

<b>LITERATURE AND SOURCES.</b>	<b>110</b>
--------------------------------	------------

## PREFACE (March 2024)

*From Decline to Renewal: Towards a Sustainable International Order* is the English pdf-version of a book that was released in the Netherlands in the middle of last year. Due to the timeliness of the subject discussed in the book and the necessity for an international solution to these issues, this English version has been released. I aim to reach a wider audience with it and to intensify an extremely urgent discussion. The urgency to resolve the systemic and climate crises has, unsurprisingly, only increased. Global warming is progressing even faster than anticipated; 2023 was the warmest year on record, and the weather is becoming increasingly extreme and volatile, while the dysfunction of the international order continues to worsen. The war in Gaza contributes to this.

In this edition of the book, I have made some very limited revisions and additions. The book was originally designed for a Dutch-speaking audience only, which is why I referred to the Dutch state several times in the Dutch version. Those references have now been removed, and in some instances, have been made more general. In a limited number of cases, I refer to recent developments, to the extent that they are relevant for the point(s) I make: the book does not concentrate on the news of the day.

Ingo Piepers

Borobudur, Magelang  
Indonesia

March 2024

## PREFACE (July 2023)

The tensions in the international system are escalating, and there is significant unrest. Russia has started a war with Ukraine, China claims Taiwan, relations in the United States are polarized, North Korea continues to provoke, and the Middle East is far from peaceful. Every initiative of the United Nations is blocked by a veto from at least one of the permanent members of the Security Council. China and Russia have explicitly announced their pursuit of a new international order to end American hegemony. Meanwhile, the causes of climate change and its consequences are not being addressed with sufficient urgency.

These alarming developments raise several questions: *What is actually happening? What can we expect?* and *What should we do now?* In this book, I attempt to answer these questions using insights and theories from political science, particularly those concerning international relations and politics. These insights and theories—better described as dogmas—are applied by policy advisors and decision-makers. They involve widely accepted rules and beliefs, which I refer to as the orthodox approach. This approach focuses on the power, influence, and interests of states, assuming they should always be maximized. This dogma significantly shapes the dynamics and development of the international system, leading to the current situation.

However, I do not solely rely on the orthodox approach in attempting to answer these questions. This approach is limited and part of the problem. Thus, I also apply insights from my research into the long-term war dynamics and development of the international system. This research is based on understanding the workings of dynamic and complex systems, analyzing "*hard*" data, and applying the scientific method. According to this new approach, the international system also produces its own autonomous system dynamics, which in a way direct and frame social and political processes.

Combining the orthodox approach, which primarily concerns social and political dynamics and developments, with new insights focusing on the underlying system dynamics, results in a new paradigm that better addresses the aforementioned questions. According to this new paradigm, the next systemic crisis, likely including a systemic war, is just a matter of time.

Since the start of the European state system around 1500, there have been four such system crises. The most recent was World War II. The stakes and outcomes of each systemic crisis have consistently led to a new international order. I assume this will also be the case for the next systemic crisis, potentially leading to a *UN 2.0*.

This means the current international order will be "*reorganized*", and the resulting *reset*—this *UN 2.0*—will again create a temporary equilibrium. War plays a significant role in this process from decay to renewal, as has always been the case. When it comes to renewing the international order—thus, the current United Nations—there is no political process that can achieve this. The international system remains a system without central authority, where ultimately, the law of the strongest and most brutal still applies.

Unfortunately, there are no indications that the global state system, which began in 1945, behaves significantly differently from the European state system from 1500 to 1945. On its way to a long-term equilibrium, the global state system, like its European predecessor, will generate a 'spiral' of violence with several systemic crises. The next systemic crisis will not be the last, assuming this course of action does not lead to self-destruction.

This destructive dynamic is rooted in states' fixation on power, influence, and interests and their attempts to maximize these for themselves. If states think and act in this way, rivalries, tension build-up, and ultimately a systemic crisis are just a matter of time.

There are several similarities between the current situation and the preceding four systemic crises, but there is also a crucial difference. We are now faced not only with a systemic crisis but also with an existential climate crisis due to our exploitation of our environment.

It is clear that addressing the climate crisis and its consequences is too little, too late, and that the critical threshold of 1.5 degrees Celsius warming is likely to be exceeded in the near term, which is a major concern.

The combination of an imminent systemic crisis, a climate crisis spiraling out of control, and the prospect of a long-term violence spiral creates a perfect storm unless timely intervention occurs. However, whether it concerns the systemic crises or the climate crisis, a more-of-the-same approach cannot rescue us from this predicament. The orthodox approach and the too lenient approach to the climate crisis have brought us to where we are now.

In this book, I argue that we must use the new paradigm I discuss to better understand the (war) dynamics and development of the international system and that we must apply this new paradigm to organize the next, sustainable international order. Only then can we escape the long-term violence spiral—the war trap—in which we are currently stuck and still be able to address the climate crisis and its consequences in the limited time remaining. Therefore, an international order based on such a new paradigm must be the goal of the next systemic crisis.

Specifically, this means that the next international order should be organized as a federation based on democratic principles. This world federation would then be responsible for safeguarding and promoting the rights of all global inhabitants and for organizing and addressing a number of public interests on a global scale, such as international security, management of scarce resources, and, of course, addressing the climate crisis and its consequences. Those who dismiss this idea as too idealistic or unrealistic are challenged to come up with a better proposal that will enable us to effectively meet the existential challenges and crises within the short timeframe we have left.

If such an international order is established, the destructive spiral of violence will also be broken. Then, the devastating development process of the global state system towards a state of equilibrium, which Europe experienced during the period from 1500 to 1945, will be spared. A federation on a global scale can be achieved quickly without a series of increasingly destructive (systemic) wars. It's not a matter of ability, but of willingness.



This book is the last in a series of three books published by *Politica Scripta*. The first part is the book by *Leo Klinkers* titled '*On the Competence and Suitability of Political Office Bearers*'; the second part is by *Peter Hovens* and is titled '*TogetherWorld. How Trust in Politics and Trust in Government Return*'. The three books share a common theme: the authors sound a serious alarm about the progressive decay of governments at various levels of organization: from the government of the Netherlands to the European Union, and the international order at a global level.

Just now, when a systemic crisis is just a matter of (short) time and a new international order must be established, the government of the Netherlands (and not only the government of the Netherlands) and Europe lack the competencies and capabilities to influence that process in a targeted way. Leo Klinkers determines that the quality of the political system in the Netherlands has reached its lowest point since World War II, and Peter Hovens observes that societal crises continue to accumulate in the Netherlands because the government is insufficiently capable of solving them. We have not got our affairs in order, while this is now of utmost necessity.

This may be discouraging, but this situation—a systemic crisis, an existential climate crisis, and simultaneous problems at different levels of (government) organization—also provides a perfect opportunity. The inevitable reorganization of the international order, the last step in the development of Europe into a full federation, and a series of adjustments to the government's working methods can now take place integrally. The urgency is great, and doing nothing is not an option if we want to avoid fragmentation and marginalization. The integral approach I propose yields much better short-term results. And that's exactly what we need now.

I thank *Leo Klinkers* for his initiative to create the coherent series of books: '*On the Competence and Suitability of Political Office Bearers*' by his hand, '*TogetherWorld*' by *Peter Hovens*, and this publication. Additionally, I thank publisher and publicist *Peter Frissen* for his willingness to publish this book and for his contribution to perfecting the manuscript.

I thank my wife, *Ida Suryani*, for her continuous support and her inspiration to keep working towards a better world for all of us.

Ingo Piepers

Borobudur, Magelang  
Indonesia

July 2023

## CHAPTER 1

### THE ORTHODOX APPROACH TO INTERNATIONAL RELATIONS AND DYNAMICS

#### 1.1. Introduction

To better understand the current situation, in this chapter, I discuss the generally accepted views and insights on international relations and international politics. These views mostly belong to the so-called *Realist School*, which is the dominant approach when it comes to international relations and politics. According to the Realist School, relations between states and their interactions are primarily about power and interests. Idealistic views are subordinate to these. I refer to these generally accepted views and insights as the '*orthodox approach*'.

This chapter is based, among others, on the framework for international political analysis by Holsti (Holsti, 1995), the analysis of the great power system by Levy (Levy, 1983), the conceptual change model of the international system by Gilpin (Gilpin, 1981), and the results of empirical research on the conflict dynamics in the international system by Geller and Singer (Geller et al., 1998).

Successively, this chapter addresses the following topics: a series of concepts, terms, and views; the formation of states and power development; the international system; objectives and strategies of states; the development of the international order and the balance of power; patterns and trends related to war, warfare, and war dynamics.

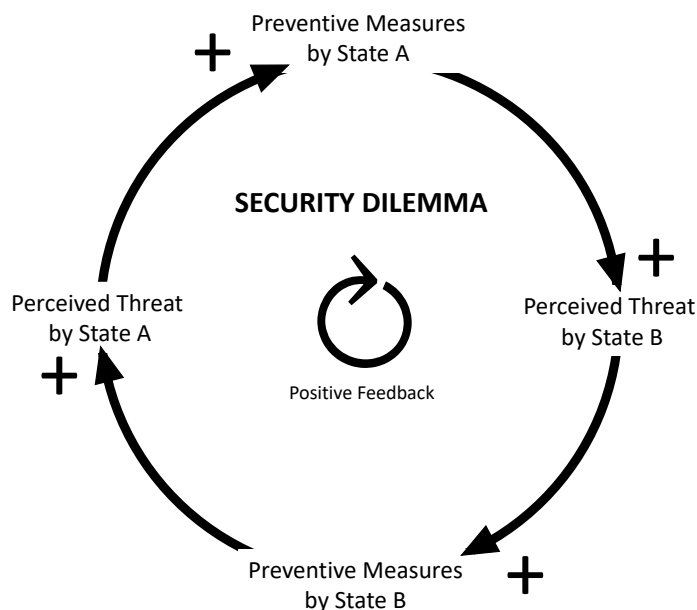
Finally, in this chapter, I answer, from the orthodox perspective, the question: *What is going on now?*

#### 1.2. A number of concepts, terms, and views

There are various views and ideas about international relations and politics. Holsti distinguishes five schools of thought. The Realist School is dominant. This school includes, among others, Thucydides, Machiavelli, and Kissinger. Since states are part of a system without a central authority, Realists believe that states are ultimately on their own in achieving their objectives, including security. For Realists, it's about interests and (military) power and ensuring and promoting them. This means that states must arm themselves to be prepared for aggression from other states.

This way of thinking leads to the *security dilemma*. The security dilemma is inherent in a state system without central authority (Holsti, 1995). In such a system, the security of states can only be ensured by increasing the military capacity of one's own state or by forming alliances with other states. This way of thinking then creates a new threat for other states. In a system without a central authority, the security of state A is the insecurity of state B and vice versa. As a result, the security dilemma often leads to a dynamic of action and reaction. The security dilemma is a self-fulfilling prophecy.

At this point in time, the security dilemma is in full swing, partly due to the rivalry between the US and China. Tensions are consequently escalating.



**Figure 1: This image shows the relationship and interaction between four variables that together constitute the security dilemma. Preventive measures by states are perceived as a threat and the confirmation of their own righteousness by other states. This mechanism involves positive feedback.**

I briefly discuss the other four schools of thought. Similar to the Realist School, the attention in the *Community of States doctrine* is mainly focused on interactions between states and on peace and security issues. However, this school of thought emphasizes cooperation and agreements between states. Furthermore, the importance of international law and diplomacy is highlighted. The *Pluralistic Interdependence model* places political problems in a wider, especially economic context. The *Dependency model* emphasizes the inequality between states and the dynamics that result from it. The focus is particularly on hierarchical relations between states.

According to the *World Community model*, there is a close interweaving of relationships between states. According to this model, political and security issues are always embedded in a socio-economic context.

All schools of thought regard states and international organizations as the main actors in the international system. States are defined in terms of territory and sovereignty. States have a monopoly on the use of force within their own territory (with its *Second Amendment*, the US is to some extent an exception; I will return to this point later). This monopoly is important for the stability of those states. States and the system of states as we know it today are the result of a lengthy development process. In the formation of states, the development of the administrative capacity of those states, the institutionalization of taxation, and the organization of a military force are important issues.

States and international organizations are the main actors, but there are more. Holsti mentions in this context: (1) territorial non-state actors, such as national liberation movements, (2) non-territorial transnational organizations, such as multinational

corporations, and (3) intergovernmental organizations, such as the North Atlantic Treaty Organization (NATO) and the Organization for Economic Cooperation and Development.

*Non-territorial transnational organizations* are active in multiple states simultaneously, their objectives and interests are not tied to a specific state (territory), and these transnational organizations usually pursue non-political objectives. Transnational corporations promote economic globalization, seek to generate profit, and maximize the interests of shareholders. These corporations can have a significant impact on social systems; they decide, among other things, where and how resources are extracted and used, where various factors of production are employed, and how financial resources are allocated. As a result, these corporations also influence the revenues (taxes) and employment of states. Sometimes, transnational corporations attempt to influence social systems more directly, for example, to negotiate favorable conditions for establishment.

*Intergovernmental organizations* can have a significant impact on the dynamics and development of the international system, including the extent and manner of its organization. NATO is an example of an intergovernmental organization.

Levy is the author of the book *War in the Modern Great Power System, 1495-1975* (Levy, 1983). He distinguishes two categories of states: great powers and non-great powers. His research is relevant; also, for answering the questions that are central to this book. According to Levy, great powers can be precisely defined, among other things, based on their power position and influence. Levy has conducted research on wars involving great powers during the period 1495–1975, and the results of this research have been compiled in a database. This database is included in the aforementioned book (Levy, 1983).

The demarcation in his database is based on the start of the modern great power system around 1495; the end date 1975 is mainly practical; the modern great power system did not stop, but Levy's research did; his book was published in 1983. For my own research (Piepers, 2006, 2016, 2019, 2020), I have used Levy's database and supplemented it for the period thereafter based on his approach.

Levy operationalizes the concept of great power based on a number of concrete criteria. According to Levy, great powers distinguish themselves by: (1) their significant military power ("*a high level of military capabilities relative to other states*"), (2) their interests, (3) their behavior and interactions with other states, (4) the perception of other great powers of these great powers (they pay special attention to each other), and (5) a number of more formal criteria. I will briefly explain these criteria.

Great powers have the capacity to employ military power beyond their own borders in both offensive and defensive operations. This is also referred to as *power projection*. The ability for power projection enables great powers to assist or threaten other states. The US currently possesses the most extensive and powerful capabilities for this. The Netherlands does not have such a capacity and is therefore not a great power. A great power is also a state that plays a significant role in "*international politics with respect to security-related issues*". Great powers define their interests in global or regional terms. Non-great powers only have local and sometimes regional interests.

The interest perception of great powers means that these states attach great importance to the functioning and organization of the international system and pay attention to the balance of power. Furthermore, great powers attribute importance to more symbolic interests such as *'national honor'* and prestige.

Great powers exhibit more aggressive behavior when it comes to pursuing their interests: great powers more frequently threaten the use of force. Great powers are recognized by other great powers as such and treated in some respects as equals (*"...treated as relative equals with respect to general attention, respect, protocol, negotiations, alliance agreements, and so forth"*).

Finally, there are a number of formal criteria based on which great powers distinguish themselves. Levy refers here to the involvement and influence of great powers on treaties and alliances between states.

Great powers, with their specific characteristics, form a dominant subsystem within the international arena. Great powers significantly determine the structure, the main processes, and the development of the international system. The role of other states (of non-great powers like the Netherlands) is limited to influencing the behavior of great powers or attempts to do so. Due to their interests, great powers cannot withdraw from the international system. Too much is at stake.

Great powers come and go; they do not last forever. Since the start of the great power system in 1495, only France and Great Britain have managed to maintain their status as great powers<sup>1</sup>. The Republic of the Seven United Provinces also belonged to this exclusive group from 1609 to 1713. When it comes to great powers, the US and China are actually relative newcomers, acquiring their great power status in 1898 and 1949, respectively. Currently, the following states qualify as great powers: the US, China, Russia, Great Britain, France, Germany, and India.

Based on this great power concept, Levy distinguishes three categories of wars: (1) wars between great powers, (2) wars involving great powers, and (3) wars with no great powers involved. Levy has then identified a series of great power wars (category (1) and (2) for the period 1495–1975 based on this classification. According to Levy's definition and classification, 119 great power wars occurred during this period. Of these, 64 wars can be characterized as wars between great powers (meaning that at least two great powers participated in these conflicts). In 55 cases, there were wars involving great power participation, meaning that only one great power was involved. The Vietnam War (1965-1973) is the last entry in Levy's database.

---

<sup>1</sup> There is a distinction between Great Britain and the United Kingdom. Great Britain refers to the island consisting of England, Scotland, and Wales. The name United Kingdom (UK) refers to the country that consists of Great Britain and Northern Ireland. Since 1927, the United Kingdom has officially been called the United Kingdom of Great Britain and Northern Ireland. Before that, it was called the Kingdom of Great Britain and Ireland. In this book, I will sometimes use the name Great Britain when I am actually referring to the United Kingdom.

In the database, Levy specifies the start and end year, duration, *extent* (defined as the number of participating great powers), and the *severity* of the respective great power war (severity, defined as the number of military casualties).

Levy attempted to identify regularities and patterns in great power wars based on his database. His statistical approach did not yield new insights. I will explain in the following chapters, that it is however possible to identify patterns and a series of regularities, when insights into the workings of complex and dynamic systems are used. Anticipating the discussion of these patterns and trends, I provide a brief explanation for understanding this. For his analysis, Levy defined the size of great power wars based on the number of military casualties from those wars. The thought was that the more casualties, the larger the war. Adopting a systems approach to the great power system defined by Levy, I have defined the size of a great power war in terms of what I call *fraction*. The fraction of a great power war is the quotient of the number of great powers involved in a great power war and of the total number of great powers present in the system, at that moment of time. The fraction of a war is thus a relative measure (relative in relation to the size of the system), and not an absolute one, as is the case with the number of casualties.

A fraction of 0.25 of a great power war means that one out of four (or two out of eight) great powers present in the great power system at that time, was (were) actively involved in that particular war. If the fraction of a war is one, it means that all great powers present in the great power system at that time, were involved in that war. In case the fraction is one, there is what I call a *systemic war*, which is a special category of great power wars, as I will explain.

***Based on this fractional approach to the size of great power wars, four accelerating war cycles can be identified during the period 1495–1945, each cycle having the same structure. In all four cases, a relatively long period of 'small' great power wars (with fractions less than one) is followed by a relatively short systemic war which typically produces a new international order, which then leads to a new, relatively stable period.***

A note on the term systemic war is appropriate here. The term systemic war is actually too limited and places too much emphasis on military activity, that is then taking place. Since much more is going on; *systemic crisis* is actually a better designation. A systemic war is an integral part of a systemic crisis.

During a systemic crisis and the associated systemic war, there always is a regrouping - a *reset*- of the international system, resulting in a new international order. In contrast, the 'smaller' non-systemic wars are about maintaining the existing balance, the status quo, during a relatively stable period. I will later explain that an analysis of the current cycle, which started in 1945, shows that we are now at the beginning of the next systemic crisis, where a new international order, a 'UN 2.0', will be at stake.

The research by Gilpin is also relevant to the questions in this book (Gilpin, 1983). In the book *War, Change, and World Politics*, Gilpin describes changes and change processes in the international system, using sociological and economic theories and insights. Gilpin focuses mainly on the relationship between war and change in and of the international system. Unlike Levy, he does not use 'hard' data. Gilpin's qualitative research has yielded a

conceptual framework with which developments in the international system can be analyzed and explained. Like other Realists, Gilpin assumes that international relations and politics revolve around power, influence, and interests. Gilpin defines power as the military, economic, and technological capabilities (capacities) of states. According to Gilpin, states always pursue objectives that best serve their interests, and they must do so<sup>2</sup>.

Gilpin applies a functional approach to the international system: according to him, states create international social, political, and economic ties to pursue certain interests. Gilpin emphasizes the instrumental character of the international system for states, where the functioning of the international system is mainly determined by three factors: the distribution of power among states and alliances, the prestige hierarchy of states based on economic and military power, and the rules applicable to the actions of states and interactions between states. He highlights the function of treaties in regulating the international system and observes that the treaties concluding major European conflicts formed the basis of the state system.

Gilpin points to the power dimension of rules and treaties because they primarily advance the interests of powerful states, which played a dominant role in their establishment. I will explain that this power dimension of rules and treaties plays a significant role in the development of the international system. There is (for example) a *powerful-become-more-powerful effect* (power leads to more power). In a system where power and influence are vital, the growth of power and influence is encouraged; standing still means falling behind.

According to Gilpin, the (inter)actions and objectives of states are based on an estimation of the costs and benefits associated with achieving those objectives. Gilpin assumes a high degree of rationality in decision-making about war and peace. States, according to Gilpin, will only seek to change the existing international order if the benefits of the change outweigh the associated costs. The assumption of Gilpin and others is that these benefits and costs can be estimated.

By costs, Gilpin refers, for example, to the costs associated with warfare. Since China and Russia now (according to them) seek a new international order, the benefits thereof - an end to the US hegemony anchored in the United Nations - are apparently assessed to be higher than the associated costs to make some fundamental changes. Gilpin and also China and Russia - assume a high degree of 'malleability' of the international system.

Gilpin observes that economic growth, technological development, and demographic changes are significant sources of change. Due to growth, particularly differentiated growth of states, the international system- and the balance of power among states - is subject to change. If there is any equilibrium, it is always temporary.

Gilpin observes that the way states seek to increase their power positions has fundamentally changed over time. Initially, power expansion was primarily pursued through territorial expansion; later, power increase mainly occurred through economic and political expansion. In the case of political expansion, ideologies are often used to justify it.

---

<sup>2</sup> Actually, the Realist School is primarily a normative doctrine (I avoid the word theory because it is not that), which prescribes how states should think and act.

At a certain point, growth and ambitions for growth always encounter counterforces, limiting growth. Gilpin identifies three *counterforces*: first, natural barriers and what he calls the *loss-of-strength gradient*; second, counterforces that arise in the form of political and economic alliances of adversaries; and third, growth limitations due to economic and technical factors.

Gilpin also notes that internal developments of states play a role in the dynamics of the international system. He observes that certain capacities of states also develop according to a pattern. For example, as social systems age, their learning and adaptive capabilities often decrease. Traditions and established interests then limit flexibility: practices, interests, and positions of certain elites become increasingly entrenched and pose a hindrance to the state's adaptability. You could argue that the current political dysfunction (partly) in the United States has its origin in this.

According to Gilpin, an international system is in equilibrium when the powerful states that are part of that system are satisfied with the existing territorial, political, and economic arrangements. A dynamic equilibrium exists when limited and local changes occur continuously, and larger changes are inevitably forthcoming.

***Gilpin considers the differentiated development of states the most significant destabilizing factor. This differentiated development leads to imbalances in the system, making the international order (the rules of the game, prestige hierarchy of great powers, etc.) no longer accurately reflect the actual power relations and spheres of influence. According to Gilpin, this imbalanced situation will sooner or later result in a crisis in the international system, where wars are the primary mechanism to bring about certain changes*** (Gilpin, 1981, 15).

Gilpin argues that states whose relative power position has increased will seek to change the structure of the international system so that the new order better reflects the actual interests and power relations in the international system. *According to Gilpin, historical research shows that if peaceful attempts at adjustment fail, the resulting imbalance will be corrected through war.*

Gilpin distinguishes between three gradations - levels - of change, which I will briefly explain.

- *Process Change*. This represents the most superficial and thus least impactful form of change. In this case, changes only pertain to the behavior of existing actors. If the relationship between two states evolves from cooperation to conflict, then, according to Gilpin's definition, this is a process change.
- *Systemic Change*. According to Gilpin's definition, systemic change occurs when the number and/or composition of the actors in the international system change. There is also systemic change when the (external) boundaries of the system change. With systemic change, the relative power positions of states, the prestige hierarchy, and the rules of the system change. This form of change always has implications for the governance of the international system. Orderings and reordering of the international system—discussed in this book—belong to this category of changes.



- *System Change*. In the case of system change, the nature of the key actors changes, and thus the interactions between these subsystems and actors. According to Gilpin, this is the most fundamental form of change. As I will explain, the Second World War (the fourth systemic war) was the last step in a system change that took place during the period 1495–1945.

System change is brought about by what Gilpin calls *hegemonic wars*. Gilpin argues that hegemonic wars are functional and form an integral part of the evolution and dynamics of the international system. The outcome of hegemonic wars determines which great powers will dominate and govern the (new) international system. After a hegemonic war, a (temporary) state of equilibrium is established. The Second World War (the fourth systemic war) is the most recent hegemonic war.

A remark is now in order because of the terminology that Gilpin and I use, which could lead to some confusion: What Gilpin calls '*system change*', brought about by hegemonic wars, is what I call a *systemic war* (as an integral part of a *systemic crisis*).

Levy does also not refer to these types of wars as hegemonic wars but as *general wars*.

Also, Geller et al. recognize that there is a separate category of wars (Geller et al., 1998). Geller et al. do not talk about system change, but about *system-shaping wars* (thus: Geller et al. refer to what Gilpin calls hegemonic wars (system change) and Levy calls general wars).

***Geller et al. assume that through the erosion of the power structure of the international system, lower-order conflicts and wars between states are linked to system-shaping global wars (Geller et al. 1998). This progressively undermines the stability of the international system. This is happening again now: local and regional issues and wars - such as conflicts in Europe, the Middle East and Africa - become part of the rivalries between China, Russia, and the United States and contribute to the instability of the international system. Due to the increasing interweaving of various issues and conflicts, nothing remains local anymore.***

I will explain that several indicators suggest we are at the beginning of such a *hegemonic war* (*general war* according to Levy, a *system shaping war* according to Geller et al., and a *systemic war* according to my definition), where a new international order (a "UN 2.0", so to speak) will be at stake.

Gilpin observes that in the case of a hegemonic war, there are always three preconditions. (1) First, there is a **(perceived) constriction - the closing in - of 'space' and opportunities**, such as economic growth possibilities due to a higher demand for resources. Consequently, the relations between states increasingly take on a zero-sum character.

Gilpin assumes that as long as there is space and opportunities for growth for states, differentiated growth and development of those states do not have to be problematic (or at least less so). However, when the limits of growth are reached, the international system enters a state of crisis.

Currently, in the case of China, there is a limitation of (perceived) growth space. The restrictions imposed by the US on China, by restricting among other things the export of

certain technologies by other states (for example The Netherlands) to China, for the development and production of microprocessors (chips) by China, contribute to this. The intention behind these restrictions is to hinder the development and growth of China. As part of this US plan, export restrictions were also imposed on the Dutch company ASML (*Advanced Semiconductor Materials Lithography*), with the approval of the Dutch government (*Netherlands to restrict chip exports after US pressure over China threat*, Financial Times, March 9, 2023). This action contributes to creating the preconditions for a hegemonic conflict.

(2) According to Gilpin, a second precondition for hegemonic wars is **the perception among one or more great powers that a period of fundamental historical change is occurring**. This creates the impression that the passage of time is working against the interests of these great power(s) and that certain issues might be better resolved through preemptive war(s). Such a perception of time pressure was present in Russia (it also motivated its attack on Ukraine in 2022) and now both increasingly in the US and China.

(3) The third precondition is that **the course of events begins to escape human control**; rationality seems no longer to apply, or at least to a lesser extent. According to Gilpin, states no longer accurately assess the forces at play. Gilpin summarizes the situation - the state of the system - as follows: "*Hegemonic war arises from the structural conditions and disequilibrium of an international system, but its consequences are seldom predicted by statesmen.*"

Gilpin states that the Thirty Years' War (1618-1648), the wars of Louis XIV (1667-1713), the wars of the French Revolution and Napoleon (1792-1815), and the First and Second World War were hegemonic wars.

During these wars, the governance of the international system was at stake. According to Gilpin, the three mentioned preconditions applied to these wars. Based on Gilpin's analysis, a hegemonic war between the US and China is only a matter of time. Gilpin identifies several typical characteristics of hegemonic wars:

(1) There is always a direct confrontation between dominant great powers with an established position in the international order and rising great powers (the challengers of the outdated system).

(2) The legitimacy and governance of the existing (outdated) international order are questioned.

(3) Hegemonic wars are simultaneously political, economic, and ideological in nature. Gilpin observes that such wars are often aimed at destroying the social, political, or economic system of the challenger(s) and are frequently followed by a religious, political, and social transformation of the defeated great powers.

(4) A significant feature of hegemonic wars is their vast scale, intensity, and duration.

*(I note, in anticipation of a more extensive discussion on this later in the book, that this (the third precondition) now also applies to the US. I refer to the chaotic retreat from Afghanistan in 2021, the (temporary?) termination of support to Ukraine, while it was supposed to*

*continue 'as long as it takes', and the unlimited support to Israel for its war in Gaza. The US is no longer in control of events, because forces at play were not accurately assessed.)*

The outcome of a hegemonic war is a change in the international system in line with the new power relations; there is a reordering of the system's components. The outcome of a hegemonic war determines which great power(s) will govern the new international system, thus also which interests of which states will then be best protected and promoted. After a hegemonic war, several obstructing inconsistencies are removed, and there is again a certain - but always temporary - equilibrium.

Gilpin, and Levy, note that in the dynamics and development of the international system, there is sometimes evidence or appearance of pattern formation and trends. However, these patterns are not further described or interpreted; their observations and conclusions primarily concern qualitative characteristics of the behavior of the international system.

### **1.3 The forming of states and the development of power**

This paragraph discusses the formation and development of the state. States and similar structures have existed from a very early stage (Graeber et al. 2021). However, this process has not yet concluded; for example, Europe is on the verge of the next (and necessary) growth step to a next level of organization, while at the same time, various forces promote fragmentation.

The state as an organizational form for a political unit, as we know it today, has several characteristics. A state possesses sovereignty over a precisely defined territory, including a monopoly on the use of violence. Through this monopoly on violence, the state can regulate the behavior of (members of) society and enforce authority, moreover, society itself does not have the means of violence with which it could pose a threat to the state and its authority. The monopoly on violence works not only internally but also externally. With a military force, the state can confront external threats and ensure external security. The monopoly on violence also achieves efficiency benefits: military power can be deployed and directed more efficiently and effectively.

Gilpin takes an economic perspective on the state and the (inter)actions initiated by states. Gilpin defines a state as an organization that provides protection and welfare in exchange for revenue. A state corresponds to a certain territory over which the state is sovereign. According to Gilpin, a state can be seen as a coalition of coalitions where individuals and groups of individuals try to pursue certain interests. The objectives of states, according to Gilpin, are primarily determined by the interests of dominant individuals and coalitions within states. Before 1500, only certain parts of states (and their precursors) were developed. According to Gilpin, the main problem for rulers and administrators at that time was mainly to gain control over the internal order and stability of the political unit.

The state, as we know it today, did not yet exist. The internal and external administrative capabilities of states did not develop simultaneously: political institutions with an internal (inward-looking, domestic) focus took shape earlier than institutions with an external focus.

Around 1500, Europe was still composed of hundreds of independent political units, including precursors to states. Depending on the definition, there were at least 300 to as many as 1500 state-like units. Moreover, areas belonging to a certain sovereign were often geographically dispersed: fragmentation was significant. Around 1500, a certain internal centralization of power and external autonomy was evident in a number of these political units (Levy, 1983).

As I have discussed, Levy states that from 1495 there was a system of great powers. From that point on, there was a certain alignment between the behavior of more powerful political units in the international system. This alignment was primarily aimed at preventing further territorial expansion and dominance by other political units.

Tilly observes that around 1500, something changed significantly in Europe. He notes that around 1490 there was a significant turning point<sup>3</sup>. Around that year, a process of scaling up began in Europe: the formation of the state, especially its external functions (Tilly, 1992). A system of treaties and diplomatic relations emerged, and armies were relatively large and reasonably well-disciplined by then. Moreover, a new and costly form of warfare was introduced, with armies increasingly equipped with artillery. Tilly talks about the establishment of the European state system. The formation of the great power system around 1500, as noted by Tilly among others, cannot be separated from the increased capability of states to wage war. This capability promoted the formation and consolidation of states.

Several factors played a role in this increased capability for warfare, such as economic prosperity in that period, demographic recovery from the effects of the plague epidemic (from 1450), the increase in the administrative capacity of political units, the increase in tax revenues of political entities, and the application of new (military) technologies. The invention of gunpowder and artillery in the 14th century provided offensive capabilities that simplified territorial consolidation (Gilpin, 1983). In this period, the geographical reach of armies and fleets also increased, which could be deployed at increasingly greater distances.

**According to Gilpin, the state as a form of political organization was successful because it was the most effective and efficient political form during that period in Europe.** The state was better able to ensure its security and interests than a city-state, a feudal structure, or an empire. Feudal structures were often fragmented and unable to generate sufficient income to finance new forms of military power and organization. Therefore, they were no longer able to ensure their security. While feudal structures were not efficient due to their fragmented and limited size, empires, on the other hand, were often too large and extended, with available forms of transport and communication imposing limitations. **The state performed better than these other forms of organization: The state emerged as the best form of organization in the selection process that was taking place in Europa, and in which war played a significant role.**

---

<sup>3</sup> Historians agree that from around the year 1500, there is a European (state) system, with new behavior. Tilly (1992) and Levy (1983) set the start date of the European state system and the great power system, respectively, at 1490 and 1495. My research (2016) identifies a start date around 1480. Depending on the context, I use one of these years or the designation 'around 1500' for the start date of the European (states) system. In all cases, it is about the same system.

After the end of the Thirty Years' War and the (formal) establishment of the principle of sovereignty in the Treaty of Westphalia in 1648, the process of state formation was still not complete. In France, it was not until around 1715 that there was a more or less effective central authority. In the 18th century, Austria and Russia were still collections of loose entities, where the cohesion between them was based mainly on loyalty rather than a central form of government. Italy and Germany were united much later, in 1861 and 1871, respectively.

Even after World War II, the process of state formation is still ongoing. In the 20th century, the number of states increased significantly, especially as a result of the right to self-determination (decolonization). In 1945, the number of United Nations member states was 52; by the mid-1990s, that number had risen to 184; in 2023, it is 193.

We can conclude that the state as we know it today, which is structured and equipped to wage war, is primarily a European invention that has been applied worldwide.

(I point out: The United Nations only accepts states - with their typical properties and behavior - as members of that organization. From this perspective, it is not surprising that the typical war dynamics generated in and by Europe during the period 1500 - 1945, is now repeating itself, but on a global scale.)

Around 1500, Europe was composed of hundreds of political entities, including a number of (rudimentary) states, but despite this diversity, Europe did indeed possess a certain degree of cultural homogeneity and common identity. This common identity was based on similar religious beliefs, a (predominantly) European trading network, and intensive contacts and exchanges between royal families (Tilly, 1992). The lingua franca of the European aristocracy was mainly French. France, or rather the French Court, significantly influenced European cultural norms and trends at that time.

National identities with the state as a reference point, did not exist in this period. Loyalties were primarily directed towards individuals and royal houses. This form of loyalty and identification made it possible for French nobles to serve the Prussian royal house or for British generals to command Russian armies. Holsti concludes that Europe was culturally connected and possessed a certain unity but was politically divided. (There is now no such thing as global cultural homogeneity, but there is, on the other hand, global economic interdependence, although it seems there has been economic decoupling for a number of years. Political divisions are increasing).

Finally, I will discuss the power development of states in the somewhat longer term. This power development is relevant because states are part of a state system without a central authority, and states are responsible for their own security. A state has various sources of power, such as economic and military power. Levy (1983), Gilpin (1981), and Allison (2018), among others, observe that the power of states develops according to a more or less cyclical pattern over the longer term: there is a pattern of growth, maturation, and then a decline in capacities.

According to this approach, the way these power cycles of the main states develop in the international system determines the position of these states in the power and reputation hierarchy of the international system. The development of states is not only cyclical but also differentiated. These two characteristics create an imbalance in the international system: states are at different stages of growth and development, and they grow and develop at different paces. According to Gilpin, this imbalance leads to tensions, uncertainty, and crises.

According to this approach to the cyclical development of states' power, there are critical points related to the emergence of conflicts between states and their severity. Four moments in a state's development curve can be considered critical points according to this theory (Doran, 2003). At these critical points, there is a certain imbalance between the interests and ambitions of states and the actual capacities available to realize them. According to these insights, conflicts between states are largely the result of governments' inability to adapt to changed capabilities to exert power. At critical points, there can be a simpler occurrence of overreaction, misperceptions, and aggressive use of force. It appears that both the US and China are currently at such a critical point.

According to Doran, much is at stake during these critical points: the state's status, security, and (relative) power position. According to Doran, this concerning state for nations can easily result in conflicts. Allison has further investigated this dynamic; I will return to this later, as it is relevant to interpreting the current situation where the US and China are the main actors.

Gilpin also notes that certain capacities of states develop according to a certain pattern. Gilpin observes, as I have discussed, that as social systems age, their learning and adaptability decrease (Gilpin, 1981). Traditions and established interests then limit flexibility because the practices, interests, and positions of certain elites become increasingly entrenched and pose a hindrance to the state's adaptability.

According to Gilpin, history shows that states whose social, economic, and political systems were initially well adapted to prevailing conditions ultimately were unable to adapt (in time) to new developments and circumstances.

#### **1.4 The international system**

In this paragraph, I discuss the international system and some of its characteristics. Holsti defines an international system as "*any collection of independent political entities – tribes, city-states, nations, or empires – that interact with considerable frequency and according to regularized processes*".

Holsti delineates the international system by naming a certain category of actors who interact regularly based on regulated processes. Holsti determines that based on the power relations between states, three types of international systems can be distinguished. First, feudal systems where power is concentrated in the center of the respective social system. In a feudal system, subordinate units have limited autonomy and 'exchange' certain services (such as manpower and taxes) for security. Second, there can be an international system with a diffuse power structure where a (limited) number of great powers have dominant

positions. According to Gilpin, in this type of system, one of these dominant actors eventually strives for a hegemonic position. This striving often produces a polarized block system. In these - third category - systems, the subordinate (less powerful) states are often willing to sacrifice autonomy for the security that can be provided by one of the two dominant states.

Holsti observes that the power configuration of an international system limits or expands the available options (strategies) and leeway of states. Power configurations influence the ability of states to place certain issues on the international agenda.

In the case of a polar system, where there is *block formation* (Gilpin's third category), the autonomy - choice possibilities - of subordinate states within those blocks is limited. This was the case during the period from 1945 to 1989, during the Cold War. During this period, states were more or less forced to conform to the policy of one of the two superpowers - the US or the Soviet Union - which largely dominated the dynamics of the international system. In this configuration, subordinate states of both blocks faced a trade-off between the limitation of autonomy and security guarantees provided by one of the two superpowers.

Although the Cold War ended in 1991<sup>4</sup>, European countries, including the Netherlands, are still willing to sacrifice autonomy in favor of the US because it guarantees their security. This dependency relationship and subordination to the US have become painfully clear again with the Russian aggression in Ukraine. Europe still cannot stand on its own.

In a diffuse system (the second type of international system according to Holsti), obligations in alliances are often looser, and states have a greater freedom of choice. According to Gilpin, control of states over the international system is a function of three factors: The **first factor** concerns the distribution of power among states and alliances. Here, three forms of control can be distinguished: (a) imperialistic or hegemonic control, (b) control inherent in bipolar structures, and (c) control based on a *balance of power* mechanism.

The **second factor** determining states' control over the international system is a state's position in the prestige hierarchy. According to Gilpin, the prestige hierarchy is based on economic and military power. Prestige in the international system is often acquired through the successful use of power. The US now (still?) possesses the most prestige in the international system, at least when it comes to *hard power*, military might.

Gilpin observes that every dominant state - a state with a high position in the prestige hierarchy - always promotes a certain religion or ideology. With this, they attempt to justify and perpetuate their dominant position. The US's attempts to frame the current rivalry with China and Russia as an existential struggle between autocracy and democracy is such an attempt to use ideology to justify and perpetuate a dominant position.

The **third factor** determining states' control over the international system concerns the rules that influence interactions between states. According to Gilpin, these rules are based on shared values and interests and are established through cooperation between states. Some

---

<sup>4</sup> You could argue in 1989.

of these rules are enshrined in the Charter of the United Nations, the current international order.

However, in assessing the configuration of an international system, according to Holsti, not only military and economic power are important. Also significant is which state possesses *structural power*. By this, Holsti means the authority (the legitimacy) and the actual ability to define the rules of the international system and to impose them on others. When it comes to structural power, the US is still dominant according to Holsti. There is a relationship between a state's structural power and its position in the prestige hierarchy. China and Russia are now contesting and undermining the dominance of the US.

I just used the term hard power referring to the military power of the US. However, there is also something known as *soft power* (Nye, 2004) and integrative power (Boulding, 1990), concepts that realists, who dominate thinking about international relations and politics, often ignore. Nye says about soft power: "*This soft power – getting others to want the outcomes that you want – co-opts people rather than coerces them. Soft power rests on the ability to shape the preferences of others*". Boulding defines integrative power as "*an aspect of productive power that involves the capacity to build organizations, to create families and groups, to inspire loyalty, to bind people together, to develop legitimacy. Integrative power has a negative sense, to create enemies, to alienate people; it has destructive as well as a productive aspect*".

The European Union lacks sufficient effective hard power but still possesses some soft power, as evidenced by, for example, Ukraine's desire to become a member of this Union. Unfortunately, the EU does not always manage to utilize its soft power to its advantage. Part of that problem is the current treaty-based/intergovernmental setup of the European Union, which is far from effective and efficient in several respects. I will return to this when answering the question of what we should now do.

### **1.5 Objectives and Strategies of States**

States must achieve certain objectives to maintain their position in the international system. States use various strategies to achieve these objectives.

Gilpin, who focuses on the interests and power of states, distinguishes *three categories of state objectives*: (1) conquest of territory to safeguard economic and security interests, (2) increase of influence over other states, and (3) enhancement of influence on the world economy.

The first objective is currently relevant regarding Russia. Russia attempts to conquer territory from Ukraine, justifying this as enhancing its own security. Holsti observes that states' objectives can less often be achieved through domestic policies, meaning policies and measures formulated and implemented by a single state. Due to the increase in mutual dependencies of states, many objectives can only be achieved by influencing the behavior of other states.



According to Holsti, in the current international system without central authority, states still pursue four objectives: security, autonomy, welfare, and status and prestige. Holsti defines autonomy as the ability of a state to formulate and implement its own domestic and foreign policy, taking into account its own priorities. Autonomy also means that a state can resist a certain influence and coercion from other states. The European Union and European countries lack autonomy.

States do not assign the same priorities to these four objectives. Holsti further observes that trade-offs and prioritization in achieving objectives are inevitable.

Besides these general objectives, Holsti mentions several objectives that states sometimes pursue under certain circumstances, such as objectives with ethnic or religious purposes and objectives of states to reorganize the international system itself.

*To achieve their objectives, states use various strategies.* These are often implicit strategies that result from (internal) negotiation processes. I will discuss several strategies states use aimed at promoting security, reducing vulnerability, and enhancing welfare.

A state can increase its autonomy, for example, by enhancing its military and economic power, thereby reducing the (potential) effect of dependency relationships. Security can also be enhanced by reducing (own) vulnerabilities and (external) threats.

Holsti identifies the following strategies aimed at limiting threats: isolation, promotion of an independent position, neutrality, and the formation of alliances (Holsti, 1995). Alliance formation is the most applied strategy. Alliance formation is a form of cooperation with the goal of pooling (military) capabilities of the involved states, in anticipation of conflicts and wars.

*The realization of economic needs has always been a crucial objective for states.* Gilpin particularly emphasizes the connection between the realization of economic objectives and the strengthening of one's own power position that this entails. According to Gilpin, over time, the relevance of economic activities and interests has increased. The (continuing) expansion of the world market and the interdependence it has created between states play a significant role in this. From the early 1990s, following the end of the Cold War in 1991, the dissolution of the Soviet Union, and the impulse this gave to integration in Europe, there was a move towards economic globalization. Due to rivalries between the US and China and vulnerabilities exposed by the COVID pandemic (such as fragile supply chains), there is now a trend towards economic decoupling. This decoupling limits dependency relationships but loses efficiency advantages. Moreover, this economic decoupling affects the cost/benefit analysis when it comes to war. In the case of economic decoupling, the costs are limited. This decoupling is a warning signal.

Holsti mentions several strategies through which states can enhance their welfare levels, such as promoting autarky, where the preservation of autonomy is also pursued, mercantilism, a trade strategy mainly employed by European states in the 17th and 18th centuries, or the promotion of free trade.

With mercantilist strategies, states try not only to promote their trade interests but also to strengthen their power position. Gilpin states that in mercantilism, states seek security through the use of economic means. Strategies with mercantilist characteristics are still used today, for example, in the form of tariffs and restrictions imposed on trade with other states. The restrictions imposed by the US on the export of microprocessors (chips) to China is a form of mercantilism.

Gilpin observes that despite the economic developments of the past 150 years (referring, among other things, to the increase in the economic interdependence of states), this has not prevented states from pursuing their own interests at the expense of others and the efficiency of the (total) economic system. *Trade, according to Gilpin, is not always a force of peace, as is often claimed. On the contrary, with an increase in interdependence, states have, according to Gilpin, often become more vulnerable.*

## 1.6 The Development of the International Order and the Balance of Power

In this paragraph, I discuss the development of the *international order*. The international order is a part of the international system. *It concerns the organization of the international system and the rules that apply to interactions between states.*

First, I will generally speak about these rules. Then, I will explain how the rules of the international order during the period 1815–1914 affected the dynamics and development of that international order. Because of similarities between that period (1815–1914) and the current situation, this serves as a useful reference. One such similarity is the balance of power mechanism that re-emerged after the Cold War in 1991.

The rules of successive international orders have evolved over time from somewhat non-binding rules to increasingly explicit and mandatory regulations. The regulations have been tightened, especially regarding economic (inter)actions and war and warfare (consider, for example, the Charter of the United Nations and the laws of war).

The purpose of an international order is to ensure the stability of the international system. Compliance with the rules of an international order can sometimes be enforced by international organizations and tribunals. **An international order, and the rules embedded within it, are always the outcome of hegemonic wars, at least until now.** The victors of those wars use their (new) power position to impose new rules on other states and then anchor them in the international order (as in the Charter of the United Nations).

In the period from 1648-1792, after the Thirty Years' War (1618-1648), war as an instrument of foreign policy was somewhat institutionalized. War was considered a legitimate instrument for states to achieve political objectives. During this period, religious motivations imposed restrictions on the behavior of states. Often a ruler himself acted as the commander of his armies. Wars were often ritualized, and ceremonies and etiquette played a significant role; wars were initiated with formal declarations of war, and there was often demonstrative mobilization and formation of armies and fleets, and ostentatious maneuvers of them.

During this period, some efforts were made to protect the civilian population and to arrange for the care of wounded soldiers. Total war - where there is also targeted military action against civilians and civilian targets - was only exceptional. During the French Revolution and the Napoleonic Wars, such restrictions no longer applied, and the civilian population was actively involved in those wars.

In 1648, the principle of sovereignty was established in the Treaty of Westphalia. According to the principle of sovereignty, a state has no legal and political authority outside the territory of its own state, and thus also not over the population of other states. *According to the principle of sovereignty, all states, regardless of their size and power position, are equal.* The principle of sovereignty contributed and still contributes to the formation - consolidation - of the state. To this day, interactions between states are based on this principle (though this has not prevented states from violating this principle when it suits them).

In the second half of the 17th century, international law began to develop. During this period, the principle of diplomatic immunity was introduced, enhancing the communication between states, even during conflicts and wars.

Gilpin highlights the function of treaties in regulating the international system. He observes that the treaties concluding major European wars laid the foundation for the state system: through the Treaty of Westphalia (1648), Utrecht (1713), Vienna (1815), and Versailles (1919), among others, attempts were made to achieve a more stable order based on mutually accepted rules. These treaties also stipulated punishments for the losers, recognition of (mutual) security guarantees, and the redistribution of territory.

Although the principle of sovereignty still applies, there are (very) occasional nuances or attempts at such. Gross violations of the human rights of their own population by a state can sometimes prompt humanitarian intervention by other states. However, states like China and Russia oppose such infringements on the sovereignty of other countries.

The use of force against other states is often viewed differently today: the use of force is no longer considered a legitimate instrument for achieving objectives. In the current international system, the use of force is only permitted in self-defense and with the authorization of the Security Council.

*Like the objectives of states, interactions between states and alliances are components of the balance of power mechanism. This mechanism and how it functions influence the self-stabilizing capacity of the international system.* Holsti posits that an international system is stable if the key characteristics of that system are preserved. Holsti mentions the following characteristics in this context: the geographical extent of the international system, the nature of the actors, the system structure, the main forms of interaction, and the rules and norms underlying these interactions. Stability, therefore, does not mean that there are no conflicts between states, but rather that fundamental changes in and of the international system do not occur.

According to Jervis, the balance of power mechanism can explain that: (1) no single state can dominate the international system, (2) very few wars are 'total', (3) losing states are rarely

partitioned after a war and are almost always allowed to reintegrate into the international system, and (4) small states, with limited resources, are often (still) able to survive (Jervis, 1997). Gilpin also notes that the (further) expansion of the power positions of dominant states is often slowed or prevented by the functioning of the balance of power mechanism (Gilpin, 1981).

To illustrate, I will briefly discuss the development and operation of the balance of power mechanism that was established after the French Revolutionary and Napoleonic Wars (1815). The *Concert of Europe* was part of that mechanism. The *Congress of Vienna* (1815) resulted in several agreements among the five European great powers at that time (Great Britain, France, Prussia, Austria-Hungary, and Russia). These great powers attempted to set up a trans-state political system that limited the abilities of states to disrupt the new status quo. This was a novel approach that yielded a relatively stable distribution of power: the first geopolitical 'world' order. Geopolitically, this order consisted of two zones; a regulated and an unregulated zone. After the Congress of Vienna, representatives of the great powers met (in principle) annually as part of the Concert of Europe, to coordinate their (inter)actions and thereby maintain the status quo in Europe.

This order was particularly in the interest of Great Britain and enabled it to maintain and strengthen its dominant position. This British dominance was based on a decrease in French power and a (temporary) strengthening of the British position, partly due to the achievements of the Industrial Revolution (Gilpin, 1981). From 1815 to 1914, the British power position was referred to as *Pax Britannica* (since World War II, this has been *Pax Americana*, which will be discussed later).

This new order also promoted the interests of Austria-Hungary and Prussia. Great Britain was able to balance power relations in Europe (the regulated zone) to some extent through this mechanism and fully exploit its dominant position outside Europe (the unregulated zone). Universal free trade and the removal of trade barriers were British interests. With Great Britain and the established *Pax Britannica*, an open world economy was pursued (Gilpin, 1981, Holsti 1995).

Several factors were important for maintaining *Pax Britannica*; I explain three. The **first** factor concerned Great Britain's ability to curb the ambitions of the other four great powers in Europe. To this end, a territorial division key was applied, as agreed upon during the Congress of Vienna (1815). Furthermore, Great Britain sought to limit the ambitions and leeway of the four great powers by encouraging internal rivalries ('divide and conquer'). It was in Britain's interest to counter new forms of mercantilism and to prevent other European great powers from being able to establish exclusive (colonial) empires (Gilpin, 1981). The colonial system contributed to the efficient operation of the global British trade network and investments, on which Great Britain depended for its economic welfare and the maintenance of its power position.

The **second** factor involved maintaining British naval supremacy. British power was based on production and global trade. To maintain this naval superiority, new technologies had to be utilized.

The **third** factor contributing to the maintenance of Pax Britannica was the political fragmentation on the continent: initially, Germany was divided, Prussia was relatively small, and Austria-Hungary was divided by its multi-ethnic composition. This favorable situation for Great Britain ended with the German unification under Prussian leadership (1871) and the introduction of large-scale rail transport.

Innovation and introduction of new military technologies often have varying effects on states and thus on the international distribution of power. The invention of the train particularly benefited Germany, while the steamship initially strengthened the position of Great Britain (Gilpin, 1981). Later in the 19th century, Britain's hegemonic position was further undermined by the rise of the US and Japan as competing naval powers.

Geller et al. state that during the period from 1870 to 1914, the international system evolved from a unipolar to a multipolar configuration: there was an increasing spread of power to the detriment of Great Britain (Geller et al. 1998). The main defender of the status quo - Great Britain - thus progressively lost its dominant position. Additionally, (re)newed alliances between great powers challenged Great Britain.

A number of technological and organizational developments in the second half of the 19th century and their application, such as the steam engine, factory production, the train, and the telegraph, gave a powerful boost to the expansion of several European states. The exploitation of new areas, previously inaccessible, especially in Africa, became possible and profitable.

Great Britain increasingly saw the colonial expansion of France, Russia, and Germany as a threat to its security and power position.

By the end of the 19th century, these colonial rivalries increasingly affected political relations in Europe. In an attempt to balance its ambitions and obligations, Great Britain sought to consolidate its power position by reducing international obligations and forming alliances. Britain made concessions to the US, formed an alliance with Japan in 1902, and resolved several colonial issues with France in 1904.

A key characteristic of the international system at the beginning of the 20th century was the extent to which European states - with Great Britain at the forefront - dominated areas outside Europe. In 1914, just before the outbreak of World War I, Europe's global dominance reached its peak.

At the end of the 19th century, France's expansion of its spheres of influence in and around Europe was also motivated by its increasing vulnerability to the military power of a united Germany (Geller et al. 1998). To gain more influence, France invested, among other things, in Russia. These investments were part of a strategy by France to surround Germany with states dependent on French financial support and thus could be influenced. France also invested in (further) colonial expansion.

In the run-up to World War I, the *security dilemma* was in full swing; the same is true now. Another similarity with the current situation and developments is that the international

system is now evolving from a unipolar to a multipolar configuration, just as it was then. If it was Great Britain then, it is the US now. Just as was the case with Great Britain, the US is now trying to reduce some of its obligations (hence the withdrawal from Afghanistan in 2021) and form new alliances.

At the end of the 19th century, Germany and Russia were also actively expanding their spheres of influence. In 1897, Emperor Wilhelm II of Germany declared that he pursued a *Weltpolitik* in the less developed regions of Africa and Asia to strengthen the German military, economic, and political power position.

Russia sought to strengthen its power position by securing free access to the Atlantic Ocean, which was limited by the unavailability of ice-free port facilities during the long winter periods and the ease with which the Black Sea and the Mediterranean Sea (respectively at the Bosphorus and Gibraltar) could be closed off. Therefore, Russia tried to increase its influence in the Balkans during the second half of the 19th century. As the Ottoman Empire lost its control over Slavic populations in the Balkans, an opening occurred. The loss of control resulted in several independent states, such as Serbia, Montenegro, Romania, and Bulgaria, and in other areas, there was resistance against the ongoing Turkish domination. The Balkans were crowded: Austria-Hungary, with the support of Germany, also tried to fill the political vacuum in the Balkans.

Due to the opposition it faced, Russia, however, postponed the realization of its expansive ambitions towards the Mediterranean Sea through the Balkans, and in 1897, the leaders of Austria-Hungary and Russia agreed that the status quo in the Balkans would be preserved. This agreement resulted in a temporary cooperation ('*entente*') between both states.

*Geller et al. determine that an unstable hierarchy among great powers increases the chance of a systemic war* (Geller et al. 1998). According to Geller et al., this was also the case in the lead-up to World War I. *There was an erosion of the power configuration, linking local wars to a system-shaping global war.* Geller et al. articulate this as follows: *"...the decline of unipolar power concentration and the reordering of the hierarchy among the strongest states leads to secondary great power wars that precede system-shaping global wars. In this way, power distributions at both the systemic and dyadic levels of analysis interact synergistically to produce war among the set of major powers. The international hierarchy at the turn of the twentieth century was subject to these shifts in capabilities".* **Such dynamics are also present now.**

According to Geller et al., there is an interactive effect between changes in the power configuration at the level of the international system and dyadic capability distributions (concerning the capacities of two states). When a redistribution of power occurs from a more unipolar configuration - where power is highly concentrated - to a more multipolar distribution, it challenges the dominant great power. Moreover, it increases conflict interactions between the other states of the system because the principal defender of the system is weakened (Geller et al. 1998). Currently, the US is the principal defender of the international order and is being challenged by China, Russia, and several other states such as Iran and North Korea. The dynamics and development of the international system until 1914 also show the role of smaller states—non-great powers. Although indirect, the behavior of

great powers was increasingly influenced by them. This is happening again now: various local and regional issues become part of the rivalries between the US and China, with China increasingly aligning with Russia.

Gilpin notes that in the lead-up to World War I, the European great powers lost control over the (inter)actions of smaller states - Serbia in this specific case - creating an unstable situation. Moreover, great powers increasingly reacted to (inter)actions of other states. World War I eventually ignited due to the assassination of Franz Ferdinand in Sarajevo on June 28, 1914. This assassination caused a domino effect, facilitated by the eroded power structures.

World War I, a hegemonic war, general war, and a system-shaping war in the words of Gilpin, Levy, and Geller et al. respectively, and the third systemic war according to my analysis, led to a new international order: The *League of Nations* (1919–1939). However, this new international order only provided a brief period of relative stability. The *Treaty of Versailles* (1919) was a key part of the post-World War I arrangements. Germany was subjected to a series of restrictions by this treaty, stripping it of all latitude to manifest itself as a great power again. After World War I, attempts were also made to reach several global agreements on regulating peace and security issues, with a leading role envisioned for the *League of Nations*. The US - the initiator - ultimately decided against participation, due to isolationist views that dominated American politics after World War I. (Partly) because of this, the League of Nations was ineffective.

According to Carr, between the two world wars, a situation arose where "*the former hegemonic power could no longer set the rules, and the rising hegemonic power had neither the will nor the power to assume this responsibility*" (Carr, 1939), referring respectively to the United Kingdom and the US. As a result, a number of "*pressing issues of world order*" were not resolved, increasing tension and frustration in the international system. Moreover, from 1929, a global economic crisis occurred, further facilitating the mobilization of nationalist sentiments.

Germany developed into an aggressive great power during this period, aiming for a hegemonic position in Europe. German and Japanese aggression led to a new global conflict, a systemic war: World War II. I will discuss the international order that World War II produced later, which is now challenged and under debate.

## 1.7 Patterns and trends

There are several similarities between the dynamics of the international system before World War I and now. An example is the development of the international system from a unipolar to a multipolar system, as I explained. The question arises whether there are (more) patterns or trends in international relations and developments. *By patterns and trends, I refer to certain regularities in the dynamics of the international system and the trend-like development of variables that can characterize these dynamics.* If patterns and trends can be identified, that is very valuable: these patterns and trends can provide insight into the

functioning of the international system, and extrapolation can give indications of what might still await us.

Holsti, Levy, Gilpin, and Geller et al. determine that in the dynamics and development of the international system, there sometimes appears to be certain pattern formation and trends.

In this paragraph, I discuss several (supposed) patterns and trends that exist according to the orthodox approach. This includes, for example, the frequency of wars.

Although Richardson does not use the orthodox approach, I will in this context also discuss the *scale law* he identified in the casualty dynamics of wars (Richardson, 1960). I come back to Richardson later.

Holsti notes that there are certain cyclical patterns, for example, regarding empires. Empires usually disintegrate as a result of political fragmentation, after which control over the territory is divided among several states, followed by another process of empire building. Holsti finds that in such cases, the warring states often exhaust themselves, allowing a relative outsider to subsequently acquire a dominant position and thus be able to establish a homogeneous political order, usually an empire. The US intervention in Europe during World War II prevented Hitler or Stalin from establishing an empire, but the US subsequently did see an opportunity, and was able to accomplish a powerful position it could not have envisaged five years before.

*When we consider current developments, India or a bloc of non-aligned countries - countries that do not join an alliance dominated by the US or China - could maybe acquire a dominant position, when they are able to 'exploit' the current systemic crisis to their advantage, and especially if (now still) dominant powers like the US and China wear themselves out in the process.*

Gilpin discusses pattern formation in successive hegemonic wars and refers to Modelski for this (Gilpin, 1981). According to Modelski, there are long cycles of global politics, lasting about a hundred years and ending with global conflicts (hegemonic wars according to Gilpin's definition). This cycle would correspond to the successive international systems dominated by Portugal, the Republic of the Netherlands, Great Britain (twice), and the US, in turn, Modelski argues. Gilpin finds such approaches problematic because explanatory mechanisms are missing for these - as is also the case, for example, when it comes to economic cycles (Gilpin, 1981). Gilpin says about these supposed cycles of Modelski: *"Although a hundred-year cycle of war and peace may exist, until the mechanism that determines and generates the cycles is defined, the idea must remain speculative, albeit interesting."*

Levy is also skeptical about the existence of cyclical fluctuations, that is, the existence of periodicity in the war dynamics of the international system. Levy states in this context that *"There are no hints of any cyclical patterns in either the occurrence of war or in any of its other dimensions. For each of the war indicators, the highest peaks in war as well as the periods of no war appear to be scattered at random"* (Levy, 1983) and *"It is consistently found that the outbreak of war is random rather than contagious, regardless of whether we*



*look at short-term or long-term periodicity"* (Levy, 1983). However, Levy notes that the probability of wars breaking out is greatest when other wars have not yet ended, as there would still be a contagious effect present.

Geller et al. have also conducted research on systems and their susceptibility to wars. In their analysis, they considered factors such as polarity, alliances, the degree of concentration of capabilities, Kondratieff cycles, normative constraints, and the presence (existence) of intergovernmental organizations. Geller et al. identified several relatively consistent patterns. System factors that they found increase the likelihood of conflicts include: (1) weak unipolarity of the international system and a weak leader (dominant state), (2) an unstable hierarchy, (3) the number of common borders between states that are part of the system, and (4) the frequency of civil and revolutionary wars. According to Geller et al., there is also a relationship between the number of alliances and war activity, suggesting that the greater the number of alliance obligations in an international system, the more wars will occur. The severity of conflicts, according to this research, is primarily determined by the system factor alliances.

Geller et al. further determine that the onset of World War I is consistent with several probabilistic laws established through their empirical research. These laws concern probabilistic regularities at the level of the state, the dyad (involving two states), and the international system. I will explain the application of these probabilistic laws by Geller et al.

The states involved at the start of World War I shared common borders or were located at relatively short geographical distances from each other (Austria-Hungary, Russia, Germany, France, and Great Britain). Three of these great powers were at critical points in their power cycles: Germany, the United Kingdom, and Russia, and two of these great powers had an unstable balance of capabilities. Three of these great powers did not have democratic political structures (Austria-Hungary, Germany, and Russia), and the international hierarchy was unstable due to a declining great power (the United Kingdom). The relationship between Germany and France can be characterized as an *enduring rivalry*, a factor that also contributes to conflict potential.

Finally, Geller et al. determine that a strongly polarized alliance system had emerged (with Germany and Austria-Hungary on one side, and Great Britain, France, and Russia on the other). The combination of these factors made the likelihood of a conflict of enormous magnitude, duration, and severity very probable, according to Geller et al., and in alignment with several empirically established conflict patterns.

Regarding the power positions of states, Geller et al. identify the following empirical patterns (Geller et al. 1998): the higher a state's position in the status hierarchy, the greater the likelihood that this state is involved in wars and the greater the likelihood that these wars are severe. Such wars are not only necessary to acquire the position of a great power but also to maintain it. Great powers define their interests more broadly than other states, making involvement in (armed) conflicts more likely. Moreover, great powers have more military resources, making conflicts more severe (Geller et al. 1998, and Levy). That this is indeed the case, has been confirmed by the US after World War II.

Geller et al. also refer to research by Farrar. Farrar identifies a certain pattern in warfare in Europe, involving cycles of about 100 years that have repeated four times from 1494 to 1973. Initially, these cycles feature probing wars with minimal violence and little change. Next, there are *adjusting wars* aiming to modify the international system, with moderate violence by involved states. According to Farrar, these two categories of wars do not threaten the status hierarchy. Finally, Farrar points to hegemonic war, with massive violence that does pose a threat to the hierarchy of the international system. However, the underlying mechanism for this supposed pattern has not been identified.

Goldstein has researched the relationship between economic dynamics and conflict dynamics in the international system (Goldstein, 1988). He distinguishes economic *long waves* and hegemonic cycles. Long waves are defined by successive phases of economic expansion and stagnation; this concerns dynamics of the international system (Goldstein, 1988). Hegemonic cycles pertain to the successive hegemonic great powers that have highly dominated the international system. In general, however, Goldstein finds that "*I find the connection between the causal dynamics of these two cycles – long waves and hegemony cycles – to be weak. They are not synchronized, and there is no exact number of long waves that 'makes up' a hegemony cycle. Rather, I see the two cycles as playing out over time, each according to its own inner dynamic but each conditioned, and interacting with, the other*".

However, within a hegemonic cycle, according to Goldstein, long waves always end in a war peak. These cycles can be explained as follows: economic growth creates surplus, thereby providing great powers with revenue to finance wars. However, these expenditures decrease investments needed to generate (future) growth and surplus, thereby undermining the economic basis for waging war. According to Goldstein, this phasing of economic activities yields a *prosperity-conflict-stagnation-peace cycle*. Goldstein finds that within hegemonic cycles, there is a certain synchronization of economic and conflict cycles.

Levy notes a decrease in the frequency of great power wars over the past five hundred years. He observes, based on the trend-like nature of this decline, that it is not related to the development of (modern) military technology (Levy, 1983).

Levy speculates about possible explanations for this trend-like decrease in war frequency. He suggests that the potential benefits of wars between great powers have decreased compared to the humanitarian and economic costs associated with these wars. Moreover, Levy notes an increased tendency among other great powers to intervene in these wars, implying a relative increase in costs. Additionally, the legitimacy of wars between great powers has diminished, increasing diplomatic and internal political costs. Finally, Levy proposes the decreased 'value' of territorial conquest as a possible explanation for the decline in war frequency. According to Levy, these developments have reduced the utility of war as a rational political instrument, explaining the decrease in war frequency.

Holsti observes that during the 18th and 19th centuries and in the first half of the 20th century, there were primarily wars between European states and colonial conflicts involving European states. In contrast, during the second half of the 20th century, there were mainly wars in and between states in the Third World (excluding Soviet invasions in Hungary in 1956 and in Czechoslovakia and the wars in former Yugoslavia in the 1990s). According to Holsti,

the primary causes of wars after 1945 include state formation, ethnicity issues, secession and reunification, and control over territory. These wars often relate to the legitimacy of governments, and the status and rights of minority groups. Wars have also arisen over the composition of governments, often involving ideological issues (Vietnam, Panama, Afghanistan, etc.). Holsti also notes that there have been no wars between great powers after 1945, with the Korean War (1950-1953) being somewhat an exception according to Holsti. He states (in 1998) that war is no longer a typical form of interaction for industrial states.

Gochman and Maoz make a similar observation, noting that almost all wars between states before 1919 resulted from "*European and American politics*" (Geller et al. 1998). After World War II, most wars took place primarily in Asia, the Middle East, and Africa.

I think that in relation to the subject of *Patterns and trends* Lewis F. Richardson cannot remain unmentioned. The research of Richardson on (supposed) patterns and regularities in conflict and war dynamics is significant. His work was published in 1960, titled "*Statistics of Deadly Quarrels*", based on a manuscript he left upon his death in 1953 (Richardson, 1960). Despite the valuable insights this research has provided, it has been ignored by the orthodox school.

Richardson was an English mathematician, physicist, meteorologist, psychologist, and also a pacifist. He experimented with techniques for weather forecasting and applied similar techniques to research into the causes of wars and their prevention. Richardson aimed to enhance the scientific research focused on international relations and statesmanship. He sought to develop a quantitative theory to explain the emergence of conflicts and wars. According to Richardson, a careful analysis of facts can contribute more to the promotion of peace than what he called *instinctive reasoning*. **The orthodox approach and some of its results discussed in this chapter qualify as instinctive reasoning, as meant by Richardson.**

Richardson demonstrated that war and the dynamics of war can indeed be studied quantitatively and that there are patterns in wars and war dynamics, where cultural and historical factors and events do not play a role. It's regrettable that Richardson's groundbreaking research has been forgotten: Richardson revealed the first patterns in war dynamics, but that was all.

Richardson used two assumptions in his approach: First, that wars often arise from a process of action and reaction, especially in the case of arms races, and second, that all wars, all deadly conflicts (e.g., conflicts between gangs), resulted from conditions and relationships (interactions) between states, groups, and individuals, which are measurable. Thus, according to Richardson, there is definitely something to measure when it comes to war. I agree (Piepers, 2016, 2019).

Richardson examined more than three hundred wars that took place between 1820 and 1949. He looked at measurable aspects of these wars and used statistical methods. Richardson found that the distribution of the size of wars (measured in the number of casualties) and the frequency of these wars – the frequency/size ranking of wars – is best described by a *power function*. This means that the relationship between the logarithm of

the size of wars and the logarithm of the frequency of these wars is linear. Such a distribution is fundamentally different from, for example, a normal distribution, where the distribution is symmetrically concentrated around a central value, and deviations from this central value become increasingly unlikely as the deviation grows larger.

Another fundamental difference between the two distributions is that in the case of a normal distribution, there is a mean value (for example, the average height of a man or woman), and that average has meaning. However, this is not the case for a distribution where a power function applies; a typical average size of a war does not exist. If a power function applies – as in the case of the frequency/size ranking of wars – it means there is a relatively large number of large wars that exceed the average size (the distribution has a 'heavy tail').

Distributions best described by a power function are common, such as in the size and frequency of earthquakes. **The presence of a pattern implies a mechanism generating that pattern.** The fact that wars follow a distribution according to a power function is a relevant insight. **A similarity between wars and earthquakes is that both involve regulating and distributing built-up tensions (respectively, in the international system and the Earth's crust) and restoring a certain balance.** Natural laws apply to both processes, optimizing the (re)distribution of tensions (Piepers, 2016, 2019)<sup>5</sup>.

Lastly, I want to mention research by Pinker, discussed in his book *The Better Angels of Our Nature: A History of Violence and Humanity* (Pinker, 2011). Despite the book's acclaim, it largely involves instinctive reasoning and draws far-reaching conclusions without solid evidence.

Pinker offers an optimistic analysis suggesting a decline in various forms of violence, from domestic and tribal wars to state conflicts. Since World War II, there's been a decrease in the frequency of wars and the destruction they cause. According to Pinker, a "*long peace*" has ensued, arguably making our time the most peaceful in human history, as he observed in 2011.

Pinker's message is that things will ultimately improve, thanks to the better side of human nature: increased contact and empathy among people have made us less cruel, and we now possess a better moral compass.

However, Pinker's analysis, especially concerning war and its dynamics, misses the mark. While there has been a relatively long period of stability and peace since World War II, appearances can be deceiving. Pinker's statistical analyses, based on periods of fifty or one hundred years - human centuries ( a human 'artefact') - give a distorted view and lead to incorrect conclusions. **The analysis of war data should instead focus on the four accelerating war cycles produced by the European state system from 1480-1945. These**

---

<sup>5</sup> For my research (Piepers, 2006, 2016, 2019), I have made use of the database created by Levy, which I already mentioned (Levy, 1983). This database includes great power wars starting from 1495, covering a longer period and a smaller selection of wars compared to Richardson's database, which starts in 1820. As I have explained, the starting time of Levy's database, 1495, is not arbitrary; it marks the beginning of the great power system and the start of modern European history.

**cycles reveal the natural rhythm generated by natural laws and mechanisms of the European state system (1480-1945) and now (1945-...)** (Piepers, 2016, 2019). When these cycles and their durations are used to study Levy's database, a series of consistent patterns emerge. Three periods can be distinguished: (1) a period up to 1480, before Europe had a state system and coherent war dynamics; (2) a transition period from 1480–1945, during which the European state system produced four accelerating war cycles; and (3) a period from 1945 onwards, with a global state system and Europe in a state of equilibrium.

**Data analysis shows that the global state system, which started in 1945, is producing a first war cycle with the same characteristics as the four cycles generated by the European state system during 1500-1945.** Pinker's comforting conclusions are unsupported and unverifiable. It is fair to say, that (at least) the wars in Ukraine (2022) and Gaza (2023) unfortunately shows that he is incorrect.

Unfortunately, human behavioral evolution does not occur as rapidly as Pinker suggests. Our individual and collective behaviors are still too often influenced by primitive instincts with a biological basis and embedded in social structures, including the institutions and rules of the international system, that accommodate war as a political instrument. Our veneer of civilization proves to be very thin time and again.

## 1.8 War, Warfare and War Dynamics

To properly understand the dynamics and development of the international system and to be able to interpret the current situation, it is necessary to define the concepts of war, warfare, and war dynamics according to the orthodox approach.

In short, **war** is an activity where violence is organized and applied to achieve some (often) political goal. The warring parties are often states but can also include population groups, for example.

**Warfare** concerns how war is conducted; that is, what means and methods are used by the warring parties. When discussing warfare, a distinction is made between various levels: military tactics, for instance, relate to how military units and resources are deployed; strategy primarily concerns achieving the political objectives of a war (or at least it should).

The term **total war** refers to the 'total' involvement of a society in a war and its mobilization. The war in Ukraine is a total war for Ukraine, but that does not seem to be the case for Russia yet. Warfare – the means and methods used – has changed over time. Technological innovations and societal developments have influenced warfare. Depending on the types of means employed during a war, further distinction can be made between conventional, nuclear, biological, and chemical warfare.

**War dynamics** do not concern a single war or the conduct of warfare but rather successive wars and their interconnection over the longer term. This involves looking at certain characteristics of these wars, such as their development in terms of scale. When discussing war dynamics, the question also arises whether certain patterns can be recognized in that

dynamics. As mentioned, this is indeed the case, for example, with wars in the European state system (1480-1945) (Piepers, 2016, 2019). More on this later.

Over time, wars and warfare have evolved from an activity primarily involving mercenaries hired by rulers who sought to secure their private interests, to an activity and instrument of states to serve their interests. That war is a continuation of politics by other means is also enshrined in (for example) the Constitution of the Netherlands. The duties of the armed forces of the Netherlands and authority over the military are laid down in Article 97 of its Constitution: (1) "*For the purpose of defense and to protect the interests of the Kingdom, as well as for the maintenance and promotion of the international legal order, there is an armed force*"; and (2) "*The government has supreme authority over the armed forces*".

Since this book is about the current situation and also about the rivalry between China and the US, it is interesting to briefly consider two war theorists, **Sun Tzu** and **Von Clausewitz**. To this day, the thought of both still plays a certain role in the background and can be seen in the (diplomatic) style of China and the US and European countries, respectively.

Sun Tzu and Von Clausewitz approached war from different perspectives. Sun Tzu was a Chinese general who lived around 500 BC and wrote "*The Art of War*". In this work, Sun Tzu emphasizes the application of deception, the importance of efficiency and flexibility, and the aim to avoid direct physical confrontation with the enemy.

Von Clausewitz was a Prussian general (1780–1831) who fought in the Napoleonic wars. He is the author of "*On War*" ("*Vom Kriege*"), in which he highlights the instrumentality of war, the importance of decisive battles, and the necessity of imposing the 'will' (i.e., the pursued political objectives) on the opponent. Von Clausewitz seeks hard confrontation.

Further, significant differences include Sun Tzu views war primarily as an *art* requiring creativity, intuition, and flexibility; Von Clausewitz sees war more as a *science* that necessitates analysis, calculation, and planning based on established principles. Sun Tzu also sees war as a means to achieve political objectives, but preferably without the use of violence. He aims to outmaneuver the opponent, demoralize them, and then destroy them. Finally, another essential difference between the two approaches is that Sun Tzu's approach focuses more on the moral – 'softer' – aspects of war, such as leadership, discipline, morale, and unity, while Von Clausewitz pays more attention to the hard side, meaning the physical aspects of war, such as power relations, forms of combat, and uncertainty.

*Regarding the presumed instrumentality of war, namely that war is the continuation of politics by other means, a comment is warranted. Time and again, it turns out that war as an instrument doesn't work at all. The intended results - the military and political objectives - are very rarely achieved (one of the very few exceptions is the Gulf War, 1990–1991), and the duration of wars is consistently underestimated. Despite these serious limitations and the poor track record of war as a reliable political instrument, states are not deterred from claiming the opposite and starting another war. Russian President Putin missed this lesson, as evidenced by his unrealistic ambitions for Russia's attack on Ukraine in February 2022.*

According to military and political plans, a war usually lasts about six weeks, and then the objectives are achieved, and settlement can be imposed. Historical facts and experience are repeatedly ignored: based on historical data, wars usually last (at least) several years, and the intended objectives are not achieved.

This persistent disregard for historical facts and the proven unreliability and impracticality of war as a political instrument raise the question of why we do not stop starting wars, especially considering the enormous suffering and damage caused by it, and not least because of the risk of nuclear escalation. These questions and other important questions and issues are ignored by the orthodox approach; I will return to this when discussing the new approach in the following chapters.

### **1.9 What is going on now? An Orthodox Answer**

In this chapter, I have discussed a number of insights and theories that mostly belong to the so-called *Realist School*, the dominant school of thought regarding international relations and politics. I refer to the discussed insights and theories (to the extent that these ideas can be considered theories) as the orthodox approach. In Richardson's words, the Realist approach largely involves only instinctive reasoning.

Despite these limitations, the orthodox approach indeed provides several valuable insights.

**According to Levy, Gilpin, and Geller et al., there is now a general war, a hegemonic war, and a system-shaping war, respectively, or that is just a matter of (short) time. To the extent that these researchers have identified preconditions based on case studies, these conditions have been met.**

A new international order is always the stake in such wars. In Gilpin's words, a hegemonic war is instrumental in what he calls system change, where: "*... the relative power positions of states, the prestige hierarchy, and rules of the system change, and this form of change always has consequences for the governance of the international system*".

Looking at the development of the international system over the long term, the situation we are now facing, with intense rivalry between the US and China, is certainly not unique. A similar situation was present, for example, in the run-up to World War I.

Unfortunately, we do not act accordingly, which is not only worrisome but also a missed opportunity. The international order is now being revised, it can be stated from the orthodox approach, and of course, we have every interest in ensuring that this new international order—a UN 2.0—will safeguard our values and interests. A lot is at stake in a hegemonic war. A hegemonic war must be won.

**When it comes to the dynamics and development of the international system, and not to specific social and political developments and events, history repeats itself: To a certain extent at least, the system behavior is deterministic, but the political and social dynamics that are an integral part of it, and that generate this system behavior, are not.**

In the next chapter, I discuss the building blocks of a new approach, which, along with the orthodox approach, create a new paradigm. With this new paradigm, much more can be said about recent developments and what awaits us. It then becomes possible to anticipate these developments and make the right preparations. With this new paradigm, we can do much more than just reason instinctively.



## CHAPTER 2

### A NEW APPROACH TO INTERNATIONAL RELATIONS

#### 2.1 Introduction

In the previous chapter, I discussed several ideas and insights about international relations and politics that mainly belong to the Realist School, and which mainly focuses on power and interests.

As I explained, according to the ideas and insights of realists, it seems that a hegemonic war is imminent in the short term, or that we are already in the initial phase of it. However, a limitation of these orthodox views is that they are often based on what Richardson calls instinctive reasoning (Richardson, 1960).

In this chapter, I discuss several components - 'building blocks' - of a new paradigm for the study of international relations and war dynamics. This paradigm is based on research I started twenty-five years ago. This research has resulted in several publications: in 2006, a dissertation titled *Dynamics and Development of the International System: A Complexity Perspective* (in Dutch); in 2016 a study titled: *2020, Warning. Patterns in War Dynamics reveal disturbing Developments*; in 2019 a study titled: *On the Thermodynamics of War and Social Evolution*; and in 2020 a book titled *The Inevitability of a New World War* (in Dutch).

For my research, I chose a long-term perspective and for the analysis of 'hard' data, where the database of Levy (Levy, 1983) played an important role. In the dissertation, I describe several patterns that can be identified in the war dynamics of the international system (Piepers, 2006). I then further investigated these patterns to identify the mechanisms that produce these patterns (Piepers, 2016, 2019).

The new insights this research has provided make it possible to test orthodox views and insights; they turn out not always to be correct or complete. **The combination of (validated) views and insights from the orthodox approach and insights provided by my research yields a new paradigm and analytical framework. With this new paradigm, insight into the functioning of the international system can be further enhanced.**

The orthodox approach mainly focuses on social and political dynamics in the international system. I refer to this dynamic as the *overlying* dynamic, or **System 1** (dynamics). The dynamic revealed by the new approach, I refer to as the *underlying* dynamic, or **System 2** (dynamics). There is an interaction between these two dynamics - Systems - where the underlying dynamic sets frameworks and gives direction to the overlying dynamic.

In this chapter, I discuss the following topics. I start with a discussion on **adaptive cycles**. Adaptive cycles are cycles of decay and renewal that take place in ecosystems and social systems, among others. A lot of research has been conducted on adaptive cycles in ecosystems, using 'hard' data and the *scientific method* (Solé, 2006, Scheffer, 2009). I will show and explain that there are also adaptive cycles of decay and renewal in the dynamics of

the international system. Although the orthodox approach hints at the existence of such cycles, Gilpin and his colleagues have not been able to identify them.

In the case of ecosystems and the international system there are important similarities: there is for example in both cases a certain hierarchy (*food chains* in ecosystems and a *prestige hierarchy* in the case of the international system) and there are network structures. In this context, it is relevant that networks often have a similar dynamic regardless of the specific nature and details of those networks. There is a relationship between the structure of such a network and its dynamics. This phenomenon is also called universality.

Despite the existence of cycles in war dynamics not being particularly surprising, it often proves difficult for historians and social scientists to accept. The fact that there are also cycles in economics is on the other hand widely accepted and considered self-evident. In economics, there are *business cycles* and with some regularity, a process of *creative destruction* occurs. This dynamic is instrumental in the economic renewal process.

Next, in this chapter, I discuss several characteristics of **complex and dynamic systems**. The international system falls into this category of systems (Piepers, 2006). With these systems, there is also a certain universality, and the details of the system do not always matter. Then, I talk about **phase transitions, critical points, chaotic dynamics, dissipative structures, and finite-time singularities**.

**In more developed scientific disciplines, this approach (hard data, application of the scientific method) has been common practice for much longer, and the results show. It's high time that this methodology is now introduced for research into international relations, wars, and war dynamics.**

## 2.2. Decline and Renewal in Ecosystems

Gunderson and colleagues conducted research into the functioning of complex ecosystems and the interactions between different levels of organization within those systems (Gunderson, et al. 2002). Their research has yielded a conceptual framework concerning the interplay between persistence and renewal of systems and the predictability and unpredictability thereof. Gunderson et al. have identified a limited number of controlling processes in these systems that influence their dynamics, leading to patterns such as adaptive cycles. *While these controlling processes shape the dynamics, unique events and incidents – accidents of history – influence the development of these complex systems.*

Gunderson et al. have observed that ecosystems undergo adaptive cycles – a typical development dynamic – at different levels of organization. My research shows similarities between renewal processes in ecosystems and in the international system, where also several controlling processes play a role and accidents of history influence the development of the international system (Piepers, 2006, 2016, 2019).

*Four phases* can be distinguished in such an adaptive cycle: (1) a phase of exploitation and growth, (2) a conservation phase, (3) a release phase, and finally, (4) a reorganization phase,

after which the cycle repeats according to the same phasing. During the release and subsequent reorganization phase, reshuffling occurs, and there is room for innovation. During the following two phases (exploitation and growth and conservation), the renewed system is utilized and to some extent 'consumed'.

Gunderson et al. suggest that such cycles occur at all levels of organization of an ecosystem. The same applies, according to them, to social systems. This concept indeed also applies to the dynamics and development of the international system: a hegemonic war, for example – Gilpin's definition, I refer to systemic wars – corresponds to the release and reorganization phase (phase 3 and 4) of the adaptive cycle.

My research shows that war cycles in the international system are integral parts of adaptive cycles: cycles of innovation, exploitation, decay, and then renewal. The innovation of the international order (the organization of the international system) takes place during hegemonic or systemic wars. Wars, especially systemic wars, play a significant role in the development of the international system.

Even in the organization of our society, there is an adaptive cycle, regulated by our democratic political system. The release and reorganization (phases three and four) take place during elections and the subsequent formation. This is an important moment of innovation for society. During these phases society expresses its preferences and indicates where and how innovation should occur. Between successive elections, there are periods of exploitation and growth (phase one) and conservation (phase two).

Gunderson et al. hypothesize that a system's development is determined by the functioning of the adaptive cycles at different levels of organization, and by the interactions between those adaptive cycles. In the context of this book, this pertains to the level of the state, in case of Europe, to the European Union, and on a global level to the international order.

While there are adaptive cycles at the level of international systems and states (societies), there are substantial differences between these cycles. In this context, one could speak of a regulated and an unregulated level, respectively at the level of the state and the international system. At the state level, there is regulation by those states. In the case of the Netherlands - as I already explained - this happens through a political process based on democratic principles; this process is institutionalized.

At the level of the international system, there is no regulation of the adaptive cycle based on an institutionalized political process. **To the extent that there is organization of the international system (the international order, at present the United Nations), that organization is intended to maintain the status quo, not to change it.** Like its predecessors, the United Nations was established to preserve the status quo – in this case, that of 1945. Any change can be blocked by one of the five permanent members of the Security Council, who have veto power. They do this regularly when it suits them, while those permanent members are themselves notorious violators of the Charter of the United Nations. This Charter outlines the objectives of the United Nations and the obligations of states to promote peace, international cooperation, and human rights. **In the international system - without a central authority and without a political process to determine the course and to**

**change it if desired - when it comes down to it, the strongest dictate. However, since the decay of an international order – including the United Nations – is only a matter of time, a problem inevitably arises: renewal is necessary, but its controlled regulation through a political process is not possible.**

**Because such a political process is lacking for the international order, but renewal eventually becomes necessary, the international system spontaneously generates its own adaptive cycles. As is the case with ecosystems, such adaptive cycles in the international system manifest through what is called self-organization or emergence. Wars and the dynamics of war are integral parts of those cycles, and they are highly functional.**

During the period 1500–1945, the European states system produced four accelerating adaptive cycles, each implementing new and improved international orders. Data analysis reveals that the *global* state system that began in 1945 and is organized in the United Nations, is generating a first adaptive cycle that has already (or nearly) reached the release phase. I will return to these adaptive cycles of the international system, as they show how the international system works and what awaits us now.

Gunderson et al. have observed that there is an interplay between adaptive cycles at different levels of organization within a system. This also applies to the adaptive cycles of states and that of the international system. The interaction between these cycles can be problematic. If a state, the society that is governed by that state, and the political process of that state function well, then a crisis of the international order can be managed. If this is not the case and the political system falters, then the state and society are vulnerable during such a reorganization of the international order. It is therefore crucial that we have our society, the political process, and the state, including the interaction between them, in order. This is currently not the case. The same applies to the European Union, of which we are a part: it also falters. We are now vulnerable in this systemic crisis at all levels that matter.

### **2.3 Complex and dynamic Systems**

The complexity sciences have emerged from systems theory. Complex systems are those that consist of a reasonably large number of elements and/or components, where these elements/components regularly interact with each other based on rules that can change. States and great powers are important components of the international system. Interactions between states can for example involve the exchange of information, energy, or goods, but also war-interactions, that are subject to certain rules that can also change.

A characteristic of complex systems is that they can spontaneously organize themselves and have a certain adaptability, referred to with the terms self-organization and emergence. Complex systems belong to the category of dynamic systems, whose state (such as structure and behavior) evolves. For complex systems, the whole (the system behavior) is more than the sum of its parts. It is challenging to derive emergent system behavior from the properties of the components or the rules that are applicable to their interactions.

Complex systems also often possess a certain imbalance. In complex systems, sudden and brief transitions or tipping points can occur, determining the long-term dynamics and development of these systems (Sornette, 2004). This is sometimes referred to as *punctuated equilibrium dynamics* of these systems: A dynamic equilibrium of a system is briefly disrupted by, for example, a reordering of its components.

The international system belongs to the category of complex systems (Piepers, 2006). **In the adaptive cycles of the international system, of which war cycles are integral parts, there is self-organization. These emergent patterns result from numerous interactions between states.**

*System dynamics* is a method to understand the dynamics of systems and to comprehend the behavior of complex problems. A key assumption of this method is that *feedback mechanisms* in systems and their interaction significantly determine the dynamics and behavior of those systems. There are two types of feedback: positive and negative feedback, where there is respectively reinforcing (self-reinforcing) and correcting (self-correcting) behavior. In system dynamics, based on these two feedback mechanisms, three basic dynamics are distinguished: (1) *growth*, when positive feedback dominates; (2) *goal-seeking behavior*, when negative feedback prevails, for example, when a system tries to maintain a certain equilibrium; and (3) *oscillating behavior*. Oscillating behavior is caused by delayed reaction by negative feedback mechanisms. The oscillating system responds with a correction to deviations from the desired equilibrium, just like in goal-seeking behavior; however, due to a delay in that correction, there is overcompensation (overshooting the goal, the desired equilibrium situation) followed by under compensation. This delay creates a cyclical dynamic around the desired equilibrium.

In the case of the state system, there are various feedback mechanisms and interactions between them. The challenge is to identify them. For example, war activity and tensions between states are variables of the international system and can form a positive feedback mechanism. If tensions increase, war activity increases, and if those wars contribute to new tensions, then there is a positive and thus *self-reinforcing loop*. More tensions mean more war, which in turn leads to more tensions, etc. The security dilemma is a positive feedback mechanism, which is now in full swing.

## 2.4 Phase Transitions and Critical Points

Depending on the state (condition) in which systems are, they can exhibit different behaviors. Such a state with typical behavior is called a *phase* in physics. *A change of state is called a phase transition*. Even when it comes to phase transitions, there is universality, meaning there are similarities between phase transitions in different types of systems, regardless of their nature and details (Solé, 2011).

**In the long-term development of the international system, three states – phases – can be distinguished.** Historians have determined that before 1500 there was no European system, but a collection of political entities without much coherence. In the previous chapter, I explained that around 1500 something fundamentally changed: a European system became

a reality. That was the start of the second phase, which lasted until 1939, the start of World War II. After 1945, a new phase began with a global state system. **I will explain that the period from 1500 to 1945 can be considered a phase transition as occurs in other systems.**

Using a simple example, I will explain how a phase transition occurs.

A certain internal organization, with its own typical behavior, corresponds to a specific state (phase) of a system. Water can be liquid, solid, or gaseous. When water freezes, there is a phase transition from liquid to solid.

Often, there is a sharp boundary line between two phases and the corresponding internal organizations of the system. This is also the case with water: the phase change from liquid to solid (ice) and vice versa, occurs at zero degrees Celsius. At zero degrees, the organization and behavior of water change: in liquid water, molecules have room to move, while in a solid state (ice), those same molecules are neatly arranged in crystal structures.

During a phase transition, there is a point – at zero degrees Celsius in the case of water – where there is no distinction between both phases (states): water is then not fully liquid but is also not in a completely solid state. Such a point is called a *critical point*. Because there is a combination of phases at that point, terms like *coexistence region* or *mixed-phase regime* are used, referring to the simultaneous presence of those two states.

*Energy* plays a crucial role in phase transitions. When transitioning from liquid to solid water, energy is released. To thaw water, to loosen molecules from crystal structures, energy must be added.

**Between 1500 and 1945, Europe underwent a phase transition, from a Europe without structure and cohesion (before 1500) to a Europe in a state of equilibrium after 1945<sup>6</sup>, and as part of a global state system** (Piepers, 2016, 2019). I refer to the period from 1500 to 1945, when the phase transition occurred, also as the *transition period*.

**Phase transitions are collective phenomena and result from interactions between all components of the system** (Solé, 2011). A phase transition always involves a system change. The change is therefore not local and requires the involvement – collective action – of all parts of the system, whether they are molecules in the case of water or states in the case of the European state system.

**During the phase transition of the European state system (the transition period, 1500-1945), there were two simultaneous phases/states of the system, in other words, a “coexistence region” or “mixed-phase regime”, namely a combination of order within states and disorder between states.** In other words: during the transition period of the European state system, there were clusters (societies, 'small states') that had already reached a state of equilibrium and a certain stability, but this was not yet the case between those states. Around 1500, there were about three hundred of these clusters (small states), which then grew in size and interconnectivity, while their number decreased. This growth

---

<sup>6</sup> I will return to the disruption caused by the Cold War (1945-1991).

occurred through the 'fusion' of states or through 'takeover', where one state conquered another through war.

**This growth led to the formation of stronger states and increased the energy potential of those states**, which could then be deployed during the next war. In 1939, Europe consisted of just over twenty-five states, and after the Second World War (the fourth systemic war, 1939-1945) – the final step in the phase transition – the foundation was laid for a state of equilibrium (a single cluster) that was politically anchored in the European Union in 1993 – almost immediately after the Cold War (1945-1989/1991).

Thus, during the period 1500-1945, there was a combination of two phases, just as is the case with water at zero degrees, at the moment of phase transition. **During the phase transition, there was thus a mixed form of disorder *between* states and order *within* those states**; parts of Europe had completed the transition (societies governed by states), while other parts had not yet done so.

**The phase transition of Europe took place during the transition period (1500-1945) in four steps, each consisting of an adaptive cycle, including war dynamics that followed a standard pattern.** The four adaptive cycles produced by the European state system accelerated with a constant factor and thus with remarkably regularity (Piepers, 2016, 2019).

In the case of the adaptive cycles of the European state system, the same phasing applies as with the adaptive cycles of Gunderson et al. Each adaptive cycle consisted of a relatively stable period which in all four cases was followed by a critical period in which the system produced a *systemic war*. During the relatively stable periods, *non-systemic wars* took place with some regularity; these are limited wars not involving all the great powers in the state system. **The function of these non-systemic wars was to restore the existing equilibrium (the status quo) in case of disturbances.**

**The function of systemic wars during the critical periods was fundamentally different**, namely, to find a new equilibrium and to renew (upgrade) the international order that had fallen into decay. Systemic wars are in fact discharges (of tensions/energy) that are functional for the reorganization that takes place. During a systemic war, there is always a reordering of the state system. Systemic wars always involve all the great powers in the system, as I have already explained (the fraction is one).

As Solé explains, a typical property of a system at a critical point or in a critical state (including the international system during the transition period 1500 – 1945), is that regardless of the details of the system, the system responds as a whole. In a critical state, a disturbance (for example, an incident) is communicated throughout the entire system and therefore has an impact on the entire system.

The four successive cycles each had also their own critical point. These were successively in 1618, the start of the *Thirty Years' War* (1618-1648); in 1792, the start of the *French Revolutionary and Napoleonic Wars* (1792-1815); in 1914, the start of the *First World War* (1914-1918); and in 1939, the start of the *Second World War*. I refer to these four hegemonic wars (terminology of Gilpin) as the first until fourth systemic wars. The European state

system reached its *final critical point in 1939* and with the fourth systemic war (the Second World War, 1939-1945) the last step of the phase transition of the European state system to a state of equilibrium was taken. The four cycles accelerated exponentially (the lifespan of successive cycles decreased exponentially), while the fluctuations in the system – war activity measured in military casualties during successive cycles – increased exponentially (Piepers, 2016, 2019).

The frequency and amplitude of the four cycles increased with great regularity, which is typical behavior of a system undergoing a phase transition. Other patterns in the (war) dynamics of the international system are also consistent with the typical behavior of a system undergoing a phase transition (Piepers, 2016, 2019).

**The phase transition that took place during the period 1500-1945 had two complementary effects:** (1) the European state system – Europe – reached a state of equilibrium (with the understanding that its implementation was delayed until the end of the Cold War; more on this later), and (2) the state system scaled up from a European to a global state system.

**These and other insights cast the war theories and ideas about international relations and politics discussed in the previous chapters in a completely different light. The same applies to the dynamics of the global state system that started in 1945. Analysis of war data from 1945 indicates that there is now again an emergent adaptive and war cycle. This cycle may be instrumental in a next phase transition where the global system reaches a state of equilibrium (Piepers, 2016, 2019). A number of cycles will be necessary for this.**

Analysis of that data indicates that we have possibly already reached the critical point of the first cycle of the global state system, or that it is merely a matter of short time (Piepers, 2016, 2019). This means the start of a systemic crisis and a systemic war that is an integral part of it and for which a new international order will be the stake.

## 2.5 Chaotic dynamics

The term *chaos* is commonly used to denote a state of great disorder. In mathematics and physics, however, this concept has a very specific meaning. In the case of chaotic dynamics, there is indeed irregular dynamics, but these dynamics are definitely 'determined' and have a certain order. Order and chaos - unpredictability go hand in hand.

A property of chaotic dynamics is that these dynamics are *intrinsically unpredictable*. **The intrinsic unpredictability of chaotic dynamics results from the high sensitivity of chaotic systems to their initial conditions: in chaotic systems, details are extremely important.** A very small difference in initial conditions is exponentially magnified. Because the initial conditions of these systems cannot be determined accurately enough, accurate prediction is also not possible. The smallest measurement error, the smallest difference in initial conditions of chaotic systems, leads to completely different outcomes.

The unpredictable and apparently disorderly dynamics of chaotic systems are caused by the system itself and are not caused by external disturbances. Also, in the case of chaos and



chaotic dynamics, there is universality. The atmosphere is a chaotic and determined system, but its condition (the weather) in the (near) future is highly unpredictable. Determinism and unpredictability do not exclude each other.

To make an accurate weather prediction, the exact position of all molecules in the atmosphere and their momentum must be known. Then, based on physical laws that determine the behavior of these molecules, the future state of the atmosphere (the weather) could be determined. But because the exact condition of the atmosphere cannot be determined and measurement errors that are made are exponentially magnified, the weather is highly unpredictable. This is the case despite the use of computers and various models (Blum, 2020). When it comes to chaotic systems, this is why the *butterfly effect* is often mentioned. A small, local disturbance of the atmosphere – of any chaotic system – can have significant consequences.

The international system is also a chaotic system that is to a highly sensitive to its initial conditions, and a local incident or disturbance can lead to a completely different political and social dynamic, while the long-term development - the cycles - persist as such.

**The chaotic characteristics of non-systemic wars explain why their main properties (start, duration, and intensity of this category of wars) are highly unpredictable, and why non-systemic wars thus cannot be (used as) a political instrument: War is largely an unreliable political instrument.** To illustrate, a few recent examples: the wars in Vietnam, Iraq (2003), and Afghanistan (2001-2021) show this unpredictability, and Putin should know better by now after the failed attack on Ukraine in 2022. That war was also supposed to be settled within a few weeks, Putin thought.

Another important property of chaotic dynamics is that these dynamics are not only intrinsically unpredictable but also *bounded*. The fact that chaotic dynamics, including wars, are bounded means that their scope and intensity remain limited - restrained.

My research shows that the dynamics of non-systemic wars during relatively stable periods of cycles have chaotic characteristics (Piepers, 2006, 2016, 2019). This is the case during the relatively stable periods from 1500 to the present. However, there were two exceptional periods with abnormal, that is non-chaotic, war dynamics. This was the case from 1657 to 1763, during the second cycle of the European state system, and from 1945 to 1991, during the first cycle of the global state system (better known as the Cold War).

**The non-chaotic war dynamics during both exceptional periods had fundamentally different characteristics:** During the first period, there were large outliers – large non-systemic wars with many military casualties – and during the second period, the war dynamics were highly suppressed. It turns out that when looking at the development of the international system, chaotic war dynamics of non-systemic wars is highly functional – even necessary – for the emergence and 'smooth' course of adaptive cycles, the cycles of innovation, exploitation, decay, and renewal. Chaotic dynamics ensures optimization needed for the development of the state system: Without chaotic war dynamics during relatively stable periods, the balance cannot be well maintained, and the system cannot produce systemic wars, which are crucial to innovate again and to take another step towards a state of equilibrium. I will return to this topic.

## 2.6 Dissipative structures

When it comes to thermodynamics, it's about energy, *work* (as defined in physics), and the conversion processes thereof. Notably, even when discussing the dynamics of the international system, there is energy, *work* required for the implementation of new international orders, and various conversion processes associated with it. War can be considered *a clash of energies*.

There are four main laws of thermodynamics: the *First Law* is the law of conservation of energy, and the *Second Law* relates to *entropy*. These two laws are of interest here.

My research shows that from around 1500, there has been what's called a *dissipative structure* that regulates tensions and energy generated by the European state system. The state system can be considered the structural component of this so-called dissipative structure. Before I discuss the operation of this dissipative structure in the international system, I will explain what such a dissipative structure is and does. It's inevitable to also say something about *entropy* in this context.

*Entropy* is a crucial phenomenon in thermodynamics. Entropy is an inevitable 'by-product' of all natural processes and manifests itself as heat that is released in various processes. Entropy is (a form of) energy. Due to the inevitable and unintended heat production that occurs, not all energy added is converted into (the desired) work; some energy is always lost. Therefore, entropy is sometimes called *degraded energy* because this energy 'goes to waste.' It is important that entropy can also be seen as *a measure of disorder and uncertainty* in a system. Since all processes have entropy as a by-product, all processes contribute to an increase in disorder.

A distinction can be made between *classical thermodynamics*, which mainly deals with heat development in physical processes and equilibrium systems, and *modern thermodynamics*. Modern thermodynamics focuses on non-equilibrium systems and their behavior. Ilya Prigogine (1917-2003) can be considered the founder of modern thermodynamics. In 1977, he received the Nobel Prize in Chemistry for his groundbreaking work in this field.

**Prigogine shows that although total entropy always increases, under certain far-from-equilibrium conditions, the increase in entropy can be regulated by systems. For this, the entropy (the disorder, so to speak) that inevitably arises as a by-product must be exported to the environment (outside the system itself) and kept there. By exporting entropy, the order (the organization) of the concerned system can be preserved. To export entropy to the system's environment, work must be performed, and energy is needed for this.**

Prigogine refers to so-called *dissipative structures* in this context. Dissipative structures are emergent structures that can spontaneously arise through self-organization, provided the conditions allow it. Dissipative structures need energy to perform work. This work is necessary to maintain the order (organization) of the dissipative structure. It is necessary for a dissipative structure to regulate entropy and its production and to export part of that entropy to the environment. The word *dissipation* refers to the ability of dissipative structures to expel entropy.

**Prigogine and his colleagues show that under far-from-equilibrium conditions, the entropy produced can function as a source of order. Under such far-from-equilibrium conditions, entropy is a driver of self-organization processes and a source of order and structures we find in nature.**

*I will now explain the operation of hurricanes and cyclones, which are dissipative structures that try to restore a disturbed equilibrium of the atmosphere as efficiently and quickly as possible. Systems – including the international system – always strive to restore a disturbed equilibrium.* Temperature differences create air pressure differences (high and low-pressure areas) in the atmosphere, causing air masses to move to level these pressure differences. In this way, the disturbed equilibrium is restored.

Since there are always temperature and, consequently, air pressure differences, the atmosphere is always in motion. If, at a given moment, these temperature and air pressure differences are large enough, then *far-from-equilibrium conditions* exist, as Prigogine intended. A hurricane is a dissipative structure that arises when the temperature difference between the ocean and the atmosphere reaches a minimum value. This large temperature difference causes significant air pressure differences, causing air masses to move to eliminate them. This minimal temperature difference thus provides the correct far-from-equilibrium conditions that make the self-organization of a hurricane possible. However, the path of these air masses is deflected by the Earth's rotation on its axis, known as the *Coriolis effect*. On the Northern Hemisphere, this results in air masses rotating counterclockwise around a low-pressure area, and on the Southern Hemisphere, clockwise.

Just like the large temperature difference between the atmosphere and the ocean, the Coriolis force contributes to the organization of the airflows that then occur, and thus to the formation of a hurricane or cyclone.

A hurricane possesses a relatively high degree of organization: there is ascending warm air (convection) caused by temperature differences; circulation occurs, and the warmest air is always in the core (the eye) of the hurricane. Because the air in the eye of the hurricane is warmer compared to the surrounding air, there is low pressure in the eye of the hurricane.

The reason hurricanes and cyclones can only form in the intertropical convergence zone is that only there are the conditions present to organize a hurricane or cyclone: the Coriolis effect is strong enough, and the temperature difference between the atmosphere and the ocean can be large enough to achieve the required air pressure differences that can set sufficiently large air masses in motion.

A hurricane is an *open far-from-equilibrium system* that has organized exchanges of energy and matter (air) with its environment (that is, the rest of the atmosphere). The mentioned temperature difference is the *engine* of this dissipative structure that also maintains its organization. As soon as that temperature difference and thus the required air pressure differences disappear, the hurricane ceases. That temperature difference ceases to exist when the hurricane reaches land.

Intriguing phenomena in themselves: dissipative structures and hurricanes, but the question is, of course, what do such dissipative structures have to do with the (war) dynamics of the state system? As I indicated, **since around 1500, the European states and great power system has functioned as a dissipative structure, allowing for energy and tension regulation in the international system.**

The European state system spontaneously organized a dissipative structure during the period 1500–1945, somewhat comparable to a hurricane. **This dissipative structure produced four accelerating cycles. The 'engine' of this dissipative structure, with the European state system as the main component, was the tensions built up by rivalries between states in the European state system.**

What the temperature difference between the atmosphere and ocean does for hurricanes, tensions between rival great powers did for the European state system during the period 1500-1945. Hurricanes and the European state system, both dissipative structures, strive to efficiently eliminate the existing temperature difference in the atmosphere and tensions in the international system, to restore the disturbed equilibrium. In both cases, there is an emergent, self-organized structure, which could arise because the conditions allowed it.

I regard tensions as '*social entropy*'. Tensions are always a byproduct of social interactions and processes. Thus, I liken tensions to entropy, but of course, this is merely a metaphor, and 'entropy' in social systems does not have the same meaning as in thermodynamics. However, there are several similarities. Just as entropy in (physical) systems contributes to disorder and uncertainty, tensions do the same in social systems. Tensions are equivalent to uncertainty in social systems and can be interpreted as threats (risks) and/or opportunities, thereby increasing the potential disorder in the system. The term tensions does not have a specifically positive (opportunities) or negative (threats, risks) meaning. **In social and political processes, tensions – just like entropy in physical systems that are far from equilibrium – are a source of order and organization that politicians eagerly exploit to promote and implement their desired policies.**

Wars and war dynamics are components of the dissipative structure produced by Europe during the period 1500-1945 and by the global state system since 1945. Wars are a response to tensions and the buildup of tensions and have a regulatory function. Wars contribute to the organization of the state system. **Wars, so to speak, perform work.** The state system is a structure component of the dissipative structure.

Europe was an open system, with '*the rest of the world*' forming the environment of that open system. Therefore, from around 1500 – the start of that dissipative structure – organized interactions took place; by the end of the 19th century, the colonization of the rest of the world accelerated. This was no coincidence; the process of expansion – colonization – was organized and driven by the dissipative structure generated by the European state system. The dissipative structure needed energy, and social entropy had to be expelled, for which a suitable environment was also needed.

During the period 1500–1945, European states extracted energy and resources from that environment – '*the rest of the world*' – and 'dumped' European tensions there. Moreover,

the exploitation of that environment – of European colonies – also contributed to new rivalries and tensions between European states, which could then provide energy to the dissipative structure.

**This dissipative structure, with the European state system at its core, consisted of an ingenious system of feedback mechanisms that regulated a process of integration in Europe (of the European state system), its expansion to 'the rest of the world,' and wars and war dynamics.**

This dissipative structure, which significantly determined and shaped the (war) dynamics in and of Europe during the period 1500-1945, was instrumental in achieving a state of equilibrium in Europe: **the expansion of Europe (colonialism) and the integration of states in Europe (starting with over three hundred mini-states in 1500) are inextricably linked. One process fed the other.**

Like a hurricane ceasing to exist once it reaches land due to the loss of the temperature difference that serves as its engine and organizer, the European state system ultimately destroyed itself, eliminating the rivalries between European states and thus the (necessary) tensions that could drive the dissipative structure in Europe. The dissipative structure that Europe generated from 1500, producing four accelerating adaptive cycles, was instrumental in the phase transition I have discussed. **The phase transition was thus brought about by a dissipative structure.**

Dissipative structures only arise if certain far-from-equilibrium conditions are met, as shown by the formation of hurricanes and cyclones. For Europe, those conditions were present around 1500, as can now be determined. From 1500, Europe formed a system, as historians have also established. A number of factors played a role in the formation of that European system, such as the network of relationships and interactions between political entities that had been established. This network includes trade, but also connections between European royal houses and their interests. These connections and their regular nature led to increasing rivalries and tensions in Europe; the previously mentioned security dilemma – inherent in systems without central authority – also contributed.

The tensions that arose caused Europe to become increasingly out of equilibrium, and by 1500, those tensions were large enough to serve as the engine of a dissipative structure. Europe's relationship and interactions with its environment (*'the rest of the world'*) had also achieved a certain organization, scale, and 'regularity.' Those environmental conditions were necessary for the emergence of a dissipative structure.

From a system dynamics perspective, which primarily focuses on feedback mechanisms, dissipative structures involve a positive feedback mechanism that initiates and increasingly strengthens the *engine*, as long as there is a sufficiently large temperature difference in the case of a hurricane and enough tensions in the case of a state system. However, there is also a fundamental difference between these two dissipative structures. The European state system during the period 1500-1945 and the global state system since 1945 are self-reinforcing dissipative structures that maintain and increase the necessary tension difference themselves; a hurricane cannot maintain and increase the temperature difference that feeds

it. The European and global state systems effectively do. The dissipative structure produced by the international system can, to some extent, sustain itself, unlike a hurricane. **The dissipative structure during the period 1500-1945 was not only a self-reinforcing but also a self-sustaining structure, which itself increased the necessary tensions that, in turn, contributed to the acceleration of the four cycles of that dissipative structure.** These dissipative structures escalate themselves through various processes they facilitate, such as the growth of states, which thereby gain more energy and also tension potential. Moreover, these tensions were fed and further increased by exponential population growth and increasing rivalries between states, which became larger and more powerful (and continue to do so).

In the case of the European state system, further colonization of the rest of the world also played a crucial role in maintaining and accelerating the dissipative structure. Colonization not only created more rivalry between European states but also provided more resources (energy) and money.

**Through periodic innovations of the international order by successive systemic wars (also products of the dissipative structure), the organization of the dissipative structure was periodically adjusted – upgraded – to ensure the production of growing tensions.**

Eventually, the European state system destroyed itself due to overproduction of tensions and the war activity that resulted. The dissipative structure was thus fueled by these increasing tensions but was also instrumental in the growth of the European population and the growth and development of states needed for it. Finally, in 1939, a *finite-time singularity* was reached (more on this later), allowing the last step in the phase transition to be made.

My research shows (Piepers, 2016, 2019) that the dissipative structure generated by the European state system around 1500 consisted of four accelerating adaptive cycles and that this dissipative structure was instrumental in a phase transition with two complementary effects. Due to this dissipative structure and phase transition, Europe reached a state of equilibrium in 1945 (through the actual dissolution of the European state system), and simultaneously, a scaling up from a European to a global state system occurred<sup>7</sup>. The European dissipative structure had completed its task.

The presence and operation of this dissipative structure provide a completely new framework for interpreting historical events and developments. The fact that we as individuals and society are parts of this dissipative structure makes its identification challenging, apart from the need for a series of relatively new insights. It is the laws of nature and thermodynamic principles that apply to far-from-equilibrium systems and determine the behavior of dissipative structures, including that of our dissipative structure. We – including social and political processes and structures in our society – are to some extent the product of that dissipative structure, and we have adapted to it – also to survive. We are conditioned by this dissipative structure and its effects. Together, we are that dissipative structure that has its own emergent logic and, therefore, cannot be easily influenced and stopped: We are *enslaved* by this system, by ourselves in fact.

---

<sup>7</sup> I will discuss later how the Cold War caused a temporary disruption.

## 2.7 Growth, Acceleration and Finite Time Singularities

The four adaptive cycles produced by the dissipative structure, neatly delineated in time, are the logical units of analysis to study the European state system (1500-1945). Centuries—a fabricated unit of time—are not the time units with which the dynamics of the international system can be understood, as tried by Levy and Pinker. This approach provides a distorted view. Analysis of Levy's data based on the lifespan of the four cycles, among other things, shows that these cycles accelerated with an exponential factor: meaning the lifespan of these cycles decreased exponentially<sup>8</sup>. It also appears that the sum of the number of military casualties during these cycles grew super-exponentially. One could argue that the sum of the number of military casualties during cycles is an indication of the energy that has been (and must be) expended to reach the next level of organization.

Super-exponential growth of military casualties means that the growth factor itself also grew, by a certain factor. With exponential growth, such as with a fixed interest rate on a savings amount, an infinite amount of savings is reached in an infinite timeframe. **With super-exponential growth, on the other hand, a quantity can become infinite within a finite timeframe.** Because infinite growth occurs in a finite timeframe, a so-called *finite-time singularity* occurs.

Super-exponential growth of military casualties during cycles means that at some point, infinite amounts of energy, resources, and military capabilities must be available to continue this dynamic. That is not possible, and there lies a problem.

The problem that at some point infinite amounts of energy and resources are needed to feed the dissipative structure can be temporarily postponed by optimizing the operation of the dissipative structure when *stagnation* occurs. For this, a *reset* is needed where an innovation (upgrade) is implemented. In the case of the international system, it is about renewing - upgrading - the international order when stagnation occurs. Under the direction of the dissipative structure, three systemic wars have been executed as three resets of the European state system. These three *resets* involve three upgraded international orders. These three systemic wars are the *Thirty Years' War* (1618-1648); the *French Revolutionary and Napoleonic Wars* (1792-1815) and *World War I* (1914-1918). **In this way, the finite-time singularity was postponed three times, but each time for an increasingly shorter period.** However, postponement could not prevent the inevitable: despite these three renewals, the European state system in the years 1939-1945 produced 'infinite' amounts of tensions that required 'infinite' military capacities to regulate. A reset - a reordering of the European state system - was no longer possible; the limit had been reached, and a fundamental change was necessary. When the singularity was reached, under the direction of the dissipative structure, a final step in the phase transition was taken. During the period 1939-1945, the European state system destroyed itself, thereby paving the way for the next level of organization in Europe, based on fundamentally different rules.

---

<sup>8</sup> A note is in order: the lifespan of the second cycle (1648-1815) had a longer duration. Analysis shows that the extension in question can be attributed to the abnormal war dynamics during the period (1657-1763), as I will explain further (Piepers, 2016, 2019).

As I explained, after the three resets in respectively 1648, 1815, and 1918, the clock started again, but the clock ran faster each time (the lifespan of successive cycles decreased exponentially). West refers to this as *accelerating treadmills* (West, 2017), which is an apt metaphor. Each adaptive cycle can indeed be envisioned as a treadmill that spins increasingly faster. To avoid stagnation and to continue, a jump to another treadmill, which functions slightly differently, must be made at some point. However, the need to jump to the next treadmill comes quicker and quicker.

**Super-exponential growth is a race against time that cannot be won, and eventually, the singularity—the end point—is reached.** At that moment, a fundamental reset—a true paradigm shift—is necessary; continuing as before is no longer an option.

Eventually, in 1939, the singularity of the European state system was reached, and a fundamental reorganization of the entire system took place. This fundamental reorganization came about through the fourth systemic war, World War II (1939-1945), for which the three preceding systemic wars and innovations set the stage.

This perspective also provides new insights that are relevant to better understand the current situation. Data analysis reveals that the global state system (1945-...), after a stuttering start caused by abnormal war dynamics during the Cold War (1945-1991), produces a first war cycle as part of an adaptive cycle, which is now coming to an end. That there is now stagnation is evident from the behavior of the international system and the increasingly escalating tensions.

The point is, if the current global state system that started in 1945 functions in the same way as its European predecessor (1500-1945) – and there are no indications that this is not the case – then the upcoming reset – systemic war – will not be the last. If there is again *superexponential* growth of tensions, then a next, but then global finite-time singularity is a matter of time (Piepers, 2016, 2019).

If the global state system operates in the same manner as the European state system and also requires four cycles for a phase transition to a state of equilibrium, then the singularity of the global state system will be reached around 2185. At that point, the global state system will destroy itself, because it will produce infinite amounts of tensions (Piepers, 2016, 2019). That is not a good prospect. We must extricate ourselves as quickly as possible from this self-reinforcing and destructive dynamic, which a second dissipative structure imposes on us. How we could do this will be discussed in the following chapters.

## **2.8 The Contours of a New Paradigm**

In this chapter, I discussed several new insights that are useful for studying war and war dynamics. With these insights, the functioning of the state system can be better understood, and the role of war and war dynamics can be better grasped. Wars serve a function for the system.



This chapter covered concepts including *systems dynamics* and *feedback mechanisms*; *phase transitions* and *critical points*; *chaotic dynamics*, crucial for the development of the state system; *the relationship between the structure of networks and their behavior*; *dissipative structures* and *finite-time singularities* that are inevitable with *superexponential* growth. These concepts originate from the natural sciences.

The idea of looking at the dynamics of the international system and war dynamics in this way is new and therefore sometimes meets resistance from historians. But why should the concepts I just discussed be applicable to ecosystems but not to the international system and its (war) dynamics? Physical laws and principles naturally also affect social systems and their dynamics. We are not that special.

Based on these new insights, the current situation and developments can be explained as follows. Around 1500, European political entities formed a coherent system. Due to tensions resulting from rivalries between these political entities, Europe around 1500 was sufficiently out of equilibrium to produce a dissipative structure, in accordance with insights from modern thermodynamics. Those tensions and their production were then regulated by that dissipative structure.

The *paradox* of this dissipative structure is that its function was to achieve a state of equilibrium as efficiently as possible, but the same dissipative structure caused more tensions to be produced to drive that dissipative structure toward equilibrium.

During the period 1500-1945, this dissipative structure, of which the European state system was the main component, produced four accelerating cycles. Those adaptive cycles were instrumental in a phase transition of the European state system to a state of equilibrium, for which the foundation was laid in 1945. At that moment, the scaling up to a global state system also took place.

With the help of three systemic wars (1618-1648; 1792-1815, and 1914-1918), an organizational innovation was implemented three times; successively: the principle of sovereignty (1648); the Concert of Europe (1815), and the League of Nations (1918). Those innovations postponed the finite-time singularity until 1939. The fourth and final systemic war (World War II, 1939-1945) was the last step in the phase transition that resulted in a state of equilibrium and a paradigm shift in Europe and scaling up to a global state system.

Therefore, natural laws have an indirect but very significant influence on social and political processes and thus on historical events and processes. These laws provide frameworks and direct the dynamics and development of social and political processes.

Analytically, a distinction can be made between a *System 1* and a *System 2* and their typical dynamics, which of course form an integrated whole. With System 1, I refer to social and political processes, and (historical) events, with which we are familiar (or think we are), and with System 2 to the 'underlying' natural laws and mechanisms that I have presented in this chapter.

**Historians, scientists, policymakers, and various experts engage in social and political processes and developments without being aware of the existence of an underlying and highly determined system. Because System 2 and its (effects) are unknown and therefore overlooked, analyses and attempts to explain historical processes are often based on assumed causality that doesn't exist or doesn't matter. The existence of System 2 and its operation reveals a coherence in the system that has eluded us until now.**

Naturally, there is an interaction between both Systems. System 2 sets frames and gives direction to System 1. System 2 indirectly steers our behavior via System 1. When discussing the interaction and relationships between System 1 and 2, it's useful to incorporate Haken's concept of *enslavement*.

Regarding the relationship between two modes of self-organization in complex systems, Haken posits that one form of self-organization can be enslaved by another form (Haken, 1983). Through the interaction between both forms, one form of self-organization is dependent on the other for its existence – for its survival. Such a situation exists between System 1 and System 2, which depend on each other for their functioning and existence.

The highly determined System 2 gives direction to the development of System 1, i.e., to social and political processes, and sets their frames. System 2 has conditioned System 1. System 1 – that's us with our social and political processes – is enslaved by System 2. System 2 needs System 1 to produce the necessary tensions for the dissipative structure to do its work.

The war theory – the dogmas – of Von Clausewitz are a typical product imposed by System 2 on System 1. However, these dogmas primarily serve System 2, especially the dissipative structure. The formation of the state is largely the work of System 2. It can be argued that System 2 is incorporated in the institutions we have created, including Von Clausewitz's dogmas and states. Just as biological evolution is the result of a mechanism of natural selection and self-organization in systems, social evolution – of which social structures and also political processes and ideologies are products – is a result of a mechanism of social selection and self-organization.

**A sophisticated system of feedback mechanisms between System 1 and 2 ensures coordination between both systems**, so what happens in System 1 is what System 2 wants and needs. System 1 also involves a series of feedback mechanisms and behavior conditioning. In System 1, the interaction between the self-fulfilling prophecies of state decision-makers plays a significant role (Piepers, 2016, 2019). A self-fulfilling prophecy occurs when the expectation of another state's behavior is incorrect, but that incorrect expectation comes true because it's anticipated and thus provoked. This mechanism 'creates' enemies, preparing us for the next war and justifying the use of organized violence. It's not difficult to create your own truth in the state system without central authority, where uncertainty and distrust prevail, especially during the phase after the tipping point of a war cycle.

The phase after the tipping point is the run-up to the systemic war of the cycle. Through the interaction of self-fulfilling prophecies, a systemic war no longer comes as a real surprise: we are also no longer surprised if there is now 'suddenly' an armed conflict between the United

States and China, for example. The state system without central authority rarely disappoints; you can always create an enemy.

The latitude to make choices in System 1 is more limited than thought. Our so-called *free will* is highly conditioned, and we always obey social conventions (including Von Clausewitz's dogmas). We do not utilize the latitude we do have adequately and correctly. This latitude – within the frames of System 2 – I refer to as *contingent latitude*. The following 'formula' simply explains how it works:

**System 1 = System 2 + chance + contingent latitude**

Anticipating the next chapters, I give a brief example of applying this formula: that Europe would become a single unit after a fourth systemic war – the Second World War by our count – or at least lay the groundwork for it, is determined by System 2. However, the ideological and political makeup of this single European entity – fascist (under German leadership), communist (under Soviet leadership), or democratic (under US leadership) – was not yet clear; but all three scenarios were initially possible. Chance certainly played a role in the final outcome. The fascist option was eliminated after the German defeat at Stalingrad (1942/1943); the communist option fell through after the successful allied (i.e., democratic) landings in Normandy, on June 6, 1944. Regarding chance: the landings in Normandy could have failed due to weather problems. Then we might now have lived in a communist Europe.

That it became the democratic variant was therefore not inevitable and dependent on chance and the use of what I call contingent space. It was American President Roosevelt who knew how to utilize the available space during the Second World War. How he did that, I will return to later.

## **2.9 What is going on now? An Answer based on New Insights**

According to these new insights, we are at the end of the first cycle of the global state system that started in 1945. A *reset* – an upgrade of the current international order – is necessary in the short term. The second dissipative structure has control over this. When the critical point of the cycle is reached, the discharge and reorganization phase start. There will then be a global systemic crisis and war activity in which all major powers now present in the system will be actively involved. The stakes of this crisis and the associated systemic war are a new international order, a UN 2.0 so to speak.

In the next chapter, I will delve deeper into this and combine the orthodox approach with the new insights I have discussed.

## CHAPTER 3

### FURTHER ANALYSIS BASED ON THE NEW PARADIGM

#### 3.1 Introduction

In Chapter 1, I discussed several views and insights belonging to the orthodox approach and used them to answer the question of what is currently happening. Then, in Chapter 2, I did the same using a number of new insights.

In this chapter, I will discuss a further analysis of the dynamics and development of the first global cycle that started in 1945. There are several indications that this first global cycle not only behaves like its four predecessors (during the period 1500-1945) but is also at the beginning of a next critical condition. This means the start of a new systemic crisis and the accompanying systemic war, with a new international order at stake.

Since history seems to repeat itself in terms of the underlying System 2 dynamics, I will first discuss the first dissipative structure (1500-1945) in more detail. It turns out that a war cycle has a typical lifespan with a more or less standard phasing. Based on this phasing, two types of wars can be distinguished: systemic and non-systemic wars, that were already mentioned in the preceding chapters.

Although there is a great deal of consistency regarding these cycles, there were also two periods with abnormal - that is, non-chaotic - war dynamics of non-systemic wars from the start of the first dissipative structure (around 1500) to the present. The first exception period with abnormal war dynamics was from 1657 to 1763, and the second exception period from 1945 to 1991. This period is better known as the Cold War.

I discuss these exception periods because they provide insight into the functioning of the international system and because these disturbances have hindered the development of the international system. Then, I discuss the development of the international system from 1945 to the present. Finally, the start and contours of a next systemic crisis and systemic war are addressed.

#### 3.2 The First Dissipative Structure (1500 - 1945)

If the magnitude of great power wars, based on Levy's database, is defined in terms of *fraction*<sup>9</sup> - so not in terms of *severity* like for example Levy (Levy, 1983) and Pinker (Pinker, 2011) did - then four adaptive cycles can be identified during the period 1500-1945.

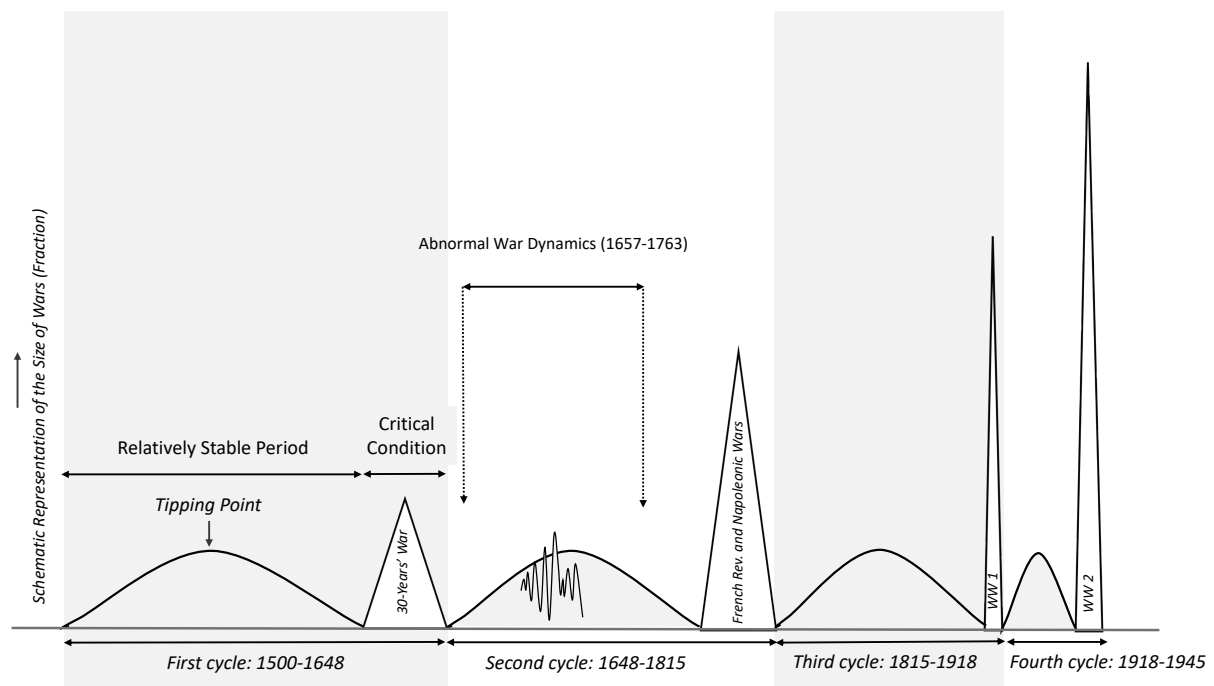
Each cycle consists of a *relatively long period of relative stability* (a *relatively stable period*, sometimes abbreviated as RSP) with 'smaller' non-systemic wars, which in all four cases is followed by a systemic war. That systemic war then produces a new international order, and

---

<sup>9</sup> In contrast to *severity*, *fraction* is a relative measure that says something about the condition of the system. The introduction of this measure has made it possible to identify the 'contours' of the war cycles (Piepers, 2016, 2019).

the next cycle begins. Each cycle is essentially an adaptive cycle, as defined by Gunderson et al.

The *relatively stable period* of the **first cycle** started around 1500 and lasted until 1618; in 1618, the **first systemic war**, the *Thirty Years' War*, started and lasted until 1648. The **second cycle** started in 1648. Its relatively stable period lasted until 1792, when the **second systemic war** started, better known as the *French Revolutionary and Napoleonic Wars* (1792-1815). The **third cycle** (1815-1918) consisted of a relatively stable period from 1815 to 1914, followed by the **third systemic war**, *World War I*, from 1914 to 1918. The last and shortest cycle lasted from 1918 to 1945.

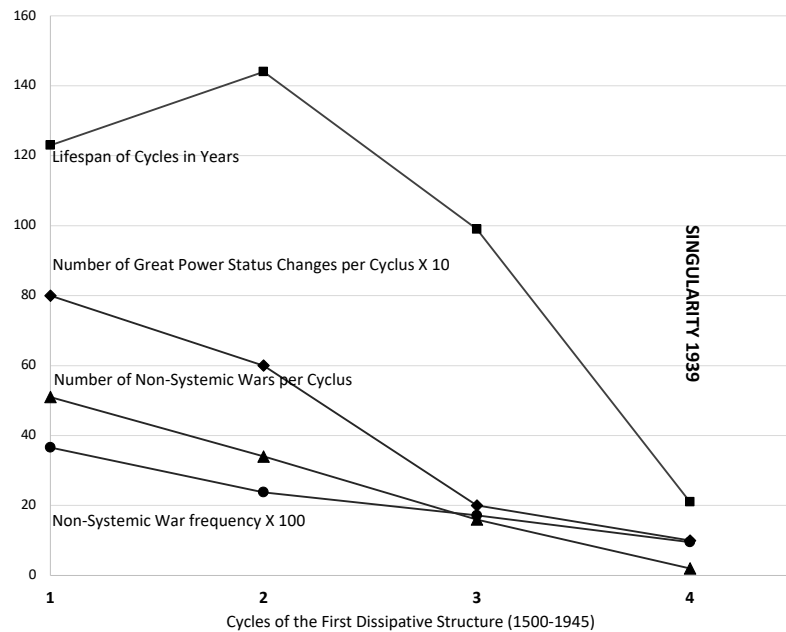


**Figure 2:** This is a schematic representation of the first dissipative structure that produced four accelerating war cycles. This structure was instrumental in a phase transition to a state of equilibrium in Europe. For this, the European state system and the associated security dilemma had to be eliminated.

The accelerating cycles are the *logical units of analysis*. When counting the number of non-systemic wars during the relatively stable periods of the respective cycles based on Levy's database, it appears there is an almost linear decrease in their number. The same applies to the non-systemic war frequency during those four consecutive cycles. At the end of the fourth relatively stable period (1939), the number of non-systemic wars and the non-systemic war frequency of successive war cycles approaches a value of nearly zero. These zero values correspond to the *finite-time singularity*. In fact, this linear decrease already announces the singularity.

Levy indicates in his research (Levy, 1983) when *status changes of great powers* took place during the period from 1495 to 1975, that is, when states gained (for example, the Republic of the Seven United Netherlands in 1609) and lost great power status (for example, the Republic of the Seven United Netherlands in 1713). *It turns out that the number of status*

changes per cycle also linearly decreases to nearly zero during the fourth cycle. This (linear) decrease in great power status dynamics shows that the European state system became increasingly rigid; there was less and less movement in the organizational structure and prestige hierarchy of the international system. Therefore, more energy (military capabilities) was needed to bring about change.



**Figure 3:** This image shows the development of four variables (characteristics) of the European state system during the four successive cycles of the first dissipative structure (1500–1945). This analysis is based on Levy's database (Levy, 1983). During this period, a phase transition occurred, as I explained. In 1939, these four variables approached the value 'zero', and there was consequently a finite-time singularity that produced a fundamental reorganization of the international system. The trend development of these variables towards a value of zero indicates at an early stage the presence of a finite-time singularity and an inevitable phase transition.

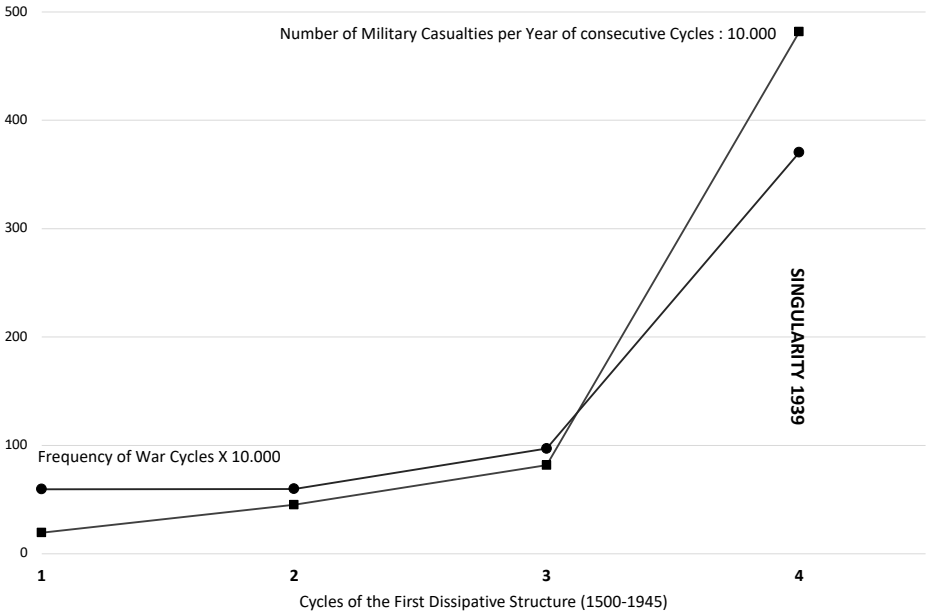
Thus, there is a high degree of regularity and consistency in the development of the characteristics of cycles. There are only limited deviations during the second cycle (1648–1815). The cause of this are the abnormal war dynamics during the period from 1657 to 1763 (I will return to this later). These limited deviations during the second cycle concern the number of non-systemic wars, the frequency of non-systemic wars, the lifespan of the second cycle - which was slightly longer - and the number of military casualties during the second cycle (Piepers, 2016, 2019).

The lifespan of successive cycles also decreases towards zero: the lifespan of the first cycle was 168 years (1648 minus 1480), while that of the fourth cycle was only 27 years (1945 minus 1918); this decrease is exponential, if the deviation during the second cycle is ignored. This exponential decrease in the lifespan of successive cycles means that there was an exponential increase in the frequency of these cycles.

Then, if the development of the number of military casualties of successive war cycles is calculated by adding up the number of military casualties of all non-systemic wars and of the

systemic war of the cycles based on Levy's database, it turns out that there is an exponential increase (where again the second cycle has a deviation). Note that the number of military casualties per cycle increased exponentially, while their lifespan simultaneously decreased exponentially. The number of military casualties thus grew super-exponentially per unit of time. Cycles thus became very quickly shorter, and at the same time much more intense.

As I explained in the previous chapter, super-exponential growth leads to a finite-time singularity.



**Figure 4: This image displays the development of the frequency of war cycles and the number of military casualties per cycle, again based on Levy's database (Levy, 1983). During this period, a phase transition occurred. In 1939, these two variables reached the value 'infinite', and the finite-time singularity was achieved. This singularity resulted in a fundamental reorganization of the international system. The development of these two variables closely relates to the development of the four variables shown in above figure. The regular and consistent development of these two variables towards 'infinite' indicates at an early stage the presence of a singularity and an inevitable phase transition.**

**This is all no coincidence. There is a high degree of organization by and through the dissipative structure (1500-1945), which propelled the state system towards a finite-time singularity and effectuated a phase transition.** The development of these six variables, four of which reached the value zero around 1939 and two the value infinity, indicates that the European state system reached the end of its lifespan around 1939. The mentioned variables provide insight into the high degree of determinism in the dynamics and development of the international system.

The dissipative structure was instrumental in a phase transition with two complementary effects for the international system. In 1945, the groundwork was laid for a state of equilibrium in Europe and thus for the formation of a single political unit, and the state system was scaled up to a global level. The dissipative structure that facilitated this was 'powered' by tensions that arose in the international system, caused by (increasing) rivalries

between ever-larger political entities. The (exponential) population growth during that period also plays a role.

Under the direction of the first dissipative structure, **three important developments in System 1 took place during the period from 1500 to 1945**: social **integration and consolidation of societies and states in Europe** (from over 300 in 1500 to one in 1945), **expansion of European states to the 'rest of the world'** (colonization, by which in 1914 eighty percent of the world was under the control of European states), **and accelerating war dynamics**, in the form of four accelerating cycles (1500-1945). These developments were closely related.

The *process of social integration* refers to the growth of states in Europe, which reduced their number: from over 300 entities in 1500, about 25 states in 1939, to one (at least the foundation was laid) in 1945. As far as can be determined, there was an exponential decrease in the number of political entities during that period.

Also, regarding the *expansion of European states* during that period – meaning the colonization by European states of the *'rest of the world'* – there was exponential growth: in 1500, European states had about seven percent of the world under political control; in 1800, that percentage had risen to about 35%, and in 1914 to 84% (Tilly, 1992, which boils down to only the USA and Japan being able to escape European subjugation).

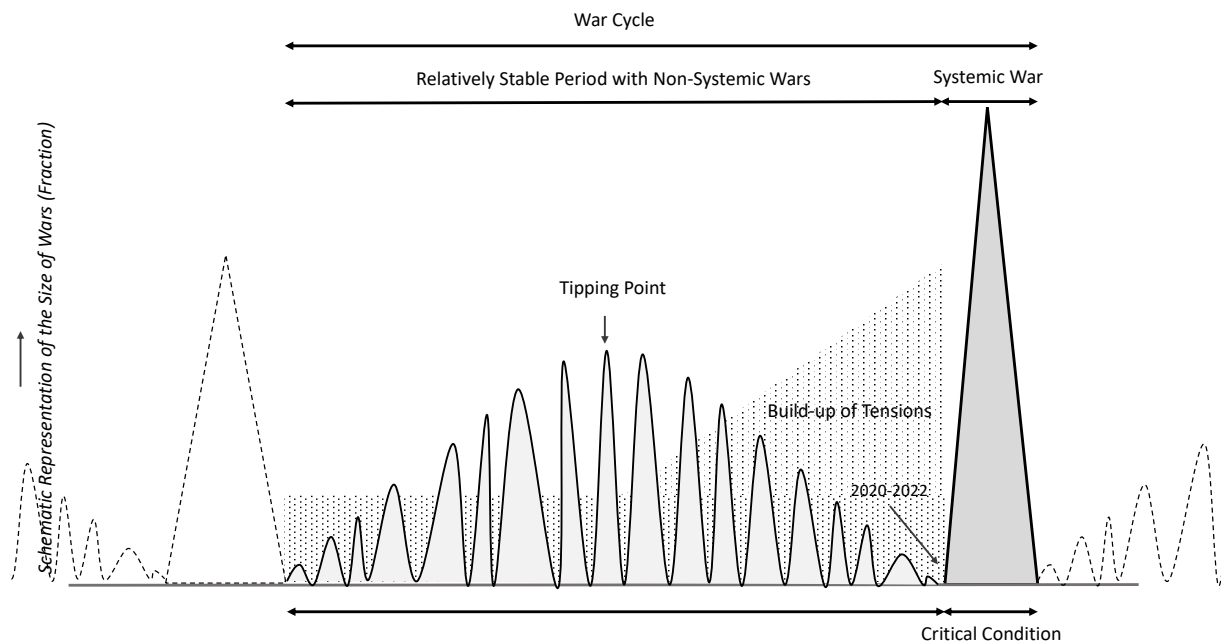
*Wars and war dynamics* – the third process under the direction of the dissipative structure relevant to *System 1* – were part of and instrumental in the integration process in Europe and the expansion and exploitation by European states of the rest of the world. **The exponential integration, exponential expansion, and the exponential increase in war dynamics went hand in hand and were highly synchronized.** These developments all reached their endpoint around 1939 – not coincidentally, as they were part of the same dissipative structure. Further expansion to – and exploitation of – *'the rest of the world'* by Europe also reached an endpoint around that time. The end of the European state system (1939-1945) also marked the end of the subjugation and exploitation of the rest of the world by European states and paved the way for a global state system, of which the same Europe became a 'normal' part.

Finally, a last remark on war dynamics. The actual globalization occurred during the fourth systemic war, the last step in the phase transition to a global state system. This actually happened on December 11, 1941. That was the moment the fourth systemic war initiated by the dissipative structure *in Europe* in 1939, was linked to the war activity *in Asia, 'the rest of the world'*, so to speak. On December 11, 1941, Germany declared war on the United States, after Japan, an ally of Germany, had carried out a successful surprise attack on Pearl Harbor on December 7. That was the moment the United States entered the war, and the fourth, until then a European systemic war, scaled up to a global systemic war, in which the two non-European great powers also participated (the USA and Japan). It was therefore no longer about a new international order for Europe, as was the case during the three preceding systemic wars, but about the first international order for the global state system. This international order became the stake of World War II.



### 3.3 The Structure and Lifecycle of a Cycle

The four cycles that the European state system (the first dissipative structure) produced during the period 1500–1945 had the same life course and phasing. Each cycle always consisted of a relatively long stable period, which in all four cases was followed by a systemic war. This systemic war was part of a systemic crisis, with the stake always being a new international order, which then initiated a new relatively stable period. During relatively stable periods, tensions in the international system were regulated by 'smaller' non-systemic wars, meaning wars in which not all great powers participated.



**Figure 5:** This is a schematic representation of a cycle of the first dissipative structure (1500–1945). All cycles have the same life course and phasing.

**During relatively stable periods, it is about maintaining the status quo, the established order; non-systemic wars are instrumental for this purpose.** However, it is only a matter of time before this established order – the implemented international order – decays and becomes outdated. **The function of a systemic war, in which all great powers participate, is then to implement a new international order. This new international order again reflects the actual power relations and spheres of influence in the state system.**

There is pattern formation in the dynamics of non-systemic wars during relatively stable periods: in all four cases, shortly after a systemic war, which always resulted in a new international order, the average size (in terms of fraction) of non-systemic wars is limited. Over time, however, the average size of non-systemic wars during relatively stable periods increases; more and more tensions are produced, which then need to be regulated. However, data analysis based on the database of Levy (Levy, 1983) shows that at some point, the average size of these non-systemic wars starts to decrease again. **The point when the average size of non-systemic wars during a relatively stable period of a cycle begins to**

**decrease, I call the tipping point of the cycle.** This tipping point of a cycle does not necessarily fall halfway through a cycle.

**That is the moment when non-systemic wars are no longer effective (enough) to regulate tensions in the international system.**

The tipping point during a relatively stable period of a cycle has nothing to do with a particular event or war taking place at that time but is the result of a *network effect*; it is *System 2* behavior. By that network, I refer to the network of various unresolved and new issues in the international system, the great powers and states that are part of it, and associated tensions. **There is a moment when the interconnectedness of that network is so great that it provides a certain stability for the international system.** The moment that happens is the tipping point. The operation of such a network effect can be explained from network theories (see, among others, Watts, 2002, 2003, 2004), which deal with the relationship between the structure of a network and its dynamics. The network effect can also be explained from a *System 1* perspective: the greater entanglement of issues and problems is paralyzing. States and great powers become more restrained in their responses to avoid escalation. The complexity, interconnection, and complexity of that network exceed the administrative capacity of governments.

**Once the tipping point is reached, although the average size of non-systemic wars decreases to almost zero, the build-up of tensions and the accumulation of tensions accelerate, because effective regulation of those tensions is less and less the case.** You could say that from the moment the tipping point of the cycle is reached, the state system charges up with tensions, eventually leading to a critical state and the possibility of a systemic war. The phase after the tipping point of the cycle is a necessary run-up to the next critical state and systemic war. The tipping point of the current, that is, the first global cycle, was around 2011, according to data analysis.

This accumulation of tensions is not without consequences for social and political dynamics in *System 1*. Because tensions accumulate, various issues remain unresolved and uncertainty increases. Politicians are blamed and judged for this. The call for more radical solutions then increases. The election of Trump in 2016 as president of the USA for example, is related to this.

### **3.4 Two Types of War: Systemic and Non-Systemic Wars**

The buildup and functioning of a cycle show that **there are two fundamentally different types of wars: non-systemic wars** during relatively stable periods and **systemic wars** at the end of a cycle. *The fundamental distinction between systemic and non-systemic wars cannot be emphasized enough.* Both categories of wars have fundamentally different characteristics, which I will now briefly discuss. Systemic wars are *not* simply large or escalated non-systemic wars. Systemic wars have a fraction of one, meaning that all great powers in the international system participate. Non-systemic wars, on the other hand, have a fraction less than one (except for some non-systemic wars during the first exception period from 1657 to 1763, more on that later).

A systemic war, in which all great powers in the system participate, cannot just arise: enough tensions in the international system must have accumulated, putting the international system into a critical state. In physics, a critical state has a number of specific features and properties, which I have already discussed. In this context, it is relevant that systems in a critical state always react as a system because local disturbances – or incidents in the case of the international system – cannot remain local but are communicated throughout the entire system. The network I just spoke of is instrumental in this.

**The international system reaches such a critical state through the continuous accumulation of issues and tensions in the system that occurs after passing the tipping point of the cycle.** When that critical state is reached, the entire system – all great powers – responds to an incident, causing a *domino effect*.

As mentioned, both types of wars fulfill a fundamentally different function. The function of non-systemic wars is to maintain the existing balance (the status quo) and, in case of a disturbance, to restore the balance. The function of systemic wars, on the other hand, is to implement an entirely new balance, which is then anchored in the international system with a new international order. Active involvement of all great powers is required to implement a new international order.

Also, from a *System 2* perspective, there are fundamental differences between both categories of wars: the dynamics of non-systemic wars (which always take place during the relatively stable period of a cycle) normally have *chaotic characteristics*, making the start, duration, and size of non-systemic wars highly unpredictable. **Systemic wars, on the other hand, are highly predictable, including their start date and duration, at least regarding the four systemic wars produced by the first dissipative structure (1500–1945).**

Finally, a last fundamental difference between systemic and non-systemic wars, of which we must now be aware: you do not want to lose a non-systemic war, but you may lose it; **a systemic war must be won if you want to safeguard your values and interests in the long term.** An example is the *War in Afghanistan* (2001-2021). That is a non-systemic war in which the Netherlands also participated. That war was lost by the US, NATO, including the Netherlands. Although that lost war is of course not without serious consequences for the people of Afghanistan and some deployed soldiers and their families, and there are (regional) geopolitical consequences, it is however of little importance for the Netherlands' state and society as such. As far as the state and society took note of it at all, they moved on to the order of the day. That is fundamentally different in a systemic war. The stakes are a new international order and the values on which it will be based. **A systemic war is a war of values, with far-reaching consequences. The last systemic war, World War II, could have 'easily' resulted in a fascist or communist European union.**

### 3.5 Abnormal War Dynamics

Analysis of the war fraction based on Levy's database shows that during the period from 1500 to the present, there were twice instances of abnormal war dynamics during relatively stable periods. In these cases of abnormal war dynamics, 'abnormal' means that the dynamics were not chaotic.

The **first period of abnormal war dynamics is from 1657 to 1763**, during the relatively stable period (1648–1792) of the second cycle (1648–1815). I refer to this period from 1657 to 1763 as **the first exception period**. During the first exception period, the war dynamics were not chaotic but periodic, with sharp spikes in the size and intensity of some non-systemic wars (Piepers, 2016, 2019). The first exception period ended with the *Seven Years' War*, in which Great Britain ultimately gained an advantage over France.

The **second exception period concerns the period from 1945 to 1991**, better known as the ***Cold War***, at the beginning of the first global cycle that started in 1945. During the second exception period, the war dynamics were also not chaotic but were highly suppressed. The second exception period ended with the dissolution of the Soviet Union in 1991.

There are a number of similarities and differences between the abnormal war dynamics during both exception periods. **A fundamental similarity between both periods is the (very) intense rivalry between two dominant great powers in the international system during those periods:** During the *first exception period* (1657-1763), it was the intense rivalry between France and Great Britain and their respective allies, and during the *second exception period* (1945-1991) between the US and the Soviet Union and their respective allies.

**The intensity of the rivalries and the forming of two blocks as a consequence, determined the nature of the war dynamics.** During both periods the number of *degrees of freedom* in the state system was temporarily limited to just two (those are the two mentioned great powers in both periods), chaotic war dynamics could not develop. At least three degrees of freedom are needed for that (Piepers, 2006, 2016, 2019).

Due to the intense rivalry between the two most powerful great powers in the international system at that time, other great powers effectively did not matter anymore; they aligned themselves with one of the two dominant great powers. Now the situation is different: although there is intense rivalry between China and the US, great powers such as Russia and India, and to a certain extent Europe, still matter. **There is now no bipolar configuration.** (However, when rivalries further intensify, two 'blocks' could form).

**Because during both exception periods the war dynamics were not chaotic but either periodic or highly suppressed, the state system could not further develop during both exception periods.** The reason is that the abnormal – that is, non-chaotic – war dynamics cannot produce a network effect, which means that there can be no tipping point. That *network effect* is necessary for the accumulation of tensions that eventually cause a critical state of the international system. That critical state is required for a systemic war, which is then instrumental in the implementation of a new international order. If the war dynamics are not chaotic during relatively stable periods, no development occurs due to the rigidity of the system.

Analysis of war dynamics from 1500 shows that the abnormal war dynamics during both exception periods caused a number of disruptions in the otherwise extremely regular dynamics. One of those disturbances concerns the size of non-systemic wars during the *first*

*exception period*, which was very large in some cases in terms of fraction and the number of military casualties. During that period, all great powers even participated in two non-systemic wars: the *War of Austrian Succession* (1739–1748) and the *Seven Years' War* (1756–1763). Despite their size (a fraction of one), these wars are not classified as systemic wars.

The reason for the large size of some non-systemic wars during the *first exception period* is the lack of the typical 'restraint' that is intrinsic to chaotic (war) dynamics. During that exception period, tension was quickly built up and *directly* converted into war in an attempt to restore the status quo. **There was no accumulation.** Another disturbance caused by the abnormal war dynamics was the extension of the lifespan of the second cycle. It was fifteen years longer than expected based on the patterns that can be identified.

Ultimately, Great Britain inflicted a defeat on France during the *Seven Years' War*, ending the deadlock between the two arch-rivals. **As a result, the number of degrees of freedom increased, and the international system resumed its normal chaotic war dynamics.** This is also evident from the data analysis (Piepers, 2016). In 1774, the second cycle reached its tipping point, and the average size of non-systemic wars decreased, the state system accumulated tensions, and 'charged up' for the next (third) systemic war (The French Revolutionary and Napoleonic Wars, 1792-1815).

Unlike the first exception period, the abnormal war dynamics during the second exception period were not periodic but highly suppressed. The Korean War (1950-1953) was an exception to this. The Cold War (1945–1991) originated during the fourth systemic war (World War II), where the western part of Europe was liberated and occupied by the US, and Eastern Europe by the Soviet Union. This conjunction of circumstances – each controlling 'half' of Europe and both great powers organized on conflicting ideologies – led to a deadlock that lasted until 1991. This stalemate - a *deadlock* is a more appropriate word - gripped the global state system and hindered its development.

Because both superpowers and their allies stood physically and ideologically opposed to each other, their armies were not (completely) demobilized after 1945 and were soon strengthened again. These armies remained in their positions, in a high state of readiness, and in anticipation of a possible counterattack from their great rival, which was assumed to come at any moment. Berlin was the focal point of these rivalries and tensions twice: through a Soviet blockade of Berlin in 1947 and again in 1961.

Due to this intense rivalry, there was indeed a stalemate during the Cold War, but the global system was also somewhat hyperactive in a sense. Any local incident, even outside Europe (consider the *Cuban Missile Crisis* in 1962), was immediately magnified into a systemic issue with existential risks. **During the Cold War, the international system was constantly in a critical state where any incident was communicated throughout the entire system.** The so-called *mode-coupling* of the international system did not function well in the paralyzed international system (Prigogine, 1989). **Since the global state system had temporarily stabilized in this dysfunctional state, the second dissipative structure did not yet gain momentum properly.** However, this stalemate did *not* result in a series of non-systemic wars, as was the case during the first exception period. Now, the war dynamics were

suppressed, with nuclear weapons and the destructive potential of the US and the Soviet Union playing a significant role.

The US had nuclear weapons since 1945, and the Soviet Union from 1949. A nuclear arms race quickly ensued, resulting in a *Mutual Assured Destruction* (MAD) scenario, aptly named. MAD ensured that both superpowers, even in the event of a surprise *first strike* by the opponent, still had the capability to execute a devastating retaliatory attack – a *second strike*. **Due to MAD, war as a political instrument, as a continuation of politics by other means, lost its utility.** The hyperactive state of the international system during this period made the moderation of violence impossible, and escalation would have been inevitable. Fortunately, since the armies of the US and the Soviet Union were under effective political control, no accidents occurred. The existence of a hotline telephone connection between the presidents of both nuclear powers was helpful in this regard.

The end of the Cold War in 1991 led many astray. The deadlock had ended, and for a moment, the idea of eternal peace had emerged (Fukuyama, 1992). Although the deadlock was over, the *second dissipative structure* – and the new global state system that is a component of it – was just getting started and gained momentum fast. After the Soviet Union's dissolution **in 1991, the international system immediately resumed its normal chaotic war dynamics**, confirmed by data analysis (Piepers, 2016, 2019). Since 1991, it's been war dynamics as usual.

The recent rivalries between the US and China are part of that normal dynamic and **cannot be characterized as a new Cold War**, as is sometimes suggested. There are essential differences between the intense rivalries between the US and the Soviet Union during the Cold War (1945-1991) and the current rivalries between the US and China. During the Cold War, the international system had a bipolar configuration – the system had only two degrees of freedom – making it somewhat predictable and straightforward. The situation now is fundamentally different; there are more degrees of freedom (other major powers matter, such as Russia and India), and thus the war dynamics now have chaotic characteristics (Piepers, 2016, 2019). There is now a multipolar configuration of the international system and its associated dynamics. **There is now much greater unpredictability inherent in chaotic dynamics, which is why we now live in a much more dangerous world.**

Because chaotic (war) dynamics are highly unpredictable, states now have difficulty making estimates about the behavior of other states. If there was a misunderstanding during the Cold War, at least there was also a hotline, a direct connection between the only two decision-makers that mattered. Those misunderstandings could then be resolved. That's not the case now; direct communication between the current main actors does not exist.

Due to the expansion of China's nuclear arsenal, by around 2030, the US will face two major rival nuclear powers for the first time, the Pentagon reported in 2022 in a policy document. This situation presents new challenges for the stability of the international system, for risk management, deterrence, and (attempts at) arms control. This new situation requires a fundamental revision of American nuclear strategy, US policymakers have established. Notably, for Russia and China too, this is a fundamentally different and new situation (Sanger et al. 2023).

Regarding other states with nuclear weapons, the situation now is significantly different than during the Cold War. These other nuclear powers are the United Kingdom and France (also permanent members of the Security Council), India, Pakistan, North Korea, and Israel. The fact that war dynamics have chaotic characteristics makes control practically impossible. As I said, we now live in a world with much greater risks than was the case during the Cold War.

### 3.6 Developments after the Cold War up to the Present

In this paragraph, I discuss the development of the international system after the Cold War based on the new paradigm. In this paradigm, I combine orthodox insights (which concern *System 1*) with insights about the operation of *System 2*. After the Cold War (1945-1991), the normal chaotic war dynamics quickly resumed, and the *second dissipative structure* truly began. Chaotic war dynamics eventually produce a *network effect*. When this happens, the tipping point of the cycle is reached, and the accumulation of tensions begins. This accumulation of tensions leads to a critical state and a systemic crisis and/or systemic war. At least, that was the case during the four preceding cycles during the period 1500-1945.

Data analysis shows that the current cycle reached its tipping point around 2011 (Piepers, 2016, 2019). From that moment on, the average size of non-systemic wars decreased, and tensions and uncertainty increased. I note again that the tipping point is caused by a network effect that occurs because various issues in the state system, the states involved, and the tensions this generates, become increasingly intertwined, thus reducing the possibility of effective tension regulation. The tipping point of a cycle does not necessarily fall halfway through a cycle, nor is a particular event necessary for that tipping point: it concerns the behavior of the underlying *System 2*. **The increase in (accumulation of) tensions creates greater uncertainty, which in turn increases social and political unrest. Politicians respond to this and sometimes exploit it. Since 2011, there has been an increase in radicalization and populism, and social and political volatility within and between states continues to rise.**

Because various issues and associated tensions cannot be resolved and eliminated, they start to reinforce each other. Issues and tensions create more (new) issues and tensions, causing their interconnection to increase further. There is positive feedback and a self-reinforcing loop.

**I will now discuss several developments that now impact the development of the international system in the final phase of the relatively stable period of the first global cycle, and at the beginning of the systemic crisis and associated systemic war, both in the short and longer term.**

(1) ***Intensification of Great Power Rivalries: Thucydides's Trap***. The intensification of rivalries is characteristic of the final phase of an adaptive cycle. Such rivalries contribute to the build-up of tensions, leading to a critical state. The two main actors now are the United States and China. Regarding this rivalry, Allison speaks of ***Thucydides's trap***. His research on this topic has been published in the book titled "*Destined for War. Can America and China Escape*

*Thucydides's Trap?*" (Allison, 2018). Thucydides's trap concerns the status hierarchy in the state system. With his approach, Allison explains the consequences of *differentiated power development*; a phenomenon I discussed in chapter 1.

Allison, an American political scientist from the *Realist School*, extends the research where Gilpin left off. His book is based on extensive research focusing on the dynamics between great powers, especially their (relative) power positions and status within the great power system. This phenomenon was described by Paul Kennedy in his book titled "*The Rise and Fall of the Great Powers*" (1987).

This phenomenon—that great powers rise and fall—is partly caused by the differentiated growth and development of states and great powers. According to Allison, this typical dynamic is not without consequences. In this context, he refers to "*Thucydides's Trap*", a 'trap' that great powers can fall into.

According to Allison, *rising* great powers often feel *shortchanged* in the international order, while *declining* great powers feel increasingly *threatened*. This leads to increasing rivalries. **As the rising great power threatens to take the place of the dominant great power, tensions continuously escalate.** The international system becomes increasingly 'crowded', raising the likelihood of war. Allison highlights the underlying great power dynamics that unfold over the medium term with *Thucydides's Trap*.

According to Allison, this great power status dynamic—*Thucydides's Trap*—is a significant (underlying) cause of a series of wars that have occurred. He suggests that there is now such a dynamic between the United States (the reigning great power) and an increasingly assertive China; China is claiming more influence and space. This behavior is not specifically Chinese but rather typical of a new rising great power. The United States also went through this phase, making various claims. The *Monroe Doctrine of 1823* is an example, where the USA warned European states that it would no longer tolerate further colonization and interference in the Western Hemisphere.

The reference to Thucydides (who lived around 460-400 BC) is due to Thucydides's historiography of the Peloponnesian War (431-404 BC), a war between the rising and incumbent great powers Athens and Sparta. According to Allison, *Thucydides's Trap* is a historical pattern that has occurred sixteen times since the end of the fifteenth century, the beginning of the European-dominated state system. Twelve times it has resulted in war between the involved great powers, only four times it did not.

According to Allison, the *Republic of the Seven United Netherlands* found itself at one point trapped in *Thucydides's Trap*, along with Great Britain. The Republic of the Seven United Netherlands was the dominant power, with Great Britain as the challenger. Allison explains it as follows. During the first half of the seventeenth century, the Republic of the Seven United Netherlands had developed into the leading maritime power in Europe, dominating trade, shipping, and its financing. The dominant position of the Republic of the Seven United Netherlands was based on free trade and freedom of navigation; thus, on a world without borders. Only based on these principles could the small and vulnerable Republic build and maintain a disproportionate economic and political power position. (By the way, the



Netherlands still derives its prosperity from these principles; namely free trade, freedom of navigation, and an international order that guarantees these principles; it is no coincidence that this relationship is also established in *Article 97 of the Constitution*, which defines the tasks of the armed forces of the Netherlands). However, not only the Republic of the Seven United Netherlands but also Great Britain considered maritime dominance vital. Great Britain challenged the Republic of the Seven United Netherlands and undermined the Republic-dominated trading network, which was based on the two principles mentioned. In the second half of the seventeenth century, Great Britain had built up a fleet as large as that of the Republic (about eighty ships). In 1651, Great Britain introduced the *English Navigation Acts* (also known as the *Navigation Act*), which restricted navigation by non-English ships (read ships of the Republic of the Seven United Netherlands) to and from England and English colonies. These English laws deliberately targeted the power position of the Republic of the Seven United Netherlands by undermining the Republic's trade. *Thucydides's Trap* was now a reality: the dominant power was challenged by an emerging power claiming a better position.

By imposing various trade restrictions on China, the United States are now using a variant of this approach against their challenger China. Among other things, the US has imposed a series of restrictions on the export of microprocessors (chips) and related technologies to China (Miller et al., 2022).

Back to the seventeenth century. The English Navigation Acts, backed by a strong English fleet, were seen by the Republic as an existential threat, hence it did not accept the self-proclaimed '*imaginary English sovereignty over the free seas*'. Johan de Witt, Grand Pensionary of the province of Holland during this critical period, did not leave it at that and argued that free trade was a natural right.

Within a span of twenty-five years (1652-1674), no less than three wars occurred between Great Britain and the Republic. The Republic of the Seven United Netherlands ultimately lost out: Great Britain strengthened its position while the Republic weakened, losing its great power status in 1713.

**Allison demonstrates that in twelve out of sixteen cases of Thucydides's Trap, war ensued.** These wars—including the English wars just mentioned—according to Allison, demonstrate that adjustments to existing agreements, arrangements, and relationships (the two principles of the Republic of the Seven United Netherlands, in the above example) result from *shifts in the balance of power*.

Within the framework of *Thucydides's Trap*, Allison speaks of *transitional friction*. Emerging powers (such as Great Britain in this case, and China at present) often feel that agreements, arrangements, and institutions associated with the existing order (power structure) do not change quickly enough; they see any delay as evidence that the established dominant power (the Republic of the Seven United Netherlands in this case) is trying to constrain the emerging power. The dominant power, on the other hand, feels that the emerging power wants too much change too quickly.

Allison's approach and research provide a useful perspective for better understanding and interpreting the current dynamics in the state system. Allison warns that *Thucydides's Trap* could once again lead to war. The outbreak of war in the case of *Thucydides's Trap* is more often the rule than the exception (as mentioned, according to Allison, this was the case in twelve out of sixteen cases).

Allison explains that insight into the workings of *Thucydides's Trap* can be used to prevent war if the US and China are willing and able to adjust their behavior. The four exceptions show that it can be different. Given the current tensions, that now seems like a vain hope. Tensions between the US and China are escalating, and the war in Ukraine has become part of that. Both China and Russia say they are striving for a new international order where there is no longer a hegemonic position of the US.

**(2) Intensification of rivalries between major powers: the war in Ukraine and tensions in Asia.** I am now discussing the *second* relevant development; War in Ukraine, which began with the large-scale attack on that country in February 2022. My focus here is not so much on the exact circumstances and strategies of the involved states but on how that war increasingly becomes part of a systemic crisis and the corresponding systemic war. It seems that this war is the first "battle" in a systemic war that has already (almost) begun.

(Geller's insights that I discussed in **Chapter 1** are also relevant here (Geller, et al. 1998). Geller talks dirty about the erosion of the power structure of the international system, where lower-order conflicts and wars between states are linked to system-shaping global wars (Geller et al. 1998). This progressively undermines the stability of the international system. This is happening again now.)

In the attack on Ukraine, Russia at least initially (?) failed to achieve its military objectives, leading to a significant damage to Russia's reputation. Conversely, Ukraine has achieved a series of initial successes since the Russian attack: in early 2022, the Russian army was consequently forced to withdraw from Kyiv; the flagship of the Russian Black Sea Fleet, the Moskva, was sunk on April 14, 2022, and thousands of square kilometers of territory were recaptured from Russia in two counterattacks in the fall of 2022.

By early 2023, there is a military stalemate and *attrition warfare* between both armies. NATO has only been willing to support Ukraine's defense with weapon supplies and advice. Russia still successfully keeps NATO at bay with the threat of nuclear weapons. Economic sanctions from the US, Europe, and several other countries have not yielded the expected results.

While Russia did not achieve its military goals in Ukraine with the (initial) attack, it has achieved some political goals and initiated an irreversible process. Russian President Putin has long claimed that Russia is leading the fight against American hegemony in the international system, and the Russian attack on Ukraine is now part of that. The Kremlin claims it had no other choice and must continue the war in Ukraine. Putin is very clear about his objectives, asserting that Western democracies aim to destroy Russia. Therefore, the war with Ukraine is of vital national importance for Russia and is a top priority.

Russian Foreign Minister Lavrov states that "*all peace talks with Ukraine are aimed at creating a 'new world order' that must consider Russian interests and concerns at every negotiation. It should be about the principles on which the new world order will be based*" and "*rejects a 'unipolar world order led by one hegemon'.*" (The Guardian, 2023)

As mentioned, China is also not pleased with American hegemony. According to Chinese President Xi, the US is engaged in the "*comprehensive containment, encirclement, and suppression of China*" – a campaign of sanctions and diplomatic pressure that has brought "*unprecedented serious challenges*" to China. To withstand Western pressure and to secure the partnership between China and Russia, the Chinese president provides political and economic support to Putin. China does this while preferring not to interfere in Russia's war in Ukraine directly. However, these objections are now subordinate to the common interest of both countries, namely, to end US hegemony.

The development of the relationship between the US and China is relevant for Europe, and it's evident that things are not heading in the right direction. Taiwan also stands as a flashpoint in the US-China relationship, which could escalate into a direct military confrontation between the two countries in the South and East China Seas. Such a confrontation would quickly escalate.

For the US, this is about safeguarding the current international order. In the event of Chinese aggression against Taiwan, several key principles of this order would be violated. China, on the other hand, argues that the US ignores China's rights and obstructs its development to maintain American hegemonic position.

Chinese President Xi, much like Putin, is clear about his intentions. He pursues a national '*revival*' that involves replacing the US as the dominant rule-setter in the region, controlling access to the South China Sea, and bringing Taiwan under Chinese control. While Taiwan governs itself as an island, China views it as lost territory, although historically, Taiwan (formerly Formosa) has never been governed by China. These are certainly debatable claims by China, also according to international law.

In response to these Chinese ambitions, which have resulted in a series of concrete claims in and around the South China Sea and the construction of a series of artificial and now militarized islands, not only the US but also several countries in the region are investing in hard military capabilities and making agreements with the US. This is the security dilemma in action, where the mechanism of interacting self-fulfilling prophecies ensures that everyone gets their way.

Examples include the US's intention to build a large arsenal in Taiwan to enable it to defend itself against a Chinese attack and/or occupation. In early 2023, North Korea launched cruise missiles from a submarine for the first time, and the Australian government announced a \$200 billion investment in nuclear-powered submarines (a joint program with the US and the UK). Japan is also taking measures by investing in offensive military capabilities and making new agreements with the US. In early 2023, the Philippines (re)signed a military cooperation agreement with the US, including military bases for the US for which infrastructure is being

prepared. Meanwhile, there are also military exercises between India and Japan and Vietnam, and Malaysia is buying military aircraft from South Korea.

Despite these efforts, it may still not be enough to provide sufficient counterbalance against China. China's own growing arsenal now includes 'monster' coast guard vessels and an increasing number of missiles and nuclear weapons. Over the past year, the Chinese military has repeatedly engaged in provocative and dangerous behavior, including record numbers of aircraft conducting simulated attacks on Taiwan, firing missiles into Japan's exclusive economic zone, attempts to expel an Indian army outpost, and temporarily blinding the crew of a Filipino patrol boat with lasers, among other actions. These actions and provocations by China appear to be intended to assert its territorial claims and intimidate. **The worrying aspect is that in the current (almost) critical state of the international system, a seemingly insignificant incident can quickly escalate.**

Many countries in the region hope that their stronger armies will deter China from continuing its actions. However, these countries face the dilemma that while China is indeed a threat, they are highly economically dependent on China. There are also doubts about whether the US is actually willing and capable of providing help when it comes down to it. These doubts are also a reason for the mentioned build-up of military capabilities by other countries.

**The US exhibits unpredictable behavior and is erratic, especially during the Trump era (2016-2020), but also currently.** The war in *Afghanistan* (2001-2021) and the unexpected and disorderly withdrawal of the US and NATO from that country in 2021 did not do the reputation of the US any good. The fact that the US and NATO, after Russia's large-scale attack on Ukraine (2022), limit themselves to providing weapons and advice to that country, is also not reassuring.

The US's unlimited support for Israel to fight Hamas in Gaza (2023), and the enormous suffering and damage this has caused the Palestinian population, the *double standard* that the US and a number of European countries (including the Netherlands) apply in the assessment of Israel's actions, and the *suspension of support to Ukraine*, due to political dysfunction in the US, have contributed to the unpredictability and weakening of the position (reputation) of the US.

Not only is the question justified whether the US is actually willing to help defend Taiwan against China, but also whether the US is militarily capable of doing so. When it comes to defense spending, the US stands alone. In 2022, the United States once again spent by far the most on defense. US military spending in 2022 was \$877 billion, which was 39 percent of the total global military spending and three times more than the amount spent by China (\$292 billion in 2022). Russia spent approximately \$86.4 billion in 2022 (SIPRI, 2023). While the military power of the US is enormous, the US has global interests and obligations. Meanwhile, China has the largest navy fleet in the world, which unlike the US fleet, will be deployed regionally – in and around Asia. Regionally, China has an advantage, and Taiwan – where it could come to a confrontation with the US – is located at a short distance from China. The war in Ukraine and a possible war in Asia, for example, over Taiwan, can no longer be seen separately.

If there is a direct confrontation between the US and China in Asia, for example, over the Taiwan issue, it means a serious escalation, and China and Russia will form a military alliance, with Russia focusing mainly on Europe and China on Asia, it can be assumed. It is expected that (certainly) *Iran* and possibly also *North Korea* will then (eventually) join such a military alliance between China and Russia: Both countries already supply significant arsenals to Russia in support of the war against Ukraine.

In the context of President Xi's visit to Moscow in March 2023, Putin stated that he considers cooperation between Russia and China as an essential counterweight to the West trying to dominate Eastern Europe and the Indo-Pacific region to hinder the development of Russia and China. According to Russian President Putin, relations between Russia and China are now the cornerstone of regional and global stability.

For the US, an alliance between China and Russia could mean a *two-front war*. In the event of such a two-front war, the US must divide its capabilities between Asia and Europe; prioritization is inevitable. It is certainly also a realistic assumption that the US will be forced to deploy its forces in the Middle East.

The US would then operate on the so-called *strategic outer lines*, while China and Russia would operate on the *inner lines*.

Likely, in a next systemic war, as was the case with other systemic wars, there will be multiple so-called '*war theaters*'; larger areas where war is waged. Eastern Europe, possibly in combination with Southeast Europe, will be such an area, as well as the South and East China Seas, and possibly also the Middle East, where the rivalry between Iran and Saudi Arabia is also an issue. Moreover, the Middle East is important for Europe and certainly for China for oil supplies.

Russia will mainly focus on Europe to expand its spheres of influence westward. China and Russia have an interest in a two-front war, forcing the US to divide its attention and forces. We must not lose sight of the fact that while China and Russia may cooperate now and may form an alliance eventually, they are not natural allies. The common enemy America unites them, but it does not go much deeper. Europe is a great prize for Russia, but it is also for China.

The US will have to prioritize. In the event of escalation, **it will be *Asia First* for the US, not *Europe First***, as was the case during World War II. That the US gives priority to Asia should not be surprising: Asia is the core of the global state system; not only because the majority of the world's population lives there but also because the region is developing rapidly and strongly (with occasional hiccups and setbacks). China is the major rival of the US, not Russia. **In the case of *Asia First*, Europe is to a large extent left to its own devices but is not prepared for that.** This is not only naive but given the current situation and developments, and what is at stake, also highly negligent.

There is, however, another scenario in which Europe might suddenly find itself alone, namely if a future American president like former president Trump believes that Europe should handle the issue with Russia on its own. It is reasonable for Europe to be expected to do so,

provided that Europe takes rapid steps to organize a European defense force. According to the aforementioned SIPRI report, NATO member states collectively spent \$1.232 trillion on defense in 2022, and European member states (the NATO total minus the contributions of the US and Canada) spent \$328.1 billion, compared to \$86.4 billion by Russia. However, due to the fragmentation of capabilities, lack of cooperation, etc., this does not result in an effective European combat force.

**For the countries of Europe, the sum of individual defense budgets is much less than the whole.** While the military capabilities exist, the political will and decisiveness to cooperate are lacking, despite the evident threat from Russia and possibly China.

**In any case, this is clear: Recent developments indicate that various issues are becoming increasingly intertwined, and more and more great powers are actively involved in these issues. The network of these issues, involved states, and associated tensions now spans virtually the entire global state system. A small push – a local incident – can then set off a domino effect.**

In this network of issues, the US has the greatest *network centrality* of all great powers. For example, in *the war in Ukraine*, Russia, the US, China, and Europe are involved; in *the Taiwan issue*: China and the US; in the Gaza war: the US and Europe; in *the related Iran issue*: the US, Russia, and China; in *the Israel issue*: the US; and in *North Korea*: the US, China, and Russia. The US is involved in all these issues – and many more – and is the most central great power in this network, as I noted. The involved great powers have taken an explicit stance on these issues, thereby tying their reputation to the outcome of these issues. This makes it more complicated: this network of issues leaves no room for maneuver.

(3) **Increasing dysfunctionality of the United Nations is the third development** whose consequences we are currently experiencing. This process – the decline of the international order, now including the United Nations – is also part of the final phase of an adaptive cycle. The international order belongs to *System 1* and was established through the last (the fourth) systemic war (World War II). The privileges that great powers granted themselves in 1945, such as a permanent seat on the *Security Council* with *veto power* and 'legal' possession of nuclear weapons, are outdated and therefore increasingly strained.

An important deliberately built-in limitation of the United Nations is that it was founded to preserve the status quo of 1945 and to restore the existing balance in case of disruptions and incidents. For that reason, the United Nations lacks a political mechanism and process to change itself fundamentally, including the rules of the international order. However, as I explained, (further) decay is unavoidable.

Until around 2011, when the tipping point of the cycle was reached, a disruption of the balance (of power) could still be reasonably restored. Now, that is no longer the case: various issues remain unresolved and accumulate. So now, not only the differentiated development of states and great powers contributes to the undermining of the balance in the international system, but also the United Nations itself – the international order – which is increasingly stagnating. Any attempt to intervene by and in the United Nations is prevented by a veto.

(4) ***The fourth development concerns the process of disintegration and fragmentation***,

which is also characteristic of the final phase of a cycle. The current *disintegration and fragmentation* cannot be separated from the intense rivalry between the US and China and the increasing dysfunctionality of the United Nations. This disintegration and fragmentation manifest in various ways, some of which I will mention.

*Firstly, there is the economic decoupling of the US and China, leading to the world potentially splitting into rival economic blocs: a Western bloc and a Sino-Russian bloc. Due to tensions between the US and China and the Russian invasion of Ukraine, institutions like the IMF and World Bank are also under pressure. "Capital flows and investments are increasingly taking place between clubs of friendly countries. In a scenario where this trend continues, the world will ultimately be 7 percent poorer, as calculated by economists at the International Monetary Fund. Thus, the 'geo-economic fragmentation' that the IMF is concerned about is penetrating into the daily work of the institution itself" (Beunderman, 2023).*

Additionally, there is now (2023) an impasse surrounding debt restructuring for countries. Dozens of the world's most vulnerable economies have excessive debt burdens and thus default. However, the International Monetary Fund cannot help them because China (one of the world's largest creditors) cannot reach an agreement with Western countries on the terms for emergency aid. The two parties blame each other, resulting in the suffering of hundreds of millions of people.

**Economic decoupling – and the increased autonomy it provides – removes a barrier to war. This process also aligns with the lead-up to a systemic crisis.**

*Secondly, I mention the termination and non-renewal of several agreements, such as the deals the US had made with Iran regarding its nuclear ambitions; the US's withdrawal from the climate agreement established in Paris in 2015; the suspension of the Intermediate-Range Nuclear Forces Treaty in 2019 by the US; the termination of the Open Skies Treaty in 2020 by the US; and the suspension by Russian President Putin in 2023 of negotiations on the New START treaty on nuclear weapons. It seems that Putin's setbacks since the beginning of the war in Ukraine (February 2022) likely play a role in this decision. Russia derives its status as a great power not (anymore) from its conventional military capability or economic power but solely from its nuclear arsenal. It also appears that nuclear blackmail works. With a number of (mostly implicit) remarks about the use of tactical nuclear weapons, Putin keeps the US and NATO at bay. Analysts fear that Putin's success with this nuclear blackmail encourages China to use it as well, for example, regarding Taiwan (Sanger et al., 2023).*

Regarding *nuclear blackmail*, some observations from historian Snyder are relevant. The direct consequence of Putin's successful nuclear blackmail and the fear of escalation was not only that NATO limited itself to supplying weapons to Ukraine, but also that weapon systems that could have made a difference were not supplied. If they had been delivered at the time, a victory for Ukraine in 2022 would have been a realistic option. Eventually, these weapons (such as tanks and artillery systems, Patriot air defense systems, etc.) were delivered without negative consequences (Snyder, 2003). When it comes to nuclear escalation, Snyder observes that "*Russian nuclear propaganda is based on false assumptions. Russian nuclear propaganda assumes that the bully always wins. But the bully does not always win. Russian*

*propagandists want us to think that nuclear powers can never lose wars, based on the logic that they can always use nuclear weapons to win. This is an ahistorical fantasy. Nuclear weapons did not bring about French victory in Algeria, nor did they preserve the British Empire. The Soviet Union lost the war in Afghanistan. America lost in Vietnam and in Iraq and in Afghanistan. Israel failed to win in Lebanon. Nuclear powers regularly lose wars". And further: "By taking nuclear blackmail seriously, we have only increased the overall unpredictability of a nuclear war. If nuclear blackmail makes a Russian victory possible, the consequences will be unimaginably terrible. If a nuclear-armed country can do whatever it wants, the law means nothing, no international order is possible, and catastrophe is always looming. Countries without nuclear weapons will have to build them, based on the logic that they will need nuclear deterrence in the future. Nuclear proliferation also makes a nuclear war in the future much more likely".*

If Russia were to decide to detonate or deploy a nuclear weapon, according to Snyder, Russia would lose its "*carefully cherished status as a superpower*". Such an act would be an acknowledgment that its military has been defeated—a tremendous loss of face. Furthermore, neighboring countries would then build their own nuclear arsenals. This would, in the minds of Russians themselves, strip Russia of its status as a superpower. That is precisely the only unacceptable outcome of this war for Russian leaders (Snyder, 2023).

The *third* example of *increasing disintegration and fragmentation* is closer to home: the number of political parties with seats in the Second Chamber of the parliament has greatly increased. After the 2006 elections, there were ten parties with seats, but in 2023, there are seventeen. Finally, in the context of disintegration and fragmentation, **Brexit** (2020) is worth mentioning.

(5) **Radicalization and terrorism**. A *fifth* development that belongs in this overview is *radicalization and terrorism*. Radicalization is a process whereby an individual or group increasingly adopts beliefs that are at odds with the legal order or deviate from prevalent cultural norms. **Terrorism** involves the use of violence or the threat of violence to instill fear, not only among its victims but also among the general public. Often, such acts are motivated by political or religious reasons. Terrorist actions often target specific population groups, such as those with specific religious or political beliefs, or institutions and symbols representing certain religious or political ideologies. Through terrorist actions, efforts are made to escalate tension to create a political playing field or to influence political decision-making.

Terrorist actions always seek publicity, not only to draw attention to their cause but also to instill fear. With terrorist actions, terrorist organizations and their ideologies gain a platform. Terrorism, therefore, aims to influence public opinion, thereby gaining leverage. Often, attempts are made to undermine the legitimacy of the 'sitting' authority by demonstrating its (the state's, the government's) inability to ensure the safety of its own citizens or by compelling the authority to take countermeasures that affect the civilian population and could therefore be counterproductive for that authority. Tried and tested methods include (bomb) attacks, suicide bombings, hostage-taking, hijackings, and kidnappings. Radicalization and terrorism often go hand in hand; while not every radical is a terrorist, every terrorist is radicalized.



Since 2011, the *tipping point* of the first global war cycle, there has been a significant increase in terrorist activity, as evidenced by the global terrorism database. The question is whether this increase in terrorist activity since 2011 is related to the tipping point (in 2011) and the accumulation of tensions that began then. That could be the case.

When it comes to *radicalization and terrorism*—and the current condition of the international system—the **mass shootings in the US** are also relevant. The perpetrators of these shootings hold radical ideas, and sometimes there is a terrorist (political) motive. **While these mass shootings may not directly affect us, they are cause for great concern. After all, the US is the guardian of the current international order, but it is meanwhile grappling with significant internal problems: radicalization and a highly polarized political system, which is no longer functioning effectively. Consequently, the US is increasingly becoming discredited and is no longer a source of inspiration for the rest of the world.**

The question is, what is happening there with those mass shootings? To better understand this, I examined a database documenting characteristics of mass shootings during the period 1982-2019 (Piepers, 2019). I used insights and methods discussed in Chapter 2 of this book.

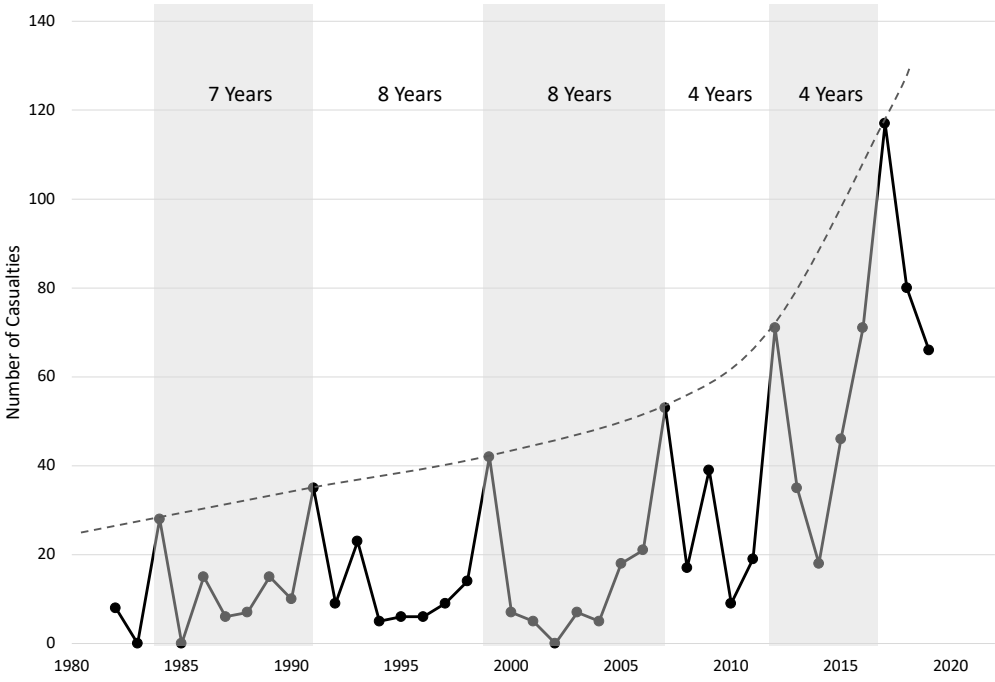
It turns out there is a certain pattern—again, cycles—when it comes to the number of victims of these shootings. During that period, three cycles of eight years can be identified, followed by cycles of four years, which are then followed by a more chaotic period. As these cycles accelerate, the number of victims per cycle increases more rapidly, with remarkable regularity. These patterns demonstrate that there is systemic dynamics at play. There appears to be a correlation with American election cycles, which always generate tensions because various fundamental beliefs about the (re)organization of society are 'magnified' and brought to a head during that time.

In this dynamic, attitudes towards the right to self-defense in American society also play a role, as enshrined in the *Second Amendment of the US Constitution*. That amendment reads as follows: “*A well regulated militia being necessary to the security of a free State, the right of the People to keep and bear arms shall not be infringed.*” In essence, militias are deemed necessary for the security of a state (in the US), and therefore, gun ownership is permitted, and those weapons may also be carried. **This means that in the US, there is no (complete) monopoly on violence by the state; there is an ambivalent situation that allows for individual interpretation of (self)defense.**

**The mass shootings thus appear to be endogenous behavior inherent in the rules and dynamics of American society and the state.** Tensions generate mass shootings, which in turn generate more tensions. That 'system' perpetuates itself. As mentioned, there has been an acceleration in that pattern since 1982, and an accelerating increase in the number of victims per cycle. These mass shootings contribute to polarization in American society, which consequently continues to fragment further.

While this is indeed typical dynamics of American society, this 'internal' dynamic cannot be seen in isolation from the buildup of tensions in the state system and vice versa. After all, the

US is the most powerful and influential superpower with global interests; it cannot isolate itself from its environment, as it is too dependent on the same environment.



**Figure 6:** This image depicts the number of victims of mass shootings in the US during the period 1982-2019 (Piepers, 2019). These mass shootings can be seen as a form of emergent tension regulation in American society. There appears to be pattern formation. Initially, there were three cycles with durations of seven, eight, and eight years, respectively, followed by two cycles of four years each. It seems that in 2007, there was a doubling of the period in mass shooting dynamics due to an increase in tensions in society. The peaks of victims always occur in or around an election year (plus or minus one year). It is also noteworthy that during the period 1982-2019, there is an exponential increase in the number of victims in peak years. This analysis shows that the political orientation of the President of the US – Democrat or Republican – has no influence on this dynamic; emergent system behavior is evident here as well. Further tension buildup may result in mass shooting dynamics with chaotic characteristics. That phase appears to have already begun.

(6) ***The Sustainability of Pax Americana.*** Considering current developments, the question arises regarding *the sustainability and future of Pax Americana*. Can it withstand the challenges posed by China and Russia, also in the light of its political dysfunction?

The current international order established under the leadership of President Franklin Roosevelt (1882-1945) in 1945 is primarily an American international order. Hence, it is referred to as *Pax Americana* or by the US itself as the rules-based system. *Pax Americana* literally means American Peace. The term is inspired by similar terms such as *Pax Romana* and *Pax Britannica*, referring to periods of peace and prosperity when the Romans and Great Britain were dominant. *Pax Americana* also safeguards our own European values and interests.

*Pax Americana* is associated with a series of initiatives and developments, such as the formation and organization of the *United Nations*; the *International Monetary Fund*; the *World Bank*; *NATO*; the spread of *democracy, capitalism, and human rights* with American support and *interventions*; the *Cold War* and *mutual assured destruction*; the role of the

world's policeman; *terrorist attacks* on the US, *the attack on Iraq in 2003*, and new challenges such as *climate change* and *rivalries* with China and Russia.

However, Pax Americana is not faring well. Here are a few examples of why this is the case:

- China and Russia are challenging the hegemonic position of the US and are striving for a new international order.
- The current international order is being undermined by the US itself. An example is the 2003 attack on Iraq, where the US attempted to legitimize it in the United Nations based on inaccurate information. Another example are the double standards the US applies in regards to (alleged) war crimes by president Putin (Russia), and by prime-minister Netanyahu (Israel).
- The lost war in Afghanistan (2001-2021) and the unexpected and chaotic withdrawal of the US and NATO from the country in 2021. This war yielded nothing and contributed to the destabilization of the region, despite the deployment of US military power and NATO support, for twenty years.
- The suspension of support to Ukraine by the US, due to political dysfunction and despite explicit promises like 'as long as it takes'.
- The decline of democracy and human rights worldwide, undermining the legitimacy and attractiveness of American leadership. In the narrative of the US, even when it comes to rivalry with China and Russia, the US claims to stand out because it is democratic. Technically, this is true, but the US repeatedly makes headlines with its polarized and dysfunctional political system, the rejection and undermining of election results by Trump, corruption scandals, social unrest, inequality, discrimination, and an endless series of mass shootings. As a result, the US has suffered reputational damage. This news and these images are not only associated with the US but also with democracy as a political system, and therefore with us. This does not help. Despite Russian aggression in Eastern Europe and Russia's evident violations of the United Nations Charter and human rights and international law, the US and Europe, have not fared well in international public opinion, as indicated by several recent studies.
- The framing of the current crisis by the US, which portrays it as an existential struggle between democracy and autocracy and presents the US as the defender of the current international order, is incorrect and ineffective. The authoritarian alliance appears to have significant potential popular support, as was (at least temporarily) evidenced by the growing influence of Russia and the Wagner Group in Africa. Putin's portrayal of a war provoked by the West threatening the existence of Russia has resonated with some influential countries such as India and Brazil. These countries believe that the US also carries out various interventions worldwide and they refuse to take sides. China exploits the vulnerability of the US and Pax Americana, using its state media to influence public opinion, highlighting the 'dangers' and 'abuses' of American hegemony, criticizing the US for human rights, racism, and gun violence. China also points to leaked Pentagon documents showing Washington's surveillance of its allies. President Biden's attempts to organize a summit on democracy have been mocked. China's efforts to publicly discredit the US while strengthening ties with American allies illustrate Beijing's hardening stance. Relations with the US have

reached a low point, with President Xi referring to the "*encirclement, containment, and suppression of China*" by the US.

The sustainability of Pax America has reached its limit, and fundamental renewal of that order is urgently needed.

(7) ***Consequences of climate change***. The *seventh* development influencing the dynamics of the current cycle and likely future cycles is climate change and its global consequences. Climate change and its effects also impact state relations and contribute to tension buildup. Here are some consequences that will reinforce each other: an increase in extreme weather events, famine, and poverty, rising numbers of refugees, failed harvests, political unrest, and conflicts over scarce resources (such as water).

**Climate change and its consequences are a global problem that requires a global response.** The window of opportunity, the time and space to turn the tide (literally as well) and prevent global warming from exceeding 1.5 degrees Celsius, is very limited and may have already passed. That 1.5-degree mark signifies the point at which we will no longer be able to contain global damage to any significant extent. This existential crisis occurs when our ability to act collectively on a global scale is lacking.

**Ironically, a systemic crisis aiming for a new international order can be functional and even necessary to address climate change and its consequences collectively – that is, globally. In this new international order, binding agreements must be made, and the international community must have sufficient governance capacity to intervene effectively.** I will come back to this later.

Below is an overview of some risks for continents and regions. This overview is included in the summary for policymakers of the *IPCC AR6 Synthesis Report*. This report is the culmination of the *6th assessment cycle* (AR6, 2015–2023) of the *Intergovernmental Panel on Climate Change* (IPCC) of the United Nations.

This overview shows that "*the most vulnerable people and systems are disproportionately affected*", even though they have contributed the least to the cause of the problem.

A quote from the report states:

*"Vulnerability of ecosystems and people to climate change differs substantially among and within regions (very high confidence), driven by patterns of intersecting socioeconomic development, unsustainable ocean and land use, inequity, marginalization, historical and ongoing patterns of inequity such as colonialism, and governance (high confidence). Approximately 3.3 to 3.6 billion people live in contexts that are highly vulnerable to climate change (high confidence). A high proportion of species is vulnerable to climate change (high confidence). Human and ecosystem vulnerability are interdependent (high confidence). Current unsustainable development patterns are increasing exposure of ecosystems and people to climate hazards (high confidence)."* (IPCC, Report II, summary for policy makers, 2023).

Region	Impacts
Small Islands	<p>Loss of terrestrial, marine and coastal biodiversity and ecosystem services</p> <p>Loss of lives and assets, risk to food security and economic disruption due to destruction of settlements and infrastructure</p> <p>Economic decline and livelihood failure of fisheries, agriculture, tourism and from biodiversity loss from traditional agroecosystems</p> <p>Reduced habitability of reef and non-reef islands leading to increased displacement</p> <p>Risk to water security in almost every small island</p>
North America	<p>Climate-sensitive mental health outcomes, human mortality and morbidity due to increasing average temperature, weather and climate extremes, and compound climate hazards</p> <p>Risk of degradation of marine, coastal and terrestrial ecosystems, including loss of biodiversity, function, and protective services</p> <p>Risk to freshwater resources with consequences for ecosystems, reduced surface water availability for irrigated agriculture, other human uses, and degraded water quality</p> <p>Risk to food and nutritional security through changes in agriculture, livestock, hunting, fisheries, and aquaculture productivity and access</p> <p>Risks to well-being, livelihoods and economic activities from cascading and compounding climate hazards, including risks to coastal cities, settlements and infrastructure from sea level rise</p>
Europe	<p>Risks to people, economies and infrastructures due to coastal and inland flooding</p> <p>Stress and mortality to people due to increasing temperatures and heat extremes</p> <p>Marine and terrestrial ecosystems disruptions</p> <p>Water scarcity to multiple interconnected sectors</p> <p>Losses in crop production, due to compound heat and dry conditions, and extreme weather</p>
Central and South America	<p>Risk to water security</p> <p>Severe health effects due to increasing epidemics, in particular vector-borne diseases</p> <p>Coral reef ecosystems degradation due to coral bleaching</p> <p>Risk to food security due to frequent/extreme droughts</p> <p>Damages to life and infrastructure due to floods, landslides, sea level rise, storm surges and coastal erosion</p>
Australia	<p>Degradation of tropical shallow coral reefs and associated biodiversity and ecosystem service values</p> <p>Loss of human and natural systems in low-lying coastal areas due to sea level rise</p> <p>Impact on livelihoods and incomes due to decline in agricultural production</p> <p>Increase in heat-related mortality and morbidity for people and wildlife</p> <p>Loss of alpine biodiversity in Australia due to less snow</p>
Asia	<p>Urban infrastructure damage and impacts on human well-being and health due to flooding, especially in coastal cities and settlements</p> <p>Biodiversity loss and habitat shifts as well as associated disruptions in dependent human systems across freshwater, land, and ocean ecosystems</p> <p>More frequent, extensive coral bleaching and subsequent coral mortality induced by ocean warming and acidification, sea level rise, marine heat waves and resource extraction</p> <p>Decline in coastal fishery resources due to sea level rise, decrease in precipitation in some parts and increase in temperature</p> <p>Risk to food and water security due to increased temperature extremes, rainfall variability and drought</p>
Africa	<p>Species extinction and reduction or irreversible loss of ecosystems and their services, including freshwater, land and ocean ecosystems</p> <p>Risk to food security, risk of malnutrition (micronutrient deficiency), and loss of livelihood due to reduced food production from crops, livestock and fisheries</p> <p>Risks to marine ecosystem health and to livelihoods in coastal communities</p> <p>Increased human mortality and morbidity due to increased heat and infectious diseases (including vector-borne and diarrhoeal diseases)</p> <p>Reduced economic output and growth, and increased inequality and poverty rates</p> <p>Increased risk to water and energy security due to drought and heat</p>

**Table 1: This is an overview of the consequences of climate change for various regions on Earth.**

According to the IPCC, the pace and scale of measures already taken and existing plans are inadequate (IPCC, 2023). There is one last chance to change course, says the new report. Industrialized countries must immediately collaborate to roughly halve greenhouse gas emissions by 2030 and completely stop adding carbon dioxide to the atmosphere by the early 2050s. If these two steps were taken, the world would have about a 50 percent chance

of limiting warming to 1.5 degrees Celsius. That seems like an illusion to me, and it is unfortunately very likely that the threshold will be exceeded in the short term.

**Meanwhile, it has been determined that this synthesis is unfortunately still too optimistic** and that "*Many feedback loops significantly increase warming due to greenhouse gas emissions. However, not all of these feedbacks are fully accounted for in climate models. Thus, associated mitigation pathways could fail to sufficiently limit temperatures. A targeted expansion of research and an accelerated reduction of emissions are needed to minimize risks*" (Ripple et al. 2023).

(8) ***Continuation of exponential population growth and fragile states***. A final - the *eight* - factor influencing the dynamics of the current cycle and certainly those thereafter is *population growth*. The world's population reached eight billion by the end of 2022 and is projected to grow to nearly 10 billion by 2050 and to 10.5 billion around 2100. Population growth varies by country and region, with significant growth occurring in Africa and several countries in Asia. These are often referred to as fragile states, meaning states that are unable to meet some basic needs of their population.

The *Fund for Peace* (FFP) works on conflict prevention and promoting sustainable security worldwide, specializing in building early warning networks and systems in complex environments. To this end, the FFP collaborates with local and international partners, collecting and analyzing local, national, and regional data and trends. One of FFP's annual publications is the ***Fragile States Index***. The Fragile States Index assesses political risks and provides early warning of conflicts accessible to policymakers and the public.

According to the Fragile States Index Report 2022, the lessons of 2020 and 2021 broadly include:

- Public trust in democratic institutions has been eroded, contributing to an increase in social and political polarization in both rich and poor countries worldwide, which has led to an increase in authoritarianism.
- This is a bad omen for the resilience of countries and their ability to manage the next shock and subsequent recovery. Without an improvement in scores for social and political cohesion, even wealthy countries can destabilize.
- The fragility of states was seen as something that needed to be confined to developing countries so that fragility did not spread to wealthy countries. Now we are discovering that fragility can spread in both directions: war in Europe can lead to food crises in Africa. A pandemic can spread just as easily from north to south. The same goes for xenophobic nationalism and violent extremism. Fragility is something that needs to be addressed everywhere simultaneously, and the core of that strategy should focus on social and political cohesion and inclusivity.

We can ascertain that the current situation is very problematic, and the prospects are not particularly favorable. There is intense rivalry between the two most powerful and dominant great powers in the international system, the US and China, both supported by allies and alliances that are increasingly polarizing. The current international order is dysfunctional, faltering, and declared a stake in the rivalries between the US and China; there is

disintegration, fragmentation, and radicalization, also internally in the US; the severe consequences of climate change are unstoppable, with no prospect of the global cooperation needed to address it; meanwhile, the world's population has reached eight billion, all of whom want and deserve a decent life.

### 3.7 The onset and contours of the next systemic war

The four preceding cycles reached a critical state when the average size of non-systemic wars reached a minimal value after passing the tipping point (Piepers, 2016). This data was used to determine when the current cycle, the first cycle of the global state system that started in 1945, reaches its critical point<sup>10</sup>. According to this method, the international system reaches a critical state in 2020 +/- two years (Piepers, 2016). According to the orthodox approach as well, a hegemonic war is a matter of (short) time (Gilpin, 1981), as I have discussed. The war in Ukraine, which started in 2022, and the war in Gaza, are likely the first wars in a series of wars that we can expect in the coming period, which together form a systemic war. Just like the four preceding systemic wars, this systemic war involves a new international order.

**Although the underlying *System 2* process is the same for all systemic wars, the dynamics in *System 1* differ, as shown by the differences between the start and beginning phase of World War I and World War II.**

*World War I* had a **rapid start** in *System 1*; a relatively minor incident, the assassination of Archduke Franz Ferdinand on June 28, 1914, in Sarajevo, resulted in a rapid escalation. Just six weeks later, all European major powers were actively involved in war operations and/or concrete preparations for them. *World War II*, on the other hand, had a **slower start**: that war escalated in fits and starts, during a couple of years (1939-1941). However, World War II was not as surprising as World War I (Carr, 1939). From the early 1930s, the *Treaty of Versailles* (1919) was already not being adhered to by Germany. In 1933, Hitler decided that Germany would leave the League of Nations and started rearmament, in violation of the Treaty of Versailles. In 1936, Germany occupied the Rhineland, in violation of *the treaties of Versailles and Locarno*, and in 1938, the '*Anschluss*' (joining) of Austria into the *German Reich* occurred. Later that year, parts of Czechoslovakia were occupied. These actions pushed the European state system to the critical point reached in 1939.

While it took about six weeks from the starting shot to the active involvement of all European major powers in war activity for World War I, it was different for World War II. That process was slower: September 1, 1939, can be considered the starting shot when Germany invaded Poland. The Soviet Union subsequently attacked Poland on September 17, 1941. Although the United Kingdom and France declared war on Germany on September 3, 1939, it was not until May 10, 1940, that the United Kingdom and France became actively involved in land war activity (at sea, there had already been war activity since 1939). Italy had also still the status of a major power and became actively involved in World War II by signing the

---

<sup>10</sup> If it now turns out that there is no systemic war, there are a number of options: The model and/or assumptions underlying this are incorrect, and/or the model is based on incorrect ratios, and/or the data I am using is incorrect. Then the model must be rejected or adjusted. That's science, and this is how the theory building process works. A theory must make correct predictions.

*Tripartite Pact* with Germany and Japan on September 27, 1940. The fourth European systemic war (later called World War II) thus got off to a slower start than the third systemic war (World War I). This still *European* systemic war (note: the three preceding systemic wars, were in fact all *European* systemic wars) then escalated into a full-blown global systemic war in December 1941, when Japan attacked Pearl Harbor on December 7 and Germany subsequently declared war on the US on December 11, 1941. It could only be determined afterwards that World War II started on September 1, 1939.

The question now is how the next systemic war will start, more specifically: when the other great powers in the system (China, the US, India, the United Kingdom, France, and Germany) will directly participate in war activities. There is some uncertainty for two reasons. First, the question is how to define the support of the US, the United Kingdom, France, and Germany to Ukraine (can we already speak of direct involvement in war activities)? Second, the question is whether this war may have already started in *cyberspace*<sup>11</sup>, as claimed by Huib Modderkolk in his book titled "*It is war but nobody who sees it*" (Modderkolk, 2019). The trade war between the US and China may also already be part of the systemic crisis and is at least a precursor to it.

Based on the understanding of the dynamics of the underlying *System 2*, it is not only possible to give an indication of when the global state system has reached a critical state (2020 +/- two years) but also to give **an indication of the potential duration of the systemic crisis/war that results**. To get an indication of this, the typical and regular dynamics of the four preceding cycles (1500-1945), and the patterns that result, may be helpful. If the deviations in the development of the second cycle (1648-1815) caused by abnormal war dynamics during the period 1657-1763 are corrected (Piepers, 2016), it appears that the duration of a relatively stable period and subsequent systemic war belonging to the same cycle, are in a **fixed ratio** to each other. This is the case for all four cycles. Although the four cycles accelerated with some regularity, the duration of the two components did so as well. For those four cycles, the ratio between the duration of a relatively stable period and the duration of the subsequent systemic crisis/war is about 0.22.

Assuming the global state system that started in 1945 functions in the same way as its predecessor – and there is no indication to the contrary – a fairly accurate indication of the duration of the next systemic war can be obtained if the duration of the preceding relatively stable period is known. **The indicative duration of the systemic war that has now started is about 17 years**. The calculation is as follows: the relatively stable period started in 1945 and reached its critical point in 2022. This results in a lifespan of this relatively stable period from 1945 to 2022, which is 77 years. Because the ratio is 0.22, this results in a duration for the systemic war of (rounded) 17 years ( $0.22 \times 77 = 16.9$ ). **This is therefore, the time needed for the international system to find a new equilibrium and anchor it in a new international order.**

**The fact that there is a systemic crisis/war, that the stake of that systemic war is a new international order, that this war will last almost twenty years, and that the War in Ukraine is part of it (note: Putin and Xi say so in so many words), is important information on which**

---

<sup>11</sup> Cyberspace is considered a new war domain, through which not only disinformation is spread, but also physical damage is caused to the opponent/enemy through (cyber)sabotage ('hacks').



**to anticipate. I will return to this when answering the question of what we should do now given the situation.**

When talking about the contours of this systemic war, I am referring to how this systemic war might unfold. Statements about this are, of course, speculative because they concern *System 1* and because *chance* (contingency) plays a role in *System 1* as well as the use of *contingent latitude* by actors.

**Due to the high degree of fragmentation and instability in the international system, but also, for example, in the US, this systemic war will probably resemble the first systemic war (the Thirty Years' War, 1618-1648) in several important respects, rather than the fourth high-intensity systemic war (World War II, 1939-1945). This would mean that during this systemic war, relative calm periods ('pauses') are alternated with (intense) war activities, as was the case during the Thirty Years' War.**

When it comes to *alliance formation*, it appears that at least two and possibly three alliances are forming: (1) an alliance with the US, Canada, and a series of European allies, Australia, and Japan; (2) an alliance with China, Russia, Iran, and possibly including North Korea, and (3) an alliance with e.g. India, Indonesia, and Brazil. Although the military capacity of the third alliance is limited, this alliance derives power and influence from geopolitical factors. The choice that countries belonging to the third alliance can make to join an alliance led by the US or China could have significant consequences for the outcome of that confrontation. This is certainly true for the choice of India, given its geographical location, population size, rapidly growing economy, and its own arsenal of nuclear weapons.

My assessment is - but this is System 1 speculation - that India will (in due course) lean towards the US. It is crowded in Asia, and China has large ambitions that will eventually come at the expense of India. In a war between the US and China in Asia, India can play a crucial role for the US. India can threaten southwestern China and force China to station military capabilities there. Moreover, India has a considerable navy – large enough to trouble China – that can be directed to the South China Sea. What Russia can do for China; India can do to a certain extent for the US.

This *System 1* analysis is based on the analysis of *System 2*, but when it comes to System 1, some speculation is always inevitable. But if we do it this way - based on insights in the functioning of *System 2* - it's no longer about instinctive reasoning but about informed reasoning.

To conclude this chapter, I will answer the question "*What is happening now?*" using the new paradigm that I have discussed in previous chapters.

Based on the orthodox approach, it can be determined that a hegemonic war is a matter of (short) time. As far as preconditions for that type of war identified by orthodox researchers are concerned, they have been met. Also, the erosion of the power structure of the current international system is evident, linking lower-order conflicts and wars to a system-forming global war (Geller et al. 1998).

The new paradigm adds several important insights to the orthodox approach. From a *System 2* perspective, there are indications that the first cycle of the global state system has reached a critical state, which will result in a global systemic crisis and associated systemic war. The stake of that systemic war is a new international order. Based on analysis of the four preceding cycles, that critical state – that systemic crisis – will last almost twenty years.

**Given this worrying situation, the question is *what we can do about it*. We are now confronted with two existential crises: the climate crisis and its destructive consequences, and a systemic war in the short term, which could have disastrous consequences in the event of nuclear escalation. Moreover, this systemic war is not the last, and a second self-destructive finite-time singularity (like its predecessor in 1939) is inevitable if the second dissipative structure is not stopped. Our efforts must be aimed at safeguarding our values and interests and at breaking through the *System 2* dynamics by which we are enslaved.**

**A paradigm shift - not imposed by the system, but 'man-made' - is necessary to break the war trap we are an integral part of.**

## CHAPTER 4

### WHAT CAN WE DO NOW?

#### 4.1 Introduction

In this and the next chapter, I will successively answer the questions of *what we can do given the situation and developments*, and *what actions we should now take*. The "can-do" question is about the influenceability of the international system. Is it possible at all to influence such a renewal process – that is, the creation of a new international order? To answer this question, it is necessary to examine in detail how an international order comes into being during a systemic crisis/war. For this purpose, I use the establishment of the United Nations as an example. Naturally, there will be significant differences between the creation of international orders in the past and now, but there will undoubtedly also be a number of important similarities.

After this *case study*, I discuss a so-called *governance*, also referred to as the *control paradigm*, based on a system approach. This governance paradigm has *several components*. Firstly, it is about the *governability*, that is, the *influenceability*, of social and political processes (i.e., *System 1* dynamics) that occur in the international system during a systemic crisis/war; in other words, *what can be governed?*

Secondly, it concerns the governing (administrative) capacity of the state; in other words, how well can it govern when it comes to the creation of a new international order? Thirdly, it concerns a number of *concrete conditions* for effective governance, which must be met to achieve results.

#### 4.2. The Creation of an International Order and the Operation of the Powerful-Become-More-Powerful Effect

This section discusses the creation of new international orders, and particularly the establishment of the United Nations. It will then become clearer what administrative task a state is now facing.

The *Thirty Years' War* (1618-1648), the *French Revolutionary and Napoleonic Wars* (1792-1815), and the *First* (1914-1918) and *Second World War* (1939-1945) were instrumental in the establishment of, respectively, the *principle of sovereignty* (sealed in Münster in 1648); the *Concert of Europe* (Vienna, 1815); the *League of Nations* (Versailles, 1919), and the *United Nations* (San Francisco, 1945).

A systemic war is about a new peace - a new balance of power - and the rules and organization that will then apply to maintain this; that is what is fought for.

Despite differences between these systemic crises/wars, there are also similarities in the process that took place. **In all four cases, there was a combination of warfare – the use of organized violence by armies controlled by the rulers of states – alliance formation, and a**

**political negotiation process.** A systemic war is an integral part of a systemic crisis, that involves (much) more.

**The negotiating position in the creation of an international order is largely determined by successes achieved on the battlefield; whereby allies and alliances play a crucial role. Successful great powers can use their seat at the negotiating table to secure and promote their own interests as much as possible. They will secure their position of great power and influence at that moment in privileges they grant themselves and anchor in the rules of the new international order.** The process of alliance formation, warfare, and political negotiations during World War II is illustrative. I will briefly describe this process.

The *fourth systemic war* (1939-1945) was preceded by a short phase (1918-1939) of intense rivalries and major tension buildup, as discussed, among others, by Carr (Carr, 1939). The *security dilemma* did its work and further escalated tensions in the state system approaching the finite-time singularity (1939). Over time, systemic wars had become increasingly *total*; societies became more and more directly involved in warfare and were (therefore) considered legitimate targets. *Ideologies*, such as fascism, communism, and democracy, did their work, especially in the run-up to and during World War II. These ideologies defined the goals to be pursued, were used to justify actions, and helped mobilize societies.

The German invasion of Poland on September 1, 1939, can be considered the 'starting shot' of the fourth systemic war. This invasion brought the state system to a critical state, and escalation was only a matter of time. The tensions built up during the preceding relatively stable period, the period between the third and fourth systemic wars (1918-1939), now did their work. Following the German attack on Poland, the United Kingdom and France declared war on Germany on September 3, 1939. After this declaration of war, more countries followed suit. However, it remained quiet until early 1940 when Germany invaded Denmark and Norway in April, and on May 10, France, the Netherlands, and Belgium. The period from September 3, 1939, to May 10, 1940, is referred to as the Sitz Krieg and *Phoney War*.

Subsequently, in July 1940, the United Kingdom's turn came. Germany started an air war on July 10, 1940, the Battle of Britain, which ended on October 31, 1941. The German air war was intended as a preparation for *Operation Sea Lion* (*Unternehmen Seelöwe*), the planned German invasion of the United Kingdom.

However, this invasion was canceled by Hitler, and on June 22, 1941, Germany attacked the Soviet Union (Operation Barbarossa). Hitler still hoped to reach an agreement with Churchill, but he was mistaken in this.

Meanwhile, and even before that, a lot more was happening on the other side of the world. Japan had long been pursuing a hegemonic position in Asia. Other major powers, such as the United Kingdom and the US, tried to prevent Japan from achieving this. German aggression in Europe weakened the European colonial powers in Asia, which also suffered reputational damage. Japan took advantage of this. As the war activity in Europe and Asia escalated further, American President *Franklin Delano Roosevelt* (1882-1945, president of the US from 1933 to April 12, 1945) became increasingly worried, especially about German aggression in Europe, where the United Kingdom was now backed into a corner.

Roosevelt was aware of the importance of a certain balance in Europe and Asia and that too powerful (potential) rivals on those continents (Germany and Japan, respectively) would not be in the interest of the US. He also realized that the US and the American economy were increasingly dependent on freely accessible markets and unhindered access to natural resources. The *Great Depression* in the 1930s had confirmed this for Roosevelt. It was difficult and increasingly problematic for the US that European states and major powers – and particularly the *British Empire* – had secured these markets and resources with their colonies. This imposed limitations on the US.

Isolationist tendencies in the US, as expressed, among others, in the *America First* movement, did not yet allow the US to get involved in the European conflict to secure a number of (at least for Roosevelt) evident American interests. That the United Kingdom was backed into a corner was clear to Roosevelt, but due to insufficient political support, he was for the time being limited to arms deliveries to the United Kingdom.

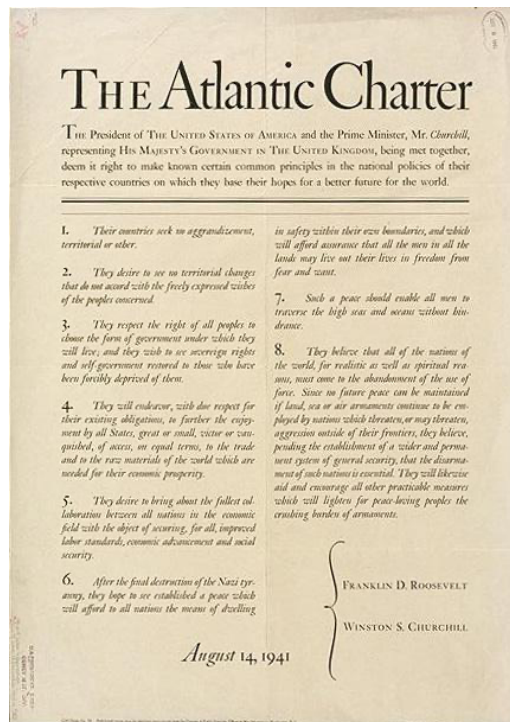
Although Roosevelt's political maneuvering room was still limited, he knew how to use it. Anticipating a war that Roosevelt considered inevitable and just a matter of time, he started forming an alliance. In August 1941, Roosevelt and Churchill met in *Placentia Bay*, near Newfoundland, on the American cruiser USS *Augusta*, to discuss the situation in Europe and Asia and to make concrete agreements, as far as Roosevelt had the political leeway. This meeting was named the *Placentia Bay Conference*.

The timing of this meeting – August 1941 – is important. At that moment, *Operation Barbarossa* was still proceeding according to plan, and Moscow was nearly in sight of the leading German armored units. However, the Japanese attack on *Pearl Harbor* took place four months later, on December 7, 1941.

During the *Placentia Bay Conference*, Roosevelt and Churchill – who was backed into a corner – already set a number of war goals for the inevitable war, which Roosevelt considered a matter of time. These goals included the rules for a new international order that would emerge from the war. This conference laid the foundation for the *United Nations*.

The axioms that war is a continuation – and must be – of politics, and that to govern - to rule - requires anticipation, were understood by Roosevelt like no other. This, combined with Roosevelt's vision and a good understanding of the situation at that time, gave the US political leverage and eventually led to *Pax Americana*.

On August 14, 1941, Roosevelt and Churchill issued a joint statement called the **Atlantic Charter**. This charter was just a single page with eight points. Roosevelt and Churchill declared that (1) the US and the United Kingdom sought no territorial gains, (2) territorial adjustments must be approved by all parties involved, (3) all people should have the right to self-determination, (4) trade barriers should be lowered, (5) there would be worldwide economic cooperation and social welfare, (6) all participants in the Charter would strive for a world free of want, (7) there would be free access to the seas, and (8) aggressive states would be disarmed, and general disarmament would be pursued.



**Figure 7: The Atlantic Charter (1941) (National Archives and Records Administration Records of the Office of Government Reports Record Group 44 ARC Identifier: 513885)**

**By proactively forming an alliance, determining in advance the peace outcomes of an inevitable war (that is, the principles of a next international order), and leveraging the existential threat facing the United Kingdom, Roosevelt was able to steer and maximally influence the entire process. This is how *Pax Americana* was established.**

Roosevelt leveraged the economic and military power of the US and managed to embed the outcomes thereof – also on the battlefield – in international political structures that primarily safeguarded American interests. The *Atlantic Charter* also marked the end of the United Kingdom's exclusive access to markets and resources in its colonies. Churchill had agreed to dismantle the British Empire in exchange for American support during the existential threat faced by the United Kingdom in 1941. On September 24 of the same year (1941), France and the Netherlands, among others, also agreed to this charter, and on January 1, 1942, when the US had been actively participating in the war for less than a month, a large group of countries issued a joint declaration titled: "*Declaration by United Nations*", which laid the groundwork for the United Nations to be established later (which happened on October 24, 1945, in San Francisco).

During World War II, Roosevelt and Churchill met eleven times to determine the political and military course of the war and to make adjustments as needed. There were also a series of discussions – negotiations – between the US, the Soviet Union, and the United Kingdom, also known as the *Big Three*, to make agreements about post-war spheres of influence. These conferences took place in *Tehran* (end of 1943), *Yalta* (February 1945), and *Potsdam* (August 1945, Roosevelt had died on April 12, 1945, and the US was represented by President Truman). These *Big Three* now called the shots, and battlefield successes played a decisive role in this.

American support for the United Kingdom and France was in American interest but came at a price for these countries. The United Kingdom, France, and also the Netherlands received support but were forced to relinquish their colonies. This decision was enshrined in the third clause of the *Atlantic Charter*, the right to self-determination of all peoples. This decision dismantled the European colonial system, a product of the first dissipative structure (1500-1945) and made it possible to set up a global state system. As a result, colonial powers such as the United Kingdom, France, and the Netherlands, reluctantly lost their exclusive access to resources and markets. As mentioned, this was of course in the interest of the US. That was the whole idea.

Based on the results achieved on the battlefield, the *Big Three* rewarded themselves with a series of *privileges* that were enshrined in the *Charter of the United Nations*; France was also allowed to participate. The United Kingdom and France derived their position from their (yet to be dismantled) colonies and their still prominent position in Europe, which the US utilized. China (somewhat later) also assumed a prominent position due to its size and central and strategic position in Asia.

**These major powers appointed themselves as permanent members of the United Nations Security Council and granted themselves the right to veto.** By proposing that the United Kingdom and France also be given permanent membership and veto rights and convincing Stalin that this was a good idea, the US ensured that at least two allies had seats in the *Security Council*. The *Security Council* is tasked with maintaining and enforcing international peace and security, recommending new members of the United Nations to the General Assembly, and approving amendments to the Charter of the United Nations. Besides the five permanent members, there are (since 1965) ten non-permanent members of the Security Council, elected by the General Assembly for a two-year term, with a regional distribution key considered.

This seems somewhat democratic, but it is really just an illusion. If a permanent member of the *Security Council* disagrees with something, it does not proceed. Own interests are always the guideline; the global state system was and is a system of sovereign states that, when it comes down to it, are still responsible for their own interests and security. The five permanent members then cleverly used their privileges, for instance, by determining that only they may 'legally' possess nuclear weapons, as stipulated in the *Non-Proliferation Treaty* (1968).

**Such privileges contribute to the stability of the international order, at least as long as those privileges accurately reflect the actual power relations and spheres of influence in the state system.** Although these privileged great powers (the five permanent members of the *Security Council*) can solidify their power position through these privileges, it eventually becomes contentious. Some great powers decline, and other states develop into great powers and then feel that the international order does not sufficiently safeguard their interests. This results in assertiveness from great powers whose power position is diminishing (now the United Kingdom, France, and Russia) and provocative behavior from emerging great powers with various ambitions, such as China, which now, along with Russia, wants to break the American hegemony.

The issue is that the United Nations, like preceding international orders, was established and organized by the most powerful great powers of the time (1945 in the case of the United Nations) to anchor a favorable status quo for themselves, and to prevent other states from changing it over time. **Any modification of the United Nations itself and the actions the United Nations takes and supports – however sensible – can be easily blocked by a veto from one of the five permanent members. As a result, the United Nations has become part of the problem and now contributes to the buildup of tensions.** This process of decay accelerated since 2011 – when the *tipping point* of the cycle was reached, as I explained. So much for this brief introduction on the formation of the United Nations.

This is a relevant example that helps in answering the question of what we can do now.

**It is important to understand that the establishment of an international order involves the selection of values and principles that underlie that international order, and the ability of states to pursue their own interests. A systemic war is essentially about values that are fought and selected through fierce struggle (war) and competition. It is a selection process where the values and interests of the strongest – the fittest – survive.** If you take your own values and interests seriously, then you cannot afford to lose a systemic war; there is a lot at stake.

I conclude this section with a number of observations. The *first* observation concerns the determinism of the dynamics of the international system, which stems from the underlying *System 2*, and the simultaneous role of chance when it comes to *System 1* dynamics, that is, social and political processes. That President Roosevelt of the United States was able to orchestrate a highly favorable outcome of World War II for the US has everything to do with his approach and his use of the available *contingent latitude*. *Chance* also played a role to a certain extent.

In the determinism of the underlying (*System 2*) dynamics, it was predetermined that Europe would reach a state of equilibrium through a phase transition (1500-1945); the fourth systemic war (World War II) was the last step in that process. During the phase transition, a process of social expansion and integration took place: from hundreds of political entities in 1500 to about 25 states in 1939, to the foundation for one political unity in 1945. This process was imposed on *System 1* by the dissipative structure produced by *System 2*.

During World War II, there were *three candidates* – three ideologies – based on which that single political unity in Europe could have been organized: *fascism, communism, or democracy*, with Germany and Italy, the Soviet Union, and the US and the United Kingdom being the main 'sponsors' respectively. Ultimately, a united Europe based on democratic principles emerged, the implementation of which was somewhat delayed by the Cold War.

**The point here is that the democratic victory was not an inevitable outcome of World War II, no matter how convincingly it is explained in our history books.** Since *chance* also played a role in that selection, it could have certainly turned out differently: if Roosevelt had decided not to help the United Kingdom in the fight against Germany, if Churchill had been willing to strike a deal with Hitler, if the Allied landing on June 6, 1944, in Normandy had not



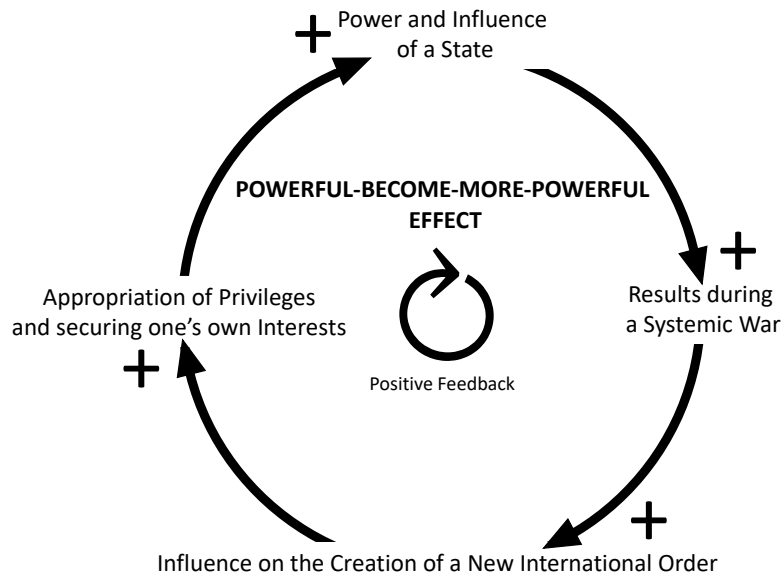
succeeded, or if the Soviet Union had advanced more aggressively in 1944 and 1945, we might have lived in a fascist or communist Europe. **The political and ideological composition of that new European unity is of no concern to System 2.** This example shows that chance matters and that the available contingent latitude for choices in *System 1* must be smartly utilized.

A few comments on *Great men in history* are appropriate here: it's about *chance* and the utilization of contingent latitude. To be clear: "*great*" does *not* refer to the moral values that these great men promote and try to impose but is about the *great impact* - positive or negative, good or bad - on social and political processes.

The ideas of *Great men in history* attribute a significant role to certain individuals. This category includes Napoleon, Hitler, Churchill, Roosevelt, and Zelensky (at least concerning Ukraine), due to the great influence they had and still have on social and political processes and developments (thus on *System 1*).

Through their skills, ideas, and the timing thereof, these Great men in history were able to identify the contingent latitude that *System 2* offers and use it for their own purposes. **The fact that a fourth systemic war took place has nothing to do with these individuals, as that systemic war was produced by System 2.** The variant we now know (in *System 1*) is, however, to a certain extent the outcome of chance and the involvement of Hitler, Churchill, and Roosevelt, among others. **Without them, there would have been a fourth systemic war, but not World War II, the variant of the fourth systemic war as we know it.** A great man in history can give a decisive twist to social and political processes, including the outcome of a war, as Roosevelt did.

The second observation concerns the long-term development of the international system in *System 1*. I'm now referring to the development of successive international orders. Here, **the powerful-become-more-powerful effect** plays a steering role. The operation of the *powerful-become-more-powerful effect* is based on the practice that dominant great powers, which determine the rules of international orders, always grant themselves privileges to safeguard and promote their own interests. If a great power can do this repeatedly, it is able to imprint its stamp on successive international orders.



**Figure 8:** This figure shows the relationship and interaction between four variables that collectively constitute the powerful-become-more-powerful effect. A powerful position of a state during a systemic war provides privileges to that state in the international order that will then be established, which will ensure the interests of this state will be given priority.

The operation of the *powerful-become-more-powerful effect* is based on *path dependence* and *lock-in*. The functioning of this mechanism (the *Path-Dependence-Lock-In* or PDLI mechanism, as I name it) can be explained using a *system dynamics approach*; it involves a combination of positive feedback (self-reinforcing) and entrenchment. PDLI is a pattern in system behavior where small, random events and developments determine its eventual final state, while at the beginning, other final states could also have been possible.

Again, I refer to developments during the period 1500-1945. During the four cycles of the first dissipative structure during that period, Great Britain/the United Kingdom was the only great power involved in determining the rules of all international orders that were established. The United Kingdom was thus able to secure and promote its interests up to four times. In 1939, the European state system was, to a large extent, a British system.

It is useful to consider the long-term effect of the *powerful-become-more-powerful effect*. It emphasizes once again that a lot is at stake in a systemic war, not only for the new international order that is established but also for future international orders, provided that the dissipative structure can continue its course.

However, the United Kingdom's dominant position turned out to be no guarantee of success. The *phase transition* turned out poorly for the United Kingdom and the *British Empire* and a *clone* of the United Kingdom – the US – took over. The United Kingdom had to settle for a *special relationship* with the US.

After joining the *European Community* in 1973, the United Kingdom was formally equated with countries like the Netherlands and Luxembourg. This was painful. In an attempt to play a significant role on the world stage again, the United Kingdom left the European Union in

2020 (Brexit). Not surprisingly, but that is another story, this sentiment-based step did not yield the desired result.

### 4.3. Influence, Governing Capacity, and Complexity

For answering the question of what we can do, the *influenceability* (governability) of the international system and the governing capacity of a state are important; both set limits to achievable results (De Leeuw, 1990).

It is important to recognize limitations and boundaries to prevent formulating policies and strategies that are unfeasible.

Governing is 'targeted influence', to achieve desired outcomes, in this case, a new international order that safeguards and promotes the values and interests of the state concerned. The governing effect is the extent to which intended results are actually achieved.

We can observe that the governing effects, the realization of intended results by states/governments often leave much to be desired. That is also the case for the Netherlands where the vice-president of the Council of State, Thom de Graaf, speaks in the Council of State's annual report of an overloaded and understaffed government that avoids painful choices, raises too high expectations, and no longer acts adequately. There is a lack of decisiveness (Graaf, De, 2023)<sup>12</sup>.

As mentioned, there are two limits to what can be achieved. The *first limit* concerns the influenceability (governability) of the system in question. Now, it's about the international system without a central authority that must find a new equilibrium. When the limits of influence inherent in the international system are reached, then more governing (administrative) effort yields nothing and can even cause problems. As an example, a metaphor: regardless of the driver's qualities (the governor), giving more 'gas' achieves nothing if the car's maximum speed has been reached. The car - the system - has certain limits that cannot be overcome.

The *second limit* concerns the limitations of the state's governing capacity. This refers to the government, public administration, and the political process. It also concerns the competence of parliamentarians and administrators who are part of the state's governing capacity. This is not about the car (and its limitations), but about the qualities of the driver of the car.

Apart from both limits – the influenceability of the international system and the governing capacity of the Dutch state – the complexity of the necessary efforts plays a role in achieving maximum results. Due to this complexity, governability decreases, and increasing efforts

---

<sup>12</sup> Institutional failure occurs when institutions cannot achieve assigned goals and do so efficiently. Symptoms of institutional failure include a lack of trust and cooperation among stakeholders; an inability to adapt to changed circumstances and new situations; failure to achieve adequate results, corruption and misuse of resources and powers; conflict and violence.

often have little effect and can even diminish. This is about the complexity of the international system and its dynamics. Because dynamic and complex systems react unpredictably and chaotic dynamics are inherently unpredictable, this complexity is significant.

To achieve the desired administrative effect – the best outcome – the influenceability of the international system and the governing capacity of the state must be maximized, and the complexity of the administrative task minimized.

I will discuss these components in more detail, addressing: (1) the influenceability (governability) of the international system; (2) the governing capacity of the state, referring to the government, public administration, but also the functioning of the political process and its relationship with society, and (3) the complexity of the administrative task to achieve a desired new international order.

***The influenceability (governability) of the international system.*** The international system possesses a certain level of influenceability (governability), though it is challenging. The international system is a complex and dynamic system with emergent structures and patterns. I am referring, among other things, to the dissipative structure, cycles, and the phase transition to a long-term equilibrium state. This underlies the *System 2* dynamics with its own logic and momentum that direct social and political processes (*System 1*) and set frameworks for them.

A systemic crisis/war is imposed by *System 2* on *System 1*. The difficulty with this underlying dynamic is that it is *non-linear*, meaning there is no proportional relationship between, for example, the magnitude of a disruption or control measure and its effect; it can go (often literally) in all directions. Although there are significant limitations to influenceability, these same emergent structures and patterns also increase governability when involved in attempts at targeted influence. **Based on this, it can be determined – at least it seems so – that a next systemic war is just a matter of (short) time and that its duration will be approximately 17 years. Strategies and policies can be based on this. As a result, they will have a higher degree of realism and a greater chance of success. Part of this approach – which anticipates typical behavior and patterns – can include the use of warning signals.** By these warning signals, I refer to concrete indications of (future) dynamics, such as identifying the tipping point, and for example, an increase in alliance dynamics and power formation, which can also be quantified (Piepers, 2006).

***The governing capacity of the state.*** This concerns the competence of the state as a governor (influencer). In the case of effective governance, the state is capable of maximizing and utilizing the available contingent leeway to its advantage. It is possible to concretize the governing capacity. **Effective influence (governance) is only possible if certain conditions are met.** These conditions also apply when the government attempts to realize the desired international order. **There are five conditions for effective governance.**

*The first condition* is that it must be clear what the state aims to achieve, in other words, *the goal of its influence efforts*. When it comes to goal formulation and its timing, the *Atlantic Charter* can serve as an example, which was drafted by Roosevelt and Churchill in 1941. **The**

**objectives in the Atlantic Charter were clear and inclusive, and its timing was right, namely at the beginning of that systemic war. The objectives for a new international order – 'UN 2.0' – should now be laid out in a Global Charter, with the timing now right at the start of this systemic crisis. Like its predecessor, this Global Charter provides clear direction and ambition and can have the same rallying effect.** I will return to this *Global Charter* later.

The objectives must align with the values of the creators, even in the long term. Defending the current international order with the implausible American narrative of an existential fight between democracy and autocracy is nonsensical, aside from the fact that the current international order is outdated, and fundamental change cannot be avoided. Such a formulation also lays the foundation for a misguided approach. This was also the case in the fight against radicalism and related terrorist activity by specific groups, referred to as a *war against terrorism*. Fighting a 'method' (terrorism is a method) can only result in erratic policies and wrong strategies. If democracy is at stake, then envision an international order that is genuinely organized based on those principles.

*The second condition* for effective influence is that *accurate and as complete as possible information* is available about the current state of the international system, its dynamics, and developments. Targeted influence is only possible if the influencer knows the current situation.

*The third condition* for effective governance is that the influencer has *insight into the operation of the system* they are trying to influence; currently, this is the international system. This also involves understanding the relationship between measures and interventions and their effects. **In this book, I explain that this also requires insight into the underlying and largely determined dynamics (System 2) of the international system and its interaction with social and political processes (System 1).**

*The fourth condition* is that, considering both limits I have discussed, there are *sufficient instruments (control measures)* available to achieve the intended results. There are, after all, limits to governance capacity – the capacity to influence – that relate to the availability of instruments. This concerns the establishment of a new international order about which the state has certain ideas (we may assume). Any state cannot achieve this alone. When it comes to sufficient instruments, this does not only concern the availability of the right and sufficient military capabilities (an effective armed force) but also, for example, the choice of alliances.

*The fifth and final condition* concerns decision-making, where *information processing* is a crucial part. Adequate decision-making requires decision-makers to have the right competencies and for the decision-making process to be properly organized.

***The complexity of the administrative task.*** The international system has a certain order and organization (now the United Nations), but it is inadequate. There is no political process that leads inevitable decay to renewal. The international system is a system without central authority where the law of the strongest still prevails.

The outcome of attempts at influence is difficult to predict in *System 1*. Chance plays a significant role in *System 1*. The complexity of the administrative task is substantial. This is

even more reason to address this existential challenge appropriately, not based on a vague approach. At the very least, we must ensure that the governing capacity of the state is in order. This is currently not the case, not in the US, and not in Europe and for example the Netherlands.

## CHAPTER 5

### WHAT WE SHOULD DO NOW ANYWAY

#### 5.1 Introduction

According to the orthodox approach and the new paradigm, the international system is either in the initial phase of a systemic crisis or will be in the foreseeable future. Systemic wars have always been an integral part of such a crisis. There's no reason to believe this will be any different now. As in previous instances, the stake of this systemic war is a new international order. This new international order will then yield a period of relative stability, but due to decay and stagnation, another systemic war will eventually be just a matter of time.

Russia's attack on Ukraine in February 2022 is likely the first 'battle' in this systemic war. Based on the new paradigm, the indication for the duration of this systemic war is about 17 years. If the current global state system, which started in 1945, functions similarly to its European predecessor, then several more cycles will follow. The *second dissipative structure* ensures this (Piepers, 2016, 2019). Eventually, a *phase transition* will occur from the global state system without central authority to a state of equilibrium. The last systemic war of that *phase transition* begins when the *finite-time singularity* of the global state system is reached. **That leads to the self-destruction of the global state system**, including its associated security dilemma. Once that happens, the process of social integration will have occurred on a global scale. The question is what will remain then.

There are several similarities between the dynamics of the international system during the period 1500-1945 and the global state system that started in 1945. There is however at least one very significant difference, which is **the existential crisis humanity now faces due to the severe damage caused to the climate and our living environment**. A temperature increase of 1.5 degrees Celsius will cross a critical threshold; that now seems a matter of short time, or some scientists argue, maybe already happened. After that, the consequences of global warming are largely uncontrollable. Therefore, there's little time left to (also literally) turn the tide, and **a global approach to the climate crisis is urgently needed in the short term**.

Regarding influence and governance, it must unfortunately be concluded that (for example) the government of the Netherlands at all levels of organization, does not have its affairs sufficiently in order (Klinkers, 2023, Hovens 2023, De Graaf, 2023). The same applies to the *European Union* and the *United Nations*.

**While governing capacity at all levels falls short, we face at least three major problems: (1) a systemic crisis/war, probably in the short term, the prospect of this systemic war being part of an accelerating spiral of violence, in the medium term, and an existential climate crisis, on the short term. A fundamental change of course – a paradigm shift – is urgently needed, to make necessary adjustments. A more-of-the-same approach will not work because that approach is part of the problem; in the words of Haken, we are enslaved by System 2 (Haken, 1983). A new paradigm is necessary; not only for more research into the functioning of the international system but also for addressing the mentioned problems.**

**Addressing these three main problems – the next systemic war, the self-destructive spiral of violence, and the climate crisis – must be the focus of the next systemic war. This systemic war should be utilized to establish a new international order that allows us to control the dynamics of the international system, no longer being passive – enslaved – components of it, and effectively addressing the climate crisis within the short time remaining. The dissipative structure must be neutralized to ensure that necessary renewal no longer occurs through increasingly destructive systemic wars. The war trap must be broken; we must take control ourselves to achieve a state of equilibrium at a global level.**

**The actions and measures I propose aim to address the mentioned problems integrally.** These actions and measures are directed towards the establishment of an international order that: (1) safeguards our values and interests, assuming that addressing climate change is one of those interests; (2) possesses sufficient authority to take timely effective measures to address the climate crisis; and (3) can renew 'from within' based on a political process founded on democratic principles.

**More concretely, these objectives mean that the stake of the next systemic war is an international order organized as a world federation, which has sufficient governing capacity to address a series of global problems and challenges – such as climate change and its consequences. With a world federation based on democratic principles, the disastrous spiral of violence imposed by System 2 can be broken.**

**This sounds rather idealistic, but I would certainly like to hear other ideas that can achieve the same objectives. Failure is not an option.**

The question is whether the actions and measures I propose could *backfire*, for instance, because they might inadvertently fuel the security dilemma – the tension generator of the state system and the central component of the dissipative structure. The solution should not contribute to the problem. Another risk could be that a rival state exploits the proposed actions and measures. I will return to this when I have discussed the actions and measures.

## **5.2 Actions and Measures**

In this paragraph, I discuss the mentioned actions and measures in more detail. **I will explain, based on the new paradigm, the rationale behind the choice of these actions.** For each action, I will then indicate whether and how it can contribute to increasing the governability of the system, enhancing the governing capacity of the state, or reducing the complexity of the administrative task at hand. The actions include:

- The establishment of a new international order in the form of a *world federation* based on democratic principles and possessing a monopoly on violence.
- The publication of a *Global Charter* that clarifies those ambitions.
- The establishment of a *European Federation*, where a *European Defense Force* is an integral part of until the world federation is established.
- *A strategic approach* to these ambitions.



### 5.2.1. World Federation

The next international order must be *inclusive* and cannot be based on the right of the strongest and most brutal. If it is, then the next systemic war will result again in a *Pax Americana* or in a *Pax China*. This does not bode well; both variants are incapable of addressing the climate crisis and will inevitably lead to another systemic crisis and accompanying war, which is then just a matter of time. In that case, the violence spiral - the war trap - produced by the dissipative structure is not broken.

Note: if the next international order – whether a *Pax Americana* or *Pax China* – is based on the same organizational principles as the United Nations, then countries like the United Kingdom and France would no longer belong in a *Security Council* or its equivalent, but countries like India, a European Federation, Indonesia, and Brazil would, for example.

The solution to the mentioned problems is a *world federation*. A federal organizational form is ideally suited for the organization of the international order at a global level. **A federation safeguards and promotes the common values and interests of the states/populations that are part of it while simultaneously respecting the uniqueness of those same states and populations.** A legal framework safeguards the interests and freedom of the member states and population of this federation. The federation will have a monopoly on violence, that is necessary for its stability.

With such a world federation, where **security and addressing the climate crisis are tackled federally**, the dissipative structure can be bypassed, and the escalating spiral of violence stopped. Moreover, effective measures can still be taken in the short term to address the climate crisis. For this, the world federation must have the authority to implement far-reaching measures, including a *global energy transition* and the *management of scarce resources*.

**If the US commits to such a world federation, it would be consistent with its declared democratic ambitions and would have a rallying effect.** Despite the world federation being based on democratic principles, the question is whether the US would support this idea. **This idea presents a challenging paradox for the US**, as such a world federation would reduce US influence, being constrained by a 'true' democratic rules-based system. The world federation also would not allow states to use force to pursue their own interests. Great powers have much to lose with such an international order, as it restricts them.

Considering various (potential) problems and concerns, it might seem naive to make such a world federation the goal of the next systemic war. But what is the alternative if *System 2* is allowed to continue its course and there is no solution for the existential climate crisis? It's time for 'big' ideas; more of the same will not work. The *enslavement* by *System 2* must be stopped as soon as possible. Perhaps a world federation won't be established with one systemic war, and preferably even before that, but a clear direction – the end goal that is pursued – is set at least. The *powerful-become-more powerful* effect will also have its

(positive) effect, in 'pushing' - driving - the international system (order) in the right direction, if more systematic crisis/wars turn out to be unavoidable.

A world federation has obvious advantages as an organizational form and contributes to the governing capacity to tackle highly urgent problems and challenges within the limited time remaining. In this way, the spiral of violence produced by the global state system without central authority can be broken. This federation is based on democratic principles. With this federation, the governability of the global system is increased, and the complexity of the administrative tasks we now face is limited. **By making this world federation the goal of the systemic war, there is a concrete objective, which also has significant rallying power.**

### 5.2.2. Global Charter

To initiate the formation of a world federation, *a Global Charter must be drafted and published*, following the example of the Atlantic Charter (1941). This Charter would clarify the ambitions of the parties joining it – which should include entities beyond states – and outline their goals, offering a vision and rallying objectives. State representatives (government leaders, etc.) may be skeptical, as they are trapped in the logic of states' modus operandi. The objectives may be dismissed as idealistic and unattainable. However, this is the only way to realize the three main objectives and secure our existence.

A *Global Charter* should, at the very least, state that the aim of the systemic war is a world federation organized on democratic principles, with respect for human rights and the right to self-determination at its core. The political process will be based on representativeness, and the federation will have a monopoly on violence. Security, environmental conservation, addressing the climate crisis, and the exploitation and management of scarce resources will be federal matters.

The question arises whether – and if so, how – the internet and social media can play a constructive role in this. Can states be forced to abandon their typical reflexes through the mobilization of global opinion via social media? Or do we collectively succumb to vague ideologies and shortsighted nationalism, accepting what states do to us and our future?

A *Global Charter* makes objectives explicit, has a rallying effect, and simplifies the coordination of state actions, thereby increasing the influenceability of the international system and governing capacity. Moreover, it reduces the complexity of necessary efforts.

### 5.2.3. European Federation

**The European Union, a complex web of treaties, is an unfortunate compromise in many respects, increasingly causing problems.** EU objectives are often unclear, lacking transparency and democratic control. Crucial decisions require the unanimity of member states, depriving the EU of decisiveness and making it a plaything of member states' national politics.

The large-scale Russian attack on Ukraine in 2022 once again exposed Europe's significant vulnerabilities, such as dependency on the US for security and sovereignty; dependence on Russian energy supplies; the inability to formulate a coherent European foreign and defense policy; reluctance to increase defense budgets as agreed and to organize a credible European defense force. Europe's incapacity to reach a unified stance is painfully apparent, not only regarding Ukraine but also concerning Taiwan, as seen in the conflicting public statements by Macron and Borrell (The Guardian, 2023).

Regarding the threats Europe faces, it can be concluded that *"The continent's awakening has been too slow, and its collective efforts to provide for its own and Ukraine's security too sluggish. The EU's funding for artillery shells does respond to an acute immediate need, a need that Europe rightly regards in its own interests given its overreliance on U.S. brawn, and a dawning future in which Washington may shift its strategic gaze toward China. But while Europe sees the threat clearly, the anemia in its long-term planning, capability, and strategy remains. That is not tenable."* (The Washington Post, 2023). In the meantime, it has become clear that the European Union is not even able to actually deliver 50% of the artillery shells in 2024 that were promised to Ukraine.

The European Union must adapt, but it has not yet succeeded. Martin Wolf, in his Financial Times article titled *"The EU's future in a world of deep disorder"*, asks, *"How does it adjust to a world no longer characterized by anything that could plausibly be called a 'rules-based international order,' but rather one of economic crises, pandemics, deglobalization, and great power conflict?"* (Wolf, 2023). Wolf observes that *"Some of the problems the EU faces derive from the fact that it is a confederation of states, not a state."*

Wolf identifies *two major threats* to EU security. The *first* is Russian aggression, especially if Russia receives possible military support from China. The other threat concerns the effects of climate change. While, according to Wolf, the EU has taken the lead on climate policy, he points out that this is a problem the EU cannot solve alone, as it only accounts for nine percent of global emissions and is not responsible for their growth. Wolf questions how the EU can respond to global developments that are so different from what it had hoped for about three decades ago.

According to Wolf, the EU must decide whether it wants to be an ally, a bridge, or a significant power. Wolf notes that *"As long as the US remains a liberal democracy and committed to the Western alliance, the EU will be closer to it than to other major powers."* This means, he suggests, that *"in this world, the EU will remain a subservient ally."* A role as a bridge is self-evident for the EU, which strives for the ideal of a rules-based order. The practical question, according to Wolf, is how the EU, being much closer to the US than to China, could fulfill a bridging function in this deeply divided world.

The third alternative for the EU, Wolf suggests, is to try to become a full-fledged power of the old kind, with foreign and security policy resources proportionate to the EU's size and interests. Wolf concludes that this is only possible if the EU can fundamentally reform itself, though many obstacles remain, such as deep mutual distrust among several EU member states.

The role the EU chooses – ally, bridge, or major power – determines the internal reforms necessary: *“The more active and independent Europe wants to be, the more crucial a deepening of federalism becomes”*. Wolf points out that such federal deepening carries risks of nationalist reactions, potentially making agreement impossible. However, Wolf asserts, a certain deepening of federalism is now inevitable, given the need for a more robust European defense: *“We live in a world characterized by disorder, nationalism, and great power conflict. This is not the world of which the EU dreamed. But if its leaders wish to preserve their great experiment in peaceful relations, they need to strengthen it for the storms”*. **It is evident that Europe must be organized as a federation based on a European constitution** (Klinkers, 2022).

Another urgent reason for this step is that the US, with or without a Trump as the next president in 2024, could abruptly opt for a completely different strategy: the US might choose a more isolationist policy and strategy, or for example, the division of the world into spheres of influence. The foreign policy views of Andrew Jackson, president of the US from 1829 to 1837, still enjoy considerable popularity in the US. Jackson had limited views on American national interest, focusing on the protection of American territory, its population, and commercial interests abroad. A 'Jacksonian' does not strive to export American values and believes in using as much force as necessary for a quick, clearly defined victory with as few American casualties as possible. Jacksonians care little about enemy casualties as long as it benefits America or international law. If the US decides on such an approach, Europe – poorly prepared, poorly organized – will suddenly be on its own.

**Given the issues and challenges we now face, it is important for European states to actively pursue a *European Federation*, where certain European matters, such as security and defense policy, including a fully-fledged *European Defense Force*, are federally approached. This European Federation would replace the European Union and could better ensure that the shared interests of the federation's member states are genuinely safeguarded and promoted (such as security and addressing the climate crisis), while also delegating matters that are better handled locally, at the state level. Moreover, this would allow for genuine democratic control over the federation and its activities. The EU is currently an opaque legal, administrative, and democratic twilight zone that should make way for a federation.**

A federal approach to security and defense offers several advantages: (1) European interests and values can be better safeguarded and promoted because Europe's political freedom of choice – its autonomy – would no longer be limited by various dependencies (especially on the US); (2) Europe could finally become a full partner of the US, stabilizing that relationship; (3) a European defense force would be capable of independently conducting military operations when necessary; and (4) own defense technologies could be developed and produced, benefiting from economies of scale. We must also not lose sight of the fact that Europe must build a constructive relationship with Russia post-Putin, so that Russia can also become an integral part of Europe. A European Federation as an organizational form has evident advantages and contributes to the governing capacity of Europe as a political unit. Furthermore, it enhances governability and significantly reduces the complexity of administrative tasks. Efficiency gains can also be achieved.

Once the intended world federation is established, the European Defense Force, like the armed forces of other states, will lose its autonomy: the world federation will then possess the monopoly on violence.

#### 5.2.4. Strategy

Given the current situation, developments, and objectives, a strategic approach is necessary. *Firstly*, a national strategy by states should be developed. The objectives discussed in this chapter should serve as a starting point. A strategic approach ensures a logical and systematic methodology, provided the process is well managed. It also simplifies coordination between policy areas (ministries) and can guide decision-making. A strategy also serves a communicative function.

The challenges we currently face do not lend themselves to a trial-and-error approach. Currently, there is a lack of direction – clear objectives – and a coordinated approach. A makeshift approach is being used, which is not proactive but reactive, with most efforts necessarily focused on firefighting and damage control. This creates a vicious cycle, partly because it increases the complexity of administrative tasks instead of decreasing it. The strategy in question pertains to the realization of a desired international order. The objectives have been discussed and will be outlined in a Global Charter (initially) published by Europe.

Other relevant starting points for this strategy should consider that this crisis/war will last fifteen to twenty years, and war activity will be an essential part of it. Another important consideration is that the US will prioritize Asia: *Asia First* is the stance for the US.

A strategy and strategic approach require politicians to have vision, decisiveness, and the discipline to forego opportunistic reflexes. Politics is often the enemy of strategy, especially for politicians with populist tendencies. It's high time not to seek and amplify differences, but to formulate common goals and act accordingly. These goals and this approach also make it much easier to solve a series of other problems. **The point is that with the systemic and climate crises, we are entering uncharted territory. To navigate this unknown terrain effectively, we must pursue the same goals and ensure that the state, the political process, institutions, and the government are in order and function well, in the interest of society. Society is being tested.**

#### 5.3. In Conclusion

At the beginning of this chapter, I raised the question of whether the actions and measures I propose could backfire, for example, by inadvertently fueling the security dilemma – the tension generator of the state system and the central component of the dissipative structure. Another risk could be that a rival state exploits the proposed actions and measures. The proposed actions and measures do not fuel the security dilemma; their aim is to stop that destructive mechanism. Since these actions also involve forming a European Federation, including a European Defense Force ready to cede the monopoly on violence to a world

federation but also more capable – and even better – at defense, there is no increased risk in this attempt to form a world federation. This European Defense Force can help ensure that rivals do not take advantage of the proposed actions.

The question is also whether these objectives and ambitions are realistic. That remains to be seen. At least there is a clear perspective. **Doing nothing or more of the same will inevitably have disastrous consequences.** If we leave the dynamics and development of the (international) system to *System 2* – producing a second dissipative structure, a series of war cycles, and eventually a finite-time singularity – an equilibrium state will eventually be reached – assuming the climate crisis doesn't lead to a global collapse first – but then the self-destruction of the global state system is inevitable. The outcome of that is not the equilibrium we want. **We must take control of that process ourselves and not leave it to the system's self-organization.**

**I conclude this book with remarks on the so-called Realist School, which dominates thinking about international relations and politics. The Realist School prioritizes the interests and power of one's own state. These must be maximized, according to the school. There's not much realistic (anymore) about these views. Well-understood self-interest now is to do everything possible to break a self-destructive spiral of violence and to jointly address the climate crisis. Isolated interests do not exist in this interdependent world. It's high time for a different paradigm.**

## Literature and Sources

**Allison, G. (2018)**

*Destined For War: Can America and China Escape Thucydides's Trap?*, Mariner Books.

**Beunderman, M. (2023)**

*De economische wereldorde valt steeds meer uit elkaar in een westers en Russisch-Chinees blok. Hoe het IMF en de Wereldbank hieronder lijden*, NRC, 16 april 2023.

**Blum, A. (2020)**

*The Weather Machin. A Journey inside the Forecast*, Ecco.

**Boulding, KE. (1990)**

*Ecodynamics, A New Theory of Societal Evolution*, Sage Publications (1990).

**Bradsher, K. (2023)**

*China's Leader, With Rare Bluntness, Blames U.S. Containment for Troubles*, The New York Times, 7 March 2023.

**Buckley, C. (2023)**

*In a Brother Act With Putin, Xi Reveals China's Fear of Containment*, The New York Times, 22 March 2023.

**Carr, E.H. (2001)**

*The Twenty Years' Crisis, 1919-1939, An introduction to the Study of International Relations*, St. Martins Press, Reprinted in Perennial.

**Cave, D. (2023)**

*An Anxious Asia Arms for a War It Hopes to Prevent*, The New York Times, 25 March 2023.

**Clark, C. (2012)**

*The Sleepwalkers: How Europe Went to War in 1914*. Harper Collins.

**Clausewitz, Von, C. (1984)**

*On War*, Princeton University Press.

**DeYoung, K. (2023)**

*An intellectual battle rages: Is the U.S. in a proxy war with Russia?*, The Washington Post.

**Doran, C.F. (2003)**

*Economics, Philosophy of History, and the 'Single Dynamic' of Power Cycle Theory: Expectations, Competition, and Statecraft'*, International Political Science Review, Volume 24, No. 1, 13–49, Sage Publications.

**Douthat, R. (2023)**

*The World Could Move Toward Russia and China*, The New York Times.

**Holsti, K.J. (1995)**

*International Politics, A Framework for Analysis*, Seventh edition, Prentice Hall, Inc.

**Fukuyama, F. (1992)**

*The End of History and the Last Man*, Free Press.

**Fund For Peace, (2023)**

*Fragile States Index Annual Report 2022*.

**Geller, D.S. and Singer, J.D. (1998)**

*Nations at War, A Scientific Study of International Conflict*, Cambridge Studies in International Relations, Cambridge University Press and the British International Studies Association.

**Gilpin, R. (1981)**

*War and Change in World Politics*, Cambridge University Press.

**Global Terrorism Database (2023)**

<https://www.start.umd.edu/gtd>

**Goldstein, J.S. (1988)**

*Long Cycles, Prosperity and War in the Modern Age*, Yale University Press: New Haven and London.

**Graaf De, T. (2023)**

*Jaarverslag van de Raad van State 2022*, [www.raadvanstate.nl/jaarverslag2022](http://www.raadvanstate.nl/jaarverslag2022).

**Graeber, D. Wengrow, D. (2021)**

*The Dawn of Everything*. Farrar, Straus and Giroux.

**Guardian, The (2023)**

*Kremlin says its strategic aim is to create a 'new world order' – as it happened*, <https://www.theguardian.com/world/live/2023/apr/07/russia-ukraine-war-livepentagon-investigating-leak-of-us-and-nato-files-report-macron-and-von-der-leyenlast-day-in-china>.

**Guardian, The, (2023)**

*Taiwan Strait: top EU diplomat calls for European navy patrols*, 23 April 2023.

**Gunderson, L.H. and Holling, C.S. (2002)**

*Panarchy Synopsis: Understanding Transformations in Human and Natural Systems*, Island Press.

**Haken, H. (1983)**

*Synergetics: An Introduction*, Springer.

**Hovens, P. (2023)**



*SamenWereld. Hoe het geloof in de politiek en het vertrouwen in de overheid terugkeren*, Politica Scripta.

**IPCC, (2023)**

*Report II, summary for policy makers (2023)*. This Summary for Policymakers (SPM) presents key findings of the Working Group II (WGII) contribution to the Sixth Assessment Report (AR6) of the IPCC.

**Jervis, R. (1997)**

*System Effects, Complexity in Political and Social Life*, Princeton University Press, Princeton, New Jersey.

**Kennedy, P. (1987)**

*The Rise and Fall of the Great Powers*, Vintage Books, A Division of Random House, New York.

**Klinkers, L (ed.). (2022)**

*The making of the Constitution for 'The Federated States of Europe'*. On the usefulness and necessity of a federal Europe, Iustitia Scripta.

**Klinkers, L. (2023)**

*Over bekwaamheid en geschiktheid van politieke ambtsdragers*, Politica Scripta.

**Kondepudi, D. and Prigogine, I (2015)**

*Modern Thermodynamics: From Heat Engines to Dissipative Structures*, Wiley.

**Leeuw, De, A.C.J. (1990) (1)**

*De wet van de bestuurlijke drukte: Over inspanning en resultaat van besturen*, Van Gorcum.

**Leeuw, De, A.C.J. (1990) (2)**

*Organisaties: Management, Analyse, Ontwerp en Verandering, een systeemvisie*, Van Gorcum.

**Levy, J.S. (1983)**

*War in the Modern Great Power System, 1495–1975*, The University Press of Kentucky.

**Lorenz, E.N. (1993)**

*The Essence of Chaos*. University of Washington Press.

**Miller et al. (2022)**

*Chip War: The Quest to Dominate the World's Most Critical Technology*, Scribner.

**Miller et al. (2023)**

*Wagner Group surges in Africa as U.S. influence fades, leak reveals*, The New York Times.

**Modderkolk, H. (2019)**

*Het is oorlog maar niemand die het ziet*. Uitgeverij Podium.

**Morgenthau, H.J. (1993)**

*Politics Among Nations: The Struggle for Power and Peace*. McGraw–Hill.

**Nicolis, G. and Prigogine, I. (1989)**

*Exploring Complexity: An Introduction*, W.H. Freeman and Company.

**Nye, J.S. (2004)**

*Soft Power, The Means to Success in World Politics*, Public Affairs, New York.

**Piepers, I. (2006)**

*Dynamiek en Ontwikkeling van het Internationale Systeem: Een Complexiteitsperspectief*, dissertatie UvA.

**Piepers, I. (2016)**

*2020 Warning. Patterns in War Dynamics Reveal Disturbing Developments*, IP–Publishing.

**Piepers, I. (2019)**

*On the Thermodynamics of War and Social Evolution*. IP–Publishing.

**Piepers, I. (2019)**

*Mass Shooting Cycles in American Society (1982–2019) and the Route to Chaos*.

[https://www.researchgate.net/figure/Mass-shooting-cycles-Five-MS-cycles-can-be-identified-The-configuration-of-the-first\\_tbl1\\_335635046](https://www.researchgate.net/figure/Mass-shooting-cycles-Five-MS-cycles-can-be-identified-The-configuration-of-the-first_tbl1_335635046)

**Piepers, I. (2020)**

*De Onvermijdelijkheid van een Nieuwe Wereldoorlog*, Prometheus, 2020

**Pierson, D. (2023)**

*As Xi Befriends World Leaders, He Hardens His Stance on the U.S.* The New York Times.

**Pinker, S. (2011)**

*The Better Angels of Our Nature: Why Violence Has Declined*, Viking Books.

**Richardson, L. F. (1960)**

*Statistics of Deadly Quarrels*, The Boxwood Press, Pittsburgh, Quadrangle Books, Chicago.

**Ripple, W.J. et al. (2023)**

*Many risky feedback loops amplify the need for climate action*, One Earth, CellPress.

**Sanger et al. (2023)**

*3 Nuclear Superpowers, Rather Than 2, Usher In a New Strategic Era*, New York Times, 19 April 2023.

**Scheffer, M. (2009)**

*Critical Transitions in Nature and Society*. Princeton Studies in Complexity.

**Snyder, T. (2023)**

*Putin Is Fighting, and Losing, His Last War*, The New York Times, 9 mei 2023.

**Solé, R.V. Bascompte, J. (2006)**

*Self-Organization in Complex Ecosystems*, Princeton University Press.

**Solé, R.V. (2011)**

*Phase Transitions*, Princeton University Press.

**Sonne et al. (2023)**

*As Putin Bides His Time, Ukraine Faces a Ticking Clock*, New York Times, 6 mei 2023.

**Sornette, D. (2004)**

*Critical Phenomena in Natural Sciences. Chaos, Fractals, Selforganization and disorder: Concepts and Tools*, Springer.

**Sterman, J.D. (2000)**

*Business Dynamics: Systems Thinking and Modeling for a Complex World*. Irwin McGraw-Hill.

**Stockholm International Peace Research Institute (SIPRI) (2023)**

SIPRI Military Expenditure Database, Report.

**Sun Tzu (1971)**

*The Art of War*, translated by S.B. Griffith. Oxford University Press.

**Tilly, C. Coercion (1992)**

*Capital, and European States, A.D. 990–1990*. Wiley-Blackwell.

**United Nations, Department of Economic and Social Affairs (2022)**

World Population Prospects 2022, [https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022\\_summary\\_of\\_results.pdf](https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022_summary_of_results.pdf).

**Washington Post, The, Editorial Board (2023)**

*Ukraine smolders as Europe comes slowly awake*, 26 March 2023.

**Watts, D.J. (2002)**

*A Simple Model of Global Cascades on Random Networks*, PNAS vol. 99, no. 9, 5766–5771.

**Watts, D.J. (2003)**

*Six Degrees, The Science of a Connected Age*, W.W. Norton & Company, New York, London.

**Watts, D.J. (2004)**

*The 'New' Science of Networks*, Annual Review of Sociology, Volume 30.

**West, G. Scale (2017)**

*The Universal Laws of Growth, Innovation, Sustainability, and the Pace of Life in Organisms, Cities, Economies, and Companies*, Penguin Press.

**Wolf, M. (2023)**

*The EU's future in a world of deep disorder*, The Financial Times, 7 March 2023.

**Zakaria, F. (2023)**

*Biden's course correction on China is smart and important*, The Washington Post, 21 April 2023.

