



Peter Kestner

The Art of Cyber Warfare

Strategic and
Tactical Approaches for Attack
and Defense in the
Digital Age



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For my parents, my wife, and our children.

*May they never like this book
must consult.*

Introduction: 1984 and the Lessons of the Past

“History does not repeat itself, but it rhymes.”
Aphorism of unknown origin

Especially in today’s “digital” age, quotes like that of the philosopher George Santayana seem dusty. He said: “Those who cannot remember the past are condemned to repeat it.” We presume—like every generation before us—to possess more knowledge. At the latest since the breakthrough of new technological revolutions such as the Internet or the smartphone, many are certain: The events of today’s time have never been like this before and cannot be compared with the past. Our understanding of history is closely linked to a progressive thinking that only knows one direction: forward. Technical devices like the first iPhone, which are barely more than 15 years old, already seem to us today like relics from a distant past, which it hardly seems worth remembering.

Yet when we look at our methods and tactics that shape our daily behavior, one could quickly start to ponder.

A closer look shows that we do not act so differently from our ancestors. Just as thousands of years ago, the reasons are still the same that lead us on a psychological level to initiate or fend off conflicts. And the development and mastery of technology has been one of the central motives for gaining and exercising power from the very beginning. But this also means that, regardless of the changed conditions of time, place, means and resources, but not of the physical laws, we can learn from earlier actions and their reactions.

From this perspective, we must question certain beliefs and convictions today. Are we really entering uncharted territory with the internet and new technologies, for which we have neither maps nor compass? With this book, I want to show that we have actually only transferred old methods into our era, but have forgotten to translate their reasons and effects and the lessons resulting from them. Engaging with history and human nature would help us understand certain drivers as well as triggers and outcomes of actions, and perhaps even predict them. Because, as thousands of years ago, the reasons for human negative actions remain the same: wealth, fame, power, and honor or pleasure. Whether we call it money, political influence, patriotism, or whatever today—the fact is that these drivers have always psychologically tempted us and our ancestors to start conflicts. However, by understanding and analyzing them precisely, we could learn to intelligently control the current and future outcomes of conflicts, such as the cyber war of the future. Accordingly prepared, we should already today encounter cryptography, steganography, unique identification, Trojans, malicious code, or fake news. Knowing their origins and effects helps us not only understand the underlying drivers and outcomes of actions, but even predict and, in the best case, ward

them off. If we do not do this, even the darkest visions of the future could become reality, such as the one George Orwell describes in *1984*.

***1984*—Between Past, Present, and Future**

The significance that the past can have for the present and the future can be illustrated by one of the most famous novels of the last century: George Orwell's *1984*. What led George Orwell to write this book in 1948 was the desire to understand what was happening around him. On one hand, there was the recent totalitarian rule in Nazi Germany, and on the other hand, there was the beginning of the Cold War between the West on one side and the USSR on the other. And even though Orwell himself was much concerned with the surveillance state as it had emerged in the Soviet Union at the time, his work goes far beyond that. The story about the novel's hero, Winston Smith, tells of the domination of man by technology and language. An element that must have seemed new and unimaginable to contemporaries at the time is that of permanent and total technological surveillance. The "big brother" observes and controls the population at all times.

But how should one imagine the life of a person in the novel world of *1984*? Everywhere in public and private spaces, the so-called "telescreens" and microphones are installed, through which Big Brother can keep an eye on everything at all times. Areas of life that cannot be seen with technical means are monitored by spies. The state has introduced a new language concept called "Newspeak", with which thinking itself is to be revolutionized. With "doublethink", even logic is suspended—What could possibly go wrong!?!—The word freedom has been banned and the language has been reduced to such an extent that certain thoughts are no longer conceivable. It is mandatory to

keep the television on around the clock. Thinking for oneself is not desired. Moreover, the person from *1984* hardly has time for this, as they are constantly involved in routines and rituals such as the communal hate ritual, where everyone swears against a common enemy. Most people do not know what a different life could look like, because the government has rewritten history and destroyed books. Because whoever erases the memory of what once was, takes away people's ability to compare the past with how it is today. And thus, they also take away the possibility of thinking about what one can learn from history, how to behave better, or how to change the present. Forgetting or in this case rather: suppressing the past is a tool for controlling the population in the world of *1984*. This also means that dealing with history represents something powerful. Because the lessons from history enable people to distance themselves, to think about themselves and life, to make reflected decisions, and to determine how the future should be shaped. Or, as it is said in *1984*:

"Who controls the past controls the future: who controls the present controls the past."

In addition to this central insight about the value of the past and history, *1984* offers many more visionary insights that are interesting for the context of this book. Of course, George Orwell did not have a crystal ball with which he could look into the future. Nevertheless, much can be learned from his book about future developments and some frightening parallels to our present world can be recognized. Because anyone who reads *1984* today, possibly does so at a moment when several cameras are pointed at them. One from the tablet on which they are reading the book, one from the phone lying next to them on the table, and one from the television hanging on the wall.

And while in *1984* spies listened in on all conversations that were held in private through microphones, today voice assistants like Alexa or Siri listen attentively. The regulation of language also confronts us, for example, in the field of economics, where there are no problems, only challenges, or on Twitter, where every complex event must be condensed into a 280-character message. And the debate about so-called “Cancel Culture”, “Social Justice Warriors” and fake news once again show that language can become a battlefield today. Political parties or leaders who convince their followers of an “alternative” truth that does not correspond to reality, are becoming more and more common in our country, but can be observed daily in other parts of the world such as China, Russia or the USA. The talk of the post-factual age and alternative facts should also give us pause.

Even though the world depicted in Orwell’s *1984* could hardly be more bleak, the book also provides a reason for hope. Or at least there are a few breadcrumbs scattered throughout the book that one can follow. Because one must indeed ask, what is the greatest enemy that Big Brother wants to fight: It is the free, independent thinking of each individual. We should never give up this valuable asset lightly, and if the bleak end of the novel shows one thing, then it is this: A great deal of energy and effort must be expended to break the free will and independent thinking.

However, before I write more about the ideas of this book, its intentions and objectives, I would like to write a few lines about myself.

About the Author of this Book or: “Who Cares Who’s Speaking?”

First of all, I am not an author. I am a computer scientist. Therefore, writing is not really one of my specialties. In my studies, I only learned to think and express myself

in code. The intention to write a book, however, has grown over many years. Slowly, but steadily. I am someone who has been dealing with the topic of cybersecurity for over 25 years, and I still do—although it was not always called that. In the past, what I do was simply called computer security. But no matter what it was or is called, there was one experience that kept repeating itself over the years. During this time, I kept encountering people, stories, and situations that triggered the same reaction in me: We've seen all this before, exactly like this or at least very similar! But by that I don't mean so much that I kept encountering certain technical errors. It had more to do with my other passion, which kept pushing itself into my consciousness in my professional activity. Even though my professional background is in computer science, so I know a thing or two about computers, security, and our networked world, I have always maintained a great fascination for history and exciting historical events alongside it. Both have much more to do with each other than most people might realize, and that's exactly why I want to connect both areas in this book.

This book is essentially based on a simple question: "What can we learn from the past for our present and our future?" And while this section carries the heading "About the author of this book", it doesn't really matter who I am and what I have done so far in my life for this book as a whole. With the author Samuel Beckett, one could almost say: "Who cares who is speaking?" I don't want to convince anyone of anything, I don't want to sell a cyber security course, and I don't want to present a 12-point plan that promises absolute security if you simply follow all the points. For one thing, I don't want to do that because I know that there has never been and will never be absolute security. Mistakes often happen precisely when

one feels too secure. On the other hand, I don't want to present a recipe because that would be the exact opposite of what I want to achieve with this book. Because such plans or advice have only a short half-life in the IT world and would relieve each individual of their own thinking. Therefore, no one should simply trust what I say or write here. One of my most important concerns that I pursue with this book is to get people to think and to think independently. If I succeed in this even a little, then more is gained than with any guidebook on cybersecurity.

Since my own passion for our past and exciting stories has helped me, I want to do exactly that: discuss exciting historical events. After all, history is full of experiences, successes, missteps, and instructive examples of cunning, deception, and manipulation—in other words: it is an ideal material to learn from, to avoid repeating the same mistakes over and over again.

About this Book

At first glance, it seems to make little sense to ask: What can we learn from history about future warfare in cyberspace? After all, there has never been anything like “cyber warfare”—so why should we be able to learn something about the war of the future by looking back into the past? Although I personally believe that we can learn a great deal from history, I am also convinced that it does not simply repeat itself. Rather, it is like the saying: “History does not repeat itself. But it rhymes.” Therefore, we should try to understand our prehistory, learn from where we come from, and incorporate what we have learned into our considerations to understand why we behave the way we do. Because even though the weapons and techniques have changed over the centuries, the tactics and strategies often remained the same. And the results were frighteningly

often the same. Hardly any other work from contemporary history demonstrates this constancy more clearly than *The Art of War* by Sun Tzu. Only Carl von Clausewitz's treatise *On War* holds a similar rank to Sun Tzu's work. Together, these two works make up the most important treatises ever written on military strategies and tactics. These two texts have greatly influenced great characters and rulers throughout history and were often prescribed as mandatory reading for their subordinate commanders and sometimes even for every single soldier. At most military schools, these two books are still studied in depth today, and the lessons drawn from them are incorporated into today's attack and defense strategies. The analysis of these works and the transfer of their contents into today's age is therefore at the beginning of the book. In doing so, I am not the first to have noticed that the procedures described in these works can be applied successfully not only militarily, but also politically and economically. Despite their age, both works have repeatedly proven on all three of these levels that their practicability, if intelligently transferred, is not outdated. Historically, this can be explained by the fact that there were times when commanders and soldiers switched to politics or business after wars and entered into the operational leadership of a country or founded companies. Since most of them, if any, had only a military education and no experience in the business or commercial world, they brought their patterns of behavior into this new world. They started ventures like attacks, led them like a military unit, or positioned themselves politically with tactical preparations for a higher goal. *The Art of War* thus also became a guide for success outside the battlefield. Many respected economists see Sun Tzu as a kind of business guru, as the military tactics described in his work are still valid on today's economic and trading floor, coupled

with the old life philosophy and spiritual orientation of the authors. For this reason, many of Sun Tzu's procedures and key terms can be found in today's business management manuals as exact copies.

If we now take a step further into the networked world of the Internet and cyberspace, one will quickly find historical artifacts there as well. The "Trojan Horse" is probably known to fewer people today from history lessons than from reports on hacker attacks or—in the worst case—from personal experience. But this example in particular makes it clear how instructive dealing with history can be for everyday life in the digital age. Anyone who remembers the episode from Greek mythology knows that it was a seemingly harmless gift, but it was actually a disguise. For inside the hollow belly of the wooden horse was a handful of soldiers who thus gained access to the interior of the city of Troy. At night, they left their hiding place unnoticed and opened the city gates to allow the waiting army to enter. The hacker tactic named after the Trojan Horse works on a similar principle. The malware also usually enters the system disguised as a harmless email attachment, where it can then open access to it unnoticed. The language itself still vaguely reminds us that gifts can be poisoned. Because in English, gift actually still means "gift". The origin of both the German word "Gift" and the English "gifts" is Old High German, in which the gift or the gift was ambiguous for a long time and could also mean "harmful substance" or "deadly gift". In German today, only the word "Mitgift" still has the original meaning as a gift. So, in the future, anyone who receives a gift should perhaps also view it with some suspicion.

In addition to classics like the Trojan Horse, there are numerous other historical events that hold many helpful lessons. There are even so many that one could probably

fill entire book series with them. Naturally, I therefore had to make a small selection for this book, but I am sure that the chosen examples and the analysis of historical procedures are instructive. Because that's what it's all about at its core: learning and independent thinking.

The only solution is: Learning

After the many years that I have now been working in the field of cybersecurity, and the thousands of pages that I have read about the past, as well as reading the books of the best strategists in history, I know one thing above all: There is no comprehensive solution that addresses all problems. The world will continue to evolve. And therefore, the threats and dangers will always present themselves somewhat differently. For this reason, the ability to learn from the lessons of the past for the future is the best defense strategy in the cyber age. Because even the most expensive hardware is useless if someone does not use their brain. The strategy must therefore be to constantly expand one's own knowledge, to acquire basic knowledge, to learn from history, and to understand tactics such as "camouflage and deception". Those who do this can gradually look beyond their own horizons, make better decisions, and develop a sensitivity for situations and potential dangers.

This means: It won't work without thinking for oneself. Therefore, I hope that I have succeeded in selecting from the vast treasure of history exactly those examples that stimulate my readers to think and learn. Because the greatest security there is in the cyber age is a treasure trove of stories, know-how, and knowledge that one always carries with oneself and constantly expands. Such a foundation of knowledge can help to go through the world with open eyes, if one constantly remembers what has been heard

and read and lets the learned flow into new situations. In this sense, I now wish my readers an inspiring read, much joy in reading, learning, and understanding the episodes from history presented here, and the courage to draw their own conclusions from them.

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Part I

Lessons from the Past

In the first part of the book, I want to look back into the past and work out the lessons that are useful for cyber warfare and a better understanding of our modern world. At the beginning, I deal with one of the oldest recorded strategy texts ever: *The Art of War* by Sun Tzu. From early Chinese history, we move on to Greek and Roman antiquity. There we find the beginnings of cryptography and steganography—both methods and the competition between encryption and decryption continue to this day and hold a story that is more exciting than many a crime thriller. Finally, in this section, I want to deal with the Middle Ages and trace the lines of connection between that time and ours.



1

The Art of Cyber Warfare and the 13 Lessons of Sun Tzu

*“In peace, prepare for war,
in war, prepare for peace.”
Sun Tzu, The Art of War*

The title of this book—*The Art of Cyber War*—obviously refers to the title of another, very famous book that I already mentioned in the introduction: *The Art of War* by Sun Tzu, who is also called Sunzi, Sun Tse, or Sun Wu. However, Sun Tzu’s work provided more than just the inspiration for the title. The engagement with this work was important for the creation of this book as a whole. Moreover, the general significance of *The Art of War* can hardly be overstated. First of all, it is considered the oldest and one of the most important works on military strategy. So it is one of the central sources for dealing with strategic thinking. History is rich in evidence of the role it played in wars and conflicts over the centuries. Even after the

death of Sun Tzu, the first myths about the book emerged: Those who had read it were considered unbeatable. In the field of martial arts, Sun Tzu's work is also considered an indispensable classic. Last but not least, *The Art of War* is a prime example of how relevant thinking from past times and the history of that time are for our present day. However, reading and transferring Sun Tzu's thoughts to the modern world is not entirely straightforward. Anyone who has taken the trouble to pick up Sun Tzu's work will quickly have noticed how cumbersome many statements sound. Why is that?

Sun Tzu's Writing Style and the Transfer of His Work to the Present Day

The first and most obvious reason for the difficulties in transferring is the sheer age of the treatise: *The Art of War*, consisting of nearly 6000 Chinese characters, was written about 2500 years ago. Even some works that are only 50 or 150 years old need to be interpreted to correctly grasp the meaning of their statements. The next reason why Sun Tzu's work needs explanation is his writing style. Sun Tzu generally avoids long chains of argument and justification. He presents his views more in the form of postulates, maxims, rule sentences, and aphorisms. This is not unusual in itself and quite corresponds to the typical Chinese style of the time—but it does require interpretation. Rhetorical devices such as juxtaposing thesis and antithesis also demand independent thinking from the reader. In addition, it is very likely that what we know today as “the book” *The Art of War* comes from two or even more different authors. Archaeological finds suggest this assumption and an analysis of the style supports

this thesis. Especially the last chapters are characterized by much longer and more expansive text passages. Even the division of the text into chapters did not come from Sun Tzu or the other authors, but was only made retrospectively, long after the text was written. To understand what *The Art of War* is actually about, it is worth taking a step further and keeping the original in mind. 2500 years ago, book printing had not yet been invented. In China, bamboo sticks or tablets were used, which were written on and then tied together to record and pass on thoughts. The bamboo tablets on which writing was done were dried over fire and were about 2.5 centimeters wide and 30 centimeters long. They were tied together at the top and bottom with a string, creating a continuous band. Extensive works quickly became very heavy and carts were needed to transport them. The bamboo book as a medium is therefore an important reason why one had to be brief. In this context, it is also helpful to briefly recall the conditions of Chinese culture. Copying the thoughts of others was not considered plagiarism as it is today, but quite the opposite, a privilege. The fact that the text of Sun Tzu also contains the wisdom of others and that there was not one author as we might imagine today is therefore likely. In addition, there was no uniform writing system in China during the first 500 years of the text's transmission and tradition. This was only established in the time of the Qin and Han dynasties, about 2200 to 2000 years ago. Whether parts of the thoughts found in *The Art of War* are much older and part of an orally transmitted tradition can only be speculated.

And finally, there is another hurdle that the text had to overcome in order to exist in the form we know it today. *The Art of War* has a long history of translation. The first version that circulated in Europe was by a French missionary. Father Jean Joseph Marie Amiot translated the text

into French in 1782. This is the version that Napoleon knew and to which he attributed many of his military successes. At that time, the work was not yet called “The Art of War,” but “The Thirteen Articles.” This translation is not a literal transfer from Chinese to French, but a meaningful interpretation, written with the aim of being easier to understand. That is, the first interpretation of the work took place already during the translation. The second version of the text known in Europe is the English translation. This was done by Captain Everard Ferguson Calthrop, a member of the military, not a translator. His 1905 translation was much closer to the original, but is considered mediocre, which is why other translators set to work just a few years later. In the USA, the Hollywood film *Wall Street* by Oliver Stone in 1987 sparked a wave of Sun Tzu literature and management courses based on it. In the film, the main character, successful stockbroker Gordon Gekko, referred to Sun Tzu’s theses. But without going into further detail about the history of translation and impact, this brief overview is intended to show two things: The phase of reception of *The Art of War* in the Western world is relatively short and complicated. Or in other words: There is still much we can learn from Sun Tzu.

What is the Art of War?

Before I delve deeper into *The Art of War*, I would like to first ask, what is this: the art of war? What does war have to do with art? War and art are two terms that at first glance seem difficult to reconcile. Because while we associate war primarily with terror and the death of people, we associate art primarily with beauty and the sublime. By art here, I mean the skill with which the means and

methods are applied. So it describes a craft, and a craft is something that can be learned. When it comes to classifying the work of Sun Tzu and its categorization, however, another term must be introduced: Because when we talk about “the art of war”, we are in the field of science. *The Art of War* is therefore, in the broadest sense, a scientific treatise that deals with the methods and procedures, or strategies and tactics, of warfare. The deeper reason why the work of Sun Tzu is still relevant today is probably that conflicts between people have structurally similar patterns for many millennia and often have the same causes, both in the past and today. Greed, envy, jealousy, and the longing for power are simply timeless.

The scientific, or one could also say: the systematic study of the art of war also has historical reasons. Sun Tzu, a general by profession, probably lived between 544 and 496 BC, a phase in the history of China known as the “Warring States Period”. It was a time of great economic, technological, political, and social changes. With the introduction of new tools in agriculture and crafts, a layer of wealthy farmers and merchants, a kind of first bourgeoisie, and a nobility emerged. This changed people’s demands and a changed property law led to the redistribution of lands. As always, growing prosperity also came with power struggles and distribution battles. And so, seven kingdoms—smaller states that emerged from principalities—fought for supremacy: Zhao, Qi, Qin, Chu, Han, Wei, and Yan. According to legend, Sun Tzu was hired by the king of a smaller kingdom named Wu as the leader of his army during the battle between Wu and neighboring Chu. It was in this battle between the two states that Sun Tzu probably developed his theories on the art of warfare.

Whether Sun Tzu really existed is indeed often doubted. Although his life dates are included in the historical work

Shiji by Sima Qian, the first historian of China and at the same time the founder of Chinese historiography. However, there are hardly any other sources that prove his existence. Perhaps it's a bit like the case of the author of that book—because with the *Art of War*, neither the content of the work nor its impact matters much who Sun Tzu really was. What does exist, however, are numerous legends and reports about Sun Tzu and his deeds. One of the most famous and often quoted stories is about how he became a commander in the army of Wu. The King Held (514 to 496 BC) of Wu had heard of Sun Tzu's writings and wanted to test him. So he invited him to an audience and asked him to demonstrate the content of his treatise in practice. However, Sun Tzu was not to teach soldiers, but some of the court ladies in the art of war. Sun Tzu was not deterred by this and approached the task with full seriousness. He equipped the court ladies with armor and weapons, divided them into departments, and gave them the command to perform an exercise. For the court ladies, however, all this was just a big joke and they just giggled instead of carrying out the instructions. To make sure they understood him correctly, Sun Tzu repeated his commands once more. But again, the ladies just giggled. Then Sun Tzu had two of the court ladies step forward and gave the order to behead them. When the king heard this, he tried to prevent the beheading. However, Sun Tzu did not back down from his order and the two ladies were killed. From this moment on, all court ladies carried out Sun Tzu's commands with full seriousness and without further giggling.

What do we learn from this story? Well, above all one thing: Sun Tzu—if he existed—was not to be trifled with. At the same time, this episode from Sun Tzu's life also tells us a lot about him as a person, his thinking, and his work. Because it shows how serious he was about his cause.

When it comes to military success, executing orders, and carrying out actions, there is no room for jokes or silliness. Discipline was a key for Sun Tzu so that the army could fulfill the military tasks. Or in other words: to act tactically in order to achieve strategic goals—which brings us to two other key terms for understanding Sun Tzu.

Strategy and Tactics

Before we delve into strategies and tactics from the past and present, we should first understand these terms in detail. Contrary to the relevant literature, these terms are often misused (especially on the internet). Here you can find guides like “The 10 Strategies for Better Presentations” or “The Best Strategies to Gain More Followers”. People also talk about “strategy changes” to achieve x, y, or z, but these statements purely refer to tactical behavior. This is often confusing. Although both terms intertwine, they can be sharply separated.

A strategy can be compared to the plan for building a house. A house has a clear architecture, based on floor plans, and a defined exterior and interior. The architect determines a style of construction and plans a certain time for completion. In this example, the tactic can be seen as the material (bricks, shingles, beams, etc.). These small components, the building material needed, are assembled according to a predefined plan, resulting in the finished house. In short, the strategy is the big picture, the goal to be achieved. Tactics, on the other hand, are the necessary individual steps that enable the strategic goal to be achieved. Carl von Clausewitz, who will be discussed in more detail later, summarized the difference between strategy and tactics as follows: “Tactics is the doctrine of the use of armed forces in combat. Strategy is the doctrine

of the use of individual battles for the purpose of war". In short: Strategy is the *What* and tactics are the *How*. Sun Tzu defines both terms more simply by calling his strategy the victory and the methods used his tactics.

The *Art of War* by Sun Tzu

Now it is finally time to turn to the legendary work of Sun Tzu himself. Generally speaking, *The Art of War* addresses various aspects of war preparation and warfare, as well as their conditions. The contents of the currently known version are divided into 13 chapters, as already mentioned. Given the sometimes very different translations, it is not surprising that the headings vary depending on the translation, as the following overview clearly shows.

1. Planning and Preparation/Fundamental Assessments
2. On the Art of War/Going to War
3. Strategic Attack/Offensive Strategies
4. Disposition of Military Strength/Tactics/Treatise on Deployment/Formations
5. Energy/Force/On Strength/Influence and Authority
6. Weaknesses and Strengths/Truth and Untruth/ Maneuvering
7. Battle for the Initiative/The Battle
8. Nine Variations of Tactics/The Nine Adjustments/The Nine Variable Factors
9. The Army on the March/Taking Battle Position/ Marching
10. Terrain/Terrain Formations/Land
11. Nine Variations of Territories/Nine Terrain Formations/ The Nine Types of Terrain
12. Attack(s) by/with Fire/On the Art of Attack by Fire
13. The Use of Spies/Deployment of Secret Agents

Which formulation is the best, I do not want to decide and is ultimately hardly decisive for a deeper understanding. For me, when reading *The Art of War*, the current perspective was particularly important. For example, when Sun Tzu talks about the higher or lower position, or the terrain on which one positions oneself, I always asked myself: What is our terrain today? How can one gain a lofty or elevated position in it? These questions are being asked anew today. Because the virtual world is without borders and it is possible to launch attacks distributed across different time zones and all over the globe. That was the exciting thing for me when I read *The Art of War* for the first time. I had the feeling that within the complex text history there is another form of translation, by transferring Sun Tzu's thoughts into the world of the digital age. His thoughts on the weather play no role in the cyberspace in a too literal sense. After all, I can attack the Sahel zone from Finland, regardless of whether it is snowing here and the sun is shining there—although of course one can tactically use the weather on site, both in the past and today.

Even if some of his theses are adopted unfiltered and applied in military or economic areas, a look at one of the most famous sentences from *The Art of War* shows why the work is only understandable with commentary today. "The greatest achievement is to break the enemy's resistance without a fight." What exactly does this mean? To be productive in today's economy, this sentence could be translated as follows: If the characteristics of two products are comparable, there will be a price war between two competitors. This can either lead to falling margins or ultimately require a withdrawal. To avoid this fight, factors such as higher quality, faster delivery routes, or a good company image must be worked on. This would be much

more advantageous than fighting each other in the low-price segment.

From a military perspective, the tactic of weakening the enemy before the actual battle—such as through misinformation, the old method of “camouflage and deception” or the demoralization of the opponent—is also much more advantageous than facing mass against mass with an uncertain outcome. The quote “If you know the enemy and yourself, you need not fear the outcome of a hundred battles. [...] If you know neither the enemy nor yourself, you will succumb in every battle” means nothing more than that a strengths-weaknesses analysis is needed to be successful in military, business, and hacking. Sun Tzu’s tactical principle of being first teaches us that it is more advantageous to occupy a battlefield first and await the enemy with a well-thought-out action. Numerous startups try to take advantage of this competitive strategy by setting a technological standard and planning their market launch in such a way that they do not have to compete with any comparable product. This competitive advantage can achieve higher market shares and higher prices. Today, the faster often wins over the slower, not the bigger over the smaller as in the past.

In preparing this book, I also noticed that Sun Tzu is often used as a quote giver or referred to because his name and his work are meaningful. However, rarely is there an attempt to delve deeply into the text, to analyze what is there, and to understand what it means for our time today. That’s why I want to find out exactly that in the following, and examine chapter by chapter what reading *The Art of War* can mean for us. Since learning is in the foreground, I would like to speak here of 13 lessons.

Lesson 1: Planning and Preparation

“Peace is only the pause between two wars.”

Jaroslav Rudiš

This insight is known to every military and therefore it is essential to know and evaluate one's own current situation at all times. But this is also of high importance in the business world. There too, one must protect oneself from attacks by the competition. “The big ones eat the small ones and the fast ones the slow ones” is a standard statement that often applies if you have not analyzed the market, competitors, and attackers in time and evaluated your own position in it. The time before the actual conflict is crucial according to Sun Tzu: “A general who calculates everything down to the smallest detail before the battle will win, and he has a lot to consider. However, those who consider little before the battle will lose. Those who consider everything will win, those who consider little will be defeated, and woe to those who have considered nothing! Based on these preparations and views, I can already recognize the winner.”

In addition, Sun Tzu mentions five essential factors that are crucial for evaluating and defeating the enemy or competitor:

- the morale or discipline,
- the weather,
- the terrain,
- the command,
- the doctrine.

Let's go through these points in order to understand what exactly is meant by them. Morale, or more modernly