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ATOMIC ZEITENWENDE?

Edited by Ulrich Kühn



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Germany and Nuclear Weapons in the 21st Century

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The volume brings together internationally renowned nuclear scholars and policy analysts from Germany and abroad. Focusing on German nuclear deterrence, arms control and disarmament, as well as nonproliferation policies, the contributors assess how German leaders have navigated continuity and change, domestically and abroad. The volume concludes that Germany remains bound by dependence on the United States and its own conservatism. Within these parameters, German leaders have adapted slowly to change and continue to balance seemingly contradictory deterrence and disarmament goals.

This book will be of much interest to students of nuclear proliferation, security studies, German politics and International Relations, as well as policymakers.

Ulrich Kühn is Director of the Arms Control and Emerging Technologies Program at the Institute for Peace Research and Security Policy at the University of Hamburg, Germany, and a Nonresident Scholar with the Nuclear Policy Program of the Carnegie Endowment for International Peace in Washington, DC.

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Germany and Nuclear Weapons in the 21st Century

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Foreword

Catherine Kelleher

Back in 1975, I published *Germany and the Politics of Nuclear Weapons* with Columbia University Press. The Cold War was in full swing and had just taken a rather short-lived respite during the years of *détente*. In my book, I described the Federal Republic of Germany as an actor who sought to keep the status quo in order to change it eventually. Deeply embedded in the Western alliance, Bonn sought security against the Soviet Union, equality within NATO, and the eventual unity of Germany. Nuclear politics were front and center in West German strategy to achieve these intertwined and often conflicting goals.

So much has changed since then—much more than I imagined, and certainly more than I could predict: the fall of the Berlin Wall, German reunification, the implosion of the Soviet Union and the end of the Warsaw Pact, European integration, and now, with Russia's invasion of Ukraine on February 24, 2022, the return of war to Europe. Nuclear politics, having taken a backseat in world politics over the last thirty years, are back on the agenda. Russia is particularly successful at using nuclear threats. Today, nuclear weapons are being used as a diplomatic lever far more than they have been used in the past. Vladimir Putin has introduced a whole set of perspectives on the possible use of tactical nuclear weapons. His strategy of saying, 'I am ready to give you the worst I have, but I don't know what it is,' is a classic example of successful deterrence theory *à la* Thomas Schelling, put into practice.

Meanwhile, Europe's preeminent power—Germany—acts sometimes as if none of the basic considerations of the nuclear bargains that were struck in the 1950s and 1960s have necessarily changed. True, many of the questions discussed today are still the same old: the future and reliability of U.S. security guarantees; the (in)ability of Europeans to fend for themselves; the threat from Russia. Despite these historical parallels, no one in Germany seems ready to look back at any of the old Cold-War arrangements, like the failed 1954 Western European Union, or even the potentiality of how they could be used in new ways in today's world. Meanwhile, from many other perspectives—those in Europe and including those in Russia—many of the basic considerations in the nuclear domain have indeed changed. It looks to me as if German leaders have not yet made up their minds how to cope with those changes.

America, too, is changing. The United States' commitment to Europe after World War II was a duty. Americans had just fought two horrible wars to stay in

Europe, and staying in Europe was of paramount importance. Today, the U.S. commitment is much more of a balancing act—between staying in Europe on terms that are acceptable to the U.S. public and at the same time making sure U.S. allies feel reasonably assured. Despite this balancing act, I do not think that America will ever leave Europe behind, whatever some in the United States might say.

I know that some in Germany—a minority—think that a “Eurodeterrant” under French leadership would be a good idea, just in case America would go home. It could work, if structured correctly and in a form that becomes acceptable to the other Europeans. But for that to happen, Berlin would have to be eager to take the lead on this issue, partly because France has lost so much political power in Europe since the end of the Cold War. Leadership would mean being willing to step on people’s toes, including, for instance, the Polish government’s. I do not see the Germans being ready for that. Instead, Poland might be able to get into NATO’s nuclear sharing arrangement. By putting its territory flat in front, Poland is making a big contribution to the alliance, and Poland has an effective fighting force.

Looking beyond Europe, I can imagine the circumstances that could lead other countries to expand their nuclear arsenals in the wake of Russia’s war against Ukraine. How much longer before China makes a military move against Taiwan? How much longer will India keep restraints on its already very well-developed force? Many tacit nuclear and non-nuclear bargains may come to an end as a consequence of this war. The central question is how well these bargains fit into a new international structure that is only about to take shape.

In my view, February 24 was a historic event the size of the Berlin Wall falling. German Chancellor Olaf Scholz’s proclaimed *Zeitenwende* (“watershed moment”) signifies the magnitude of the structural changes that have come to affect Europe and Germany. A lot will have to change in German politics to cope with the challenges. Take Scholz’s own party, the Social Democrats (SPD). In the past, the SPD was too lenient and too naïve when it came to Russia. The old SPD saw Russia as a special project; one that could be turned into something better over time. With that hope in mind—playing an active role in the positive transformation of Russia—Social Democrats invested a lot of time, money, and manpower. The SPD, too, will have to change.

One of the biggest surprises of my lifetime is the change in the Green Party. The Greens, in part because of a new generation of leadership and the actual personal backgrounds of some of the people in the leadership now, are today much more of a working partner for the United States than they ever were. I believe this has to do with Putin’s war and with the fear that America might retreat from Europe. The Greens never wanted to say ‘yes’ to anything that would involve the use of German arms in an armed conflict. Nevertheless, February 24 made them realize that they had to take responsibility and that it was time to grow up. The Greens had to evolve and grow.

Germany’s reactions to Russia’s war show that Germany is not willing to defend each and every aspect of the status quo that emerged with the end of the Cold War anymore. I would even argue that it gave up that role long before the current war. If part of keeping the status quo, however, is keeping with the United States then

Germany will have to adjust its policies constantly to U.S. volatility and U.S. foreign policy failures. Doing so would necessarily affect Germany's role as a status-quo-embracing actor, and perhaps not for the better. Then again, somebody must stand up for the status quo or it will simply vanish.

Finally, looking at Russia's future, I think the country will collapse at some point, either very slowly or very suddenly. It might not be the kind of political implosion that we in the West would like to see—where the old system simply collapses, and the Russians start all over—and it might not be due to a popular uprising either. But Russia will certainly not become the revenant of the Soviet Union that Vladimir Putin might have in mind. For Germany, I think the only option for dealing with Russia right now is containment. You do not want Russia militarily in Europe again, under any circumstances.

One of the biggest mistakes of my generation—the generation that brokered the deals that ended the Cold War—was thinking that democracy was the key to Russia and that it would all be fine once we got Russia's economy straightened up. It may have been the right course; we may not have waited long enough. Perhaps we never took the idea of 'Russia in NATO,' i.e., the formal integration of the giant country into the Western alliance, seriously enough. I still believe there was a bargain or two to be made back in the 1990s. Whether a new European security order will emerge after the war or as a result of the war remains to be seen. Perhaps a future order will not have the same level of formality and inclusion as under the 1990 Charter of Paris, but possibly something close to the same level. In any case, I think that Germans cannot live the life they want to live without Europe unified after the current war.

It is now close to fifty years since my book on German nuclear politics was published. It is high time to take a fresh look at Germany's nuclear politics and identify areas of continuity and change. This volume assembles an excellent collection of scholars and experts from Germany and elsewhere, taking stock of Germany's politics on nuclear deterrence, arms control, and nonproliferation. I hope the book finds a wide readership and contributes to a better understanding of this vital U.S. ally.

Silver Spring, MD
January 2023

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Abbreviations

AfD	Alternative for Germany
AI	Artificial Intelligence
ALCM	Air-Launched Cruise Missile
AUKUS	Australia, the United Kingdom, and the United States
BAFA	Federal Office for Economic Affairs and Export Control
BRI	Belt and Road Initiative
BRICS	Brazil, Russia, India, China, and South Africa
CASTOR	Cask for Storage and Transport of Radioactive Material
CD	Conference on Disarmament
CDU	Christian Democratic Union
CEA	French Atomic Energy Commission
CFE	Treaty on Conventional Armed Forces in Europe
CFSP	Common Foreign and Security Policy
CPM	Customer Product Management
CSU	Christian Social Union
CTBT	Comprehensive Nuclear-Test-Ban Treaty
DARPA	Defense Advanced Research Projects Agency
DCA	Dual-Capable Aircraft
DDPR	Deterrence and Defence Posture Review
E3	European Three (France, Germany, United Kingdom)
E3/EU+3	E3, EU, China, Russia, and the United States
EDF	European Defense Fund
EEAS	European External Action Service
eFP	Enhanced Forward Presence
EIF	European Investment Fund
ESSI	European Sky Shield Initiative
EU	European Union
FCAS	Future Combat Air System
FDI	Foreign Direct Investment
FDP	Free Democratic Party
FIG	Franco-Italian-West German
FMCT	Fissile Material Cut-off Treaty
G20	Group of Twenty
G7	Group of Seven

GDP	Gross Domestic Product
GFF	German Future Fund
GLCM	Ground-Launched Cruise Missile
HEU	Highly Enriched Uranium
HLPG	High-Level Preparatory Group
IAEA	International Atomic Energy Agency
ICAN	International Campaign Against Nuclear Weapons
INF	Intermediate-Range Nuclear Forces Treaty
INSTEX	Instrument in Support of Trade Exchanges
IPPNW	International Physicians for the Prevention of Nuclear War
JCG	Joint Consultative Group
JCPOA	Joint Comprehensive Plan of Action
MGCS	Main Ground Combat System
MLF	Multilateral Force
MP	Member of Parliament
1MSP	First Meeting of States Parties to the TPNW
MRBM	Medium-Range Ballistic Missile
NAM	Non-Aligned Movement
NATO	North Atlantic Treaty Organization
NNWS	Non-Nuclear Weapon State
NPDI	Non-Proliferation and Disarmament Initiative
NPG	Nuclear Planning Group
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NRC	NATO-Russia Council
NSG	Nuclear Suppliers Group
NSS	National Security Strategy
NWFW	Nuclear-Weapons-Free World
NWS	Nuclear Weapon State
OECD	Open-Ended Working Group
OEG	Operational Expert Group
OWEG	Open-Ended Working Group
OSCC	Open Skies Consultative Commission
OSCE	Organization for Security and Co-operation in Europe
OST	Treaty on Open Skies
PAP	Parallel Action Package
PDS	Party of Democratic Socialism
PESCO	Permanent Structured Cooperation
PNIs	Presidential Nuclear Initiatives
PrepCom	Preparatory Committee
PSI	Proliferation Security Initiative
P5	China, France, Russia, United Kingdom, United States
P5+1	P5 States Plus Germany
R&D	Research and Development
RevCon	Review Conference
SALT	Strategic Arms Limitation Talks

SCO	Shanghai Cooperation Organisation
SLCM	Sea-Launched Cruise Missile
SPD	Social Democratic Party
SPRIN-D	Federal Agency for Disruptive Innovation
SRBM	Short Range Ballistic Missile
SSNW	Sub-Strategic Nuclear Weapon
START	Strategic Arms Reduction Treaty
SVC	Special Verification Commission
TNW	Tactical Nuclear Weapons
TPNW	Treaty on the Prohibition of Nuclear Weapons
UN	United Nations
UNGA	United Nations General Assembly
UNSC	United Nations Security Council
USSR	Union of Soviet Socialist Republic
VD	Vienna Document
WEU	Western European Union
WMD	Weapons of Mass Destruction



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Introduction

Ulrich Kühn

Germany and the *Zeitenwende*

On February 27, 2022, German Chancellor Olaf Scholz appeared before the *Bundestag* and delivered an unscheduled government statement:

The twenty-fourth of February 2022 marks a watershed [*Zeitenwende*] in the history of our continent. With the attack on Ukraine, the Russian President Putin has started a war of aggression in cold blood. [...] We are living through a watershed era. And that means that the world afterwards will no longer be the same as the world before.

(The Federal Government 2022a)

Soon thereafter, Scholz's statement became known as the *Zeitenwende* speech, often used by scholars, journalists, and pundits alike to capture both this pivotal turning point in European history and Germany's reactions to it (Blumenau 2022; Sauerbrey 2022; Raik 2023). The war confronted Europe's foremost power with a multitude of challenges, putting into question long-held German beliefs and challenging Berlin's national interests. Germany's basic orientation before and after the Cold War as a "civilian power" (*Zivilmacht*), civilizing politics and international relations in particular (Maull 2007), had to adapt to a new policy of Germany supplying the besieged Ukrainian government with advanced German weaponry while at the same time boosting its own defense with a 100 billion Euro special fund for the *Bundeswehr*. Berlin's agenda of economic interdependency incentivizing cooperative and peaceful relations (*Wandel durch Handel*) was disrupted as a result of Western sanctions against Russia and the Kremlin weaponizing its gas and oil deliveries against Western Europe and Germany in particular (Blumenau 2022). Germany's special relationship with Russia, deeply engrained in the German political system since the inception of *Ostpolitik* in the 1960s and 1970s, became the focal point of strong domestic and international criticism (Fröhlich 2023). At the same time, the country's traditional *Westbindung*—its alliance with the United States and within the structures of NATO (North Atlantic Treaty Organization)—bounced back after four debilitating years under the presidency of Donald J. Trump. It is fair to argue that the war has fundamentally impacted German foreign policy, effectively ending three peaceful decades of post-Cold War German prosperity and

security. Whether and how German foreign policy can or should respond with continuity (Harnisch 2001; Mello 2020) is currently an open question.

The war has also left its mark on German nuclear policies. Only a few weeks after Scholz's speech, the government announced to purchase U.S.-made F-35 aircraft to replace Germany's aging fleet of nuclear-capable fighter jets, assigned to NATO's nuclear sharing mission. The decision ended ten years of inconclusive discussions about the merits of Germany contributing to U.S. extended nuclear deterrence. Perhaps even more remarkably, the decision was supported by a majority of Germans, who had held strong anti-nuclear views before the war (Kütt 2022). In August 2022, Scholz announced in a speech in Prague the creation of a European air defense system (The Federal Government 2022b), known as the European Sky Shield Initiative, aimed primarily at countering Russian airborne threats (Federal Ministry of Defense 2022). Meanwhile, Annalena Baerbock, Germany's new Foreign Minister from the Greens—a party with a long pacifist tradition—urged Germans to “understand disarmament and arms control as being complementary to deterrence and defense” (Federal Foreign Office 2022). Finally, in November 2022, the *Bundestag* decided to extend the life of two of Germany's remaining nuclear power plants for an additional 3.5 months in order to cope with energy shortages, despite long-held government plans to completely phase out civil nuclear energy by the end of 2022 (Bundestag 2022). Again, a majority of Germans—previously in favor of shutting down Germany's nuclear power complex completely—was now supportive of continuing to use nuclear energy (World Nuclear News 2022).

One could argue that the Ukraine war has changed the country's nuclear policies. Zooming out of the current political upheaval, however, one could also conclude that continuity still reigns in Berlin. Germany continues to play its role in nuclear sharing, as it has done for decades. It continues to see “disarmament and arms control [as] an essential component of [its] security,” as Baerbock confirmed (Federal Foreign Office 2022). And it has not reversed nuclear phase-out, despite mounting domestic and international criticism.

A New Nuclear Age

These competing signs of change and continuity become even more puzzling as they come on the back of a series of German nuclear debates that had started well before the Russian aggression. Following Trump's election as U.S. President in 2016, a hectic public debate arose among Germans about the continued credibility of U.S. security guarantees and the apparent necessity of creating a so-called “Eurodeterrent,” based on French nuclear capabilities, to hedge for a possible U.S. retreat from Europe (Kühn, Volpe, and Thompson 2020). Three years later, French President Emmanuel Macron invited all interested European states to a “strategic dialogue” on the role of the French nuclear forces in relation to European security, thereby reenergizing the debate in the German media and among policy pundits (Kunz 2020). While one part of the German political spectrum was occupied with debating nuclear deterrence, the other argued for stronger German disarmament commitments. A new agreement banning all nuclear weapons—the Treaty on the

Prohibition of Nuclear Weapons (TPNW)—had increased public pressure from civil society groups and from left-leaning parliamentarians. Then, in 2020, parts of the ruling Social Democratic Party (SPD) suggested ending the practice of nuclear sharing and withdrawing all U.S. nuclear arms from Germany (Fuhrhop, Kühn, and Meier 2020), thereby drawing harsh criticism from its more powerful coalition partners, the conservative Christian Democratic Union (CDU) and the Bavarian Christian Social Union (CSU). For a country that had barely discussed nuclear weapons policies publicly since the end of the Cold War, where a majority of Germans had held strong anti-nuclear views, and where German politicians traditionally shy away from explaining their nuclear policies out in the open, this burst of debates in recent years was already remarkable.

These discussions are not an isolated German phenomenon though. Rather, they should be seen in conjunction with a number of systemic shifts and changes at the international level. In recent years, nuclear scholars have argued that the world has entered a “third” or “new nuclear age” (Naylor 2019; Legvold and Chyba 2020; Cooper 2021; Futter and Zala 2021; Narang and Sagan 2022). While authors differ in their assessment as to the actual or anticipated consequences, they all converge around the point that the world is going through a period of rapid political and military-technological change. Unpacking change, scholars have argued that the emergence of a multipolar nuclear order, as opposed to the previous U.S.–Russian bilateralism (Miller 2020), increased U.S.–Chinese competition (Bin 2020), new military technologies blurring the lines between previously separate military domains (Acton 2018), uncertainties among allies about the long-term policy trajectory of the United States (Brewer and Dalton 2023), and a profound crisis in multilateral and bilateral arms control and disarmament (Krepon 2021; Wisotzki and Kühn 2021) all make for a more dangerous, less predictable, and less secure world.

A growing body of literature has started to document different aspects of these interlinked debates in the German context. The topics under scrutiny are Germany’s stance towards nuclear deterrence (Kühn and Volpe 2017; Volpe and Kühn 2017; Meier 2020; Fuhrhop 2021; Roberts 2021) and the related debate about a “Eurodeterrent” (Thränert 2017; Maitre 2019; Tertrais 2019; Vicente 2019; Kunz 2020; Sauer 2020; Egeland and Pelopidas 2021) as well as Germany’s nuclear arms control and disarmament policies (Fuhrhop, Kühn, and Meier 2020; Meier 2021; Onderco and Smetana 2021; Pifer 2021; Smetana, Onderco, and Etienne 2021; Kütt 2022). Less scholarly attention has been paid to the country’s recent nonproliferation policies (Thränert 2020) and, in particular, its 2011 decision to phase out nuclear energy (Schreurs 2012).

Approach and Proceedings of the Volume

All of these different developments and debates, the slow as well as sudden changes of domestic and international politics, make it necessary to take a fresh and comprehensive look at the nuclear actor Germany. This volume investigates a central question: how does Germany deal with and adapt to recent changes in the nuclear

realm, even more so since war has returned to Europe? Since the end of the global block confrontation, Germany has relied on a combination of nuclear deterrence, arms control and disarmament, as well as nonproliferation policies. In all three domains, German politicians have always striven to incorporate, and therewith also bind, the German 'giant' into multilateral security structures: be it within NATO, the European Union (EU), the United Nations, or the Organization for Security and Co-operation in Europe. "Never alone" became one of the hallmarks of German foreign and security policy (Rotter 2023), aimed at cautiously avoiding any reiteration of past German policies to go it alone (*Sonderweg*). This policy is in line with and a direct result of German national identity, which has moved, as Müller (2003, 18) argues, "more and more away from a traditional understanding of power politics and more in the direction of a normative orientation and a multilateral policy style."

In the nuclear realm, however, this combination of policies makes Germany largely dependent on the United States as the ultimate security guarantor and on a rather benevolent security environment. If either one of those variables changes, German nuclear policies are set in motion. These dynamics explain both the uptick in German nuclear debates in recent years and the sudden policy changes announced by Chancellor Scholz after Russia's attack on Ukraine. Together, they are the result of fundamental changes occurring at the systemic and military-technological levels of international relations since at least the second decade of the 21st century (Nye 2023).

Accordingly, this volume focuses on Germany's changing nuclear policies since the end of the Cold War, with a particular focus on the period since the beginning of the new millennium. Where necessary to explain change, individual chapters make historical references to West German policies before the fall of the Berlin Wall. The volume has four parts. The first part identifies three major sources of change affecting Germany—systemic, technological, and, most recently, the war in Ukraine. The following three parts analyze how German nuclear weapons policies deal with and adapt to changes in the deterrence, arms control and disarmament, and nonproliferation domains. This breakdown along policy lines follows Horsburgh's (2015) definition of the main elements of the global nuclear order. Each part of the volume contains three chapters, written by internationally renowned nuclear scholars and policy analysts from Germany and abroad. The concluding chapter sums up their findings and attempts to forecast how German nuclear policies may develop in the years ahead.

Part I: Sources of Change

Recent years have seen a number of systemic and military-technological changes that have started to profoundly alter international relations, global security, and nuclear policies in particular. As Nye (2023, 5) wrote only recently,

the structure of world politics is different [today]. The bipolar Cold War is over and has been replaced by a new great power competition that involves

the United States and both a revanchist Russia and a rising China. [...] In addition, technology has changed, with the Internet, artificial intelligence, and cyberattacks creating new problems for command and control.

Germany, no less, is increasingly affected by these changes, with the war in Ukraine triggering the notion of a *Zeitenwende*. How these systemic shifts in power and influence affect Germany and its trajectory in different future scenarios, whether the country has already changed its foreign and security policy identity in response to the Russian war of aggression, and what Germany's capacity to adapt to technological change is, are investigated in the first part of this volume on so-called sources of change.

Opening the first part, *Robert Legvold* discusses systemic change by focusing on four possible futures shaping and being shaped by Germany: the future of the war in Ukraine, the future of Russia as a foreign policy actor and as a challenge for the West, the future of European security, and the future of the international political system. From a policymaking perspective, he argues, gauging the effects of developments related to each future involves understanding their different but overlapping timeframes. Together they create the immediate, intermediate, and longer-term perspectives within which Germany will need to make hard choices. Legvold finds that a new bipolar world driven by two entwined "cold wars" would carry the grimmest implications for Germany and its EU and NATO allies. The choices that Germany will make and the leadership it exercises in helping to craft an end to the war in Ukraine, in coping with the Russia that emerges from the war, and in defining Europe's future security architecture will be critical.

Focusing on Russia's war of aggression against Ukraine, *Liana Fix* assesses to what extent the *Zeitenwende* has already changed Germany's foreign and security policy identity from "military restraint" and "civilian power" to a return to military power and leadership. Fix gauges how lasting this change may be, and what the implications are for broader European security and transatlantic relations. She argues that the most important explanatory framework to understand German foreign policy after reunification—the so-called "change versus continuity debate"—does not anymore capture the profound reorientation of German foreign policy after Russia's invasion. Two of Germany's main policy tenets, civilian power and military restraint, have largely disappeared. At the same time, Germany's new military ambitions, Fix concludes, do not equal a return to the German militarism and bellicosity of the 20th century. Instead, Germany's return to military power should be understood as a responsibility to defend and to become a "security guarantor in Europe."

Concluding the first part of this volume, *Amy Nelson* considers technology as a source of change against the background of increased geopolitical competition, Russia's war against Ukraine, and a looming new nuclear age. Nelson assesses Germany's capacity to adapt to technological change by leveraging its ability to innovate in the technological and defense-technological sectors. Specifically, she looks at the current military-technological challenges that Germany and Europe face, assesses Germany's 'defense turn' in conjunction with the *Zeitenwende*, and

provides an in-depth examination of Germany's national model of innovation, which was developed over the past decades. She finds that Germany is about to continue its strategy of slow adaptation, despite its new and very ambitious defense policy goals. It remains uncertain whether the country can create the necessary momentum for radical innovation, especially now that Germany could face a prolonged economic downturn.

Part II: Deterrence

Despite the peaceful end of the Cold War and the demise of the Soviet Union, Germany continued its reliance on U.S. extended nuclear deterrence ever since (Hlatky 2014; Fuhrmann 2018). In effect, three decades later, a small number of U.S. tactical nuclear warheads—an estimated number of 15 B61 nuclear gravity bombs (Kristensen 2021)—is still deployed on German soil and German dual-capable aircraft are integrated into NATO's nuclear sharing mission. Consecutive German governments, including different coalitions between Conservatives (CDU/CSU), Social-Democrats (SPD), Liberals (Free Democratic Party, FDP), and Greens (Bündnis 90/Die Grünen), have all kept this arrangement despite infrequent attempts to get rid of U.S. forward-deployed nuclear arms (Sonne 2018, 30). Including the Cold War years, (West) Germany follows a tradition of hosting U.S. nuclear weapons for extended deterrence purposes in Europe for almost 70 years now (National Security Archive 1999, 246). Whether and how that tradition might change as the Ukraine war progresses and what role France's nuclear forces as well as shifting preferences among the German public could play in the years ahead, is at the center of the second part of this volume on nuclear deterrence.

Starting the second part, *Tobias Bunde* looks at Germany's nuclear strategy after the end of the Cold War and discusses how German leaders have responded to two far-reaching changes in the nuclear security environment: the *Zeitenwenden* of 1989–1991 and 2014–2022. Bunde argues that fears of abandonment and entrapment have continued to shape German nuclear policy, even though in slightly different forms compared to the Cold War days. After the block confrontation, German leaders tried to minimize nuclear risks, while avoiding questioning NATO as a nuclear alliance, thereby trying to square the circle between growing popular anti-nuclear sentiments and the multilateral reflex of German foreign policy. While the benign security environment of the post-Cold War era made it possible for successive German governments to pursue a relatively inexpensive *sowohl als auch* (as-well-as) policy on deterrence and disarmament, the new security environment will force Germany to reinvest in nuclear deterrence.

In a co-written chapter, *Barbara Kunz* and I assess recent German debates about two potential alternatives to the model of U.S.-provided extended nuclear deterrence: Franco-German nuclear cooperation and Germany acquiring its own nuclear deterrent. Even though kicked off in reaction to the election of Trump in 2016, these debates have again become more prominent in light of the war in Ukraine and with leading politicians from the German conservative political spectrum now weighing in. The chapter discusses the feasibility of these musings in

terms of the obstacles that would have to be surmounted, including an estimate of German breakout time. For both options, the chapter concludes that the obstacles are extremely high. Pursuing either Franco-German nuclear cooperation or a German bomb would come at tremendous political cost and likely make Germany and Europe less secure. In the end, these musings are a symptom of Germany's sometimes uneasy dependence on the United States coupled with a lack of strategic substance in German defense debates.

Finally, *Michal Onderco*, focusses on German public opinion, which has been historically opposed to nuclear weapons and nuclear deterrence. In his chapter, Onderco first maps the main patterns of public opinion between 2000 and 2023, providing empirical evidence to the unpopularity of nuclear weapons among the German public prior to February 2022. He finds evidence that this pattern was, to some degree, overturned after the start of Russia's invasion of Ukraine. He then provides an innovative and rather compelling theoretical argument to explain the democratic legitimacy of the continuation of the current nuclear deterrence posture in which nuclear sharing on German territory is a key element, despite the opposition by the general public. His argument builds on scholarship tackling the dilemma between responsiveness and responsibility, and addresses the fundamental tensions inherent to technocratic policy-making in democratic countries.

Part III: Arms Control and Disarmament

Germany's stance towards arms control and disarmament since the end of the Cold War perhaps best reflects what Müller (2003, 18) captured as Germany's "normative orientation" and its multilateral foreign policy style. Both a normative inclination towards arms control and disarmament as instruments for civilizing international conduct as well as a certain normative idealization of these instruments are common features of post-Cold War German politics. Since the beginning of the new millennium, and even more so throughout the last decade, the deep crisis of U.S.-Russian nuclear arms control, conventional arms control in Europe, and many multilateral disarmament regimes have confronted Germany with the hard fact that its own policy preferences have diverged from international realities (Wisotzki and Kühn 2021). While still a vocal advocate of arms control and disarmament (Federal Foreign Office 2022), Germany was seen by some as a passive bystander to the slow dismantlement of Cold War-era arms control agreements or as hesitating when it came to more ardent disarmament policies such as supporting the TPNW (Kütt 2022). The third part of this volume examines whether Berlin could have done more for its arms control interests, how a new generation of disarmament-friendly Green politicians combines idealism and political pragmatism, and whether the TPNW has already changed the disarmament discourse in Germany.

In his chapter opening the third part, *Wolfgang Richter* takes stock of Germany's arms control policies. Since the Cold War, German governments have made significant efforts to establish and strengthen a robust arms control architecture and cooperative security environment in Europe. However, the most important of these

arms control agreements eroded during the past twenty years and, eventually, collapsed before Russia's invasion of Ukraine. Richter examines what Germany did to halt the disintegration of arms control and demonstrates that Berlin's manifold policies in coordination with like-minded partners to rescue and adapt these treaties found their limits when faced with contradicting policies of allies, in particular the United States. Confronted with the risk of a serious split of NATO, Germany always gave priority to maintaining alliance and transatlantic solidarity, which Berlin regards as indispensable to secure German independence and sovereignty. Richter concludes that Germany is likely to continue pursuing arms control within these limits, but not risk weakening collective deterrence and defense to that end.

Giorgio Franceschini focusses on the role of the Greens, who are part of Germany's currently ruling three-party coalition government, in his chapter. The Greens are the political party most often referred to as a force for change writ large and nuclear disarmament in particular. However, once in government in 2021, the Greens agreed to extend Germany's participation in nuclear sharing and toned down their previous calls for Germany to accede to the TPNW. Having conducted a number of qualitative interviews with leading Green politicians, Franceschini documents the recent shift from the previous Green nuclear abolition orthodoxy to a more pragmatic course. He explains it with intra-party dynamics, generational aspects, and disruptive external events. Franceschini concludes that the Greens are still somewhat torn between disarmament aspirations and political pragmatism when it comes to nuclear weapons, though recent developments indicate that, for the time being, the party might have found a third way—pragmatic abolitionism—for dealing constructively with its conflicting interests.

Finally, *Katja Astner* and *Moritz Kütt* assess Germany's unusual position as a non-member of the TPNW, a NATO ally hosting U.S. nuclear weapons, and, simultaneously, a regular advocate of global nuclear disarmament. They use the TPNW as a probe to explore whether the Treaty has changed the German disarmament discourse. First, they assess Germany's role in the TPNW negotiation process and the official government positions taken. Then, Astner and Kütt propose a thought experiment wherein Germany would decide to join the TPNW in order to highlight some of the legal and political challenges. Finally, they analyze Germany's discursive actions in international fora and general domestic disarmament debates, with the aim of determining how the TPNW has shaped them. Much like Bunde in Chapter 4, their analysis shows that Germany's disarmament policies and responses to the TPNW have often boiled down to a *sowohl als auch* (as-well-as) approach that attempts to combine two conflicting positions: nuclear deterrence and complete nuclear disarmament.

Part IV: Nonproliferation

Perhaps the biggest changes in Germany's self-image as a nuclear actor took place in the nonproliferation domain. These changes played out over several decades. From actively gauging possible proliferation during the early years of the Federal Republic of Germany (Gerzhoy 2015) and subordinating the Treaty

on the Non-Proliferation of Nuclear Weapons (NPT) to West German economic interests throughout the 1970s and 1980s, to slowly getting rid of its latent capabilities during the first decade after the Cold War and becoming a staunch supporter of the NPT and its supporting export control mechanisms—Germany has come a long way (Müller 2003). Over the last three decades, Germany’s interest in maintaining and strengthening the global nonproliferation regime has become so strong that Berlin even decided to confront the United States head-on over the Trump administration’s decision to withdraw from the Iran nuclear deal. At the domestic level, German nonproliferation preferences finally met with longstanding public concerns towards nuclear energy. In 2011, impressed by the Fukushima nuclear power plant accident, German leaders decided to completely phase out the country’s civil nuclear program, thereby closing the last theoretical German proliferation option without weighing any possible security-political consequences. Focusing on Germany’s past and present policies in the NPT context, the reasons behind Germany shuttering its latent nuclear capabilities, and the country’s policies to strengthen global nonproliferation by upholding the Iran nuclear deal, the fourth part concludes this volume.

Starting the fourth part, *Harald Müller* analyzes Germany’s policies towards the NPT from two perspectives: Germany’s changing behavior towards the Treaty and German policies adapting to changes within the regime and the broader international environment. Relying on publicly available resources from the Federal Foreign Office, Müller starts by assessing German policies within the NPT review cycle. He then moves on to look at those policies that directly relate to the three NPT “pillars” of nonproliferation, disarmament, and peaceful uses. He concludes that Germany’s changing role towards a model of “good citizen” is a direct product of the end of the bloc confrontation. Since then, German efforts to strengthen the NPT followed an incremental reformist agenda, which focused on implementation and met its limits the more contested discussions within the NPT became since the turn of the millennium. Despite continued efforts to overcome political rifts, he argues, German bridge-building failed more often than it succeeded.

In my own chapter on the puzzling end of German latency, I look at Germany’s 2011 decision to phase out nuclear energy completely. Interestingly, the dual-use nature of nuclear energy production did not play any role in that decision. This is puzzling, as nuclear latency—the technical capacity to produce atomic weapons—could theoretically serve as a hedge against future contingencies, notably the rise of an adversary or the demise of an alliance. I find that for Germany, phase-out was neither just caused by the Fukushima accident, nor an exclusive consequence of long-held domestic opposition to all things nuclear, but a product of certain domestic and international conditions converging. Once German leaders saw no necessity, no credibility, and no viability for retaining latency anymore towards the end of the Cold War, they initiated the slow process of nuclear phase-out. Today, changed conditions might speak for reversing these policies. German policymakers, however, may consider the cost of reversal too high.

Concluding the last part of this volume, Germany’s role as a facilitator and active defender of the Iran nuclear deal is at the center of *Cornelius Adebahr’s* chapter.

Negotiated for more than a decade and barely still in force today, Adebahr views the Joint Comprehensive Plan of Action (JCPOA) as an expression of Germany's long-standing international preferences. On the one hand, Berlin aims to maintain the global nonproliferation regime while, on the other, also advancing its own position inside the United Nations system. His chapter explains Germany's contribution to the JCPOA, from its European-only beginnings to attempts to preserve the deal in the face of U.S. and Iranian non-compliance. Adebahr concludes that the international coalition formed to prod Iran through sanctions and diplomacy was a specific product of its time and a repeat performance increasingly unlikely. A future world facing an increasing threat of the use of nuclear weapons and the likely spread of nuclear energy as part of the green transition, he argues, will force Germany to adjust its nonproliferation policies.

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Part I

Sources of Change



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1 Germany and Four Futures

Robert Legvold

Introduction

Russia's war against Ukraine has upset everything. Whatever Germany's sense of its national security had been before; whatever its assumptions about peace in Europe and potential threats to it; whatever its view of a malcontented and agitated Russia, the war has transformed it all. The new reality, however, is not settled. How it will evolve constitutes the shrouded context within which Germany will struggle to redefine its national security posture. This context is not simple. While the war in Ukraine forms its center, three other futures create a formidable set of challenges facing the leadership of all major countries, none more than in Germany.

Think of them as four separate but interlaced spheres—a rough hierarchy, with each nested in the one above, shaping the one above, and in turn being shaped by it. At the base of the hierarchy, large and imminent, is the future of the war in Ukraine. Above and entwined with it is the future of Russia as a foreign policy actor and as a challenge for the West, including Germany. Both weigh heavily on the future of European security—its evolving character, dynamics, and stability. Finally, in the world beyond, the changes recasting the international political system will intrude on the turmoil shaping Europe's future, but so too will outcomes in Europe inflect the change altering the larger setting. From a policymaking perspective, gauging the effects of developments at each level involves understanding their different but overlapping timeframes. Together they create the immediate, intermediate, and longer-term perspectives within which Germany will need to make choices.

The Future of the War in Ukraine

The war radiates through all that surrounds it, but predicting its denouement and the shape this will give to Russia as a challenge for German and allied foreign and security policy, as well as its impact on the future of European security, is difficult when at this point even the war's next phase eludes prediction. The best that one can do is to identify a range of plausible outcomes and consider the implications of each.

The spectrum is short, extending from an end to the war with clarity to one without. Four possible outcomes that comprise it, however, differ in fundamental ways. The first would be a wholesale defeat for one of the sides allowing the other

to dictate the terms of the war's outcome. Apart from assessing its probability, there is the further difficulty of determining what a wholesale defeat might be. How badly must Russian military forces be battered and driven back before the Russian leadership sees itself with no option but to accept whatever the other side proposes? How unbearable must the cost of the war be or how untenable must its military position become before the Ukrainian leadership concedes that all is lost? Theoretically, such a point exists for each side, but wherever it is, a year and a half into the war, reaching it seems unlikely.

Second, a more likely outcome would be a partial victory for one side or the other. For Ukraine, this might include the reconquest of most of the territory lost since the February 24th Russian invasion and a Russian military spent and cowed, but with Ukraine's maximum objectives unachieved. All the lost territory, including Crimea, would not be recovered, Russian reparations would not be in store, and the war's perpetrators would not be before the International Criminal Court. There might be a formal agreement underwriting these results, with a slight chance this could be part of a recrafted Minsk agreement creating a process for resolving the status of the disputed Donbas territories.

For Russia, what a partial military victory looks like is more elusive, because it does not yet appear to have a place in Vladimir Putin's mind. One likely scenario, however, may be Ukraine's military options exhausted and Russia in control of some or all four oblasts, including the land bridge to Crimea, even if unrecognized by Ukraine and its Western allies. It may include a formally negotiated and monitored cease-fire or it may not, but if not, the results will be precariously unstable.

A Korean War-like stalemate, the third prospective outcome, is at the blurry and indeterminate end of the spectrum. It would leave the war frozen in place, military operations suspended, but fundamental issues unresolved and the terms for the war's termination unnegotiable. If this be an armistice, where its line will be drawn will be where the military forces of the two sides stall.

The fourth possible outcome, a large-scale protracted conflict, would be still more indeterminate and distinctly more unstable. It would resemble the conflict in Donbas, only writ larger. Troops would be dug in along the line(s) where the battle halted. An unsettled peace would be periodically ruptured by firefights that threatened to reignite the war. The two sides at moments might reach agreement on practical details, but the underlying tension would prevent any progress toward a resolution of the conflict. The more or less permanent efforts of third parties to bring the two sides together would continually fail. Protracted conflicts, such as those over Nagorno-Karabagh, Palestine, or, earlier, Cyprus, are not short-lived affairs.

Of the four possible outcomes, the second—a partial victory for one side—appears alone to offer an opportunity for outside powers to play an effective role. The United States and European allies, perhaps in tandem with China, India, and/or Turkey, could engineer an end to the conflict that reflected and then consolidated one side's partial victory. Producing or underwriting the first outcome is almost surely beyond their reach or even aspiration. The third and fourth outcomes would simply testify to their impotence and irrelevance.

There is, however, a potential intermediate stage preceding the war's outcome: the current North Atlantic Treaty Organization (NATO)-Russia proxy war could escalate into a direct war, triggered either by a Russian conventional attack on military or related assets and facilities in a NATO country or countries, or the Russian use of a tactical nuclear weapon or other weapon of mass destruction in Ukraine, producing a direct NATO conventional strategic attack on Russian assets and facilities. In either case, the war's outcome—short of escalation into a catastrophic nuclear war—is still likely to fall within the range noted, but the effect on the futures at the other three levels will likely be much more dramatic and negative.

The Future of Russia

If the war's future is cloudy, the character of the future challenge that Russia will pose for Germany and its allies is cloudier yet, because it will in significant measure depend on the war's outcome. At this point, the war appears to have solidified the metamorphosis of a Russia that Western leaders had once hoped to see join them in fashioning a cooperative European security architecture into an estranged, hostile power (EASI 2012, 6–19). For more than a decade, Russia, as curated by Putin, has portrayed itself as increasingly alienated from the political and social values of a U.S.-led West, facing an adversary desperately struggling to save its fading sway over the international system and bent on checkmating, diminishing, even destroying his country. The 2023 Concept of the Foreign Policy of the Russian Federation, although professing “no hostile intentions” toward the West or any desire of “isolating” Russia from it, or even to “consider itself to be an enemy of the West,” places greater stress on the alleged multidimensional threat that the West, under the malign direction of the United States, poses to Russia (President of the Russian Federation 2023). A top priority of Russia's foreign policy must be to undermine at every level—economic, political, and military—the many ways the West carries out this assault. Defeating the West's hybrid war against Russia, however, is only a piece—albeit the largest piece—of Russia's self-assigned mission to aid the forces accelerating the demise of an international order held hostage to U.S. diktat.

However the war in Ukraine ends, this will likely remain the Russian leadership's mindset, but how precisely it manifests itself in Russian behavior will depend on how that war ends. Depending on the course of the war and its outcome, Russia could emerge as either inflated and hardened; chastened and pliable; or revanchist and unreachable.

Were Russia to vanquish Ukraine or, short of that, be partially victorious, Germany and its allies will, it is fair to assume, be facing a Russia inflated and hardened. In this case the regime will likely have retained its legitimacy and self-confidence. It will confront a decade-long challenge of repairing the damage done and its long-term consequences. Alienated and isolated from the West, Russia could neither expect nor will it seek relief from the West. Instead, it will likely prioritize the United States and its allies as the primary, imminent, and growing threat, focus its efforts on dealing with it, and embrace an assertive strategy for doing so.

In the second case, the result of any scenario yielding less than something the regime can claim as a victory, a chastened and pliable Russia may come in different forms. The regime may remain standing but weakened and in retreat. Indeed, according to the 2023 U.S. threat assessment,

Moscow's military forces have suffered losses during the Ukraine conflict that will require years of rebuilding and leave them less capable of posing a conventional military threat to European security and operating as assertively in Eurasia and on the global stage.

(Office of the Director of National Intelligence 2023, 14)

Or the regime may fail, producing a Putin-like successor leadership, but one ready to cut its losses in the war in Ukraine and concentrate on shoring up its political and economic moorings, even if retaining an anti-West orientation. Alternatively, a collapse of the regime may lead to a post-Stalin-like succession dominated by contending actors and clans and no clear primary leader. Russian foreign policy, in this case, promises to be unsteady and without direction, because some contenders may push for efforts to mend relations with the West, while others are pushing in the opposite direction. Finally, although least likely, the regime's undoing could end in an implosion, a loss of control at the top, a fractured and chaotic country radiating or unleashing instability into countries on Russia's borders, including Belarus and the Caucasus.

A third Russia, revanchist and unreachable, might follow a humiliating war defeat whether the regime falls or not. As Germans know, after a lost war, when the costs are finally tallied and scapegoats found, leadership, a critical portion of the elite, and the public can too easily sink into *ressentiment*. This would be a Russia vengeful toward the West for having imposed its will on a now humbled "motherland," angry over its weakened status and power, and eager, where possible, to exact a price from the United States and European allies for what had befallen it. It would also be a Russia neither willing to nor capable of focusing on a way forward.

The Future of European Security

Which Russia emerges from the war will heavily influence the future setting in Europe and any set of security-enhancing arrangements that Germany might hope to see put in place. A fundamental distinction is important: whether the future security picture in Europe will be with or without architecture. That is, whether European states, including Russia, will have created a framework allowing them to explore potential common ground and begun refurbishing mechanisms, institutions, and guardrails constituting a rudimentary security community, or whether these states will remain at loggerheads, focused on the adversary's malevolent characteristics and menacing capabilities, and determined to pursue security through enhanced military power.

It would be a foolhardy optimist who imagined that Russia and the Western allies could at this point return to the fitful, and ultimately failed, effort to create

the Europe anticipated in the 1990 Charter of Paris for a New Europe and for which, under the auspices of the Organization for Security and Co-operation in Europe (OSCE), states toiled half-heartedly over the two decades after the end of the Cold War. It, however, may be less far-fetched to envisage Russia, Europe, and the United States addressing aspects of a post-war European order as part of the process of ending the war in Ukraine. Were a larger envelope involving Ukraine's Western allies necessary to facilitate a successful Ukrainian-Russian peace process, it might take two forms. Either to launch the process or, more likely, to aid it once underway, the United States and EU members might explore which structural changes in Russian-West relations caused by the war can be constructively reversed.

The wholesale recasting of trade and energy flows cannot be undone, but conceivably portions of the sanctions regime could be adjusted to allow for partially normalized trade and investment and for Russia's return to the SWIFT payments system. Political mechanisms, such as the Russia-NATO Council and a paralyzed OSCE, could be revitalized. And, in the diplomatic sphere, legations could be returned to full function, visa regimes eased, and high-level diplomatic contacts restored.

Or, alternatively, while embedding European security in a new over-arching architecture may exceed the imaginable, a readiness on the part of the United States and European partners to acknowledge the need to consider a new post-war European order could be an integral part of a Ukrainian-Russian peace process. This at times, albeit elusively and disconcertingly, appears to be a position favored by the French President Emmanuel Macron (Reuters 2022) as well as various figures in other European political quarters. If the Chinese do eventually choose to take a diplomatic lead, Xi Jinping has made it plain, in a nod to the Russian demand, that any Ukrainian settlement will have to provide for "a European security architecture that is balanced, effective, and lasting" (Cohen 2023).

More likely, however, any overarching architecture will not be part of Europe's security future. Instead, as German Foreign Minister Annalena Baerbock put it in an October 2022 speech: for Europe it "is not a matter of security with Putin's Russia but of security against Putin's Russia." (Federal Foreign Office 2022). Whether a Europe without architecture comes with or without guardrails, however, matters. The war in Ukraine has accelerated the remilitarization of European security, and that process will continue as NATO builds and modifies its forces to meet the targets set to serve the 2022 Strategic Concept and as Russia refurbishes its war-depleted forces. In the years ahead, NATO and Russian militaries will confront one another along a line that stretches from the Arctic to the Black Sea, with a new 830-mile extension along the Finnish border. Ukraine and Belarus, once something of a buffer between these forces, will almost surely become permanent trigger points for conflagration.

The inertia of the war in Ukraine and its aftereffects will likely dispose governments on both sides of this divide to prioritize war planning, the development and deployment of men and arms designed to meet the rolling threat ascribed to the other side, and a strategic outlook that recalls the standoff during the harsher

moments of the original Cold War. At some point, however, the sides may decide that an untrammelled military competition carries too many risks and choose to consider constraints reducing them. These constraints or guardrails could come in many forms. The easiest, even as the war in Ukraine continues, would be various types of deconfliction agreements—agreements to avoid striking bases for dual-capable aircraft or near nuclear power plants, destroying space-based battlefield management systems, and flying buzzing maneuvers near surveillance aircraft and surface ships.

Stronger safeguards, such as confidence-building measures and arms control agreements, are off the table anytime soon. In the heat of the war, neither side will entertain the thought of resuscitating a moribund Open Skies Treaty, nor do the provisions of the OSCE's Vienna Document 2011 have meaning, nor would negotiating a new Conventional Armed Forces in Europe (CFE) agreement have any prospect. Over time, however, the two sides may decide that rather than remain under the constant threat from militaries jostling against one another, they want to restore some measure of transparency in troop numbers and movements, advance warning of exercises, and limitations on weapons systems forward-based. If so, they will not need to start *de novo*; they will have as a model, agreements, such as CFE and the Vienna Document, that served this purpose well, until they were weakened and then abandoned in the years before the war in Ukraine.

Short of formally negotiated agreements, even now they may find it prudent to consider self-imposed constraints to enhance stability. Russian officials have indicated that Russia's military response to Finland in NATO will depend on what armament and forces NATO deploys in the country. Rather than treating this as a Russian attempt to veto NATO decisions, Finland and NATO allies may want to weigh how restraint could prompt reciprocal restraint. Similarly, while any Ukraine, short of one under Russian control, will become a security ward of NATO, even if not a formal member, NATO could forgo the creation of bases and the stationing of forces in Ukraine, if there were signs that Russia would reciprocate by dialing back its fortifications in Belarus, including its plans for forward-deploying tactical nuclear weapons.

Shaping the European security order over the next decade will be a two-way street; but which Russia occupies its side of the street will determine whether and how it starts. A chastened and pliable Russia should open possibilities. Either of the two other Russians—inflated and hardened or revanchist and unreachable—will limit or close them. If the first, the disadvantageous terms Russia would likely insist on for any agreement would make it unacceptable. Mutual security for the Russian leadership would be a feeble afterthought to strengthening national security unilaterally. If the second, the Russian leadership would be too twisted in its grievances to engage constructively in exploring pathways to a safer Europe. In sum, as Graham (2023, 148–149) has written,

Germany and its allies will again face the enduring “conundrum of how to structure relations with the huge neighbor to its east that is alien in spirit yet an inextricable part of its security equation, a country that will never be *of*

Europe but will always be *in* Europe. Russia faces its own conundrum: how much does it have to be *in* Europe to feel secure *from* Europe?”

The Future of the International Order

Neither the war in Ukraine nor the wider European drama exists apart from the changes recasting the international political system. The effects of the war and the reality of major powers again at war, even if at this point indirectly, have affected this fraught process at two levels. The war has accentuated food insecurity in vulnerable areas of the globe; disrupted energy and critical resource markets; redirected foreign direct investment flows; retarded global economic growth; complicated the already imperiled efforts to salvage the Joint Comprehensive Plan of Action with Iran and to place limits on North Korea’s nuclear program; and added a large divisive issue to the agenda of the G20.

At another level, a war-torn Europe influences trends in the larger setting in more fundamental ways. Elements of a more polarized international political system have received a significant stimulus. Hopes of seeing limited steps taken to manage a new and more complex multipolar nuclear world have died as the two countries whose leadership is essential walk away from the process. Most seriously, Russia’s invasion of Ukraine poses a threat to the post-World War II norm against territorial conquest, the cornerstone of the United Nations system. While a majority of states have condemned Russia’s violation of this norm, an equal number have either done nothing to enforce it or condemned the efforts of the United States and its allies to enforce it. If in the struggle to define what a future rules-based international order is to be, this norm is allowed to wither and major powers return to standards of behavior characterizing an earlier era, the prospect of peace and stability in whatever the future holds quickly dims.

The reverse influence of the future international order on European dynamics depends on the shape that order takes. At this early stage in an international setting undergoing historic change, the alternatives differ strikingly. Each has profoundly different implications for the challenges and choices Germany and its allies will face.

One possibility would be an extension of what followed the short-lived post-Cold War unipolar moment. Steven Walt calls it “lopsided” multipolarity “where the United States is first among a set of unequal but still significant major powers (China, Russia, India, possibly Brazil, and conceivably a rearmed Japan and Germany)” (Walt 2023). He sees this as potentially advantageous for the United States, because Washington will “be in an ideal situation to play the other major powers off against each other and [...] let its partners in Eurasia bear more of the burden of their own security.” Ideally, he suggests, it will “encourage the United States to move away from its instinctive reliance on hard power and coercion and to put greater weight on genuine diplomacy.” Whether this, if it be the future, would be comfortable for Germany may be another matter.

To this point, however, a nascent multipolarity appears more shapeless. The distribution of power and the structures it creates may be less consequential than

the dynamics within and between a global West, a global East, and a global South. Going forward, the global West could remain more or less cohesive and peaceful, led somewhat uncertainly by the United States, but with serious domestic challenges distracting key countries, including the United States. Relations with the global East and global South are likely to be complex and mixed. With the global East, the economic stake the United States and Europe have in benefitting from its economic dynamism will be balanced against measures taken to shield against the disruptive effects of China as a rising and assertive military power. How the United States and major European powers do the balancing, however, may differ considerably, denting transatlantic unity. So too may the priority they assign to European challenges versus those in Asia and the respective role each is expected to play in addressing them.

In the global South, the global West will concentrate increasingly on an intensifying strategic competition with China and Russia, but to the extent this competition comes second to their core focus on Europe and Asia, the countries of the West will struggle to mount the resources to meet the health, economic, and security problems that the countries of the South prioritize. Moreover, this competition will take place in a context where at least four billion people, in more than 100 countries—a large portion in the global South—do not want to choose sides (The Economist 2023). Key countries in the global South, such as India, Brazil, and South Africa, will be significant players in the scrum between the global West and the global East. And existing collaborations, such as between Brazil, Russia, India, China, and South Africa (BRICS); under the roof of the Shanghai Cooperation Organisation (SCO), or among Australia, the United Kingdom, and the United States (AUKUS), will add another layer of complexity to the national-level interactions between the states of the global West, East, and South.

In a divided global East, all parties will be preoccupied with the rise of China. Russia, having locked itself out of the global West, will continue to draw closer to China, and the combination will heighten the challenge for the global West, including its Asian member, Japan. As an arena where the politics of this “lopsided” or “shapeless” multipolarity will play out, the global East will likely be more central than either the global West or global South. And should the nuclear nonproliferation regime continue to crumble, the global East will also be the arena where its demise could have the most dramatic effects.

If multipolarity is only a transitional phase, the most distant and destructive successor would be a slide into quasi-anarchy as major nations fail to make meaningful progress in dealing with existential global challenges: the instability generated by climate change, the perils of a multipolar nuclear world, the prospect of hyper health pandemics, and the loss of control over artificial intelligence and deep learning. Degradation in each of these areas is likely to be at a different pace, causing greater or lesser initial damage, but if it begins to reach critical mass, the effects on the international system will be profound. Gradually, existing clusters, such as the EU, NATO, BRICS, SCO, and others, will come undone. Global governance, seen today as ineffective (Goldin 2013), will slowly yield to no governance. A normative order that is increasingly competitive will give way to a world without

norms. Alignments will likely continue to exist, but come and go as the urgency of one threat is surpassed by that of another. The nation-state, no longer able to fulfill the purposes for which it exists, would perish as the struggle for survival produces more primitive forms of collective defense.

The more imminent danger, however, is that the current incipient multipolar system will give way to two “cold wars” in a new bipolar world (Legvold 2022). The United States and Russia have been in a new cold war, different as it is from the original Cold War, since relations went off the rails with the eruption of the Ukraine crisis in 2014 (Legvold 2016). The failure, in too many quarters, to recognize the pernicious characteristics that it shared with the early phases of the original Cold War (the insistence on one-sided blame for the deterioration, the essentialist explanations for the behavior of the other side, the disbelief in a different outcome without fundamental change in the other side, and the inability to think beyond a meager transactional agenda and imagine a path to a more transformative one) contributed greatly to the course of events leading to February 24. Putin’s tragic decision to invade Ukraine, however, pushed this cold war to a vastly deeper and darker level. Economic ties have been erased by a sanctions regime more severe than any during the original Cold War. Diplomacy has given way to war, with the concomitant risk of nuclear escalation. A combined U.S. strategy of deterrence and *détente* has been replaced by a determination to damage and isolate Russia to the greatest extent possible.

U.S.–China relations have not yet crossed the threshold into cold war, let alone one as profound as that between the United States and Russia, but the two countries are far along the path to one. Virtually every dimension of the relationship has become a source of tension and rivalry, and neither side shows any inclination to relent in its pursuit of advantage in any of them. The military dimension, once a secondary concern, is now front and center. China, say U.S. defense documents, is now “our most consequential strategic competitor and the pacing challenge” (U.S. Department of Defense 2022b, 1). Every advance in Chinese space, cyber, and maritime capabilities, every surprise development bringing China closer as a peer nuclear competitor, every Chinese military exercise, including increasingly ambitious ones with Russia, deepens the increasingly alarmed U.S. perception of China’s larger purpose. As the U.S. 2022 National Defense Strategy puts it, it is “to refashion the Indo-Pacific region and the international system to suit its interests and authoritarian preferences,” while seeking “to undermine U.S. alliances and security partnerships in the Indo-Pacific region” (U.S. Department of Defense 2022a, 4). The stress is on maintaining the United States’ competitive edge and, where imperiled, redoubling U.S. efforts. Consideration of risk reduction measures and a strategic dialogue to explore them take a back seat.

China, for its part, makes plain that its military ascendancy not only embodies the country’s return as a great power but that it also serves as a response to what it sees as an increasingly aggressive U.S. foreign policy. In word and deed, China too stresses that U.S.–Chinese military competition has taken on greater urgency (Wuthnow and Fravel 2022, 18–20). It is reflected in China’s focus on ensuring

and then demonstrating that the Chinese Navy, Marine Corps, and Air Force can deter a U.S. intervention should it move against Taiwan. Similarly, as it enlarges its force of intercontinental ballistic missiles and equips its missile fleet for “limited nuclear options,” the impulse, Chinese analysts argue, is the growing U.S. threat (Zhao 2021). At one level, they say, the intention is to create a sense of mutual vulnerability, forcing the United States to accept China as it is and desist from its “ideological” campaign against the way China chooses to govern itself. At another scenario-driven level, China’s move to develop more diverse, accurate, and low-yield weapons, they contend, will allow it “to conduct a symmetric or proportionate nuclear response on various rungs of the escalation ladder” (*ibid.*), matching any thought the United States may have of doing the same. China too shows little interest in altering course and giving risk reduction measures a try. Were the United States to vigorously pursue a strategic dialogue to address these issues, the Chinese door appears closed.

The second major trend in the slide toward cold war has been the accelerating politicization of the economic relationship. The economic stakes that once served as a counterbalance to other more tension-laden aspects of the relationship no longer do. The mutual dependency generated by intricate and extensive trade, investment, and financial ties is increasingly seen less as beneficial and more as a threat to national security. U.S. leaders and legislators speak openly of the need to decouple the two economies, and their Chinese counterparts act as though they agree (Bessler 2022). While the tariff war initiated by the Trump administration was a hammer intended to force China to correct the imbalance in its trade with the United States, it was also accompanied by steps to sever ties in areas of education and research, blacklist companies associated with China’s defense and intelligence agencies, and punish with sanctions Chinese officials said to be involved in repressive actions in Xinjiang and Hong Kong.

The Biden administration denies that it seeks to decouple the U.S. economy from China’s, but it has kept in place 360 billion dollars of the Trump administration’s tariffs and in June 2021 it banned Americans from owning or trading any security tied to 59 Chinese companies (The White House 2021). By August 2022, the number of black-listed Chinese companies on the U.S. Entity List totaled approximately 600 (U.S. Department of Commerce 2022). Moreover, it has mounted a far more ambitious integrated strategy to boost key U.S. technology sectors while stunting those of China. That is, as one American technology expert called it, “a new U.S. policy of actively strangling large segments of the Chinese technology industry—strangling with an intent to kill” (Schuman 2022). At the heart of its agenda “to promote” and “to protect,” the administration has authorized billions of dollars in subsidies for domestic manufacturing under the “CHIPS for America Act” and the “Inflation Reduction Act,” while issuing new rules designed to block Chinese firms from producing supercomputer and artificial intelligence chips. The administration has indicated that it also intends to focus on other critical technologies and choke points in biotechnology and clean-energy industries (Bade 2022). And it is devising its own version of the Trump administration’s “clean network” initiative—an effort to deny China access to all American data, “from military

communications carried on undersea cables to 5G-enabled smart refrigerators and television sets” (Dupont 2020).

China answers each new U.S. action with counteractions of its own, such as a sweeping Anti-Sanctions Law passed in 2021 targeting U.S. lawmakers responsible for sanctions imposed on China. The law is broad enough to potentially ensnare U.S. companies (Drinhausen and Legarda 2021). Since 2020, Xi Jinping has also embraced a Chinese version of decoupling, dubbed the “dual circulation strategy” (Yao 2020). Against the vagaries of global economic demand and the U.S. threat to supply chains, Xi has set China on a path to self-sufficiency and the indigenization of critical technologies, with the goal of making the domestic market the engine of the country’s economic growth. China has long been weaponizing data, viewed as key to dominance in critical technologies at the heart of twenty-first-century economic competition with the United States. To this end, China has pilfered where it can, striven to eliminate dependency on the United States for materials and expertise, and vastly expanded investment in relevant sectors. Beijing’s “technonationalism” and the aggressive U.S. response have transformed science and technological advancement into an intense new battleground.

Third, and most significantly, how and by what means the two countries go about their intensifying strategic rivalry will define the ultimate shape of a new U.S.–China cold war. Conceptually and practically, the path is now open. The deep bedding for it lies in President Joe Biden’s conviction that the existential challenge at this historical juncture pits authoritarianism against democracy juxtaposed to President Xi’s conviction that the West’s vision of the world is in a death spiral with a future that belongs to the East. Thus, the strategy that the United States, until recently, formally embraced and China informally parroted—to “compete, confront, and cooperate” (Li 2021)—has little point. In its place, the United States has moved implicitly to a strategy of containment—and China certainly sees it as such. That appears to be the meaning of U.S. Secretary of State Antony Blinken’s statement: “[w]e cannot rely on Beijing to change its trajectory [...] So we will shape the strategic environment around Beijing” (U.S. Department of State 2022).

The architectural underpinning for this strategy is already advanced. With the United States in the lead, NATO in 2022 adopted a new Strategic Concept that frames China as a multi-pronged threat requiring vastly enhanced efforts across a broad range of fronts, from its core conventional military forces to space and cyber warfare, from defense against information and hybrid attacks to ensuring energy and economic security (NATO 2022). The U.S. administration’s “Build Back Better World” partnership takes aim at China’s “Belt and Road Initiative” (BRI). Its “Indo-Pacific Economic Framework for Prosperity” targets China’s efforts to bind the economies of East and Southeast Asian countries to its own. The administration is working to strengthen the Quad, the defensive collaboration between Australia, India, Japan, and the United States, and has orchestrated the trilateral AUKUS security pact. Washington has also encouraged the new Japanese–Australian defense pact—all implicitly directed against China.

In this deepening geopolitical duel, China hardly dances backwards. In many respects it takes the lead. Under Xi Jinping, China expert Elizabeth Economy argues,

China sees itself as “reclaiming its historic position of leadership and centrality on the global stage” (Economy 2022). In the Chinese leader’s eyes, the United States, a reigning but crippled superpower, cannot abide China’s rise, and is determined to undermine its economic dynamism and checkmate its foreign policy (*ibid.*). In response, Beijing intends BRI, beyond its economic benefits, to whittle away at American geostrategic advantages (Lew et al. 2021). China’s military modernization and forward deployments in the South China Sea are designed to give China military dominance in the first two “Pacific island chains,” as well as a competitive presence in the Indian Ocean region (Allison and Glick-Unterman 2022). It has increased the sophistication and aggressiveness of state-curated cybersecurity attacks on the United States. Furthermore, China continues to organize ever more ambitious joint military exercises with Russia in Northeast Asia, addressed not only to local threats but also a potential military conflict with the United States (Hart et al. 2022). And across a wide swath of international institutions, Beijing has secured a leadership role and sought to use its position to alter their rules and norms to its liking.

So, the elements of a U.S.–China cold war and the push toward it are in place. Should this trajectory continue unimpeded until it crosses the threshold, the consequences will be fundamentally transformative. It will upend the international system in a way the U.S.–Russia cold war has not. The U.S.–Russia cold war has not engulfed the entire system. A U.S.–China cold war will. The global economy will be warped and weakened by two countries with 40 percent of the world’s gross domestic product at one another’s throats. The institutions of global governance, already under stress, will in many cases simply fail to function and in others cede their place to dueling replacements. Hopes for collective action that measure up to the existential global challenges of climate change, nuclear catastrophe, and mega health pandemics will perish. And violence that erupts in the world’s trouble spots will become, as in the original Cold War, battlegrounds for the warring hegemons.

Still more consequential, the two cold wars will merge and, thus, once more render the structure of the international system bipolar. The force field generated by the struggle between the two poles will shrink not only the room for maneuver, but the preferred outcomes of all other players, including allies and partners. This effect is not lost on European allies. Emmanuel Macron obviously had it in mind when he said after his visit to China in April 2023, “[i]f the tensions between the two superpowers heat up [...] we won’t have the time nor the resources to finance our strategic autonomy and we will become vassals” (Macron 2023). The censure and anger that his remarks aroused among allies demonstrate how tension-filled navigating a U.S.–China relationship sliding toward cold war will be. Second, if China’s rejection of a rules-based order seen as imposed by the West leaves open the possibility that Beijing remains open to a more commonly agreed substitute, that possibility disappears in a system cleaved into two hostile blocs. And third, the dangers present in the bipolarity of dual cold wars will be graver than those in the original Cold War, because the tinder for a conflagration that crosses the nuclear threshold will exist in two pairings.

***Zeitenwende* and the Four Futures**

As German policymakers assess the implications of different futures in these four dimensions, the worst plausible case would appear to be a Russia that emerges from the war in Ukraine more menacing than ever, a United States as the guarantor of Transatlantic security that is fading or immobilized, and a deepened U.S.–Russia cold war that is joined to a new full-blown U.S.–China cold war. It would be a dystopian world that would confront Germany with stark nuclear choices that, in other circumstances, are likely to be either more improbable, ambiguous, or remote.

Outcomes short of the worst will nonetheless raise the nuclear issue in ways not seen since critical stages of the original Cold War. The war has already had one major effect. NATO has shifted from a posture of deterrence by retaliation (or punishment) to one of deterrence by denial (Erlanger 2023). The multinational battalions forward-deployed to countries neighboring Russia (with plans to bring them to brigade strength), the more integrated U.S. and allied war plans, and the new national requirements for readiness, mobility, and logistics signal the alliance’s determination to defend “every inch of NATO territory” (The White House 2022) rather than reconquer what has been lost. In contrast, U.S. officials anticipate the opposite effect on Russia. “Moscow,” the 2023 U.S. Annual Threat Assessment asserts, “will become even more reliant on nuclear, cyber, and space capabilities as it deals with the extensive damage to Russia’s ground forces” (Office of the Director of National Intelligence 2023, 14).

The effects in the nuclear sphere are more complex but also more unclear. At one level, nuclear deterrence has held. The United States and NATO allies have sought to identify a red line that if crossed would cause Russia to attack a NATO country or countries and risk nuclear war. Russia, for its part, has restrained itself from widening the war to include either NATO supply routes to Ukraine or NATO forces and systems presumably for fear of the same in reverse. On the other hand, the war has heightened the fear in the West that others, say China, will conclude that the offsetting nuclear capabilities of the two sides have allowed Russia to launch conventional war in pursuit of its strategic objectives, and, in China’s case, apply this lesson to its Taiwan ambitions (Buckley 2023). The fear accounts in part for the alliance’s determination to prevent Russia from achieving its war aims.

That leaves the issue of what implications are to be drawn from the impact of sub-strategic nuclear weapons. It has two forms. First, whether nuclear threats work. Here, Putin’s various threats, including the move to deploy dual-capable Iskander-M missiles and SU-25 aircraft to Belarus, if intended to force the allies to curtail or end military supplies to Ukraine or arouse their publics to oppose their government’s involvement in the war, have failed. If so, the war has added further evidence to the tentative, albeit ambiguous, conclusion of some experts that nuclear threats in pursuit of political objectives generally do not work (Perkovich and Vaddi 2021, 18).

The more elemental source of concern, however, has been the implications if Russia were to use a tactical nuclear weapon. How the United States, in particular, would react in that case has generated various guesses (Alberque 2022), from

heightened sanctions to conventional strategic strikes on relevant Russian systems, but its longer-term impact on U.S. nuclear strategy and planning is hard to predict. In advance of the event, in addition to delivering warnings of the severe consequences if Russia were to risk nuclear use, the United States, Germany, and other European allies have strenuously pressed China and India to underscore their opposition to the use or threatened use of nuclear weapons in the war. At a more subtle level, however, the sudden reality of a nuclear weapon or weapons being used in a real-live war may have led U.S. defense planners to give more, if inadequate, thought to the risks attached to the gravitation of the United States and Russia to a strategy of “limited nuclear options” and the weapons to serve it. The 2022 U.S. Nuclear Posture Review, issued a year into the war in Ukraine, includes a section on “Escalation Management” and at several points reflects a need to factor in the risks associated with the strategy, including the risk of miscalculating the opponent’s confidence in its ability to control escalation. (U.S. Department of Defense 2022a, 10–11)

Returning to the worst-case scenario evoked a moment ago, rather than focusing on averting it, German policymakers would be wiser to concentrate on identifying the outcome within each of the four futures that is optimal, plausible, and *feasible* to pursue, and make this the lode star for policy. Given, as noted earlier, that the future in each of the four dimensions will take shape in different timeframes, to be effective, Germany will need to do what governments rarely if ever do: integrate the long run with the short run. As a practical matter in this case, this means, as a starting point, responding to the challenges posed by the war in Ukraine, including those posed by its Russian instigator, in a way that does not obscure or undermine the European order that Germany would wish to see emerge in the longer run.

The short-run imperative is to end the war in Ukraine as soon as possible on as favorable terms as possible. For Germany, as for its NATO allies, however, the question will be how much tension emerges between these two objectives, and where there is tension, how they will choose to focus their efforts. Germany’s position in addressing this tension along with or, alternatively, apart from the U.S. position, it is fair to assume, will largely dictate how the endgame unfolds. By the time this book appears, the world should know whether the Ukrainian counter offensive(s) in 2023 had a considerable effect, including on the endgame.

Almost certainly, however, whatever stage the war is at, the pressure on German policymakers to develop a negotiating position on a path to ending the war will have greatly intensified. As Thomas Pickering reminds us, failure to plan for negotiations will condemn Washington and Berlin to “a hurried and poorly thought-through approach to ending the war” (Pickering 2023). He speaks from deep experience. Ending a war occurs in three phases: “prior preparations, pre-negotiations, and the negotiations themselves” (ibid.). The phase of prior preparations, he stresses, is important because success depends on governments harmonizing internal differences over priorities and strategy before they, in the second phase, embark on “laying the groundwork for official negotiations” (ibid.). Accordingly, Germany should already be focused on confronting and reconciling the divisions

within the government and its key agencies over when, whether, and to what end diplomacy can be activated.

It should also be thinking ahead to what mechanisms and formats might work best to bring the warring parties together in active negotiations. Might it be through so-called proximity talks or something more rudimentary, such as, to take Pickering's example, "third parties deemed acceptable by Russia and Ukraine [meeting] individually with the leaders of both countries (or their trusted designees) to quietly explore ideas, objectives, possibilities, and attitudes, eventually identifying areas of overlap that could form the basis of agreements" (*ibid.*)? In any case, German policymakers in advance of events need to think creatively of mechanisms that could serve this purpose. They also need to think of what specific role they would want others, such as China, India, Turkey, and Israel, to play in preparing the way for negotiations and in the negotiations themselves.

Sooner than the seemingly open-ended character of the war might suggest, a crunch point may arrive giving urgency to Pickering's advice. In spring 2023, U.S. policymakers were grappling with an increasing sense that Ukraine's anticipated counteroffensive would fall short, leaving little changed, and critics at home attacking from the hawkish right, according to which U.S. military aid had been too little too late, as well as the dovish left, which sees the U.S. administration mired in an unwinnable war (Lemire and Ward 2023). Similar doubts have been voiced in Germany (Fratzscher 2022) and may be stirring within the German government. If so, the undeviating stance of the United States, Germany, and all in the Group of Seven (G7) that Russia must withdraw all forces and equipment from Ukraine "immediately and unconditionally" and that their support for Ukraine will be "for as long as it takes" will presumably have hit a dead-end (U.S. Department of State 2023) The question will then be, what next?

The calls for a shift to diplomacy that swelled in early 2023 represented one answer. The prospect of unending human carnage and economic destruction without a military resolution, they argued, recommended mobilizing efforts to bring the warring sides to the negotiating table (Haass and Kupchan 2023). They assume that neither Kyiv nor Moscow will be ready to lay down their arms and negotiate, and, therefore, the United States and Western allies will have to force the process—with Russia by persuading Putin that the West will continue large-scale military support to Ukraine, while indicating some level of sanctions relief making diplomacy worth trying; with Ukraine by providing long-term security guarantees and a program for rebuilding its economy.

The first-order objective would be a cease-fire, followed by a reduction of forces and the removal of heavy weapons from the line of contact, creating, in effect, a demilitarized zone. This, however, would require a United Nations or OSCE force to monitor it, with, if possible, support from China and India. Whether from here a peace process, with third-party mediation, could follow and, if it did, whether success in any form could be envisaged would remain an open question.

Were Germany to move in this direction—and one assumes it only would if in tandem with the United States—leadership would have to recognize the scale of effort required, its delicacy and complexity, and the real chances of failure.

Ukrainian and Russian positions may simply turn out to be unbridgeable, and Europe will then be left with a prolonged diplomatic stalemate and its largest and most consequential protracted conflict. That, as a long-term security challenge, will oblige Germany to develop a crisis-management strategy substantially different from a wartime strategy as the template for the future.

Germany's security calculations, however, will depend not only on the war's outcome, but on the Russia that comes out of it. Ideally, it would be a Russian leadership that not only recognizes the grave mistake the invasion has been, but is ready to deal constructively with the consequences of its mistake. It might even be one that decides that repaired relations with Germany and its other European neighbors are better than a permanent, indeed, intensifying military confrontation with them. If, as is likely, that leadership remains Putin and his entourage, this hope will doubtless be in vain.

So, then what will Germany's options be? The choices will differ depending on whether German officials conclude that the Putin regime is incorrigible, and nothing can change as long as it retains power, or whether they entertain the possibility that the regime remains sufficiently pragmatic to allow for some measure of accommodation. If the former, inertia will favor continuing the current policy—keeping Russia at arm's length and crippling its capacity for malign behavior. Within the alliance, however, Germany is likely to be among the most cautious about damaging Russia to the point of instability or driving it ever closer to China.

If the latter, the policy challenge will be more complex. Finding a balance between the harsh aspects of the leverage German policymakers will want to maintain and defining an agenda permitting the search for common ground will not be easy. This, however, unlike the former, would permit Germany to begin developing a strategy for the long-term management of the relationship. A key element in such a strategy will likely require restoring a Western option for Russia, whether or not the Putin regime or another is ready to accept it. What that might look like, as well as when and how to engage Russia, has its hazards. If Germany takes the lead, it will risk getting out front of the United States and striking raw nerves within the alliance. Loosening constraints or choosing incentives attractive to Moscow will only be counterproductive if not done in collaboration with others, foremostly the United States. And persisting with the effort when the Russian side is slow to respond will risk discrediting it. So, walking this tightrope will require skill and fortitude.

How Germany chooses to cope with the ongoing Russian challenge is obviously bound up with its vision for a European security order beyond the war in Ukraine. The tension will be between those voices who accept that discussion of future European architecture must be part of a peace process for ending the war in Ukraine, and those who insist that no basis for agreement exists and that trying to reach it is pointless, even unconstructive. But a European order in some form will emerge after the war, and Germany will have a large stake in how stable it is. Efforts to shape it are likely to require critical German leadership, and that leadership may be needed early.

Even if the institutions, norms, and a common security agenda that would give structure to a European security order cannot be imagined, security arrangements will need to be carefully considered and guardrails circumscribing the military confrontation established. Ensuring Ukraine's future security represents the most fateful set of choices. How that is to be accomplished—whether through membership in NATO or under the wing of a sub-group of NATO states—will be both a test of alliance unity and a greater or lesser obstacle to future European security arrangements. Among European states, the position that Germany takes will be decisive.

In the second area, it is, of course, possible, perhaps even likely, that tensions in Europe will for some time preclude any move to design confidence-building measures, let alone arms control arrangements reducing the risk of deliberate or inadvertent war. Over the longer run, however, Germany has an obvious stake in finding ways to ease tensions along what will be a new highly militarized central front. Its leaders will know what has worked in the past and what from the past can be improved. In the meantime, war or not, Russia and NATO members could and should focus on incident prevention and de-escalation mechanisms, such as the existing agreement on "The Prevention of Dangerous Military Activities" and the Agreement on the "Prevention of Incidents On and Over the High Seas." Wolfgang Richter in Chapter Seven of this volume details how past agreements contributed to strengthening security and stability in Europe.

The post-war European security order that Germany hopes to help fashion links intimately to developments in the larger international setting, because it is in that context that the United States defines its international role, and how it defines that role affects European outcomes on two levels. Within Europe itself, the sturdiness of the U.S. security guarantee, including that of nuclear extended deterrence, constitutes a wild card, as highlighted by Barbara Kunz and Ulrich Kühn in Chapter Five on proposals for alternative nuclear deterrence arrangements in this volume. The war, for the moment, has quieted some of the concern that, given the vagaries of U.S. presidential elections and the public mood, this guarantee no longer seems secure.

This concern, abated but not eliminated, combined with the altered threat perception produced by the war, account for the resuscitated question of Germany and nuclear weapons. The chapters that follow explore the many sides of this question, but two basic points are worth making here. First, fear of a faltering U.S. security guarantee ought to be put in perspective. European security is the anchor of transatlantic security, and transatlantic security is and will remain at the core of U.S. defense strategy despite shifting attention to Asian challenges. In the nuclear realm, maintaining and refining the United States' extended deterrence commitments in Europe and Asia will not be without stress, but they too will remain a critical component of the U.S. nuclear deterrence posture. If Germany and European allies, however, want to hedge against a loss of confidence in U.S. reliability, they would be wiser to follow a U.S. lead. Beginning with the Obama administration, U.S. defense planners have placed increasing emphasis on substituting non-nuclear for nuclear deterrence. Building a stronger and more cohesive European defense makes more sense than toiling with plans for a European nuclear

deterrent and any contribution Germany might make to it. The defense effort prefigured in the *Zeitenwende*, if executed, would be key. That Russia may be headed in the opposite direction, as U.S. assessments have it (Office of the Director of National Intelligence 2023), is after all the product of weakness, not a threat needing a response in kind.

How the United States sees challenges to its role beyond Europe also reverberates in Europe. If the context for U.S. behavior continues to be a “shapeless” or “lopsided” multipolarity, U.S. actions for good and ill matter to Germany. For good, a patient but vigorous U.S. commitment to nuclear arms control, including from a German perspective, a possible moratorium on deployments of medium-range nuclear-capable missiles, as well as limitations on sub-strategic nuclear weapons in Europe, is important. For ill, because of the counterproductive effect the Biden administration’s democracy versus autocracy framework has on the competition in the global south, one suspects German policymakers would agree with David Miliband’s argument that “Western governments [he doubtless has the United States primarily in mind] should frame the conflict as one between the role of law and impunity or between law and anarchy rather one that pits democracy against autocracy” (Miliband 2023, 42). Waging the struggle the way the United States wants to, particularly with trade and technology, would add to European discomfort.

Of the potential future international orders and the place of the United States in them, a new bipolar world driven by two entwined cold wars carries the grimmest implications for Germany and its EU and NATO allies. This reality is obviously not lost on the German leadership. While German Chancellor Olaf Scholz in his *Foreign Affairs* article announcing the *Zeitenwende* rejects the “view of many” that “we are on the brink of an era of bipolarity” and a cold war that “will pit the United States against China” (Scholz 2023). His concluding exhortation that “we must [...] avoid the temptation to once again divide the world into blocs” betrays doubts. His warning against “isolating China or curbing cooperation” and his admonishment to make “every effort to build new partnerships, pragmatically and without ideological blinders” suggest the risks he sees. Germany’s preference, Scholz makes plain, is for a multipolar order, one based on vigorous multilateralism, in which “dialogue and cooperation must extend beyond the democratic comfort zone” (ibid.).

Scholz has outlined the future international order that Germany clearly does not want, and he emphasizes that Germany and the EU intend to protect another option by investing in new partnerships with the global south and encouraging the countries’ “greater participation in and integration into the international order” (ibid.). That, however, leaves the question of how Germany intends to deal with the other half of the problem: namely, persuading the United States and China to alter the zero-sum thinking that dominates their current approach to their bilateral relationship and to set relations on another course.

As for the future in the other three dimensions, divining them is as difficult as Germany’s choices in shaping them will be. What is clear, however, is that the choices Germany makes and the leadership Germany exercises in helping to craft an end to the war in Ukraine, in coping with the Russia that emerges from the

war, and in defining the European security agenda will be critical. Only one other NATO country and none in Europe matches Germany's population, economic size, manufacturing base, science and research efforts, and military potential. How Germany works with, counsels, and corrects that country, while taking the lead in charting Europe's future with Russia and in a changing international setting, will determine just how real a *Zeitenwende* for Germany is.

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2 The End of Civilian Power

Russia's War Is Changing German Policy

Liana Fix

Introduction

Now if Germany were to behave as most powers have done over the centuries, one would expect it sooner or later to gain the military cutting-edge to complement (and defend) the economic one: albeit [...] quite likely not as the fulfillment of a deliberate policy but rather as a response to an acute and unexpected challenge. But would it so behave? Or had Germany, Europe, international relations in an interdependent world, said good-bye to it all?

(Ash 1994, 383)

Almost thirty years later, these questions by Timothy Garton Ash from 1994 have gained an entirely new relevance. After decades of German self-identification as “civilian power” and a culture of “military restraint” (Maull 2007), Russia’s invasion of Ukraine in February 2022 has not only upended the European security order, but also these central tenets of German foreign and security policy. So significant were the changes announced after Russia’s invasion of Ukraine in 2022, that the *New York Times* (Angelos 2023) asked in March 2023: “can Germany be a great military power again?”

This chapter focuses on the broader ramifications of Russia’s aggression against Ukraine on German security policy. It assesses to what extent this *Zeitenwende*—the “watershed moment” of Russia’s invasion (The Federal Government 2022b)—has already changed Germany’s foreign and security policy identity from “military restraint” and “civilian power” to a return to military power and leadership; how lasting this change might be; and what the implications are for broader European security and transatlantic relations. It argues that the most important framework to understand German foreign policy after reunification—the so-called “change versus continuity debate” (Mello 2020; Harnisch 2001)—is no longer suited to grasp the extent of change in Germany’s security policy after Russia’s invasion of Ukraine. The *Zeitenwende* and its policy implications are not just another instance of “change in continuity” or “modified continuity” (Harnisch 2001), as in the post-unification Germany, when German foreign policy changed albeit incrementally but remained largely within the traditional continuity of “civilian power” and “military restraint” (Harnisch and Maull 2001; Baumann and Hellmann 2001)—a self-identity, which for decades distinguished Germany from other European powers, such as France or the United Kingdom.

Instead, *Zeitenwende* is the most significant change since 1990, involving a shift from civilian to military power; however, without a final turn towards a militaristic or bellicose Germany. The decades-old question of change or continuity cannot be safely answered with “change within continuity” anymore. At the same time, while going much further, this change will also not result in another militaristic German *Sonderweg*, as other central tenets of German foreign and security policy—a steadfast inclination towards multilateralism and a rules-based international order as well as the country’s *Westbindung*—remain intact.

Despite Europe’s biggest security crisis in decades, Germany remains a conservative power, as its continued strong resistance to acquiring nuclear weapons demonstrates. However, in order to adapt to a radically altered environment after Russia’s invasion of Ukraine, Germany needed to accept (once more) military power—not for the purpose of challenging the European order and the continent’s distribution of power, as was the case before 1945, but to defend the existing order against a revisionist Russia. To prevent a revisioning of European security, Germany had to re-envision itself and its military power in Europe.

The effects of Russia’s invasion are more far-reaching for Germany than for other countries, because Germany had missed past opportunities to adapt (Bunde 2022). In the words of German diplomat Thomas Bagger, “history was bending towards liberal democracy” and “military power no longer mattered—civilian power did,” which meant that “Germany could remain as is, waiting for the others to gradually adhere to its model” while considering itself “clearly ahead of others” (Bagger 2019). Accordingly, the political class had “for a generation lost almost any sense that there could be threats emerging not only elsewhere in the world but even against Germany itself” (ibid.). Instead, the “future was in development aid, in conflict mediation, and in speeding up gradual convergence” (ibid.).

For the first time since the end of the Cold War, Germany is confronted with a concrete security threat, employing military power in response with all measures short of a direct engagement of its own forces. In addition, the country is now planning for the long-term re-establishment of Germany as a military power for the defense of Europe and the North Atlantic Treaty Organization (NATO) alliance. Germany’s responses to the *Zeitenwende* are therefore in many regards an ‘emergency brake’ and a necessary turnaround, bidding goodbye to some of the mistaken policies of the past. In contrast to earlier policy attempts to gradually change Germany’s foreign and security policy, such as the so-called “Munich Consensus” that had emerged in 2013/2014 (Giegerich and Terhalle 2016), Germany’s current shift could become not just a temporary policy response to the war, but a lasting shift in Germany’s foreign and security policy towards the acceptance of the necessity of military power for the defense of Europe.

A caveat is in order though: there is a very real possibility that this pivotal moment of change could be derailed. Already one year after the start of the war, a sense of urgency in Germany has slowed down, perhaps under the impression of a stronger than expected Ukrainian resistance and thus a weakened Russian military threat to NATO. Berlin’s decision-making on military support for Ukraine was often perceived as hesitant and risk-averse by disappointed allies. The German

public remains supportive of the government's decisions and policies, but is still reluctant to support a military leadership role for Germany. A lasting change will only be possible if Germany overcomes the legacy of its past and its fears of entering unknown strategic terrain—a world with “the old thinking dead and the new not yet born,” as Ash put it in an interview in 2023 (Erlanger and Solomon 2023).

The End of Restraint? Russia's War as a Catalyst for Change

This part aims to answer three central questions: where does the war against Ukraine fit into the framework of “modified continuity” in German foreign policy? Is the war different from past incremental changes in Germany's security policy (Mello 2020), and if yes, how? Which factors explain the fact that in the perception of policy makers and the German public, the war has become a catalyst for the most significant change so far in German foreign policy?

Since Germany's reunification and the end of the Cold War, “modified continuity”—referring to incremental changes to the principles of military restraint and civilian power—has remained the main explanatory framework for German foreign policy (Harnisch 2001). Scholars argued that changes occurred, if at all, in an incremental, rather than abrupt, way, and therefore remained within the overall foreign policy framework of continuity (Mello 2020), including the traditions of civilian power, military restraint, endorsement of multilateralism and a rules-based international order, and *Westbindung* (meaning Germany's structural integration into the West). In contrast to this understanding of continuity, abrupt change was understood as a potential though never realized rupture, such as Germany striving for great power status or arming itself with nuclear weapons after reunification (Mearsheimer 1990).

Until Russia's war against Ukraine, the concept of “modified continuity” was flexible enough to explain post-Cold War German foreign policy. After reunification, Germany's growth in size and power did not translate into a new German *Sonderweg*—waging militaristic adventures—as some feared. Instead, in a post-Cold War Europe without direct threats to its own security, Germany turned away from military power. The lack of direct security threats led to a foreign policy that prioritized civilian power and geoeconomic approaches to the detriment of military power. Germany fully embraced the post-Cold War moment of peace and stability and harvested the so-called “peace dividend” by drastically reducing the size of its armed forces.

While Germany pursued a “strict policy of military abstention” (Dalgaard-Nielsen 2005, 339) in the immediate aftermath of reunification and refrained from participation in the Gulf War of 1991, the policy of strict abstention quickly evolved into a policy of military restraint, which allowed Germany to join limited military missions abroad. In 1993, the *Bundeswehr* took part in the UN mission in Somalia and gradually expanded its participation in international crisis management missions throughout the 1990s. Back then, the use of military power was discussed in terms of a “battle over the lessons of the past and the expectations of Germany's partners,” with key terms like “historical responsibility,” “solidarity,”

and “requirements of partnership” dominating the debate (ibid., 345). It was not discussed as being in the strategic national interest of Germany. Over time, the lack of strategic thinking in German security policy, deliberately designed by its allies to prevent another ascent of a militaristic Germany, became a liability (Asmus 1991).

Another episode of “modified continuity” was Germany’s fiercely debated participation in the enforcement of a no-fly zone over Bosnia-Herzegovina in April 1993. Domestic disagreement resulted in an appeal to the German Constitutional Court as to whether the deployment of German airplanes was in line with German Basic Law. The Constitutional Court decided that the *Luftwaffe* can take part in out-of-area missions, but only if authorized by the *Bundestag*. The ruling reduced a significant legal barrier to the military use of force in Germany (Noetzel and Schreer 2008, 212). Under international pressure, and in an interplay between party preferences and public opinion, Germany has gradually adapted, and has come to see military force not only as a deterrent for territorial self-defense—as it was during the Cold War—but as a means of last resort in international security.

However, the most important episode was still ahead: Germany’s participation in the air campaign against Serbia in 1999, under a governing coalition of the traditionally militarily restrained Social Democrats and Greens, led to an unexpected redrawing of the post-1945 principles of German foreign policy. Then-Foreign Minister Joschka Fischer from the Greens argued that sometimes war is necessary to prevent atrocities, as in the case of Kosovo and Serbia. Chancellor Gerhard Schröder from the Social Democrats made the case that despite the lack of a UN mandate, Germany had to support NATO’s campaign and become a “normal ally” (Baumann and Hellmann 2001, 18). Despite heated debates and opposition within Schröder’s own party, Germany’s participation in the air campaign was supported by a majority of the German public (ibid., Table 4). In hindsight, this debate paved the way for the most significant readjustment of Germany’s view on the use of force and the argument that military power can be necessary to prevent worse outcomes, which proved important again in response to the war in Ukraine. Yet, the argument in favor of the use of force was still presented as an exception from the rule: an extreme case of military necessity to prevent atrocities. It did not alter the widespread belief in Germany as a principally civilian and militarily restrained country.

In the following years, the *Bundeswehr*’s participation in combat operations remained a controversial issue (Harnisch 2001). Although Germany participated in the U.S.-led Afghanistan campaign, this participation was primarily out of alliance solidarity with the United States, and less rooted in Germany’s own national security interest. Former German Defense Minister Peter Struck’s famous statement (The Federal Government 2002) that Germany’s security is defended at the Hindukush was not shared by all political leaders and the public. Equally, it took years until German politics accepted the warfighting context in Afghanistan and called Germany’s presence a participation in a war, instead of a stabilization mission. Afghanistan was an important step in acknowledging new military realities for the German armed forces, but it had not changed Germany’s general preference

for military restraint in international affairs. Against this backdrop, it was even clearer for German politicians that they would not support Germany taking part in the Iraq war.

The German abstention in the UN Security Council vote authorizing a no-fly zone over Libya against the wish of its allies in 2011 and Russia's annexation of Crimea in 2014 triggered a reflection of Germany's restrained role by the political class in Berlin (Giegerich and Terhalle 2016). A series of speeches at the Munich Security Conference resulted in what became known as the "Munich Consensus": the conclusion that Germany needs to take on more responsibility in international affairs (Bagger 2015). Interestingly, German politicians still shied away from using the term "power" or military-connotated terms in favor of normative framings such as "responsibility." Domestically, these speeches also aimed to prepare the German public for a more active role (Oppermann 2018). In parallel, a review process in the Federal Foreign Office under Foreign Minister Frank-Walter Steinmeier from the Social Democrats was launched. However, despite an elite convergence around "more responsibility," the culture of military restraint was not put into question. For example, although Steinmeier argued that a culture of military restraint should not mean a culture of "remaining on the sidelines," he still argued that the use of the military should remain "the last resort [and] using it requires restraint" (The Federal Government 2014). The 2016 German White Paper on Security Policy (Federal Ministry of Defense 2016) reflected the need to adapt to outside expectations, but it lacked a vision of what role the *Bundeswehr* should play in European security (Giegerich and Terhalle 2016). Also, public opinion was not supportive of a greater German role in international crises (Körber-Stiftung 2014). Finally, Germany's increase of defense spending after Russia's annexation of Crimea remained well below the NATO goal of two percent of allies' gross domestic product. The Munich Consensus remained rhetoric. It did not translate into a greater security and military role for Germany in Europe.

Taken together, Germany's position on the use of military force has significantly evolved since reunification. However, until 2022, the overarching approach and preferred self-identification remained one of civilian power and military restraint throughout different security crises and domestic debates. The drivers for Germany's engagements in Kosovo, Afghanistan, or other missions were primarily the expectations of Germany's neighbors, alliance solidarity, and humanitarian concerns. A genuine threat perception or a definition of German national security interests remained absent. Neither Germany's participation in the Kosovo campaign, nor its participation with boots on the ground in Afghanistan, had led to a shift away from military restraint and to a change in the self-identification as a "civilian power." These past episodes, however, eroded the previous taboo on the use of military force and prepared the ground for fundamental discursive shifts after Russia's invasion of Ukraine in 2022.

Two reasons explain the severity and uniqueness of these shifts, compared to past security crises during the last thirty years. First, threat perceptions differ. For the first time, and in contrast to Kosovo or Afghanistan, there is a genuine perception of a threat to Europe's very own security by Russia's invasion. Olaf Scholz

stated this clearly in his February 27, 2022 speech: “we must [...] ask ourselves: what capabilities does Putin’s Russia possess? And what capabilities do we need in order to counter this threat—today and in the future?” (The Federal Government 2022a) In an interview, Scholz argued that through its aggressive behavior, Russia once again poses “a threat to Europe and to the alliance” (Handelsblatt 2022a). This sentiment is shared by the German public. According to a 2022 survey, Russia is now viewed as the principal threat by Germans (Bunde and Eisentraut 2022). According to another poll from August 2022, 72 percent of Germans see Russia as a military threat to the country’s security (Körber-Stiftung 2022)—in comparison to an earlier poll in conjunction with Moscow’s 2015 annexation of Crimea, when only 41 percent of Germans perceived Russia as a military threat (Kucharczyk and Łada-Konefał 2022).

The same kind of threat perception was not present at the Kosovo campaign or the war in Afghanistan. Instead, the driving motives were alliance solidarity after the 9/11 attacks or humanitarian reasons in Kosovo—rather than a perceived direct threat to Europe. Still, German policymakers are careful not to frame Russia as a threat to Germany’s own territorial integrity and its borders, in order not to upset Germans unnecessarily. After all, there are still other countries geographically located between Germany and Russia. Germany is not a frontline state as during the Cold War. Instead, Russia is framed as a threat to broader European security and NATO; and a threat to the alliance implies a threat to Germany due to the mutual Article VI defense clause (Handelsblatt 2022a). In contrast to this German view, the threat perception in Poland and the Baltic States is more existential: Russia is perceived as a genuine threat to their own borders, territories, and populations by Central and Eastern Europeans (Kucharczyk and Łada-Konefał 2022). Despite this difference, there is a consensus in Germany and in Central and Eastern Europe that Russia’s war is perceived as an attack on the security of Europe and the alliance. An implicit assumption behind the support for Ukraine is therefore that if Russia is not stopped in Ukraine, it can and will go further.

Second, in contrast to earlier wars and crises in post-Cold War Europe, the 2022 war implies broader system- and order-level questions. Different from the war in Georgia in 2008, the war against Ukraine is not perceived as a regional Eastern European war with Soviet-era roots but as a potentially system-transforming war, which contests the European order and creates a real threat to NATO and its members. Kosovo and Afghanistan were perceived as wars of instability within a more or less stable Western order, the aftermath of the West’s “unipolar moment” (Krauthammer 1990). In contrast, German leaders perceive that if Russia wins in Ukraine, that outcome could irrevocably contest the European security order. In the words of Olaf Scholz, “Putin is not just seeking to wipe an independent country off the map. He is demolishing the European security order that had prevailed for almost half a century since the Helsinki Final Act” (The Federal Government 2022a). The response to Russia’s invasion of Ukraine will define the future European order. In contrast, Germany does not want a return to an order where “might is right” in Europe (Der Spiegel 2022a). According to Scholz, Europeans are once again asking themselves “where the dividing line will run between this free Europe and a

neo-imperialist autocracy in the future” (The Federal Government 2023a). Relying on military power is therefore not just an act of self-defense, but also an act in defense of the existing order—a fight for the “right side of history” (The Federal Government 2022a).

Russia’s war against Ukraine and Germany’s responses to it highlight that “modified continuity” is not analytically adequate anymore to capture the significance of the change German foreign policy is currently undergoing. Germany’s rearmament and its military support for Ukraine is not just another, bigger, incremental change within German foreign policy continuity. The announcements made by the German government in the aftermath of February 2022 were a break with past policies and beliefs. At the same time, what is commonly feared as abrupt change in German foreign policy—i.e., Germany turning away from the traditions of civilian power, military restraint, multilateralism, rules-based order, and *Westbindung*—only partly applies. Germany is turning away from civilian power and military restraint, but there is continuity in “goals” and “orientation” (Mello 2020): Germany is anchored within the West, even stronger than before, and committed to a rules-based international order. However, the accepted means to achieve these goals have changed from mostly civilian to increasingly military. This is beyond just “adjustment” or “program” change, according to the typology by Hermann (Hermann 1990; Mello 2020), but a change in a central tenet of German foreign policy post-1945.

For the analysis of German foreign policy, this means that German foreign policy has grown out of the usually applied explanatory jacket. A new analytical perspective on German foreign policy is needed. Russia’s war is a catalyst for change, not for continuity, but “change” is taking place differently than the long-feared return of self-centered German militarism. Germany is on a trajectory to becoming a military power again, not to subjugate, but to defend Europe against the Russian threat; not to strive for great power status for unilateral gains, but to defend the existing multilateral order.

A New Domestic Consensus

Russia’s war against Ukraine has led to a new domestic consensus in Germany on a necessary change in its foreign policy towards rearmament, military power, and weapons deliveries for Ukraine. In contrast to the past Munich Consensus, this new consensus extends beyond rhetoric. It is characterized by a shift away from the culture of military restraint to an acceptance of the necessity of military power among the political elite, and in majority, among the public. Germany’s culture of military restraint is regarded by political leaders since the outbreak of the war in Ukraine not anymore as a morally superior approach to foreign policy, but as an outdated approach, which does not fit the international environment in which Germany and Europe operate, and therefore fails to sufficiently protect its own citizens and its allies. In the words of Social Democratic Party (SPD) leader Lars Klingbeil, “After 80 years of restraint, Germany today has a new role in the international system of coordinates” (Klingbeil 2022). The new consensus revolves around the necessity of enabling Germany to defend itself and its neighbors. Domestic consensus is

understood here as comprising the preferences of the main political parties represented in the *Bundestag* and the German public.

Russia's war against Ukraine has changed the positions and views on military power of the most important parties represented in the *Bundestag*. Germany's new governing coalition came into power only months before Russia's invasion of Ukraine and comprised the traditionally Russia-friendly Social Democrats, the traditionally pacifist-leaning Greens, and the traditionally business-friendly Liberals. This coalition had to put into place an unlikely policy of isolation of Russia, rearmament, weapon deliveries, and economic sanctions. Similar to Germany's participation in the Kosovo campaign in 1999, which was decided by a coalition of Social Democrats and Greens, it is the unlikelihood of a coalition that had to break with several traditions of its governing parties that contributed to a new domestic consensus.

Perhaps most unexpectedly, the Greens contributed to the new consensus by revising parts of their pacifist tradition (as explained in depth in Chapter Eight by Giorgio Franceschini in this volume). In the years before the invasion, the Green party had been the most Russia-critical party represented in the *Bundestag*. With their strong normative focus on foreign policy, members of the party have regularly criticized the increasing repression and authoritarianism in Russia and were the only party to reject the Nord Stream II project as a political and environmental mistake (Westendarp 2021). However, these policy positions did not translate into a willingness to confront Russia's actions in Ukraine and beyond by military means. The Green party co-leader Robert Habeck was widely criticized, even within his own party, for his demand to deliver defensive weapons to Ukraine a year before the war (Bullion 2021). Traditionally, the Greens placed an emphasis on civilian crisis prevention and non-military means. The party therefore rejected weapons deliveries into crisis regions on principle and struggled to approve NATO's two percent goal. Even shortly before the invasion, in January 2021, the new Green Foreign Minister Annalena Baerbock still questioned the necessity of weapons deliveries for Ukraine, arguing that Germany's reluctance was rooted in its history (Handelsblatt 2022b).

After the outbreak of the war, the position of the Green party changed entirely. It became the most ardent supporter of weapons deliveries and has been the party most supportive of German tank deliveries to Ukraine. In the words of Baerbock, "weapons save lives" (Leithäuser 2022). Also, Green voters were more supportive of heavy weapons deliveries than voters of other parties (RedaktionsNetzwerk Deutschland 2022). Consequently, the Greens now also supported the special fund for the *Bundeswehr* to reach NATO's two percent goal, which was reframed by the coalition as a three percent goal to account for all of Germany's international engagement, including diplomacy and development (SPD, Bündnis 90/Die Grünen, and FDP 2021). Still, the party insists on increasing spending for civilian means to match the military (Burchard and Rinaldi 2023).

Equally unlikely was the shift of positions within the Social Democratic Party. The party of *Ostpolitik* and *Wandel durch Handel* ("change through trade") had traditionally pursued a special relationship with Russia, epitomized by the personal

relationship of former Chancellor and later Gazprom/Rosneft lobbyist Gerhard Schröder with Vladimir Putin. Many of these connections endured the annexation of Crimea and the war in Eastern Ukraine in 2014 (Wehner and Bingener 2023). The SPD was the primary driver behind the Nord Stream II pipeline and the expansion of Germany's energy dependence on Russia. On security policy, the party traditionally struggled with NATO's two percent spending goal, although that goal was agreed upon in 2014, at a time when the SPD formed a grand coalition with the Christian Democrats. Although Foreign Minister Steinmeier had demanded a more active role for Germany in 2014, he also underlined the continuous relevance of military restraint (Federal Foreign Office 2014).

Only two weeks later, and two days before the invasion, Chancellor Scholz from the Social Democrats suspended the pipeline. His *Zeitenwende* speech in the *Bundestag*, three days after the invasion, announcing the special military fund and weapons deliveries to Ukraine, has been supported by SPD voters, but they have been more hesitant than Green voters in supporting continuous deliveries, including heavy weapons (RedaktionsNetzwerk Deutschland 2022). Within the SPD, a process of recalibrating previous positions towards Russia and security policy began, which culminated in the new Party Head Lars Klingbeil's demand for Germany to become a leading power in Europe and to accept military power as a means of politics (Klingbeil 2022). In unison, former SPD Defense Minister Christine Lambrecht called for a "military leadership role" for Germany (Federal Ministry of Defense 2022). She added that Germany's strategic culture, including "old identities" and "skepticism of the military," must change (*ibid.*). Klingbeil received criticism from the left wing of the party and from within the SPD parliamentary faction (Der Spiegel 2022b). A number of SPD politicians publicly criticized an alleged overreliance on military means (Hickmann 2022). At the same time, they continued to support the policies of the Chancellor, defending him against criticism of acting too cautiously in the Ukraine war. While the SPD's recalibration of its Russia and security policies is not yet concluded, the party is unlikely to simply return to the past in the face of ongoing Russian aggression.

These significant changes in the positions of two of the governing parties—including the Free Democrats' support for far-reaching economic sanctions against Russia—have paved the way for a new political consensus in the *Bundestag*. This consensus was facilitated by the fact that the biggest opposition party, the Christian Democratic Union (CDU), has traditionally been more supportive and outspoken of defense spending and security policy writ large.¹ With the governing parties changing their positions, there was little left for the largest opposition party to criticize, apart from the government not going far enough. The only parties outside of this domestic consensus are on the extreme left and right of the political spectrum: the Alternative for Germany (AfD) and *Die Linke* (the Left). Their leaders and voters continue to fundamentally oppose all decisions in conjunction with the *Zeitenwende* and refuse to position themselves clearly against Russia's invasion. While *Die Linke* has not been able to benefit from this stance and remains below five percent in polls in mid-2023, the AfD has more than doubled its approval

ratings from nine percent in the 2021 general elections to 20 percent by the summer of 2023 (Forschungsgruppe Wahlen 2023).

Among the main political parties, the culture of military restraint and civilian power self-identification has disappeared as the preferable and morally superior approach from the political discourse. In contrast to 2014, when “no military solution” and the German historical lessons of military restraint were stressed as the only way out of the conflict, the necessity of military support for self-defense has now become an accepted new belief. Germany’s historical lessons (“never again war, never again alone, never again Auschwitz”) have been reinterpreted in favor of the latter two principles: that military power, together with allies, is sometimes needed to confront the aggressor, and that the international environment has changed, while Germany has held on to old beliefs without drawing necessary consequences.

The policy changes among the governing parties and the cross-party consensus including the CDU—with the exception of the far left and far right parties—suggest the possibility of a lasting political consensus on military support for Ukraine, increased defense spending, and the necessity of military means. Especially, the governing coalition cannot disavow what they themselves have started, even if they return to the opposition bench in the next elections. However, while the previous consensus on the culture of military restraint and civilian power has disappeared, there is still reluctance in some parts of the Greens and the SPD to openly embrace a military leadership role for Germany, even within the frameworks of the European Union (EU) and NATO.

Meanwhile, German public opinion has mostly followed the decisions taken since Russia’s invasion of Ukraine. The tendency in public opinion to shift in favor of political decisions only after these have been taken underlines the importance of political leadership in times of crisis, instead of waiting for public opinion to shift before decisions are taken. Before Russia’s invasion, the majority of Germans opposed weapons deliveries to Ukraine (Die Welt 2022). After the decision was taken and the invasion had begun, the majority shifted to supporting weapons deliveries. The same pattern can be observed as regards the delivery of German tanks to Ukraine. A majority of Germans also supported reducing energy dependence on Russia and an increase in defense spending after Russia’s invasion (Körber-Stiftung 2022). In June 2022, 68 percent of Germans regarded the war as a turning point for German foreign and security policy and 70 percent viewed it as a turning point in world politics—the highest figures of all Group of Seven (G7) countries (Bunde and Eisentraut 2022). As of October 2022, 50 percent of Germans supported greater German military engagement to secure NATO’s so-called Eastern flank (Bundeswehr 2022) and 52 percent supported the continued deployment of U.S. nuclear weapons in Germany (Bongen, Rausch, and Schreijäg 2022), while in 2020, 84 percent of Germans had supported withdrawing these weapons (Greenpeace 2020). These polls highlight the stark shifts in German public opinion in favor of increased defense spending, weapons deliveries, and alliance solidarity—unthinkable before the invasion. At the same time, 68 percent of Germans still reject the idea of a German military leadership role in Europe, with particularly

high figures among younger Germans and East Germans (Körber-Stiftung 2022). This suggests that a majority of Germans view German military leadership as temporary rather than a permanent measure.

Overall, a new domestic consensus after Russia's invasion has eventually resulted in an adaptation of German core beliefs of the past towards Russia and military power. Some have argued that this ideational change has been long overdue (Bunde 2022). However, this adaptation—especially among the German public—still needs to prove its longevity beyond the context of the Ukraine war. This points to open questions about the actual implementation of Germany's new military ambitions further down the road, as stated by German leaders, and the acceptance by the public.

What Kind of Military Power? Ambition and Reality

Although “civilian power” and “military restraint” have to a large extent disappeared from the domestic political discourse in Germany, the new military ambitions voiced in conjunction with the *Zeitenwende* do not necessarily immediately translate into new political realities. It is therefore necessary to ask what kind of military role German political leaders envision for Germany in Europe after Russia's invasion of Ukraine, and whether they have lived up to these expectations in implementing this new role so far.

The most explicit definition of the new German military role in Europe can be derived from statements and speeches by Chancellor Scholz. In an essay, published one year after the outbreak of the war, Scholz described Germany as “intent on becoming the guarantor of European security” by investing in its military, strengthening the European defense industry, increasing Germany's presence along NATO's Eastern flank, and training and equipping Ukraine's armed forces (Scholz 2023). For that, the *Bundeswehr* should become the best equipped, enabling it to serve as the “cornerstone of conventional defense” in Europe (The Federal Government 2022b). He also argued that Germany's new role will require a new strategic culture based on a new German mindset: “a large majority of Germans agree that their country needs an army able and ready to deter its adversaries and defend itself and its allies” (Scholz 2023). According to the Chancellor, the ongoing investments in the German armed forces represent the “starkest change in German security policy since the establishment of the *Bundeswehr* in 1955” (ibid.). Scholz also made the case for the *Bundeswehr* to continue to play a military role beyond Ukraine and Russia, to stabilize countries threatened by crisis and conflicts; though, an ambition for a greater role in out-of-area missions was not explicitly addressed by Scholz. Instead, territorial and alliance defense would come first (The Federal Government 2022b).

Two conclusions can be drawn from these attempts at a definition of Germany's new military role: first, Germany's new military role is clearly focused and delineated to defending Europe, and more specifically, to defending Germany and its NATO allies against the threat from Russia. It does neither include an ambition to become a military power for out-of-area missions, nor

to play a greater role in the security of the Indo-Pacific region. As such, it does not represent a military role with a global power projection, such as France's or the United Kingdom's. According to Scholz, Germany's European friends and partners should perceive this goal not as a threat, but in contrast, as a "pledge and promise" (ibid.).

Second, Germany's new role is deeply embedded in the transatlantic alliance, and not designed to lead a new, security-political more independent Europe, as envisaged by French President Emmanuel Macron under the label of European strategic autonomy. The latter has been underscored by Germany's decision to pursue dual-capable F-35 fighter jets from the United States to continue participation in NATO nuclear sharing, instead of possibly opting for a future European system—much to the chagrin of Paris (Grand 2023). At the same time, Scholz advocated for stronger European defense within NATO, and initiated the European Sky Shield Initiative (ESSI) to strengthen NATO's integrated air and missile defense approach (NATO 2023). For Paris, the ESSI was another disappointment, as Germany was not prioritizing European systems, such as the Franco-Italian Mamba air defense system, but opted to include U.S. systems, such as Patriot.

Taken together, the new envisioned role for Germany is not predominantly anymore that of a civilian power but instead also of a military power "in a leading position" to defend Europe and Germany's allies (The Federal Government 2022b). However, there is a clear gap between ambition and reality. The initial announcement in the *Zeitenwende* speech from February 27, 2022, was that Germany would "from now on" spend more than two percent on defense every year (The Federal Government 2022a). In addition, Scholz announced a 100 billion Euro special fund to modernize the *Bundeswehr's* ageing equipment. The deal reached with the opposition to make the special fund compatible with the German constitution speaks of a "multi-year-average" of two percent defense spending. However, it remains unclear how the two percent goal will be met once the special fund runs out after five years, and where the additional financial means for increasing Germany's regular defense budget from around 50 billion Euro annually to the more than 70 billion Euro necessary to fulfill the NATO spending goal will come from. At the Munich Security Conference in 2023, Chancellor Scholz reaffirmed that "Germany will increase its defense expenditure to two percent of gross domestic product on a permanent basis" (The Federal Government 2023b), without clarifying when the country would hit the mark. As it becomes clear that spending the special fund would take more time than expected and that the two percent goal is not met in 2023, it looks increasingly as if the Scholz government is walking back its initial goals.

In theory, an increase to two percent would represent the largest absolute jump in defense spending for Germany since World War II and place the country on par with France and the United Kingdom, without having to bear the costs of maintaining a nuclear arsenal (Angelos 2023). In practice, rising inflation and interest rates have already reduced the amount available through the special fund by the end of 2022. Adding bureaucratic inertia in procurement processes to it, Germany has already lost a year in its rearmament efforts.

While some of the necessary urgency and reform efforts have gained new speed under the new Defense Minister Boris Pistorius (SPD), significant shortfalls remain. For example, a leaked document revealed that Germany is unlikely to fulfill its promise of contributing a fully-equipped division to NATO in 2025 (Rinaldi 2023). In addition, becoming a security guarantor for its Eastern allies is easier said than done: Berlin has been in constant disagreement with Vilnius about the terms and conditions of contributing a German brigade to the security of Lithuania, and has agreed only in July 2023 to deploy a full German brigade permanently, instead of on a rotating basis.

Bureaucratic inertia, budgetary pressures, and an often-perceived lack of urgency have already reduced the confidence of Germany's neighbors in the success of Germany's responses to the *Zeitenwende* and the reliability of Germany's claim to become a security guarantor in Europe. For France, the missing Franco-German and European dimension has been a disappointment, and Paris feels uneasy about German self-announced leadership in defense, which has been traditionally the "French domain of excellence" (Grand 2023). Poland has decided to become a major military power in Europe, surpassing Germany's envisaged force posture of 200,000 soldiers with a 300,000-strong Polish army, and massive investments in defense spending, which are planned to reach four percent of Poland's gross domestic product (Gotev 2023). Poland wants to primarily rely on the United States and on arms deals with South Korea, instead of its European neighbors, for this project (*ibid.*).

Poland and other Central and Eastern European neighbors have been particularly critical about the hesitancy and slow pace of German decision-making in heavy weapons deliveries for Ukraine, which were perceived as risk-averse and lagging behind (Kucharczyk and Łada-Konefał 2022). Although Germany is by now Europe's second-largest military contributor to Ukraine after the United Kingdom (Kiel Institute for the World Economy 2023), the 'salami slicing' German approach, which went only forward with certain weapons deliveries under significant international pressure, has damaged Germany's standing. The drawn-out discussion about tank deliveries to Ukraine in February 2023, which was only resolved once the United States committed to deliver their own tanks together with Germany, has been a case in point.

Another factor influencing the reality of Germany's ambitions is the overall course of the war. Ukraine's remarkable resistance and the inept performance of Russia's military have already diminished German threat perceptions and the degree of urgency with which German policymakers act (Fix 2022). A prolonged war could result in policymakers and the public becoming accustomed to the state of affairs: they might perceive Russia's war not as a potentially system-transforming threat to Europe's security anymore, but as just another 'not-quite-frozen' conflict in Eastern Europe. Consequently, Germany's support and its shift in security policy could slow down. In contrast, an escalation in Ukraine or between Russia and NATO could influence Germany both ways: either by strengthening Germany's resolve or by intimidating Berlin's ambitious plans. Finally, there is also a case to be made that the enduring character of the Russian threat, which will

likely outlast the war in Ukraine, can support the lasting nature of Germany's shift. Even if Russia loses further decisive battles in Ukraine or a negotiated solution is reached, as long as a revanchist Russian leadership remains in power, Russia is likely to remain Germany's security priority.

Judging by ambition, Germany's shift is remarkable: for the first time since the end of the Cold War, Germany has the ambition to rearm and to return to military power. Going further back in history, unlike in 1914 and 1939, Germany does not seek to challenge the European order but seeks to defend and preserve it. And in contrast to Cold War times, Germany is no longer a frontline state, focused on self-defense, but rearming to become the security guarantor to Europe's new frontline states, in partnership with the United States. Judging by the realities on the ground, however, Germany's shifting of priorities, particularly in terms of sustained defense spending, is less clear-cut. Although Berlin has taken some bold steps towards rearmament and brandishing itself as a leading military power, assuming a military leadership role in Europe, widely accepted by the public, is still a long way ahead.

Conclusions

Germany's return to military power, triggered by Russia's war, is neither a straightforward path nor a sudden 'happy end' to the past story of German negligence of hard power and leadership since reunification. However, the shift in security policy is much more significant than any of Germany's past military engagements. Germany's military participation in Kosovo and Afghanistan sparked pioneering discussions about the use of military force, but they did not result in a fundamental shift in German policy towards rearmament and military ambition as the war in Ukraine did—and, these past missions were primarily driven by alliance solidarity and humanitarian concerns, instead of a genuine German threat perception. Although Germany has not sent German forces to Ukraine, it is currently projecting military power with all measures short of direct engagement.

Another difference to earlier episodes: the domestic political consensus is much broader today than after Russia's annexation of Crimea in 2014. With the full-scale invasion of Ukraine, many old beliefs and party-political divides on Russia and German military might have dissolved. The most striking example is the Green party, which today represents a new generation of policymakers with a normative outlook on Russian authoritarianism. Despite the pacifist roots of the party, the war has turned Green voters into the strongest supporters of weapons supplies to Ukraine. Similarly dramatic was the shift away from Russia for the Social Democrats, the inventors of the Cold War-era *Ostpolitik* policy of rapprochement with Russia. The public has woken up, too: overall, a solid majority of Germans support rearmament and the defense of Ukraine. However, the German public still struggles with the ambition of taking on a military leadership role—especially the younger generation and East Germans. This demonstrates that the German self-identification as a civilian power and the culture of military restraint might have changed, but a new self-identification in a military leadership role has not yet been fully embraced.

Yet, from the mainstream political discourse, civilian power and military restraint—key tenets of Germany’s foreign policy since reunification and important reasons why German foreign policy and its evolution have been described for decades as “modified continuity”—have largely disappeared. Apart from the far right-wing AfD and the left-wing *Die Linke*, the main parties agree on the necessity of relying on military means in response to Russia’s invasion of Ukraine. Within the Green and Social Democratic party base, the left wings of both parties are still skeptical and continue to adhere to civilian power and military restraint. As of now, however, they do not represent the majority of their parties or of their parties’ voters.

One of the most prominent post-Cold War explanatory frameworks of German foreign policy—a country incrementally adapting to “change within continuity”—does not anymore capture the profound reorientation of German foreign policy after Russia’s invasion, given that two of Germany’s main policy tenets, civilian power and military restraint, have largely disappeared. At the same time, Germany’s new military ambitions do not equal a return to the German militarism and bellicosity of the twentieth century. Instead, Germany’s return to military power is understood as a responsibility to defend and to become a “security guarantor in Europe” (The Federal Government 2022a). The new domestic consensus suggests that Germany’s shift away from military restraint to military power is more than a short-term crisis reaction. It may even become a lasting shift in public opinion and the positions of major German parties.

A number of reasons support this assumption: first, most German policymakers view Russia’s war not only as an attack on Ukraine, but as a threat to the entire European security order. Even though Russia is not directly threatening German borders, national territory, or population, it is considered a threat to NATO. Even if Russia loses further battles in Ukraine or a negotiated solution is reached, as long as a revanchist Russian leadership remains in power, Russia is likely to remain hostile to Germany and Europe.

Second, German leaders believe that the response to Russia’s invasion of Ukraine will define the future order in Europe, which has led to a reassessment of the historical lessons Germany has drawn from the Second World War. That reassessment has ushered in an acknowledgment that military force can be necessary to prevent unwanted outcomes and to protect the rules-based international order. Consequently, there is a normative order-level dimension behind Germany’s policy shift.

Third, pressure from its allies and Germany’s central geographical position in Europe will make it difficult to return to policies of military restraint and civilian power. Germany’s neighbors to the East, as well as the United States, have very high expectations about Germany’s willingness to transform its security policy. The potential loss of political credibility within the alliance if Germany were to abandon its current ambitions, implicitly or explicitly, represents a powerful mechanism against political backsliding—even if, or especially if, domestic politics in the United States change towards isolationism.

Germany's changing stance on security and the military creates ramifications that extend far beyond its own borders. Its actions and non-actions, matter, and have a major influence on Europe's security. Germany can play an important role for the defense of NATO and also for the military support and rebuilding of Ukraine. Beyond alliance defense, crisis-management in other parts of Europe's neighborhood will have to become an additional dimension of German change in security policy, which is currently neglected due to the focus on territorial and alliance defense. NATO allies do not expect Germany to play a security role in the Indo-Pacific. However, Germany's shift and focus on Europe can in the long term free up resources and alleviate the burden of parallel U.S. engagement in Europe and Asia. This would support U.S. priorities in Asia, such as maintaining a free and open Indo-Pacific, a competitive edge over China, and the status quo across the Taiwan Strait. Such a new level of burden-sharing may ultimately usher in a partnership in leadership, which U.S. leaders have hoped to see from Germany since 1990.

Note

- 1 Although it was under the 16-year term of Angela Merkel (CDU) that Germany failed to reach NATO's two percent goal, pursued a policy of 'no military solution' in Ukraine, denied weapons support, and increased its dependence on Russian energy.

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3 Technological Change, Innovation, and German National Security

Amy J. Nelson

Introduction

Innovation is a buzzword for our time. It has been said that we are in the throes of a Fourth Industrial Revolution, which is responsible for foundational or enabling technologies giving rise to a cascade of inventions in a relatively short timeframe (UNIDO 2019). Although countries have always innovated for both economic and defense purposes, there is something categorically different about the nature of innovation today and how countries are adapting to new technologies that are emerging at an unprecedented rate—Germany being no exception. With its generally strong innovative capacity, a national identity synonymous with exemplary engineering, and an export-driven economy that relies on both, Germany is (slowly) adapting to the realities of a new technology and security landscape in ways largely consistent with its past efforts. At issue is whether incremental reforms from Berlin that have defined these prior efforts will be sufficient to meet ambitious new foreign policy expectations.

Germany has historically succeeded in building its strong record of innovation owing to earlier reforms and a strong economy. Following the *Wirtschaftswunder*—the economic “miracle” of the post-World War II period—West Germany was able to achieve economic powerhouse status by the late 1950s and mostly maintained it, barring a short interruption by the economic downturn of the 1970s, until the end of the Cold War. High unemployment in the early 1990s, directly following German reunification, then led to a series of reforms that would transition the former East Germany to a market economy and clean up pollution in the East. With over two trillion Deutschmarks invested, these reforms led to several strong years of economic growth in the 1990s (Snower and Merkl 2006). In 1998, Chancellor Gerhard Schroeder from the Social Democrats again embarked on a process of economic reform with a focus on the labor market to forestall impending stagnation of the German economy. With a delay of a couple of years, these changes endured for some time, fueling a vibrant, export-driven economy. In 2018, the World Economic Forum proclaimed Germany “the world’s most innovative economy” (Whiting 2018)—a nod to the country’s strong innovation ecosystem.

Now, however, the past is hardly prologue. The institutions, policies, and national outlooks that once forged the current incarnation of the German innovation ecosystem and export-driven economy have been challenged by recent world

events and geopolitical shifts. So much so that a renowned international weekly recently asked whether Germany was once again the “sick man” of Europe (The Economist 2023).

German innovation must now persevere and thrive against a backdrop colored by the return of great power competition among the United States, Russia, and China, including in the nuclear domain. Geopolitical competition has served to complicate Germany’s relationships with its own allies and partners and placed increased pressure on transatlantic ties. Transactional and utilitarian relationships between Germany and China as well as Russia hang in the balance. The demise of the European Union (EU)–China Comprehensive Agreement on Investment, which followed recent Chinese human rights violations and other transgressions, was a sign of EU foreign and security policies affecting economic policies and amounted to a deterioration in market access for EU companies in the Chinese market—Germany, of course, included (Rankin 2023). Such lost market opportunities for German manufacturing output were previously major drivers for novel technologies and provided much needed capital for sustained innovation. Berlin’s relationship with Beijing was less complicated when Berlin was only focused on profit. Of all the large Western economies, Germany may now be one of the most exposed to China, given that trade between the two countries totaled 314 billion U.S. dollars in 2022 (The Economist 2023). Likewise, Germany’s previously ‘cozy’ relationship with Russia has forced Berlin to abruptly wean itself off Russian gas and take serious stock of the ways in which it perhaps inadvertently and tacitly supported Vladimir Putin’s neo-imperialist regime (Chazan 2023).

Berlin has since professed a new era, declaring the country freed from ties to Russian natural resources and significantly downsizing trade with Russia. Additionally, Berlin proclaimed its willingness to lead Europe, including on defense spending (and therewith implicitly also on military innovation). This has been codified in both Chancellor Olaf Scholz’s *Zeitenwende* speech and in the country’s first National Security Strategy (The Federal Government 2022b; 2023). Some have argued that in light of these ambitious foreign and security policy goals, Berlin’s practical adaptations, thus far, amount to “too little, too late” (Besch and Fix 2022). As just one open question, it is unclear whether Berlin can truly leverage its capacity for technological innovation to meet its defense policy goals.

This chapter examines how Germany has traditionally approached technology innovation, what developments have forced adaptation, and what Germany must do now and in the future to meet rapidly changing security demands and requirements, particularly in the wake of Russia’s war against Ukraine, the *Zeitenwende*, and a so-called new nuclear age. To wit, the first section describes major sources of change where technology innovation, including in the nuclear domain, is concerned and recalls Germany’s ongoing and planned major defense innovation projects and cooperative efforts. This section concludes with an examination of Germany’s 2023 National Security Strategy, from the viewpoint of defense-related technology innovation. The second section examines Germany’s national model of innovation—its prevailing approach to technology innovation, defense industry and exports, and the role of technology therein, including the effect of dual-use

innovations. The third section presents a case study on German innovation of artificial intelligence (AI) to illustrate the national model at play, dual-use complexities, and their implications for domestic and foreign policy. The last section offers some conclusions.

Military Innovation in a Changing Environment

We see evidence of a Fourth Industrial Revolution and the innovation boom it has precipitated all around (UNIDO 2019, 1). It is evident in widespread digitization of everything, the ubiquity of increasingly capable smart devices, and the rise of smart systems, buildings, and cities. It is also prominent in the creation of new and improved weapons and systems for use on the battlefield and in the gray zone that facilitates it. It is further prominent in—and has enabled—the emergence of a robust cadre of dual-use technologies, which have both civilian and military applications and which continue to interact with the nuclear military domain (Favaro, Renic, and Kühn 2022).

This section looks first at more recent shifts and changes in the realm of military innovations, and the occurrence of what scholars have described as a “third” or “new nuclear age” with its profound interactions with the technology domain. It then assesses ongoing and planned major German defense projects and cooperative efforts, which started before as well as in response to the war in Ukraine. The section concludes with an examination of Germany’s first-ever National Security Strategy, highlighting its references to military-technological innovations.

Emerging Technologies and a New Nuclear Age

Military innovation—the production of novel or improved weapons of war—is leveraging emerging technologies and occurring at an unprecedented rate (Kosal and Regnault 2019). Novel weapons and systems draw on the latest innovations, including from artificial intelligence and machine learning, biotechnology (including synthetic biology), additive manufacturing (3-D printing), information and computing technologies, as well as nanotechnology (which is responsible for metamaterials) and robotics (which is responsible for lethal autonomous systems). In addition, missile technology is advancing rapidly, yielding increasingly accurate ballistic, cruise, and hypersonic missiles. These programs are marked by extreme competition among the United States, China, and Russia. Major powers are also producing increasingly capable defenses, kinetic and non-kinetic anti-satellite/counterspace operations, advances in anti-submarine warfare, and “left of launch” attack capabilities on missiles and nuclear command and control using computer network operations (Futter 2022). All these military innovations draw heavily on improvements in remote sensing, artificial intelligence, and autonomous platforms.

Directly related to these global trends, dual-use technologies have become increasingly critical to national economies, labor forces, and security (Nelson 2020). While there is no official label of any technologies as specifically “dual-use,” the term applies to one that has both military and civilian applications (*ibid.*). Many emerging technologies are dual-use in nature. Moreover, as military technologies

are increasingly infused with lasers, radars, and computer hardware and software, it becomes increasingly difficult to maintain a dividing line between military and civilian innovation. For all states that prioritize technological innovation, dual-use technology innovation is forcing change. In countries that are major powers and innovators, governments alongside their private sectors are increasingly investing in technology development side by side.

These technological innovations take place in and interact with a so-called “third” or “new nuclear age” (Naylor 2019; Legvold and Chyba 2020; Narang and Sagan 2022), profoundly impacting states such as Germany. The Fourth Industrial Revolution and the technological change it has wrought is happening concurrently with massive shifts in the international system, and amid heightened nuclear competition, with some effects appearing in the form of the return of the threat of use of nuclear weapons and other nuclear rhetoric (Futter 2022). Whether this drives other states to pursue nuclear weapons, challenging norms of nonproliferation, and possibly eventually driving arms races for nuclear and strategic non-nuclear weaponry remains possible but unknown.

What is known is that a host of new Russian strategic nuclear weapons along with China’s new medium- and short-range missile systems have started to challenge regional deterrence architectures (ibid.). Two risks emerge that implicate Germany directly: first, Russia may perceive its weakened conventional forces (a result of its war against Ukraine) as not credible enough to deter the North Atlantic Treaty Organization (NATO) and therefore double down on more and improved dual-capable missiles; and second, systems may become entangled in unforeseen ways, leading to unintended escalation from the conventional to the nuclear level (ibid.). If the United States were to rely more heavily on conventional weaponry for deterrence purposes, thereby also potentially lowering the threshold for nuclear use by adversaries, we may see a further erosion of the nuclear arms control architecture and strategic stability writ large (ibid.).

Major German Defense Programs and Cooperative Efforts

In response to these mounting challenges, Germany has started to embark on a number of major defense programs—in unilateral, bilateral, and multilateral setups. Following Russia’s 2014 illegal annexation of Crimea, Berlin, too, started to pursue its own hypersonic missile program in 2018, specifically providing capabilities for countering Russian missiles or tanks, and innovating specially-designed guidance systems for these missiles to serve as anti-tank weapons (Peck 2019). The target, Russia’s new main battle tank, the T-14 Armata, is equipped with active protection systems making it more difficult to defeat using last-generation missiles. This program is one solely for the German defense industry.

Prior to its participation in EU-wide missile defenses, Germany had new national air defense systems in the works, which were intended to fall under a joint program with a German and U.S. defense contractor (Sprenger 2022b). The program, designed to produce a replacement for Germany’s aging Patriot fleet of missiles, struggled to get off the ground with the German government having a

comparatively low tolerance for risk considering its new procurement processes (Besch 2023). Instead, Berlin opted in 2021 to join a nascent EU program to defend against drones (Sprenger 2021). This counter-drone system (which targets cheaper weapons) simultaneously modernizes Berlin's aging Patriot fleet of missiles. In a direct response to the Russian aggression against Ukraine in 2022, Berlin decided to ramp up its missile defense capabilities by purchasing the U.S./Israeli-made Arrow-3 exoatmospheric system to defend against high-flying ballistic missiles with intermediate and longer ranges. That procurement decision, the Federal Government insists, should be seen as part of a larger German attempt to also contribute missile defenses for the security of Germany's neighbors—an effort that 19 European countries recently joined under the so-called European Sky Shield Initiative (Wachs 2023).

Germany has previously relied on EU-level initiatives to drive domestic efforts for military innovation. This was, in a way, codified in 2017, when the EU launched the Permanent Structured Cooperation (PESCO) initiative to integrate the armed forces of 25 European nations and serve as a springboard for new defense innovation to fill capability gaps (de France, Major, and Sartori 2017). Through this mechanism, Germany helps fund and participates in several joint European research and development (R&D) programs, including an EU-wide hypersonic defense program. At France's behest, Germany belatedly joined the EU Timely Warning and Interception with Space-Based Theater Surveillance project, to produce a novel system for intercepting a new generation of hypersonic missiles that are too fast for existing defensive systems (Sprenger 2020). The project was included in the November 2019 roster of projects under the PESCO initiative and aims to field a space-based early-warning sensor network combined with an interceptor moving at a velocity of more than Mach five at an altitude of up to 100 kilometers sometime around the year 2030. Its goal is to strengthen "the ability of Europeans to better detect, track and counter [hypersonic] threats" in order to promote "the European self-standing ability to contribute to NATO Ballistic-Missile Defense" (Permanent Structured Cooperation 2019). The German Ministry of Defense also helps fund, and German defense companies participate in, additional EU programs, including the Franco-German next-generation Main Ground Combat System (MGCS) battle tank and the Franco-German-Spanish next-generation Future Combat Air System (FCAS) fighter jet platform (Gady 2023).

PESCO complements the existing European Defense Fund (EDF), which will have 13 billion Euro from the EU and member states' individual contributions (made over a seven-year period) to support research, development, innovation, and the testing of new capabilities derived from emerging technologies (European Commission 2019). Together, these funds will serve as a proverbial 'honey jar' that will collect 36 billion Euro from EU member states per year in defense spending if commitments and budgeting pan out. This experimental approach will last five years, after which it could be renewed (European Defense Agency 2023). If successful, the EDF model promises to increase European and, by extension, transatlantic, security, with Europe becoming more capable in military burden-sharing. Thus far, EDF appears to have increased the overall European defense budget,

though anticipated benchmarks have remained out of reach (European Defense Agency 2022).

Germany is also involved in bilateral defense innovation projects with European partners and allies. In January 2019, Germany and France signed the Aachen Treaty, which was designed to serve as a roadmap for defense innovation cooperation in the decades to follow. Joint projects, stemming from the treaty, include MGCS and FCAS (Siebold and Rose 2022). While Germany and France have embarked on an often-thorny partnership to develop these systems, the robustness of the two countries' partnership in the long run is often called into question amid their diverging views on critical security political issues. Under French President Emmanuel Macron, France had invited Germany to partner in the "refounding of Europe" and share political-military leadership on the continent, but it has been frustrated with Germany's perceived reluctance, preferring a more middling-role in the Europe-wide project instead (Kunz and Kempin 2019).

Finally, and perhaps most notably, Germany has embarked on a defense spending spree in response to Russia's aggression against Ukraine. To shore up investment in its military, the Federal Government of Chancellor Olaf Scholz allocated a special fund of 100 billion Euro in the 2022 federal budget for strengthening the *Bundeswehr's* capacity. The special fund is intended for investments and armament projects including better equipment, modern technology, and more personnel for the *Bundeswehr*. Both MGCS and FCAS are to benefit from the fund; the same goes for the German-French-Italian-Spanish Eurodrone project, which is also still in development. Notably, up to half of the 100 billion Euro will likely go to U.S. defense companies for near-term acquisitions, most prominently for 35 U.S.-made F-35 fighter jets to maintain Germany's role in NATO nuclear sharing (Rooke 2022).

The German National Security Strategy

In reaction to the shock of the Russian aggression against Ukraine and a rapidly and much-changed security landscape, Berlin presented its first-ever National Security Strategy (NSS) in June 2023 after prolonged inter-agency infights and almost half a year later than previously anticipated (the goal of putting together such a strategy had been agreed upon by the current coalition already before the war started). In the introduction to the NSS, Chancellor Scholz insists that Germany is adapting to the strategic shifts all around and will continue to do so to ensure the security of the German people, including by appropriately equipping the *Bundeswehr* (The Federal Government 2023, 5). In a second foreword, Annalena Baerbock, the Federal Minister for Foreign Affairs from the Green party, introduces the concept of "integrated security" (ibid., 6–7)—a response to the increased complexity of the security environment. She notes that, in the future, Germany's economic policies will also be more closely linked to security (ibid.).

The NSS includes calls for further and continued investment in the *Bundeswehr* for the purposes of protecting Germany and its allies, deterring Russia, and helping to maintain a peaceful international order. It speaks to Germany's "special

responsibility” to contribute more to European security, invoking an element of national ethos to this end. Similarly, aspirations running through the strategy extend to German participation in a reshaping of a world that is clearly in flux, noting that, as Europe’s most populous country with the largest economy and bearing the “guilt” of unleashing World War II and the Holocaust, this too is Germany’s cross to bear (ibid., 19). Yet, as much as the strategy acknowledges Germany’s special responsibility, it articulates responsibilities that are shared—or perhaps equally “European”—too. The NSS notes that Europe’s ability to act “entails modern, capable armed forces in the EU member states, as well as a high-performance and internationally competitive European security and defense industry that creates the foundations for the armed forces’ military capabilities” (ibid., 31). It further notes ongoing investment in the military, highlighting the 100 billion Euro special fund allocated in the 2022 federal budget for strengthening the *Bundeswehr’s* capacity. This, the NSS insists, is proof that the Federal Government and the *Bundestag* are “drawing the necessary conclusions from the dramatically changed security situation” (ibid., 30).

The NSS also articulates the link between technology and integrated security—an important inclusion—describing how the “intensified international competition with regard to technology can give rise to security risks if the free access to certain technologies is no longer guaranteed and one-sided dependencies arise” (ibid., 24–25). Furthermore, the strategy notes the pressing need for “high innovative power” in maintaining German resilience and competitiveness, with a particular focus on “technological and digital sovereignty” (ibid., 57). Such sovereignty, the NSS argues, is required for using and shaping the use of critical technologies “internationally in line with our values” (ibid.). To maintain and expand technological and digital sovereignty, the Federal Government promises to focus specifically on “promoting science, research and the introduction of technology and digital applications onto the market,” while also improving Germany’s digital infrastructure (ibid., 57). On the topics of technology and innovation explicitly, the NSS says that Germany will require a high level of innovation to maintain its resilience and competitiveness. To support these aims, it notes that the Federal Government “will therefore provide targeted support for science and research, as well as for innovativeness in the business sector, and will take measures to protect against illegitimate interference and knowledge flows” (ibid., 15)—a rather lofty promise for now.

All in all, the NSS certainly reflects that German policymakers have begun to see the link between indigenous technological innovation, international security, and global competition. Whether the right lessons are drawn from these insights remains unclear for the moment. Given the lack of tangible outcomes described in the NSS—as regards technology innovations in the defense sector—the NSS rather seems to continue than break with the German past.

The German National Model of Military Innovation

Whether Germany can leverage technology innovation to meet challenges and achieve goals established via broader policy aspirations, such as stated in the NSS, and in light of fundamental shifts to the global order—including the nuclear

order—is truly a key question for the country and its allies and partners. When looking at the capacity to innovate, Germany’s rather divergent or ad-hoc defense decisions and cooperation mechanisms all have to be viewed in the domestic context, which shapes Germany’s ability to respond to novel geopolitical and technological challenges. A state’s national model of military innovation can be described as some combination of funding or R&D investment; procurement policies, regulation, and national ethos, the latter of which often translates into policy objectives (Nelson 2020). This section looks at the German model of military innovation from these four perspectives.

National Ethos

Germany is a historically strong innovator, and “German engineering” has become a hallmark of excellence. Not too long ago, German innovation fueled the country’s military strategy and vice versa: the German *Blitzkrieg* of World War II exploited the combustion engine, message encryption, and the radio to create and facilitate decisive, overwhelming military force. The German pursuit of military advantage through innovation ended with the country’s defeat in World War II.

The German engineering that contributes to German national identity today, however, is a product of post-World War II retooling, whereby West Germany channeled its high capacity for reliable engineering into remaking the national workforce and economy. This domestic policy explicitly eschewed the use of innovation in the development of weapons, mirroring Germany’s foreign policy: Germany adopted the persona of a “penitent actor” that “huddles in the middle” keen to avoid the perception of an overly aggressive Western European state (Schlögl-Flierl and Merkl 2018). Historically, this has produced a German research culture that operates with a sharp dividing line between innovation for military applications and that for civilian or purely scientific R&D—the so-called *Zivilklausel* (civil clause).

For decades now, Germany’s national model of innovation has perpetuated the robustness of its industrial base, which in turn has fueled its export-led economy. Additionally, German domestic policy has placed heavy emphasis on its workforce, and the country continually trains and re-trains its workforce when necessary, while keeping unemployment relatively low (Orth 2023). Further, German-made machinery manufactures much of the products we buy from around the world. In short, compared to other innovation-capable countries, “Germany is better at sustaining employment growth and productivity, while expanding citizens’ real incomes” (Breznitz 2014). In 2019, Germany was listed on the Bloomberg Innovation Index as the second most innovative economy in the world, courtesy of German innovations in additive manufacturing (Jamrisko, Miller, and Lu 2019), and it ranks eighth in the 2022 Global Innovation Index due to its relatively high spending (3.14 percent) on research and development per gross domestic product (GDP) in 2020 (World Intellectual Property Organization 2022).

As economically advanced countries the world over restructure their policies and bureaucracies with technology and innovation in mind, Germany proves no exception. Yet, unlike other major powers, Germany rarely adapts its innovation

policy, investments, and efforts to accommodate the growing demand for innovation for the sake of its military—or even in sync with geopolitical challenges. This is the result of a combination of Germany’s responsibility for unleashing World War II and of the peaceful end of the Cold War, which again translated into a policy of military restraint and, following the end of the Cold War, a massive downsizing of the *Bundeswehr*—explained in Chapter Two by Liana Fix in this volume. Over the years and decades, German complacency and an obsession with fiscal prudence have led to too little public investment, including in new technologies, in the German armed forces.

Parallel to these developments, German technological innovation has slowed down in certain areas. Today, the country’s investment in information technology as a share of its GDP is less than half of the United States’ or France’s (The Economist 2023). Bureaucratic conservatism also gets in the way. For example, obtaining a license to operate a business in the country takes 120 days—twice as long as the average of member states of the Organization for Economic Co-operation and Development (OECD) (*ibid.*).

Funding and R&D Investment

Germany’s large-scale, partially government-supported centers of research—among them the Fraunhofer Institutes—were founded under the Marshall Plan. The Fraunhofer Institutes act as hubs for small and medium-sized businesses and the government to innovate together for the purpose of putting research in the service of industry. More recently, the Fraunhofer model has been said to reflect the more contemporary German realization that “innovation must result in productivity gains that are widespread, rather than concentrated in the high-tech sector of the moment” (Breznitz 2014). With its Fraunhofer construct, Germany has achieved great success in the adaptation of innovation to business, as well as in “infusing old products and processes with new ideas and capabilities or recombining elements of old, stagnant sectors into new, vibrant ones” (*ibid.*). Each Fraunhofer location or hub focuses on a different engineering area, including additive manufacturing, semiconductors, robotics, and 5G technology.

The Fraunhofer model has grown from three employees at the end of World War II to 75 institutions with 29,000 employees and has an annual budget of 2.8 billion Euro (Morning Future 2021). According to Thomas Dickert, the Head of International Relations at Fraunhofer, the model today is

unique and successful; it works because we work on real projects with companies. We only open a new applied research institute where and if we feel there is a real need for it. The question we ask ourselves is: how can we help this or that company?

(*ibid.*)

Funding for these research centers comes, in part, from federal sources, but also more recently from the private sector and universities. The same goes for some of Germany’s Leibniz Institutes, though to a much lesser extent.

Defense innovation is not entirely excluded from the Fraunhofer model. The Fraunhofer Group for Defense and Security serves as a consortium for all research components aiding the German Ministry of Defense and the *Bundeswehr*. The group supports a range of strategic and tactical capabilities in areas ranging from conventional warfare to electronic and cyber warfare, counterterrorism, border security, and crisis management (Fraunhofer-Gesellschaft 2020). It is unclear how much federal funding goes to defense versus civilian Fraunhofer projects (Fraunhofer-Gesellschaft 2022). Unlike in the United States, where the defense industrial base is a source of national pride, comparatively little has been written about Germany's. This has resulted in a lack of a "comprehensive mapping" of the country's defense industrial base that, some analysts have argued, risks overlooking its potential strengths as well as its exposures (Barker and Hageböling 2022). Others have noted that Germany's defense industrial base is actually comparatively robust, employing 135,000 workers and generating 30 billion U.S. dollars annually in revenue (Gady 2023).

Major German defense firms include Rheinmetall, which makes munitions—an enduring requirement of warfare—as well as high-tech systems like the Skyranger air defense system and the Panther KF-51, a new battle tank. Rheinmetall has also engineered a series of autonomous ground vehicles that have the potential to be armed. A subsidiary of the company has developed a precision loitering munitions system called HERO, though the German government is not yet a customer for this product. Germany is also home to a subsidiary of MBDA (Matra, BAe Dynamics, Aérospatiale), the merger of the main French, British, and Italian missile systems companies. Two German contractors are currently working with MBDA on a ground-launched cruise missile, called the Joint Fire Support Missile, and related support systems (Gady 2023). Though the *Bundeswehr* is said to have plans to procure the 300 km-range missiles, no contract has yet been inked (*ibid.*).

As modernization and digitization slowly make their way through the *Bundeswehr*, electronics and cyber-related companies increasingly serve as defense contractors. Electronics company Rohde & Schwarz is providing the *Bundeswehr* with the ability to send and receive digitally encrypted communications (Hansen and Siebold 2022). Additionally, the software company Blackned is providing the technology to link multiple platforms and weapons systems into singular battle networks (Inmarsat 2023). Meanwhile, German AI defense company Helsing has been contracting with the *Bundeswehr* to integrate existing platforms like tanks into AI-enabled battle networks to enhance their combat capabilities.

Of course, demand from abroad also contributes to the health of the German defense industry. In 2022, Germany was the sixth-largest weapons supplier globally, contributing an average of roughly 4.2 percent of global arms exports between 2018 and 2022, the majority of which were ships, armored vehicles, engines, and air defense systems (Wezeman, Gadon, and Wezeman 2023). While a significant defense exporter, compared to the United States, Germany is a relatively minor player in defense *innovation*. The majority of Germany's exports have been Cold War-era conventional weapons—though the country is increasingly a major producer of more high-tech systems like ground-based electronic warfare systems,

loitering munitions, precision-guided munitions, next-generation armored vehicles, and diesel-electric submarines as well as, possibly, uncrewed underwater vehicles in the future (Gady 2023).

Nevertheless, for the near-term, Berlin orders high-tech defense articles, like combat aircraft, from abroad. In 2022, Germany inked a deal with U.S. defense contractor Lockheed Martin for 35 F-35 fighter jets worth 8.4 billion U.S. dollars (Sprenger 2022a). The jets are designed to replace the portion of Berlin's aging Tornado fleet that helps carry out NATO nuclear missions. Berlin also purchases equipment such as drones, transport planes, maritime patrol aircraft, helicopters, and anti-ship and land-attack missiles, which seem to be increasingly required for timely modernization of the *Bundeswehr*, from abroad. Notably, German companies produce components for these systems domestically.

To maintain an innovative edge, the German government launched a novel fund in 2021: the Federal Agency for Disruptive Innovation (SPRIN-D). The fund was created, in part, to signal an era of change and to create an innovation hub with a private equity funding mechanism akin to the U.S. Defense Advanced Research Projects Agency (DARPA). SPRIN-D is charged with bringing together new thinkers to infuse business enterprises with novel scientific innovation and entrepreneurship mechanisms. It is financially supported by a combination of public and private funds and has an annual budget of 150 million Euro (Wiarda 2023). The goal—disruptive innovation—is far from modest and is designed to close the innovation gap between Germany and countries like the United States and Israel, while introducing an element of transatlantic competition in this way (Kumagai 2021).

Also in 2021, the German government and the European Investment Fund (EIF) partnered to secure growth and later-stage financing for German startups in the form of a new fund of up to 3.5 billion Euro: the German Future Fund (GFF)—EIF Growth Facility. In an innovation ecosystem largely devoid of venture capitalists, German startups had previously relied on funding from outside Europe. Seven months after the onset of the partnership, the GFF-EIF Growth Facility had already provided 193 million Euro for investment in German startups (EIF 2021).

Procurement

Effective procurement can be a strong driver of innovation (Kilpatrick et al. 2021). When there are regular customers who create consistent demand and thereby provide a consistent revenue stream, procurement has done its job. German public procurement generally involves a mostly open, centralized system that operates largely without prejudice to goods produced in the country. The system's guiding principle is that the most economically advantageous tender is awarded the public contract—a process that is thought to unlock innovation in the economy by promoting new technologies and boosting adoption rates. As designed, however, the German system primarily maximizes efficiency in government spending and functions less as a driver of innovation in practice (Nelson 2020). Further, participation

in the European common market requires that Germany prohibit the automatic or exclusive patronage of domestic markets (EU Directives 2007/66/EC, 2009/81/EC, and 2014/24/EC). As the EU's largest economy, Germany ends up being the largest benefactor of Europe's single market system, which largely benefits German cities relative to more rural areas (Reuters 2019).

While defense and security articles procured by Germany are subject to general EU (and German) procurement law, certain articles are exempt under the European Act Against Restraints of Competition. This act, combined with Article 346 of the Treaty on the Functioning of the European Union, allows an exemption if the procurement is necessary for the essential interests of a member state's security. Germany also adheres to the EU Directive on Defense and Security, which allows for "restraints on competition," permitting preferences for bidders that meet criteria in specific areas, defense and security included (Directive 2009/81/EC).

For *Bundeswehr* procurement specifically, Article 87b of the *Grundgesetz*—the Constitution of the Federal Republic of Germany—delegates the task of directly satisfying the procurement needs of the armed forces to the Federal Defense Administration. Contracts required for providing the necessary equipment to the armed forces are awarded to industry, trade, and commerce by the designated civilian authorities of the Federal Defense Administration in compliance with several regulations.¹ Requirements for the totality of the armed services are jointly determined and procured per the structure of central procurement for efficiency. Thus, studies, research and development contracts, the supply of defense materials, including repair work, for the armed services are all awarded centrally without prejudice for or against maximizing innovation.

Rather, Germany's internal process for determining and meeting the demand of the *Bundeswehr* lies in its Customer Product Management (CPM) directive, which was revised in 2019. The CPM streamlines and harmonizes certain procedures, including the establishment of development and procurement timelines and of administrative procedures. It also conducts regular *Bundeswehr*-wide capability analyses to determine demand and to clearly distinguish between military and civilian responsibilities. In all its work, the CPM attempts to optimize costs, performance, and timelines, giving preference to the procurement of off-the-shelf or commercially available materiel. It delivers "proof of producibility" assessments to minimize risk before a procurement contract is finalized as well (European Security and Defense 2019, 2).

In 2022, the *Bundestag* adopted a law to accelerate procurement measures for the German armed forces by streamlining, simplifying, and thus accelerating Germany's defense acquisition process (The Federal Government 2022a). In so doing, it seeks to right past procurement failures. Now, 20 percent of the *Bundeswehr*'s procurement office's contracts can be awarded directly to providers. It also allows for more exceptions to the use of the EU common market when putting out a tender when a defense article or service is urgently needed. The threshold for requiring a tender has also been raised from 1,000 to 5,000 Euro (Matlé 2023).

The job of streamlining procurement is apparently unfinished. The 2023 German National Security Strategy states:

The Federal Government is determined to further strengthen the European security and defense industrial base. This includes protecting key technologies at national and European level. The Federal Government is endeavoring to harmonize military capability requirements with its partners and allies. In terms of procurement, it will focus primarily on European solutions if this can be achieved without losing capabilities. Rapidly bridging capability gaps remains the crucial criterion.

(The Federal Government 2023, 38)

What this may entail in practice, however, remains unclear. The verbiage amounts to a tacit acknowledgment of an ongoing problem: the *Bundeswehr* cannot yet get the materiel it needs in a timely manner.

Regulation

Though Germany seldom embarks on major federally funded programs to innovate with defense applications in mind, for dual-use technologies like artificial intelligence, lasers, and software engineering, Germany is an incredibly potent innovative force and is poised to (continue to) play a major role in the innovation of these technologies. A critical aspect of successful technology innovation is the ability to then protect what is innovated and proprietary. States have several key instruments at their disposal to regulate and protect their capacity to innovate in the military realm. Key instruments are export controls concerning the sale of weaponry as well as dual-use products, and regulatory tools that protect domestic companies that innovate sensitive technology.

Germany implements several regulations to control the export and sale of military items and services. First, Article 26 (2) of the *Grundgesetz* permits the export of weapons solely under the condition that the German government has granted an export license. Germany also implements the German Government Principles of 2000, which permit weapons exports to NATO countries and major allies, but places greater restrictions on other states. Additionally, under the 1998 EU Code of Conduct on Arms Exports and its successor, the 2008 EU Common Position on Arms Exports, Germany is required to adopt eight principles in granting an export license, including compliance with international commitments and human rights standards, as well as taking into account national security and development issues, with no delivery of materiel granted to parties engaged in active conflicts. The purpose of the EU codes is to harmonize standards across the Union and increase consultations among EU member states to coordinate export control positions and licensing. They have had the effect of increasing transparency across the EU concerning arms exports.

In signing the Aachen Treaty, Germany effectively softened its stance on arms exports, agreeing to work with France to “develop a common approach to arms

exports with joint projects” and refrain from “[obstructing] a transfer or an export to third countries” (Knight 2019). Still, the Aachen Treaty provides shared veto power for the export of jointly innovated military equipment. While the agreement empowers both countries to approve exports of innovative equipment to which they contributed equally, it also allows each to have veto power when an export might compromise that country’s direct interests or national security (Sprenger 2019). Moreover, per the terms of the treaty, when one partner contributes relatively little to a program, that country then loses its right to a veto. This arrangement has already created tensions in the bilateral relationship when, for example, France sought to sell Meteor missiles to Saudi Arabia and Germany exercised its veto on the grounds that it had banned all exports to states fueling the conflict in Yemen (Kiesel 2018). In this case, Germany’s adherence to principles of limiting sales abroad on foreign policy grounds trumped France’s desire to share the technology and reap the economic payout.

While Germany appears better at imposing sanctions and embargoes (e.g., on Syria, Iran, or Russia) than some of its EU partners, reporting exports (denials and sales) to the EU as required by the EU Common Position has declined recently among all three of the EU’s largest arms exporters (Germany, France, and the United Kingdom) (Neumann 2020). This could suggest, generously speaking, that member states are struggling to measure their exports, in an environment of increasing dual-use innovation. Alternatively, it may suggest a broader difficulty or even reluctance to implement export controls with a particular focus on dual-use products. The slow accrual of dual-use regulations from domestic impetus, EU-level momentum, and U.S. cooperation seems to indicate that Germany has only been gradually coming to the realization that being in the technology innovation business is akin to being in the weapons business where dual-use technology is concerned (Bromley 2012). If the implementation of export controls with a particular view to dual-use products is an indication of a country’s devotion to the protection of sensitive military technology (and lack of implementation therefore indicative of a lack of devotion) then Germany is decidedly behind the curve and is only recently implementing such dual-use export controls that resemble those of the United States, which tends to set the standard, unofficially, for such regulations.

The screening of foreign direct investment (FDI) serves as another regulatory tool to protect indigenous innovative technology. When successful, it prevents foreign actors from acquiring domestic companies that innovate sensitive technology or provide access to sensitive information. On FDI screening, Germany was also late to implement regulations. Only after the Chinese company Midea took over German robotics company Kuka in 2016, allowing the transfer of sensitive robotics technology to the Chinese, did Germany seek to implement restrictions on FDI in dual-use innovation (Reuters 2016). It was not until 2019 that the EU passed its own FDI-screening legislation to prevent acquisitions like Kuka’s and that Germany began its own implementation process of the EU legislation, which allowed for the Federal Ministry for Economic Affairs and Climate Action to review the acquisition of German firms by foreign buyers on a case-by-case basis, where “foreign buyers” included any investors outside EU territory.

Such FDI reviews are designed to determine whether a potential acquisition represents a “sufficiently serious and present threat which affects a fundamental interest of society” (Federal Ministry for Economic Affairs and Climate Action 2019). They are triggered when a non-EU investor seeks 25 percent ownership or more of a German company, and when a non-EU investor seeks ten percent ownership for companies operating in “sensitive security areas” (ibid.). For the latter, reviews consider whether the acquisition “poses a threat to essential security interests of the Federal Republic of Germany” (ibid.). To its credit, Germany places a three-month time limit on these reviews to prevent hampering economic growth by slowing down the acquisition process.² In doing so, the Federal Ministry for Economic Affairs and Climate Action consults with other federal ministries when relevant to a particular case.

From Slowness to Innovation Decline?

Germany has historically been a slow follower in adapting to change—more generally, but also particularly in the regulatory space. On enacting policies conducive to strategically relevant innovation, it has been said that “Germany remains too disconnected from the geopolitical threats that are already confronting it” (Barker and Hageböling 2022, 11). This slowness in dealing with change has created a backlog, particularly in the military domain. Efforts to boost German disruptive innovation in the military sector are long overdue, and German reluctance is mostly a matter of deliberate policymaking—or more to the point, of deliberate denial. Back in 2014, innovation scholar Dan Breznitz wrote: “the fairy tale that the United States is better at radical innovation than other countries [has] been shown in repeated studies to be untrue. Germany is just as good as the United States in the most radical technologies” (Breznitz 2014). That is, perhaps, no longer true, as Germany’s economy, which supports all of this innovation, declines. Whereas the German economy outperformed many other countries and kept pace with the United States between 2006 and 2017, it has recently experienced its third quarter of contraction or stagnation and may even end up being the only big economy to shrink in 2023. According to the International Monetary Fund (2023), the German economy is poised to grow more slowly than America, Britain, France, and Spain over the next five years. As a matter of fact, innovation decline and economic decline are connected. Germany’s ability to innovate might thus face a very uncertain future in the years to come.

German Dual-Use Innovation: A Case Study in AI

AI is an umbrella term for technologies and innovations that rely on computing capacity and advanced computer programming to develop next-generation capabilities such as self-driving cars and other autonomous systems, quantum computing for big data analysis and enhanced digital encryption, and advanced wireless networks that offer unprecedented connection speeds and security. According to a former U.S. Deputy Secretary of Defense, AI is driving “new and more novel warfighting applications involving human-machine collaboration and combat

teaming [...] the primary drivers of an emerging military-technical revolution” (U.S. Department of Defense 2020).

As a function of its engineering-driven economy and the policies that have both enacted and preserved it, Germany is strong in some areas of dual-use innovation and weak in others. Despite its long history of being one of the most innovative countries in the world, Germany has had a weak AI innovation ecosystem until only a few years ago and has had to make strides to recover from this position. As of 2018, for example, Germany had only three percent of the global market share for AI. At the time, Germany lacked both an abundance of venture capital and the requisite tech giants for competing with U.S. and Chinese companies (Xu 2019). This section presents a case study on German AI innovation to illustrate the national model at play, dual-use complexities, and their implications for domestic and foreign policy.

German Efforts to Catch Up

Of Germany’s innovative capacity and ability to execute on it, the OECD recently wrote:

Lagging German digitalization and the development of competencies in key enabling technologies takes place in a context where Germany’s most innovative industries and the markets they serve are being reshaped. This creates challenges for how Germany innovates, as much as it does for what it innovates, and to what end. The growing importance of technologies such as quantum computing and artificial intelligence, as well as the microelectronics that power such technologies, requires capabilities that differ from those—such as mechanical engineering—where Germany has historically excelled.

(OECD 2022, 17)

Berlin has taken many steps to correct this. Having only budgeted 50 million Euro for AI in 2019, Berlin vowed to do better, resolving to pursue AI innovation while simultaneously preserving data privacy. Whereas government spending on AI had been relatively weak, in part owing to data privacy concerns associated with datasets required for effective AI development (Westerheide 2018), spending on AI has since increased, resulting in a total of five billion Euro by 2025. With this investment came a significant push to improve Germany’s AI ecosystem by establishing multiple national competence centers for AI research, funding various projects across healthcare, the environment and climate, aerospace, and mobility areas, and passing different laws to provide a legislative framework for AI (Delcker 2018b).

This all grew out of Chancellor Angela Merkel’s 2018 vision and strategy for out-innovating the United States and China on AI. Merkel’s strategy focused on creating applications of AI to boost production in factories and shore up supply chains. Her vision was a response to Germany’s total lack of a plan on AI, particularly relative to China. German-made AI reflected a desire to see a “[German] seal

of quality recognized all over the world” (Sprenger 2018). It came with an investment of three billion Euro over a seven-year period and established twelve priority-action goals.³ Consistent with the German way of doing innovation business, the goals focused on AI’s potential contribution to German industry—not on security. According to two German analysts, the strategy is profoundly lacking in “foreign policy and defense elements of AI” (Franke and Sartori 2019).

For AI-specific controls, regulations, and protections, Germany is bound first and foremost by strict data privacy laws implemented as a function of the EU’s Data Protection Regulation, which have had the effect of constraining the AI sector (*ibid.*). In 2016, Germany implemented the German Federal Data Protection Act, preempting the 2017 EU-wide General Data Protection Regulation and its prescribed data protections for preventing the sharing of personal data. The subsequent 2018 German AI strategy, however, signaled a willingness to loosen some regulations at the domestic level to promote AI innovation (Delcker 2018b). Additionally, Germany has established an Ethics Commission on Automated Driving to ensure that innovation on automated cars continues with the prioritization of avoiding accidents while generally making cars safer (Access Now 2018).

Artificial intelligence runs on semiconductors. German-made semiconductors have a profoundly different story than other dual-use technologies made in the country: Germany leads in microelectronics in Europe, where one of every three semiconductors comes from Germany (Miller 2021). This is a direct result of deliberate steps taken by Berlin (in partnership with industry and academia) to improve the country’s semiconductor capacity through its “Microelectronics from Germany Initiative,” which received one billion Euro in public funding from 2016 to 2020 and was undertaken through a first-of-its-kind partnership between the Fraunhofer Institutes and two Leibniz Institutes. It aims to integrate the research, design, and manufacturing clusters in the microelectronics industry in four areas: silicon-based technologies, compound semiconductors, integration, and design and testing (Federal Ministry of Education and Research 2020). In addition, German AI innovation benefits from enhancements to the innovation ecosystem and nurturing of startups, provided by the GFF-EIF investment fund, which has allocated ten billion Euro to strengthen innovative startups in Germany in both growth- and later-stage phases (EIF 2021). Its website boasts that by the end of 2022, “the GFF-EIF Growth Facility has already supported more than 20 funds with some EUR 850m in commitments” (EIF 2023).

German AI and the Military

Unsurprisingly, Germany’s efforts to integrate semiconductor and AI technologies into the German military are relatively nascent and opaque. It has been suggested that such efforts primarily focus on the use of datamining and analysis for intelligence purposes (Machi 2021; Sprenger 2018). Furthermore, Germany has no immediate plans to acquire autonomous weapon systems, which would rely heavily on both technologies, and has joined with France to lead in the application of international law and the use of public declarations to impose restraints (Reuters 2018).

However, in a rather novel move, the German Ministry of Defense created the Cyber Innovation Hub within the *Bundeswehr* in 2017, which bills itself as a “do-tank” and is tasked with identifying domestic startups that have potential defense applications, with a particular focus on AI startups (Delcker 2018a). As written in the previous section, in 2022, the Ministry added the DARPA-like SPRIN-D innovation hub. Most recently, in August of 2022, the German cabinet inked a first-of-its-kind digital strategy, which affects AI innovation and military modernization, as it is designed to help fuel innovation more broadly by working to move the needle towards digital modernization. The strategy focuses on three areas, including a networked and digitally sovereign society; innovation in the economy, the workforce, science, and research; and the digital state. To facilitate achieving these goals, the strategy established certain Enabling Projects, focused on establishing norms and standards, as well as on data availability and digital identities (Barker and Hageböling 2022). Notably, the strategy aims to break down silos across government and leans heavily on the private sector, particularly for the supply of skilled labor. It lacks, however, an associated budget. Instead, “[e]ach government department will implement these measures under its own responsibility and within the scope of the funds available in its budget and financial planning” (Federal Ministry for Digital and Transport 2022).

A think tank report criticized the strategy for overly prioritizing the domestic dimension and failing to complement short-term goals with a long-term strategy, particularly on foreign and security policy issues (Barker and Hageböling 2022). Instead, the report recommended striving for greater complementarity between defense and digital objectives to advance innovation more effectively. It noted:

The €100 billion *Zeitenwende* outlay must link defense modernization with basic research and development capacity in dual-use innovation, including in defense software. As part of the mentality shift in the *Zeitenwende*, the Länder and universities must work with the federal government and the private sector on common-sense use of the *Zivilklausel*.

(Barker and Hageböling 2022, 5)

Facing Uncertainty

Against the background of Russia’s war against Ukraine, increased geopolitical competition, and the *Zeitenwende*, the prevailing German model that privileges the innovation of dual-use technologies for civilian purposes will no longer suffice. The present and, likely, the future call for bolder, bigger moves that also include the military domain. Perhaps no other area of innovation makes this as clear as the AI field.

While Germany has invested considerably to play catch up on AI—and to some degree succeeded in doing so—it lacks a strategy and a decidedly political willingness to extend its efforts into the military domain. Germany’s AI investments for the *Bundeswehr* dwarf in comparison to the civilian sector. This development is clearly linked to Germany’s foreign and security policy pursuit of lobbying for

cooperative international regulations on autonomous types of weapons. However, the more that these international efforts might face resistance from the big powers, perhaps the less inclined Germany will become to continue restricting its own military use of AI. It could well be that in a few years' time, Germany will undertake a serious effort to play catch up once more—this time in the military domain of AI.

Conclusions

It is one thing to enact a series of policy changes designed to shift course on foreign policy and security. It is entirely another to do it while rebuilding one's own armed forces in an environment of rapid technological disruption and high geopolitical competition. Dating back several years now, Germany's own armed forces have been described as decidedly "hollowed out" (Major and Mölling 2017), owing to domestic policies enacted to strip the *Bundeswehr* of the ability to fight a conventional land war. As a result, the German defense budget was cut significantly, and its military was no longer provided with the equipment, manpower, and resources to do so (Gady 2023). Defense cuts were carried out to such an extreme, leading to such a low state of combat readiness that, ten years later in 2022, manifested as an entire fleet of tanks breaking down during a standard exercise (More 2022). Certainly, the hollowed-out state of the *Bundeswehr* must be considered in light of Berlin's recent plans to deter Russian aggression and play a greater role in European defense.

The ongoing rebuilding of the *Bundeswehr* will continue to pose a formidable challenge to how much Germany can contribute to its own and broader European security. More effort is likely required—and soon. For example, Berlin's decision to permanently deploy a full combat brigade in Lithuania was a laudable announcement, but the policy decisions required to create a more robust *Bundeswehr* capable of such a function have not yet translated into readiness. It remains unclear how long it will take the *Bundeswehr* to complete preparations for the deployment (Reuters 2023). Additionally, the German Ministry of Defense has also been taxed in recent years with competing demands, including by NATO to augment cyber capacity, and the EU to fund European defense with initiatives to collaborate with EU countries on new weapons and systems designed to fill capability gaps (Maigre 2022; Keohane 2018). Though (slowly) working to shore up its own forces, the major emphasis of Germany's efforts in military innovation is collaborative and for the broader EU benefit.

While partnerships with and within the EU stand to be a boon to German military innovation, some experts doubt the EU can become a major player in defense innovation due to its "valley of death" between research and development (Mazurek 2018). This is because developing innovative technology is one thing, but integrating it into the military at strategic, operational, and tactical levels is an entirely separate feat, and the EU does not have much in the way of a track record of success in this realm. This is evidenced by EU countries' integration of the F-35: it is still unclear, for example, how the Dutch and Norwegians will self-organize

to take advantage of the system's advanced lethal capabilities they have recently acquired (Chacko 2023).

As a matter of fact, Germany is facing technology innovation challenges on all fronts. Recent calls for adaptation of Germany's economic model have pointed to the need for nurturing new businesses, maintaining infrastructure, and ensuring a steady supply of talent (The Economist 2023). At the same time, calls for Berlin to do more to ensure its own security (The Federal Government 2022a), require a complete rebuild and modernization of Germany's armed forces. Whether recent investments in technology innovation and the *Bundeswehr* will bear innovation or security fruit remains an open question that, for some, is already suffused with doubt. As one analyst noted:

to realize the modernization of the *Bundeswehr* through the German defense industry would require Berlin to have tenacious political will, a strong commitment to long-term financing plans, and a willingness to slash bureaucratic red tape in order to expedite and professionalize procurement processes.

(Gady 2023)

This clearly is a tall order; moreover since Germany is proceeding in a manner consistent with its national model, which eschews dramatic shifts. Germany's national model of innovation is still enacting policies that may only slightly move the needle every few years or is innovating technologies that may only produce an incremental stepping up effect on the battlefield. If Germany is to achieve more security via technology innovation, a bolder vision, one for the new nuclear age, is required. Right now, it is the United States—not Germany—that is decidedly at the forefront of the technological innovation that will support the massive policy shifts that characterize that age.

Notes

- 1 These include the following laws and regulations: Part IV of the German Act against Restraints of Competition; the Regulation on the Award of Public Contracts; the Utilities Regulation; the Procurement Regulation on Defense and Security; the Procurement Regulation on Construction Works; the Procurement Regulation on Concessions; and the Procurement Regulation on the Award of Public Contracts under the EU thresholds for the Federal Republic and the Federal States of Bavaria, Hamburg, and Bremen.
- 2 For reference, the Committee on Foreign Investment in the United States' process has no similar time constraint, and reviews can drag on for years in some cases.
- 3 The twelve goals are to (1) strengthen research and create an AI ecosystem; (2) create clusters of innovation; (3) strengthen small and medium-sized enterprises; (4) attract more venture capital and AI firms; (5) manage structural economic shifts brought on by AI; (6) attract AI talent; (7) integrate AI into state/administrative tasks; (8) make government data available while protecting privacy rights; (9) adapt regulatory frameworks for an AI world; (10) establish AI standards; (11) foster international cooperation, especially with other EU members and the United States; and (12) deepen public-private partnerships (Koch 2019).

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Part II

Deterrence



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4 Nuclear Zeitenwende(n)

Germany and NATO's Nuclear Posture

Tobias Bunde

Introduction

Russia's full-scale invasion of Ukraine in February 2022 came as a shock to most Europeans.¹ The brutality and dimension of the Russian military aggression against another European country, in combination with nuclear threats from the Kremlin, triggered wide-ranging reassessments of the strategic postures in several European countries. In Germany, above all, the invasion was experienced as a fundamental clash of widely shared foreign policy beliefs with the manifestation of a fundamentally different security environment, the emergence of which sizeable parts of the German elites and the population had long neglected (Bunde 2022). In a first reaction to news reports of Russian tanks entering Ukraine and missiles hitting population centers across Ukraine, German Foreign Minister Annalena Baerbock expressed this feeling when she noted that “we have woken up in a different world today” (Federal Foreign Office 2022).

A few days later, German Chancellor Olaf Scholz coined the term that not only captured the perception of a major turning point but also went on to become the buzzword of the ensuing German debate about the country's adaptation to a new strategic context: *Zeitenwende* (The Federal Government 2022). English translations such as turning point, turn of an era, or watershed—the latter being the official translation used by the Chancellery—do not adequately capture the fundamental dimension of the notion of a *Zeitenwende*, which suggests, as Scholz put it, that “the world afterwards will no longer be the same as the world before” (ibid.).

This sense of a fundamental turning point allowed Scholz to effectively put an end to several ongoing debates that had plagued German security policy for years, reversing long-standing positions of his own party, the Social Democrats (SPD). Scholz not only announced that Germany would provide weapons to Kyiv to help Ukrainians defend themselves, but he also declared that the government would establish a 100 billion Euro special fund for necessary defense investments and pledged that Germany would “now—year after year—invest more than two percent of [its] gross domestic product in our defense” (ibid.). The Chancellor also stated that Germany would acquire armed drones for the *Bundeswehr*—another decision which a majority in his party had previously opposed.

While the bulk of his speech focused on Germany's political, economic, and conventional military responses, Scholz also hinted at a reassessment of Germany's

specific contribution to the North Atlantic Treaty Organization's (NATO's) nuclear sharing arrangement. For more than a decade, German elites had debated the future role of Germany in NATO's nuclear deterrence mission. In their coalition agreement, though, the so-called Traffic Light Coalition, made up of the SPD, the Greens, and the Free Democratic Party (FDP), had already agreed to procure a successor to the aging Tornado fighter jets, Germany's dual-capable aircraft (DCA) tasked to deliver U.S. non-strategic nuclear weapons, and thus committed itself to maintaining the arrangement. Addressing the *Bundestag* on February 27, Scholz stressed that the decision on the Tornado successor aircraft would be taken "in good time" and that U.S.-made F-35 aircraft, the most advanced fifth-generation fighter jet, which the previous government had excluded, had "the potential to be used as a carrier aircraft" (*ibid.*). A few weeks later, the Federal Government announced its preference for the F-35 and entered negotiations with the United States (Jordans 2022). At the end of the year, in December 2022, the *Bundestag* approved an eight-billion-U.S.-Dollar deal to buy 35 F-35 fighter jets from the United States, underlining its commitment to NATO and the principle of nuclear deterrence. As the U.S. Ambassador to Germany, Amy Gutmann, put it, Germany was "cementing its continued participation in NATO's nuclear-sharing mission" (*ibid.*). In 2026, the new F-35 fleet is expected to move to Büchel Air Base, which is the only remaining site for U.S. forward-deployed nuclear weapons on German soil, currently undergoing comprehensive modernization (Kristensen 2022). As Germany's first National Security Strategy, published in June 2023, put it: "as long as nuclear weapons exist, maintaining credible nuclear deterrence is essential for NATO and for European security. Germany will continue to do its part in nuclear sharing and will constantly provide the dual-capable aircraft this requires" (The Federal Government 2023, 32).

Russia's war on Ukraine, taking place under the nuclear shadow (Kühn 2022), has put nuclear weapons on top of the security agenda again. It has not only forced Germany to invest in the 'hardware' of nuclear deterrence. It will also require investments in its 'software,' as Germany and its partners are trying to make sense of a changing nuclear security environment, which had been on the horizon for quite some time but had largely been neglected by the German political elites and the population. Although the Federal Government has eventually made the long-overdue decision to secure Germany's long-term commitment to NATO's nuclear deterrence mission, the debate on the best strategy for a new nuclear age (Narang and Sagan 2023) has barely begun in Berlin.

In this chapter, I discuss Germany's nuclear strategy in NATO, against the backdrop of two *Zeitenwenden* and their related nuclear dimensions. After a brief overview of the historical role the Federal Republic of Germany played in the development of NATO's nuclear sharing arrangement, I discuss how German policymakers have reacted to the changes in Germany's security environment during the *Zeitenwenden* of 1989–1991 and 2014–2022. I argue that German leaders have always tried to minimize nuclear risks by reducing the role of nuclear weapons without questioning NATO as a nuclear alliance, thereby trying to square the circle between a growing anti-nuclear sentiment in the German population and

the multilateral reflex of Germany's foreign policy. While the benign security environment of the post-Cold War era made it possible for successive German governments to pursue a relatively inexpensive policy of *sowohl als auch* (as-well-as)—promoting nuclear disarmament as well as preserving NATO's character as a nuclear alliance—the new security environment and allies' expectations will force Germany to reinvest in nuclear deterrence and make a meaningful contribution to NATO's deterrence mission.

Not Just Another Non-Nuclear Member State: Germany and Nuclear Deterrence Within the Framework of NATO

At first sight, it may seem strange to refer to Germany's nuclear strategy. After all, despite the role of German scientists in the development of nuclear research in the first half of the twentieth century, Germany has always remained a 'nuclear have-not,' a non-nuclear state. Recurring public debates about a potential German bomb notwithstanding (Volpe and Kühn 2017), German policymakers have consistently ruled out the acquisition of nuclear weapons but have rather pursued their nuclear strategy within NATO. For Germany, nuclear strategy has thus always been primarily NATO strategy.

This was not preordained, though. In the early years of the nuclear age, West Germany was among the obvious candidates for nuclear proliferation. Not only would it likely have been technically able to pursue an independent nuclear deterrent, but its difficult geostrategic position also meant that “West Germany more than any other country in Western Europe could have seen hard reasons to develop a nuclear deterrence stance to keep any invasion at bay” (Heuser 2000, 88). Yet, for Bonn, neither neutrality nor an independent nuclear force were attractive options. The Adenauer government discarded both extreme options early on but rather pursued its security interests through a strategy of *Westbindung* (Lutsch 2020a). As Heuser (2000, 89) summarizes, “Bonn chose alliance loyalty above anything else, including any option of constructing nuclear weapons.”

Given Germany's vulnerability as the key frontline state and as the main theater of a potential nuclear escalation during the Cold War, West German policymakers worried both about the credibility of the security guarantee at the heart of NATO and about potential escalation into nuclear war, which would have turned both German states into a nuclear wasteland. In other words, West Germany faced the nuclear dimension of the alliance security dilemma (Snyder 1984). On the one hand, it was dependent on U.S. protection and thus always feared abandonment—either in the form of a withdrawal of the U.S. deterrent or the erosion of its credibility. On the other hand, it feared entrapment in the sense that nuclear weapons could actually be used by the protector in case of deterrence failure.

From its admission into NATO in 1955, West Germany was at the heart of nuclear debates within the alliance. While it was fully dependent on the United States during the first decade of its existence, West Germany began to explore different ways to influence nuclear policies in the alliance since the beginning of the

1960s (Mahncke 1972, 37; Lutsch 2020a).² At the height of the Cold War, the West German government felt the pressing need to influence U.S. and allied nuclear strategy, as Germany would have been the major victim of a nuclear escalation in Europe (Mahncke 1972, 16–17; Buteux 1983, 6). Moreover, for Bonn, participation in the nuclear sharing arrangement was also a vehicle to overcome real or perceived discrimination in the alliance due to its non-nuclear status (Mahncke 1972, 24–29; Buteux 1983, 9). After the failure of the plans for a Multilateral Force that would have created a NATO nuclear force (Sayle 2019, 100–118), the creation of the Nuclear Planning Group (NPG) in 1966 was NATO’s institutional response to West German concerns that the defense of West Germany depended on a nuclear strategy it could hardly influence. It is thus difficult to overestimate the significance of Germany for the development of NATO’s unique nuclear sharing arrangement: without West Germany—and without the German question—there would have been no nuclear sharing arrangement. In many ways, the arrangement—i.e., the forward deployment of U.S. non-strategic nuclear weapons, combined with the nuclear hosts’ participation in their potential delivery and in consultations about their potential use—was a response to West German concerns at the height of the Cold War and meant to alleviate fears of abandonment and entrapment. Further on, U.S. non-strategic weapons deployed on the territory of European NATO allies symbolized the United States’ commitment to extended deterrence, and the institutional framework of the NPG gave U.S. allies a voice in the debate on nuclear policy. From a German point of view, the NPG proved to be a “success story,” as it “became the cornerstone for European nuclear participation and gained considerable influence in the evolution of NATO’s nuclear strategy in Europe” (Kamp 1995, 283–284). According to Lutsch (2020b, 444), West Germany, in particular, played an outsized role in shaping U.S. nuclear strategy, even surpassing the influence of France and the United Kingdom, the two nuclear-armed U.S. allies.

However, nuclear sharing has always been a two-way street. Just as the arrangement symbolized the U.S. commitment to the defense of its European allies, the forward deployment of U.S. nuclear weapons also signaled that the nuclear hosts were willing to share the risks of extended nuclear deterrence. Over time, this became an increasingly pressing concern, as the German public seemed to become less concerned about abandonment but rather about nuclear entrapment. As a result, Germany’s allies worried about Germany’s “denuclearization,” meaning that the Germans “not only did not want their own nuclear weapon, but wanted no nuclear weapons on their soil whatsoever” (Sayle 2019, 118). As Sayle (*ibid.*) puts it, NATO’s history was thus plagued by a “series of nuclear-political crises in Germany that threatened to destabilize the alliance up until 1989.” Most importantly, the comprehensive “nuclear crisis” (Becker-Schaum et al. 2016), which resulted from NATO’s dual-track decision, the emergence of the German peace movement, and large-scale protests against the deployment of U.S. intermediate-range missiles in the early 1980s, not only severely challenged NATO (Colbourn 2022; Nuti et al. 2015), but also shaped how German politicians approached nuclear policy. At one point in 1983, more than one million West German protestors took to the streets, highlighting that they worried more about nuclear escalation than about the threat

posed by the Soviet Union or a potential “decoupling” from the United States—the latter of which had motivated Chancellor Helmut Schmidt (SPD) to kickstart a NATO debate about intermediate-range missiles in the first place. To this day, the lessons learned from this “nuclear crisis” inform how German policymakers deal with nuclear policy issues (Gassert 2019).

The two *Zeitenwenden* of 1989–1991 and 2014–2022, which significantly changed both the role of Germany in NATO and the security environment that defined the key parameters in which Germany’s nuclear policies unfolded, have significantly affected German decision-making in the nuclear field. But some of the earlier nuclear legacies and dilemmas still live on, albeit in a different form.

***Zeitenwende* 1989–1991: German Nuclear Policies in the Post-Cold War Era**

The fall of the Berlin Wall in November 1989, the peaceful end of the Cold War and the division of Germany marked by German unification in 1990, as well as the dissolution of the Soviet Union in 1991 fundamentally changed Germany’s security environment. Writing in 1991, Kaiser referred to this “change of such a tectonic magnitude as the breakdown of the entire postwar international order” as “the *Zeitenwende* of 1989–90 that altered the political map of the northern hemisphere” (Kaiser 1991, 179).

Yet, although this *Zeitenwende* had significant implications for NATO’s nuclear posture, it did not mean that nuclear weapons suddenly ceased to be important. For instance, the international debate in the early 1990s also demonstrated that fears of a resurgent Germany that might even want to “go nuclear” had not completely vanished. Mearsheimer, who predicted the demise of NATO, maintained the Germans would be unlikely “to trust the Soviet Union to refrain for all time from nuclear blackmail against a non-nuclear Germany,” and thus thought a German bomb would be almost inevitable and a reasonable policy solution (Mearsheimer 1990). Even defense policy planners in the United States worried about potential nuclear proliferation. In contrast to Mearsheimer, though, they concluded that the United States should prevent German proliferation from happening by investing in U.S.-dominated security structures (Tyler 1992).

However, these foreign analyses fundamentally misjudged how German leaders perceived their security interests after the end of the Cold War. The German elites never contemplated the nuclear option but knew quite well that they owed the unlikely success of German unification to their unambiguous strategy of integration into the West, forgoing any possible temptations of a German *Sonderweg* (i.e., past German policies to go it alone). As part of the negotiations leading to Germany’s unification, German leaders not only accepted an upper limit on its armed forces but also reaffirmed the non-nuclear status of the Federal Republic of Germany—a key element of the post-Cold War settlement. In Article 3(1) of the Treaty on the Final Settlement with Respect to Germany, better known as the Two Plus Four Treaty, the governments of the two German states “reaffirm their renunciation of the manufacture and possession of and control over nuclear, biological,

and chemical weapons. They declare that the united Germany, too, will abide by these commitments” (Federal Republic of Germany et al. 1990).

In 1995, there was not even a debate among the German elites as to whether Bonn should support the indefinite extension of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), a treaty that was heavily contested in Germany when it was negotiated (see also Chapter Ten by Harald Müller in this volume). Unified Germany was clearly in favor of an indefinite extension of the NPT, further cementing its non-nuclear status (Kamp 1995, 278). As Krieger (1995, 25) noted at the time,

Germany will never seek to become a nuclear power out of its own free will. Indeed the governing elites are quite glad to forget about nuclear weapons. And they are fully aware that there is no chance of winning public support for a German nuclear arsenal.

From the perspective of Bonn’s leaders, the peaceful end of the Cold War represented the opportunity to safely decrease reliance on nuclear weapons and alleviate nuclear risks. As fear of abandonment had receded, German policymakers supported the massive reduction of nuclear weapons in Europe. In 1991, U.S. President George H. W. Bush unilaterally announced a far-reaching reduction and partial elimination of non-strategic nuclear weapons in Europe that affected the nuclear arsenals of the U.S. Army, the Navy, and the Air Force. With the first of two Presidential Nuclear Initiatives (PNIs), Bush ordered the removal and destruction of all U.S. ground-launched theater nuclear weapons, about 1,000 nuclear artillery shells and 700 surface-to-surface missile warheads, as well as the removal of nuclear weapons from attack submarines, surface ships, and land-based naval aircraft. While the PNIs also canceled the Tactical Air-to-Surface-Missile, it did not touch upon the deployed air-launched nuclear warheads (Koch 2012, 11–12). Yet, a few weeks after Bush’s announcement, NPG members met in Taormina, Italy, to discuss “a new sub-strategic nuclear force posture and stockpile level which responds to the changing security environment in Europe” (NATO 1991a). In their communiqué, the ministers not only embraced Bush’s initiative but also declared that “the number of air-delivered weapons in NATO’s European stockpile will be greatly reduced. The total reduction in the current NATO stockpile of sub-strategic weapons in Europe will be roughly 80 percent” (ibid.). NATO’s new Strategic Concept, adopted by heads of state and government at the NATO Summit in Rome in November 1991, affirmed this new strategic posture:

While nuclear weapons were said to “fulfil an essential role by ensuring uncertainty in the mind of any aggressor about the nature of the allies’ response to military aggression” and to “provide an essential political and military link between the European and the North American members of the alliance,” NATO leaders stressed that, given a different security environment and NATO’s expected strengthening of conventional defense, “the circumstances in which any use of nuclear weapons might be completed by [the

allies] are therefore even more remote.” Consequently, the allies agreed that they could “therefore significantly reduce their sub-strategic nuclear forces,” consisting only of dual-capable aircraft from now on.

(NATO 1991b)

This new posture with its reduced role for nuclear weapons clearly served German interests. When President Bush called Chancellor Helmut Kohl of the Christian Democratic Union (CDU) to inform him of his plans to massively cut the number of nuclear weapons, Kohl immediately welcomed Bush’s initiative. From a German point of view, the removal and partial destruction of thousands of non-strategic nuclear warheads significantly reduced nuclear risks for Germany. In particular, as the Federal Ministry of Defense’s 1994 *Weißbuch* noted,³ this decision solved a specifically German dilemma, as the lion’s share of these weapons was based and would have exploded on German territory in case of nuclear escalation (Federal Ministry of Defense 1993, 24).

At the same time, the German government was keen to preserve the U.S. nuclear umbrella, widely understood as a key element of the NATO alliance and thus of Germany’s *Westbindung*. While the Soviet Union largely reciprocated the U.S. initiative and significantly reduced the number of non-strategic nuclear weapons (albeit on a different level), the United States and its NATO allies avoided more radical steps. In their 1991 communiqué that described the key elements of “a drastically reduced and restructured NATO nuclear posture” (NATO 1991a), the NATO ministers also reiterated the basic rationale underlying the nuclear-sharing arrangement:

These unilateral measures, which are additional to the substantial reductions already made in recent years, accord with our long-standing policy of maintaining only the minimum level of nuclear forces required to preserve peace and stability. Nuclear weapons will continue for the foreseeable future to fulfil their essential role in the alliance’s overall strategy, since conventional forces alone cannot ensure war prevention. We will therefore continue to base effective and up-to-date sub-strategic nuclear forces in Europe, but they will consist solely of dual-capable aircraft, with continued widespread participation in nuclear roles and peacetime basing by allies. Sub-strategic nuclear forces committed to NATO continue to provide the necessary political and military link to NATO’s strategic nuclear forces and an important demonstration of alliance solidarity.

(NATO 1991a)

These arguments have informed NATO’s nuclear posture ever since. While the changing security environment allowed for a significant reduction of nuclear weapons in the 1990s, NATO member states continued to see nuclear weapons as essential to prevent war, doubting that conventional forces alone could serve this purpose. They also affirmed the importance of continued deployment of non-strategic nuclear weapons and the endurance of the nuclear sharing arrangement as

the embodiment of allied solidarity and as the link to the strategic nuclear forces of the alliance.

The German government, in particular, remained committed to the nuclear sharing arrangement, which it clearly viewed as an expression of allied solidarity. Although fear of a major nuclear confrontation was, as the 1994 *Weißbuch* noted, a thing of the past, German policymakers

held fast to the view that NATO's nuclear posture in general, and also the deployment of a number of nuclear weapons—albeit comparatively small—on German territory, as a means of “coupling” the [U.S.] strategic arsenal to European security-interests, was indispensable.

(Müller 2000, 7)

In other words, German policymakers pursued a *sowohl als auch* policy in the nuclear realm. They pushed for a diminished role of nuclear weapons in NATO's strategy, attempting to minimize the risks of nuclear escalation and reduce the number of nuclear weapons deployed to Europe, but at the same time never questioned Germany's commitment to NATO's nuclear deterrence mission, sticking to the general principle of extended nuclear deterrence as the fundamental security guarantee for Germany. This comprised a commitment to NATO's nuclear sharing arrangement, including the provision of dual-capable aircraft for the delivery of U.S. non-strategic nuclear weapons, understood as the “essential link with the strategic nuclear forces, reinforcing the trans-Atlantic link” (NATO 1991b).

Yet, as the German public seemed to have increasing doubts about the continued relevance of nuclear weapons, pro-nuclear German elites largely avoided discussing the role of nuclear weapons, as they feared such a debate could contribute to “a further erosion of the already fragile German nuclear consensus” (Kamp 1995, 286). Over time, the tension between these two principles of German foreign policy—nuclear deterrence and nuclear disarmament—increased, as critics questioned whether NATO's nuclear doctrine and posture, marked by a massive reduction in the number of warheads but without a clear policy evolution (including a clear understanding of the specific missions the remaining nuclear weapons were expected to serve), was still appropriate in the post-Cold War period (Kamp 1999; Müller 2000). Even proponents of nuclear deterrence noted “a widening gap between the actual weapons deployed and the roles and missions assigned to them” (Kamp 1999, 300). Yet, NATO member states essentially avoided any debate about the specific roles of the remaining sub-strategic nuclear forces in Europe.

In NATO's Strategic Concept of 1999, the allies essentially repeated the language used in the 1991 Strategic Concept about the “political purpose” of NATO nuclear forces, but described the decline of the importance of NATO's sub-strategic nuclear weapons for NATO's mission, given the general development of the security environment, in more detail:

The circumstances in which any use of nuclear weapons might have to be contemplated by them are therefore extremely remote. Since 1991,

therefore, the allies have taken a series of steps which reflect the post-Cold War security environment. These include a dramatic reduction of the types and numbers of NATO's sub-strategic forces including the elimination of all nuclear artillery and ground-launched short-range nuclear missiles; a significant relaxation of the readiness criteria for nuclear-armed forces; and the termination of standing peacetime nuclear contingency plans. NATO's nuclear forces no longer target any country. Nonetheless, NATO will maintain, at the minimum level consistent with the prevailing security environment, adequate sub-strategic forces based in Europe which will provide an essential link with strategic nuclear forces, reinforcing the transatlantic link. These will consist of dual capable aircraft and a small number of United Kingdom Trident warheads. Sub-strategic nuclear weapons will, however, not be deployed in normal circumstances on surface vessels and attack submarines.

(NATO 1999)

In essence, the role of NATO's sub-strategic weapons was to serve as a symbol of transatlantic solidarity—NATO did not foresee specific nuclear missions for them. Even supporters of nuclear deterrence noted that there was an “increasing ‘strategic disconnect’ between NATO's nuclear strategy and NATO's nuclear weapons stationed in Europe” (Kamp 1999, 301). For a growing number of politicians and observers, it became increasingly unclear why the deployment of non-strategic nuclear weapons was still necessary. Given the lack of a proper mission beyond the general claims made in the Strategic Concept, NATO continued to reduce their numbers. Allies, however, never questioned the principle of nuclear sharing and the deployment of U.S. non-strategic weapons as such.

This was about to change, nevertheless, as NATO clearly focused on crisis management operations after the terrorist attacks of September 11, 2001. Debates about nuclear risks in this new era focused on nuclear proliferation to “rogue states” and terrorist groups rather than on the risk of large-scale nuclear war involving NATO and Russia. In the German debate, the remaining U.S. non-strategic nuclear weapons were increasingly seen as a relic of the past. Reflecting this development, the 2006 *Weißbuch* included three carefully crafted paragraphs, which adhered to the German *sowohl als auch* policy on nuclear weapons but contained a few nuances, which signaled a readiness to reconsider the arrangement as part of an alliance-wide debate. Noting that there was an ongoing debate within the alliance “on the role of deterrence in the security environment of the 21st century” that would “inform a new NATO Strategic Concept in due course” (Federal Ministry of Defense 2006, 33), the authors maintained that credible deterrence would continue to require nuclear means in addition to conventional ones and that Germany needed to play its part as an ally in accordance with the principles of the current Strategic Concept. At the same time, the government reaffirmed its commitment to “the goal of a worldwide abolition of all weapons of mass destruction” (*ibid.*). Moreover, the 2006 *Weißbuch* also did not fail to mention that the spectrum of tasks required “a fundamentally different force structure than in the past” and that it was “important

to change and streamline outdated structures and to focus available resources on the capabilities required in the future” (ibid.).

The opportunity to reconsider NATO’s nuclear posture seemed to present itself in the run-up to NATO’s new Strategic Concept at the end of the decade (Katsioulis and Pilger 2009). In his speech in Prague in 2009, U.S. President Barack Obama had outlined his vision of a world without nuclear weapons, and several allies, among them Germany, were willing to think about concrete steps toward that vision, including the withdrawal of the remaining U.S. forward-deployed weapons from Europe. Ostensibly, Germany was clearly in favor of such a change to NATO’s nuclear posture. According to a 2008 public opinion poll commissioned by the German section of the International Physicians for the Prevention of Nuclear War (IPPNW), 84 percent of the population supported a withdrawal of these weapons (IPPNW 2008). Several key politicians endorsed the goal during the election campaign in 2009, including then-Foreign Minister Frank-Walter Steinmeier (SPD) and his successor Guido Westerwelle (FDP). Strikingly, Westerwelle even managed to introduce this goal into the coalition agreement with the conservative parties, the Christian-Democratic Union (CDU) and the Bavarian Christian-Social Union (CSU). The coalition partners noted that they would work in the alliance and with their U.S. allies to ensure that the remaining nuclear weapons in Germany would be withdrawn (CDU, CSU, and FDP 2009, 120). In 2010, a *Bundestag* resolution, supported by both the coalition and the opposition of the SPD and the Greens, called on the German government to pursue this goal in the negotiations over NATO’s new Strategic Concept (Schmidt 2017, 23–25).

While Westerwelle pushed for his vision, other parts of the government distanced themselves from a unilateral withdrawal and signaled to the United States and other allies that they would not insist on withdrawal (Sonne 2020, 31). For them, allied solidarity was clearly more important than the removal of the few non-strategic nuclear weapons still on German soil. In the debates leading up to the publication of the new Strategic Concept at the Lisbon Summit in 2010, several allies, in particular countries in Central and Eastern Europe, had voiced their concerns. While the new Strategic Concept described NATO as “a nuclear alliance” (NATO 2010a), referred to the strategic forces of the United States as the “supreme guarantee of the security of the allies” and argued that the nuclear arsenals of France and the United Kingdom would “contribute to the overall deterrence and security of the allies” (ibid.), it dropped any explicit reference to the non-strategic nuclear weapons the allies had discussed in previous documents, highlighting that there apparently was no consensus on the role they played for NATO’s deterrence posture.

Against this background, the allies at the Lisbon Summit also announced a “comprehensive review” of NATO’s posture, including its nuclear elements (NATO 2010b). While Germany and some other allies still envisaged a unilateral removal of the remaining non-strategic nuclear weapons, other NATO members, particularly in Central and Eastern Europe, emphasized the importance of these weapons for NATO’s deterrence posture, as they were said to embody the transatlantic link. Moreover, the Obama administration proved to be less keen on implementing reductions as long as the Russians did not reciprocate (Kaplan 2021,

232). In its Nuclear Posture Review, the administration underlined that it would “place importance on Russia joining us as we move to lower levels” and aimed to “address non-strategic nuclear weapons, together with the non-deployed nuclear weapons of both sides, in any post-New START negotiations with Russia” (U.S. Department of Defense 2010, xi). At the end of allied consultations, the Defense and Deterrence Posture Review (DDPR), adopted at the Chicago Summit in 2012, presented a compromise.

Whereas the allies noted that they would be “seeking to create the conditions and considering options for further reductions of non-strategic nuclear weapons assigned to NATO,” they essentially concluded that “the alliance’s nuclear force posture currently meets the criteria for an effective deterrence and defense posture.” Moreover, they stressed that they would “ensure that all components of NATO’s nuclear deterrent remain safe, secure, and effective for as long as NATO remains a nuclear alliance.”

(NATO 2012)

For Germany, this meant a commitment to invest in the DCA fleet and extend the life cycle of the aging Tornados. While this decision ran counter to the announced German policy preferences—as it cemented Germany’s participation in the nuclear sharing arrangement for the near future—proponents of further reductions stressed the fact that the allies’ review also included the reference to the future option of NATO potentially deciding “to reduce its reliance on non-strategic nuclear weapons based in Europe” (*ibid.*), language hitherto unheard of in NATO documents (Chalmers and Berger 2012, 3).

For the time being, the issue seemed to be settled with the compromise found in the DDPR. It was clear that the German government was not willing to change the nuclear status quo without prior allied consensus. Again, the strong norm of Germany’s commitment to the alliance had prevailed over more lofty goals like support for nuclear disarmament (Davis and Jasper 2014). For a while, the supporters of Germany’s continued participation in the nuclear sharing arrangement tried not to reopen the debate. But the advent of another *Zeitenwende* meant that the strategy of letting sleeping dogs lie would turn out to be unsustainable (Bunde 2021b).

***Zeitenwende* 2014–2022: German Nuclear Policies After the End of the Post-Cold War Era**

While the tectonic shifts brought about by the *Zeitenwende* of 1989–1991 were consistently positive for Germany and supported widely held convictions there. The changes in the European security environment that have taken place since 2014 at the latest run counter to the prevailing foreign policy convictions of Germans, which over time became taken for granted and appeared quite resistant to change. It can be argued that Germany has been witnessing another *Zeitenwende*, marked by the continuous erosion of the geopolitical certainties of the post-Cold War era

(Bunde et al. 2020). Two developments with major implications for Germany's nuclear strategy stand out: first, many Germans believed Russia to become a permanent partner for the West—a difficult partner perhaps, but certainly not a threat to European security. Yet, under the leadership of Vladimir Putin, Russia has become a revisionist power that has not only repeatedly used military force against neighboring countries but also put increasing emphasis on its nuclear capabilities, bringing about the end of the remaining nuclear arms control treaties—from the Intermediate-range Nuclear Forces Treaty to the New START agreement. While NATO members in Central and Eastern Europe had warned of the Russian threat at least since the Russo-Georgian War of 2008, Russia's annexation of Crimea and its more or less covert invasion of Eastern Ukraine since 2014 should have been widely understood as the definitive end of the post-Cold War era in Europe, also by Germans. Second, many Germans believed that the United States would remain a “European power” (Holbrooke 1995), guaranteeing Europe's security no matter what its European allies did. Yet, the election of Donald J. Trump demonstrated that Europe had to take its security much more seriously, as the United States' commitment to NATO was not set in stone.

Germany's response to these developments was slow, erratic, partly alarmist, and often contradictory. Despite Russia's annexation of Crimea, the erosion of nuclear arms control in conjunction with new Russian nuclear capabilities, and rising doubts about the U.S. commitment to NATO, the much-needed debate on European security in the “post-INF world” (Kühn 2019) never materialized. While Russia's investment in new nuclear capabilities and the developments in Russian nuclear doctrine triggered a debate on the appropriate Western response in several other NATO member states (see Durkalec and Kroenig 2016; Roberts 2020), the German debate seemed to neglect the changes in the European security environment, most notably in the nuclear sphere. Rather, German policymakers tried to pursue a new version of *sowohl als auch*, but failed to engage in a serious assessment of the changing security environment and its nuclear implications. Instead, the public debate was shaped by extreme positions. While supporters of nuclear disarmament, rallying for the Treaty on the Prohibition of Nuclear Weapons (TPNW), questioned the principle of nuclear deterrence in general, others called for the development of an alternative deterrent outside of NATO, whether in the form of a so-called Eurodeterrent or as an independent German deterrent (Volpe and Kühn 2017).

Against the background of increasing domestic contestation, official German nuclear policy seemed to be on autopilot, avoiding any turbulences that could “rock the boat.” On the one hand, German politicians and diplomats contributed to and endorsed NATO's incremental adaptation, including slight changes to the “nuclear language” used in summit communiqués (Sonne 2020, 91). After 2014, the alliance, which had been “on a path toward denuclearization before 2014” according to some observers (Sauer 2022, 61), slowly but surely stressed its means of nuclear signaling in its official documents, with full support from German officials. For instance, Germany endorsed the reintroduction of non-strategic nuclear weapons into public NATO documents. Having dropped them in previous documents, the allies chose

to highlight them again when discussing NATO's deterrence posture. In their 2016 Warsaw Summit Communiqué, NATO leaders underlined that NATO's "nuclear deterrence posture also relies, in part, on United States' nuclear weapons forward-deployed in Europe," not just on the strategic forces of the United States, consistently described as "the supreme guarantee of the security of the allies" (NATO 2016). Two years later, the alliance was even more explicit and emphasized that the posture "relies on United States' nuclear weapons forward-deployed in Europe and the capabilities and infrastructure provided by allies concerned. National contributions of dual-capable aircraft to NATO's nuclear deterrence mission remain central to this effort" (NATO 2018). At the Brussels Summit in 2021, NATO member states repeated this wording but added some emphasis: "the alliance reaffirms the imperative to ensure the broadest possible participation by allies concerned in the agreed nuclear burden-sharing arrangements to demonstrate alliance unity and resolve" (NATO 2021). In short, after downplaying or even hiding the role of NATO's non-strategic nuclear weapons for at least two decades, NATO allies, including Germany, incrementally re-emphasized their importance in recent years.

On the other hand, against the background of an increasingly skeptical public opinion (see Chapter Six by Michal Onderco in this volume), German leaders refrained from taking decisions to invest in Germany's commitment to nuclear deterrence, which became especially evident in the years-long and increasingly tense debate on a successor for the aging Tornados. As Rühle (2019, 1) succinctly put it at the time, "just as nuclear deterrence is again becoming more important, it is also becoming more contested." As a result of the polarized debate and in contrast to other nuclear host countries, which decided to buy new F-35 fighter jets from the United States as the new DCA, Germany avoided making a decision, repeatedly extending the lifetime of the Tornado fleet despite increasing costs for maintenance and doubts about the military use of the aircraft, which had been introduced in the 1980s. Supporters of the arrangement feared that the inability to take a decision on a new DCA would lead to Germany's "incremental exit" from the nuclear sharing arrangement (Bunde 2021b).

At the time, few German officials publicly made the case for nuclear deterrence—with Defense Minister Annegret Kramp-Karrenbauer (CDU) as a notable exception (Federal Ministry of Defense 2020). As a result, the debate was increasingly dominated by the critics who questioned Germany's continued commitment to the arrangement (Fuhrhop, Kühn, and Meier 2020). Having slow-walked a decision to procure a successor for the Tornados for a while, the critics of the nuclear sharing arrangement in the *Bundestag* became more vocal and publicly called for a decision to exclude the continued deployment of nuclear weapons on German soil, triggering an increasingly tense debate about the merits of nuclear sharing in the run-up to the *Bundestag* elections in 2021 (see Fuhrhop 2021). For instance, Rolf Mützenich, the influential Chairman of the SPD Parliamentary Group in the *Bundestag*, announced in May 2020: "nuclear weapons on German territory do not heighten our security, just the opposite. The time has come for Germany to rule out a future stationing" (Grüll and Brzozowski 2020). Claiming that the weapons did not serve any military purpose, Mützenich and others argued that Germany would

be more secure without nuclear weapons on its soil. The critics also argued that Germany would continue to influence NATO policy, as it would only opt out of the “technical” parts of the nuclear sharing arrangement but would remain part of the NPG. As the SPD Spokesperson for Disarmament Issues, Gabriela Heinrich, claimed: “I don’t know how the assumption came into the world that one would have more influence on the use of the U.S. nuclear bombs if they also provided a carrier system” (ibid.). Moreover, critics suggested that a German withdrawal decision would not significantly alter the overall nuclear bargain at the heart of the alliance (Mützenich 2020).

Analysts and politicians in favor of NATO’s continued commitment publicly questioned the arguments advanced by the critics. While some argued that the non-strategic nuclear weapons served a military purpose, at least if new DCA were to be procured (Brauss and Mölling 2020), most proponents of nuclear sharing emphasized the negative implications of Germany’s potential decision for the alliance as a whole. Interestingly, while the critics put forward arguments that stressed the risks of nuclear entrapment, pointing to U.S. nuclear modernization efforts and “the fact that the US is toying with the idea of using low-yield nuclear weapons at an early stage in a war” (Mützenich 2020), the proponents of the status quo emphasized the importance of Germany’s commitment to NATO and its ability as a nuclear host-country to influence NATO strategy (Brauss 2020), thereby questioning the claim that Germany would have the same influence as a non-DCA country. As then-Foreign Minister Heiko Maas (SPD) emphasized:

Unilateral steps that undermine trust do not bring us closer to the goal of a nuclear-weapon-free world—they weaken our alliances. Instead of being a strong voice for disarmament and arms control, Germany would no longer be at the table.

(Schult 2020)

Others highlighted that Germany was not just another country in NATO and could not be compared to Canada or Greece, NATO allies that had given up U.S. deployed nuclear arms in the past (Bunde 2021b). According to that argument, as the country that was at the heart of the nuclear sharing arrangement from the very beginning, Germany could not just opt out without endangering the general bargain (ibid.).

This sentiment was shared in various other NATO member states. As the German debate had raised growing concerns in other NATO capitals, foreign leaders decided to weigh in on the German discussion the closer the 2021 *Bundestag* elections came. For instance, NATO Secretary General Jens Stoltenberg felt compelled to remind German policymakers of their responsibilities and the necessity of investing in a Tornado successor (Carstens 2021). Likewise, the talking points of every U.S. official traveling to Germany during that period included the importance of Berlin’s continued commitment to nuclear sharing.⁴ In an article for *Der Spiegel*, two former U.S. officials had warned in no uncertain terms:

“Germany walking away from this vow to share the nuclear burden, this expression of solidarity and risk sharing, strikes at the heart of the trans-Atlantic bargain.” By walking away from its responsibilities, they emphasized, Germany would lose “the esteem of its allies, and especially of that ally who has championed Germany in NATO from the beginning and who willingly puts itself at risk for Germany’s defense.”

(Flournoy and Townsend 2020)

These warnings were taken seriously in the German debate and amplified by German security experts who warned that those promoting a German “exit” underestimated the risk of a chain reaction that could lead to the breakdown of the nuclear sharing arrangement (Brauss 2020). According to Flournoy and Townsend (2020), “the bargain sustaining U.S. extended nuclear deterrence to Europe would collapse and the U.S. umbrella would essentially be decoupled from Europe.”

Arguably, arguments that spoke to Germany’s commitment to principled multilateralism and the rejection of unilateral decision-making proved to be far more effective than any reference to the military importance of the nuclear weapons. Notably, multilateral “loyalty” was perhaps the decisive factor in changing the official position of the Green party in the run-up to the 2021 elections.⁵ While expressing her support for a withdrawal, Annalena Baerbock, the Green candidate for Chancellor who later became Foreign Minister, repeatedly noted that Germany should not unilaterally announce the end of the deployment but rather convince its allies (Schulte and Schulze 2020). When the party debated its election manifesto, the party leadership, supported by the moderate wing of the party, prevailed and was able to reject several attempts to minimize the political room for maneuver in potential coalition negotiations. In contrast to the Manifesto of Principles (Bündnis 90/Die Grünen 2020), adopted just a year earlier, the election manifesto did not call for a swift end to nuclear sharing. While it reaffirmed the goal of a “Germany free of nuclear weapons,” it also noted that this could only be achieved incrementally and not unilaterally: “we know that this will require numerous discussions within the alliance, including with our European partners, and above all strengthening the security and reassurance of our Polish and Baltic allies” (Bündnis 90/Die Grünen 2021, 249–250). Likewise, the Social Democrats, while stressing the goal of “a world without nuclear weapons,” did not take an explicit position on nuclear sharing but noted: “before a decision is made on a successor to the Tornado fighter aircraft, we advocate a conscientious, objective and careful discussion of technical nuclear sharing” (SPD 2021, 63). In the end, the softening of the parties’ positions allowed the negotiators of the Traffic Light Coalition’s agreement to come up with a compromise that tried to square the circle between reflecting the anti-nuclear sentiments in the electorate and affirming Germany’s traditional commitment to NATO.

On the one hand, the most recent iteration of Germany’s *sowohl als auch* policy contained a clear commitment to NATO’s deterrence posture:

As long as nuclear weapons play a role in NATO's Strategic Concept, Germany has an interest in participating in strategic discussions and planning processes. Against the background of the continuing threat to the security of Germany and Europe, we take the concerns of our Central and Eastern European partner states in particular seriously, are committed to maintaining a credible deterrent potential and want to continue the alliance's dialogue efforts.

(SPD, Bündnis 90/Die Grünen, and FDP 2021, 145)

Perhaps most importantly, the coalition partners announced they would "procure a successor system for the Tornado fighter" (ibid.) at the beginning of the legislative period, suggesting that a final decision would come soon. They also noted that they would "objectively and conscientiously accompany the procurement and certification process with regard to Germany's nuclear sharing" (ibid., 149). While this complex wording reflected difficult negotiations among the partners, it essentially signaled Germany's continued commitment to its role as a DCA country.

On the other hand, the coalition partners stressed their ambition to challenge the status quo, making clear that they were not satisfied with it:

Our goal remains a world free of nuclear weapons (Global Zero) and, along with it, a Germany free of nuclear weapons. We strongly advocate a follow-up agreement to New START that includes not only new strategic nuclear weapon systems but also those of short and medium range. We advocate negotiations between the United States and Russia for complete disarmament in the sub-strategic area.

(SPD, Bündnis 90/Die Grünen, and FDP 2021, 145)

Moreover, as a concession to the critics of nuclear deterrence, they also agreed to "constructively support the intent of the [TPNW] as observers (not members) at the Conference of the Parties to the [TPNW]" (ibid., 145).

This compromise, which tried to square the circle by doubling down on Germany's commitment to nuclear sharing, while seemingly questioning its legitimacy in general by joining the TPNW conference as an observer, may represent the (temporary) end of Germany's nuclear *sowohl als auch* policy. After all, Russia's aggression against Ukraine, supported by repeated nuclear threats, has "fundamentally transformed the domestic politics of nuclear issues in the West" (Bolfrass and Herzog 2022, 18). In Germany, it has tilted the balance toward a renewed emphasis on nuclear deterrence. Strikingly, while the future of Germany's participation in the nuclear sharing arrangement had been one of the most contested foreign policy issues in Germany for several years, the eventual decision to procure the F-35 as the most credible DCA option available did not elicit much protest. For sure, critics who had campaigned for Germany's commitment to the TPNW and against nuclear sharing criticized the decision, accusing the government of not living up to their promises in the field of disarmament (Kütt 2022). But official political reactions were surprisingly muted, reflecting the changing debate in Germany, in which

security concerns now seem to trump anti-nuclear sentiments. New survey results also suggest that Russia's full-scale invasion of Ukraine in 2022 caused a shift in German public attitudes toward nuclear weapons (Onderco, Smetana, and Etienne 2023; see also Chapter Six by Onderco in this volume).

With its decision to buy F-35s, the German government has clearly sent a signal to both its allies and to Russia, underlining Germany's long-term commitment to credible nuclear deterrence within NATO. As critics of the decision note, the fact that it was "taken remarkably swiftly" (Kütt 2022) suggests that there was already an underlying support for the sharing of nuclear weaponry across the political spectrum, despite surface impressions to the opposite. Indeed, the decision arguably represents an overdue German response to the *Zeitenwende* that others had long identified but that took more time to materialize in Germany. In this sense, Russia's full-scale invasion of Ukraine eventually drove home the message that the European threat environment had fundamentally changed and that Germany had to reconsider some of its assumptions about the future of nuclear disarmament. Faced with a revisionist power that has massively invested in new nuclear capabilities in the past decade, demonstrated its willingness to use military force against its neighbors, and repeatedly engaged in nuclear saber-rattling, investing in NATO's nuclear deterrent is a prudent strategy. Strengthening deterrence, while searching for ways to reduce nuclear risks, promises to be the less risky response to a rapidly changing security environment—less risky than a unilateral expulsion of a dozen or so nuclear weapons.

In 2023, the German government, consisting of parties that had openly supported the withdrawal of the U.S. non-strategic weapons from Germany, underlined its long-term commitment to nuclear deterrence and the nuclear sharing arrangement in key strategic documents. In the country's first National Security Strategy, the government argues: "as long as nuclear weapons exist, maintaining credible nuclear deterrence is essential for NATO and for European security. Germany will continue to do its part in nuclear sharing and will constantly provide the dual-capable aircraft this requires" (The Federal Government 2023, 32). At the NATO Summit in Vilnius, Germany also endorsed the significantly enhanced nuclear language in the summit communiqué (NATO 2023).

Conclusions: Nuclear *Zeitenwende(n)*, Continuities, and Change

The identification of historical turning points—or *Zeitenwenden*—is arbitrary to a certain extent. Yet, they may be needed to make sense of developments, helping to highlight both continuities and change. As Buzan once put it:

Are we at the end of an era? If so, which one? Eras, after all, are merely constructions of historians and pundits needing to find ways of organizing large chunks of time. Their purpose is to identify points at which there are major changes in the structures that define the historical landscape. At these turning-points there is still a lot of continuity, but there are also changes significant enough to create expectations that the players and the rules of

the game in the new era will be noticeably different from those which came before. Eras help to identify which ideas die and which live on to shape the new era.

(Buzan 1995, 385)

Buzan's musings can be helpfully applied to the present case of the evolution of Germany's nuclear strategy in the framework of NATO, as two periods, defined by dramatic changes in Germany's security environment, shed light on continuities and change in German nuclear policy.

In the period between the two *Zeitenwenden*, Germany was able to pursue a very efficient nuclear policy, reducing nuclear risks for Germany without going so far as to endanger the ultimate guarantee of the U.S. nuclear umbrella. The new security environment, in contrast, forces German policymakers to shift priorities and reemphasize nuclear deterrence while scaling back disarmament expectations. Since 2014, German leaders have slowly begun to realize that the policy of *sowohl als auch* was unsustainable, given a changing security environment and rising allied pressure. Yet, the effects of the *Zeitenwende* of 1989–1991 continued to hamper Germany's ability to adapt until Russia's 2022 full-scale invasion of Ukraine demonstrated that Germany is not able to secure its key security interests 'on the cheap' anymore. While German leaders will try to do the 'nuclear minimum,' the new minimum still requires expensive changes. The German government's decision to procure F-35 fighter jets is the first evidence of a shifting baseline.

But even in the new security environment, Germany is grappling with familiar challenges—and the answers its leaders have given look familiar, too. In response to the *Zeitenwende* of 2014–2022, German leaders today largely agree that the country's security needs to be protected by a nuclear deterrent. Some fringe voices notwithstanding, German policymakers know that pursuing a 'German bomb' would be a recipe for disaster (see also Chapter Five by Barbara Kunz and Ulrich Kühn in this volume). Given the French lack of willingness and ability to provide a kind of extended deterrence similar to the current U.S. arrangement and the fact that a Eurodeterrent remains a myth (*ibid.*), the U.S. nuclear umbrella continues to be Germany's only realistic option. After a longer period, during which the salience of nuclear deterrence decreased and several German governments believed they could promote nuclear disarmament without endangering Germany's security interests, Berlin now seems to be willing to strengthen its own contribution to NATO's nuclear deterrent again—sensing that Germany must contribute its part to allied burden-sharing. Germany, as many allied governments have underlined, bears a special responsibility in this regard.

For the time being, fears of abandonment thus seem to be more prominent in German strategic thinking. However, this does not mean that fears of entrapment have died. While they may be muted for now, as the German government and the U.S. administration of President Joe Biden seem to move in lockstep and the alliance arguably pursues a cautious and responsible nuclear policy, fears of entrapment may soon be revived if Germany's allies push for adaptations of NATO's nuclear doctrine and posture that are seen as risky and escalatory in Berlin. At the

very least, ongoing discussions among the allies suggest that some thorny questions relating to NATO's future nuclear posture cannot be ignored forever and that a commitment to the status quo alone may not suffice (Kamp 2023, 101–105). For Berlin, where many believe that the acquisition of new dual-capable aircraft has settled the nuclear debate, such intra-alliance discussions will present new challenges.

Perhaps most importantly, Germany's future nuclear strategy will depend on domestic developments in the United States. Should Trump return to the White House or a candidate with similar views become the U.S. Commander in Chief, German fears of both abandonment and entrapment would reach unprecedented heights, as Germany's traditional response to its nuclear dilemmas, relying on U.S. extended deterrence in NATO and trying to shape U.S. nuclear strategy, might be at risk or eventually even cease to exist.⁶ But even if future U.S. administrations stick to a strategy of principled multilateralism and extended nuclear deterrence in their dealings with European allies, Germany will have to increase its investments in nuclear deterrence—politically, militarily, but also intellectually—to adapt to a new and likely more dangerous nuclear age. This debate has only just begun.

Notes

- 1 The author would like to thank the editor and the participants in the authors' workshop in Hamburg in February 2023 as well as the participants in the nuclear security workshop at the Hertie School in Berlin in July 2023 for their very helpful feedback on earlier drafts of this chapter. If official English translations were not available, the German sources used in this chapter were translated by the author.
- 2 In his overview of the various nuclear options that West Germany had in the early 1960s, Mahncke (1972) lists neutrality, an independent nuclear force, and "collective alternatives." The latter are divided into "total dependence" on the United States, Franco-German cooperation, a European nuclear force, and a collective option within the framework of NATO. Interestingly, these options can be found in the contemporary German debate again today (Kühn, Volpe, and Thompson 2020).
- 3 Until 2023, when the Federal Government released its first-ever National Security Strategy for Germany, the *Weißbuch* ("White Book") was the German government's top security and defense policy document. It was published at irregular intervals.
- 4 Interview by the author with an official from the U.S. Department of Defense in May 2021.
- 5 Assessment based on several informal talks with party members involved in the negotiations on the party platform for the election campaign.
- 6 Given the fact that Germany's grand strategy, in particular in the nuclear realm, has been based on its membership in NATO and its role as a (key) junior partner of the United States, the demise of NATO would be an even more fundamental *Zeitenwende* for German and European security. For the potential implications of a U.S. withdrawal, see some of the scenarios envisaged during the Trump administration (Fix and Giegerich 2019; Bunde 2021a).

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5 German Musings About a Franco-German or German Bomb

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Introduction

In the face of (1) a continuing political if not direct military threat from the Soviets, and (2) attenuation of the credibility of America's nuclear guarantees of presence, plus perhaps (3) a marked destabilizing increase in Soviet strategic capabilities vis-à-vis American capabilities, or (4) the nonavailability of acceptable alternative security systems (e.g., European or Franco-German), Germany will be pushed to use its long-available material and technical potential to develop national nuclear forces, and most probably will do it clandestinely and in the shortest possible way.

(Kelleher 1975, 306)

This conclusion, written by Catherine Kelleher back in 1975, set the parameters of West German nuclear policies should the Soviet threat increase and U.S. credibility wane. Almost 50 years later, Germany may find itself in a similar position, with Russia threatening the security of Europe and the United States' credibility, perhaps under a second presidency of Donald J. Trump, very much in question. Again, Germany may look for alternative security systems just to find out that there are none.

For German Chancellor Olaf Scholz, Russia's invasion of Ukraine on February 24, 2022 famously equaled a watershed, or *Zeitenwende* (The Federal Government 2022a). As a result, relations between the West and Russia will be characterized by tension and distrust in the years and likely even decades to come. Protecting Europe from further Russian aggression will consequently be of utmost importance. Among the many consequences of this war, therefore, are renewed discussions about nuclear deterrence for NATO and its member states.

In Germany, defense is a political matter that many parties have at least tried to dodge for years, as, for example, illustrated by the fact that consecutive German governments did simply not make decisions about a successor for Germany's aging Tornado dual-capable aircraft fleet until 2022. German post-Cold War defense policies were largely about reaping peace dividends. The *Zeitenwende* means that Germany has to rethink its approach towards defense as well as deterrence vis-à-vis Russia. This first and foremost pertains to conventional deterrence in a NATO framework. There is, however, also a nuclear dimension. In his *Zeitenwende* speech, Scholz announced his government's intention to strengthen the *Bundeswehr* and

increase defense spending, including the acquisition of F-35 jets destined to allow Germany to continue to play its role in NATO's nuclear sharing (The Federal Government 2022a).

Under the Alliance's nuclear sharing arrangement, Germany (along with four other NATO member states) hosts U.S.-owned nuclear gravity bombs on its territory. In the event of their use, the German *Luftwaffe* would take these weapons to their designated targets and drop them there. Nuclear sharing has always been controversial in Germany. Since the end of the Cold War, the debate tended to be one in terms of pros and cons, in which most of nuclear sharing's opponents rejected it on principled anti-nuclear or pacifist grounds, as illustrated by the latest debate in the German parliament on the matter (Bundestag 2020). In the current geopolitical context, however, some politicians in Germany, such as opposition leader Friedrich Merz from the Conservatives (Christian Democratic Union/Christian Social Union, CDU/CSU), also question the current nuclear sharing arrangements as potentially insufficient (Casdorff 2022). If one buys into this thinking, Germany may have to ponder alternatives to existing U.S.-provided extended deterrence. In particular, potential alternatives discussed include a greater role for French nuclear forces in German and European security (*ibid.*). Another option, less often discussed, is the development of Germany's own nuclear deterrent (Kohler 2016). Most of these ideas predate Russia's war in Ukraine (Kühn, Volpe, and Thompson 2020; Kunz 2020), yet have gained renewed traction since February 24, 2022. Primarily, these musings need to be seen against the backdrop of the U.S. presidency of Donald J. Trump and current developments in U.S. domestic politics, which have left an increasing number of Germans with doubts regarding the perpetuity of American security guarantees for Europe.

This chapter aims to question the viability of the proposed ideas, which have regularly left international spectators puzzled about the sincerity with which parts of the political spectrum in Germany seemingly discuss nuclear deterrence (Vicente 2018). It is divided into two main sections. The first section addresses German discussions on a greater role for France's nuclear deterrent. It starts off with an analysis of the respective French and German strategic perceptions of each other and then contrasts German musings about Franco-German nuclear cooperation with the non-cooperative nature of French nuclear doctrine. This section concludes with an assessment of the potential security implications of French-German nuclear cooperation. The second, shorter, section is then dedicated to the idea of Germany's acquiring a national nuclear deterrent. In particular, it assesses the manifold technical, legal, ideational, and structural barriers and extreme costs of that option. The concluding section finds that the ideas discussed are largely decoupled from reality. Barring any significant changes in French as well as German national identity and an almost unreal inclination in both capitals to ignore serious security risks, none of the ideas discussed are realistic. What is more, both alternative deterrence arrangements would almost certainly trigger instability in Europe. The fact that, despite these implications, some German politicians and pundits continue to debate nuclear non-options is a combination of Germany's neglecting nuclear policy for many decades and renewed fears about U.S. abandonment. In the end,

German deterrence discourses are mostly about U.S.–German relations in a rapidly changing environment.

Turning to France as a Security Provider?

The idea of a (French-based) so-called “Eurodeterrent” has been described as a “zombie debate” (Egeland and Pelopidas 2021) for the very fact that it never truly gained political traction, yet keeps resurfacing again and again. It became somewhat more prominent when doubts regarding the mid- to long-term prospects of U.S. security guarantees for Europe increased during the Trump presidency and resurfaced in light of the Ukraine war, coupled with continued fears that another non-Atlanticist candidate could win the 2024 U.S. elections (Overhaus 2023). The United States continues to be the lynchpin in these debates, with two intertwined themes: either a perceived need for Europe to step up its defense efforts in reaction to insufficient American reliability, and/or a perceived need for (relative) emancipation for a Europe that relies too much on the United States to be a more independent actor—an issue also at the heart of the European defense debate since the 2016 European Union (EU) Global Strategy postulated that it “nurtures the ambition of strategic autonomy for the European Union” (Council of the European Union 2016). Since Russia’s renewed attack on Ukraine in February 2022, concerns about the United States’ reliability have become even more consequential. Not only has the war once more illustrated Europe’s reliance and dependence on the United States for its security, it has also, again, made clear to many how little Europe could do on its own to ensure its security (Frei 2022).

While remaining skeptical about the idea of European strategic autonomy (Kramp-Karrenbauer 2020), even official Berlin seems to be increasingly willing to at least no longer exclude the possibility of the United States at some point reducing its engagement in European security affairs (Busse 2023). That said, the decisions the Scholz government made in the context of *Zeitenwende*—at least to the extent measures have taken shape as of the writing of this chapter—are nevertheless an illustration of Germany’s visceral Atlanticism and its continued reliance on the United States for its security. In the nuclear realm, Berlin underscored its commitment to U.S. extended deterrence by announcing the acquisition of F-35 fighter jets to continue Germany’s role in NATO nuclear sharing (Bundeswehr 2022). Officially, Berlin is thus not looking for deterrence alternatives.

German and French Perceptions of Each Other

Despite the two countries’ close cooperation in other policy areas, defense has always been the stepchild in the Franco-German relationship. The track record of Franco-German defense cooperation is hardly impressive, but marked by a lack of strategic convergence and at times even distrust (Kunz 2019; Bozo 2020a, 2020b). Divergences include different views on matters related to nuclear deterrence, where Paris and Berlin have clashed in the past (Soutou 1996; Bozo 2020a, 2020b) and in which they never really found a truly common understanding. Yet, disagreements and different takes extend far beyond the nuclear field, stemming from very

different strategic cultures and political systems. The German *Bundestag*'s strong role in defense is widely perceived as problematic in France, where the constitution allows the president a lot more room for maneuver in this field than a German chancellor has. This leads to assumptions about German defense policies being more volatile and too influenced by party politics. Against this backdrop, both when it comes to political and financial matters, unwillingness to depend on the *Bundestag* in order to move forward with joint undertakings is widespread in France. This not only pertains to mandates for military operations (see below), but also to funding of joint armament projects such as FCAS, the Future Combat Air System¹ (Cabirol 2020).

Beliefs that France is constantly trying to punch above its weight and unable to let go of a skewed self-perception as a global power are, on the other hand, widespread in Germany and make their way into harsh commentary (Wetzel 2023). France's concern about security threats emanating from the South, in particular the Sahel region, was rarely shared in Berlin and will remain a potential cause for disagreement in the future. Many are indeed secretly or even openly convinced that Paris' military engagement in Africa has little to do with actual challenges to European security, suspecting that France merely defends its own interests in its former colonies (Herholz 2006; Liebich and Heckmann 2014). In France, in turn, Germany continues to be widely seen as an unreliable partner who leaves France alone in times of need. This sentiment notably harkens back to debates about various military operations in Africa (e.g., in the Democratic Republic of Congo and in Mali) and especially the 2011 Libya intervention, when Germany either dragged its feet or simply refused to participate—culminating in August 2014 in then French Prime Minister François Fillon's verdict that Germany's behavior was “unacceptable” (Le Figaro 2011; Le Point 2014).

The war in Ukraine has not led to greater strategic convergence between France and Germany. The *Zeitenwende* has not fundamentally altered the lack thereof between Paris and Berlin. Paris remains skeptical when it comes to Berlin's new discourse and is still waiting for Germany to deliver this time around (Grand 2023). It has also not been overlooked in Paris that Germany bets heavily on the United States in its response to the Ukraine war. Some of Berlin's recent decisions are predominantly viewed as a zero-sum game to the detriment of Franco-German cooperation and French interests. This most obviously applies to acquiring American F-35 fighter jets, deemed to at least potentially put the FCAS project at risk even though the German government claims that this is not the case (Le Monde 2022). Germany's European Sky Shield Initiative (ESSI), launched by Chancellor Scholz in his Prague speech of August 2022 (The Federal Government 2022b), is another project that causes raised eyebrows in Paris. Not only does France have concerns pertaining to strategic stability in Europe; by merely focusing on missile interception, the German proposal also fails to address capability gaps when it comes to detection and command and control, among other issues as viewed from Paris (Pouzyreff and Thiériot 2023). The fact that ESSI would be largely based on German, U.S., and Israeli technology, while France and Italy, who jointly developed another missile defense system,² are not part of it also leads to repeated

French complaints about German Atlanticism at the expense of its European partners (Vincent 2023).

German Musings about Going Nuclear with France

The lack of strategic convergence and the rather unimpressive track record of Franco-German defense cooperation notwithstanding, ideas to cooperate with France on nuclear deterrence continue to float around in Germany. Somewhat unsurprisingly, this is almost exclusively a matter addressed by the Conservatives (CDU/CSU), who are the most avid supporters of extended nuclear deterrence (Fuhrhop 2021). Examples of calls for bilateral cooperation on nuclear deterrence before the Ukraine war include Christian Democrat and member of the CDU Executive Board, Johann Wadephul, who called for a Europeanized or 'NATOized' French nuclear deterrent in addition to U.S. extended deterrence in February 2020, just days before President Macron's long-awaited speech on the French deterrent (Wadephul 2020). Fellow Christian Democrat Roderich Kiesewetter immediately rebuked the idea, arguing that the *force de frappe* was too small and limited to defend all of Europe and that a "Franco-German nuclear initiative would be a signal of distrust vis-à-vis the United States" (Vates 2020).³ Three years earlier, back in 2017, Kiesewetter had commissioned a study from the *Bundestag's* research service on legal constraints in German financial contributions to other countries' nuclear forces (Bundestag 2017). An actual debate nevertheless never took off, mainly because the Christian Democrat's party leadership had no interest in seeing it unfold (Meier 2020).

Since Russia's invasion of Ukraine in February 2022 and the subsequent return of deterrence and defense matters on top of the German political agenda, conservative statements on nuclear alternatives have become somewhat more frequent. Specifically related to France's nuclear deterrent, Wolfgang Schäuble, a former CDU heavyweight, argued that "we also need nuclear deterrence at the European level" (Schuster 2022). Echoing earlier statements by CDU politicians, Schäuble (ibid.) concluded:

This is something France has. Based on our very own interest, we Germans must, in return for a common nuclear deterrence, make a financial contribution to France's nuclear power. This means: France can reasonably expect that we pay a greater share for this nuclear deterrent. At the same time, we need to enter into more strategic planning with Paris. I am aware that this will not be an easy debate in Germany. In any case, the European defense capability is not imaginable without the nuclear dimension. What France needs to do in this context is that all of this needs to be integrated in NATO.

Like Wadephul, Schäuble thus also insisted on the Europeanization of France's *force de frappe*, thereby defining a key condition in line with both Christian Democratic and more broadly German approaches to security and defense way beyond the nuclear realm, i.e., focused on embedding German security interests in

multilateral settings. Similar ideas were expressed by formerly high-ranking officials like Christoph Heusgen, Chancellor Angela Merkel's former security adviser (Pfister, Sandberg, and Schult 2022). The idea that "Europe needs its own nuclear umbrella" was also put forward by Manfred Weber, President of the conservative European People's Party fraction in the European Parliament, who suggested that France and Germany should "talk about it," citing both the war in Ukraine and uncertainties pertaining to future U.S. commitments as reasons (Weber 2022). Thorsten Frei, First Parliamentary Secretary of the CDU/CSU Parliamentary Group in the *Bundestag*, urged Germans to "think the unthinkable," i.e., "the Europeanization of the French nuclear force. If France is not prepared to do this, the EU member states would have to think about building a nuclear umbrella themselves," he concluded (Frei 2022). In a similar vein, and directly linked to uncertainties regarding the outcome of the forthcoming 2024 U.S. presidential election, Friedrich Merz argued in June 2022 that a common European "nuclear capacity would be our life insurance" (Casdorff 2022). As the CDU Party Chairman and leader of the opposition in parliament, Merz, so far, is the most prominent politician to openly approach the topic in this manner.

However, as argued before, an actual debate on extended deterrence provided by France has so far not emerged in Germany. Statements on the matter remain a very limited and controversial phenomenon and rarely extend beyond a short exchange of arguments, between a small number of people and lacking detail, in favor of or against thinking about such an option. Suggestions consequently remain vague as to the exact modalities and technical details. Are German politicians suggesting that France should provide extended deterrence along the lines of the current model with the United States? What would be Germany's role, and on what issues would Berlin insist on having a say? In sum, it remains unclear what exactly some German politicians are proposing. Perhaps most problematic, all German musings thus far are purely unilateral in the sense that they are obviously not based on exchanges with French interlocutors. They consequently do not take core elements of French approaches to nuclear deterrence into account and ignore how uncondusive French nuclear doctrine is to cooperation (see below).

What is more, few Germans have a good grasp of French strategic culture, and few consequently understand the centrality of the nuclear dimension in French thinking on security and defense. This notably pertains to the extent to which it permeates approaches to seemingly unrelated issues such as defense industrial policies. Those who argue that France would need to "Europeanize" its deterrent thus hardly seem to understand how big a change this would be from a French perspective and fail to make any proposals as to how Paris may be convinced of doing so. This would, however, be a key obstacle to overcome, should Europeanization ever become a German foreign policy objective.

French Doctrine Is Not Conducive to Cooperation

The general difficulties of Franco-German defense cooperation outlined above already make Paris and Berlin joining forces on the ultimate weapon seem

unrealistic. In addition, regarding the narrower aspects of nuclear deterrence, the key features of French nuclear doctrine also stand in the way of any sort of Franco-German bomb or Eurodeterrent. There is no appetite in Paris to change much in its approach to nuclear deterrence. And even if Germans somehow were to consider cooperation on the basis of unchanged French nuclear doctrine, political problems would not dissipate. Unless massive shifts in its public opinion occur, some of these doctrinal core elements must indeed be considered hard sells to Germans, given their desire for values-based foreign and security policies.

First, France's nuclear deterrent is purely national. A key explanatory factor in President de Gaulle's decision to go nuclear alone was his lack of trust in the credibility of extended deterrence (Government of the French Republic 1959). France consequently stays outside NATO's Nuclear Planning Group, and solely the French president decides on nuclear use. French nuclear doctrine is essentially expressed through presidential speeches—most recently in February 2020 by President Emmanuel Macron. Fully in line with traditional French discourse, Macron outlined that nuclear deterrence remains the “keystone of our security and the guarantee of our vital interests” (Government of the French Republic 2020). France's nuclear deterrent guarantees the country's—national—strategic autonomy and national sovereignty. In short, the nuclear dimension is central to the entire body of French thinking on all things related to security and defense. “Europeanizing” it would consequently not only impact a narrowly defined field that may be seen as just a more powerful add-on to conventional defense, but the entirety of French strategic culture.

Second, France's nuclear deterrent is comparatively small. The French arsenal is estimated at about 300 warheads (Arms Control Association 2019), which is consistent with President Macron's statement that the number is “below 300” (Government of the French Republic 2020). This does not automatically mean that the French deterrent would not “work” because of its limited size, but it clearly reduces options available to military planners. The smaller number (compared to the United States and Russia) is justified by the notion of *stricte suffisance*, i.e., the idea that France should not possess more warheads than strictly necessary. Besides the obvious financial aspect, this idea may also seem appealing from an ethical perspective, assuming that a lesser amount of deadly weapons of mass destruction would be preferable to a higher number of such weapons. It does nevertheless have implications for their use in a war. In 2015, then-President François Hollande was the first French head of state to indicate that, in the event of nuclear use, France would merely target the adversary's power centers (Government of the French Republic 2015), as opposed to a “pure” anti-city strategy. Yet, assuming that the most likely adversary would be Russia, which holds a much larger arsenal, France simply would not have enough nuclear missiles to meet targeting requirements in a “true” counterforce approach focusing strikes on Russian nuclear infrastructure. What is more, France does not officially declare a “no first use” policy. French doctrine has been consistent over decades on this point. While said to be purely defensive in nature, the French nuclear deterrent may be used as a “last warning” against any state actor threatening French vital interests, as

most recently reiterated by President Macron in February 2020 (Government of the French Republic 2020). Both of these aspects—no counterforce, no “no first use”—may be considered problematic from a German perspective. Assuming that a skeptical German public would only very reluctantly accept investing in nuclear deterrence, the least unethical way to go about it might be the preferred option. War plans that may result in millions of dead civilians, potentially even without a prior nuclear attack on Germany, would consequently be hard sells. Granted, the United States also never adopted a “no first use” policy. This matter nevertheless remains under the radar of German public opinion. An actual debate about Franco-German nuclear cooperation would arguably trigger much broader public interest, making the two features described above much more problematic in a German political context.

Third, France already attaches a European meaning to its deterrent; though, not the one that German politicians might have in mind when calling for Europeanizing the French deterrent. As a matter of fact, French discourses on nuclear deterrence indeed stress explicitly a European dimension, in particular since Emmanuel Macron’s accession to the presidency in 2017. The idea that France’s “vital interests,” the protection of which is the French arsenal’s foremost purpose, cannot be dissociated from those of its European allies has been part of official language for many years (Jurgensen 2019). NATO has in fact been officially acknowledging the contribution of France’s and Britain’s nuclear deterrent “to the overall strengthening of the deterrence of the Alliance” since the mid-1970s (NATO 1974). As France’s 2017 Strategic Review outlined, its mere existence means that nuclear deterrence “contributes to Atlantic security and to [the security] of Europe” (French Ministry of Defense 2017, 72). In his speech on nuclear affairs, President Macron declared on February 7, 2020 that

our nuclear forces have a deterrent effect in themselves, particularly in Europe. They strengthen the security of Europe through their very existence and they have, in this sense, a truly European dimension. [...] Let’s be clear: France’s vital interests now have a European dimension.

(Government of the French Republic 2020)

Yet, analysts tend to agree that further “Europeanization”—however defined—of the French bomb is unlikely and hardly feasible (Tertrais 2018; Egeland and Pelopidas 2021). At present, and from a French perspective, a true Eurodeterrent, a Franco-German bomb, or any other kind of extended deterrence agreement with Germany is therefore not on the agenda. Way below that threshold, President Macron did extend an invitation to France’s European partners to engage in a strategic dialogue in February 2020:

In this spirit, I would like strategic dialogue to develop with our European partners, which are ready for it, on the role played by France’s nuclear deterrence in our collective security. European partners which are willing to walk that road can be associated with the exercises of French deterrence forces.

This strategic dialogue and these exchanges will naturally contribute to developing a true strategic culture among Europeans.

(Government of the French Republic 2020)

Notably, by associating partners via military exercises of the airborne component, this strategic dialogue would be intended to help foster a (more) common European strategic culture. As the 2021 *Actualisation stratégique* outlines, “[t]his approach is complementary to our efforts to promote a nuclear culture within the Alliance” (French Ministry of Defense 2021, 27). It is also in line with broader French efforts to foster a common European strategic culture outside the nuclear realm, for instance through its European Intervention Initiative that has no link to matters related to nuclear deterrence (Zandee and Kruijver 2019).

Such a strategic dialogue, however, never took place, nor were even preliminary steps taken. The Covid-19 pandemic may be among the reasons. However, the arguably most widespread reading in France as to why these offers made by President Macron never led anywhere is its European partners’ lack of interest, notably Germany’s. During a visit to Berlin in January 2022, France’s then-State Secretary for European Affairs, Clément Beaune, reiterated Macron’s offer, stating that “[w]e believe that the French nuclear deterrent is a way to protect European interests” (Schuller 2022). To this date, there is apparently no answer from Berlin.

The reasons that led Paris to proposing such, obviously minimal, steps are rooted in the evolution of Europe’s geopolitical environment (Pouzyreff 2021). While there are certain voices on the fringes of the French discourse that see a need to “free” Europe from the “American protectorate” by developing a European nuclear deterrent (Chauvancy 2022), in reality, the often suspected old-school, Gaullist-inspired French anti-Americanism is not the key driver. Rather, there is a widespread consensus in the French strategic community that the United States’ willingness to provide security guarantees for Europe will not continue forever, particularly in light of the United States’ shifting its attention to Asia (Heisbourg and Terhalle 2018). The same idea was expressed by President Macron in his 2017 Sorbonne speech when he argued that Europe was witnessing “the United States’ gradual and unavoidable disengagement” (Government of the French Republic 2017). Under this assumption, some sort of Plan B—i.e., Macron’s calls for European Strategic Autonomy—seems to become a necessity to ensure European security. Following this logic, the question of whether there also needs to be some sort of European deterrent arises more or less automatically. This was also noted at the official level, for instance by President François Mitterrand as early as in the context of the ratification process of the Maastricht Treaty that created the European Union in the early 1990s (Government of the French Republic 1992). Yet, the matter so far has failed to gain true traction in the French debate.

In sum, nothing in the French nuclear discourse points in the direction of a Franco-German bomb or Eurodeterrent. There is no debate on providing (extended) deterrence to European partners in France. All there is, is a widely shared conviction that European partners need to become better at incorporating the nuclear dimension in their own reasoning on European security. Many in Paris are indeed—and

most probably rightly—convinced that there are lacunae when it comes to knowledge on nuclear and strategic affairs across the continent's capitals, including in Berlin. Addressing this problem is at the heart of French proposals on nuclear cooperation, which do not at present go any further than this.

Potential Security Implications

A key criterion in assessing the usefulness of turning to France for (extended) deterrence is obviously whether such a move would increase the security of Germany and Europe or whether adverse effects would prevail. Yet, an aspect strangely absent from most German debates on nuclear deterrence per se is precisely security. Rather than being concerned with security, earlier debates on nuclear deterrence have tended to focus on balancing (extended) deterrence with disarmament, notably on the left of the political spectrum (Fuhrhop 2021). Since the *Zeitenwende*, the focus has shifted toward stressing deterrence over disarmament. This development arguably took place within the context of a generally more hawkish political debate on security and defense, in which traditional pacifist positions have become less relevant. Yet, even in this new setting, there is little to no debate on the security implications of deterrence. Instead, the thinking seems to be based on a relatively simplistic approach where nuclear weapons equal deterrence, which equals more security. Accordingly, possessing the bomb serves as some sort of life insurance, simply by the fact that the bomb is there. The fact that the reality of nuclear deterrence is obviously more complex—given that deterrence is not merely a status that can somehow be switched on, but actually a policy that needs to be defined and led—plays no role in the German debate.

From this fact consequently arises the first problematic implication. Given the track record of Franco-German defense cooperation, one may indeed doubt that France and Germany could easily agree on and define such a policy together. As argued above, Franco-German disagreements on defense do not only pertain to technicalities or questions such as whether to intervene militarily in third-country conflicts or not. The two countries also disagree on more fundamental issues that become directly relevant when dealing with big, strategic matters such as nuclear deterrence. Paris and Berlin thus have different takes on fundamentals such as how to read dynamics in the international system, as best illustrated by their different analyses of the U.S. trajectory and the future of U.S. security guarantees and positions taken accordingly. The problem between France and Germany is thus not only one of diverging policy priorities or different ideas on how to pursue a certain objective; it is arguably also one of different degrees of depth in strategic culture and the extent to which (nuclear) strategic thinking and big-picture stability considerations have been mainstreamed throughout the foreign policy and security apparatus. Against the backdrop of these differences, the close cooperation that would be required to jointly manage a nuclear deterrent seems faced with many obstacles. Potential Franco-German disagreements on nuclear doctrine, deterrence discourses, or posture may yet have immediate security implications given the delicate nature of the matter.

Second, and assuming that these obstacles could somehow be overcome, Franco-German nuclear cooperation would have implications in the wider European context and for intra-European dynamics. The two countries' close ties across all policy fields are already eyed with suspicion in the countries of the so-called Eastern flank (Kuusik 2019), out of fears that the Franco-German tandem may dominate Europe. Since the 2019 Aachen Treaty, intended to renew the original 1963 Franco-German Elysée Treaty and further deepen cooperation, France and Germany provide each other with bilateral security guarantees under Article 4 of the treaty.⁴ Other European countries are concerned that Franco-German bilateralism could weaken multilateral guarantees as set forth in NATO's Article V and collective defense more broadly. It consequently seems fair to assume that any kind of exclusively bilateral Franco-German nuclear cooperation would disrupt already fragile inner-European balances and further complicate at times difficult relations among EU countries. Extended deterrence provided to all of Europe by France would likely imply even stronger imbalances by placing one country above all others in ensuring Europe's survival. Accepting such imbalances seems unwise at a time when European unity is an invaluable asset. This would be especially true in a scenario in which Europe no longer can rely on the United States' playing its current role in moderating intra-European security dynamics.

Third, any kind of Franco-German nuclear deterrent or Eurodeterrent would—officially or *de facto*—primarily be directed against Russia. This would of course not go unnoticed in Moscow. As a result, Europe might face a greater threat assuming that Russia would take countermeasures. This is especially true if a scenario materialized in which the American nuclear umbrella no longer covered Europe, thereby making the French or Franco-German deterrent the main act. The arising security dilemma would require careful management. Yet, neither Paris nor Berlin has any experience in dealing with a security dilemma of this scope. France certainly is a long-standing nuclear power, but in Moscow's eyes, the French deterrent likely plays a minor role as compared to American nuclear weapons—as for instance illustrated by the fact that Paris was not an addressee of Russian security proposals, put forward in late 2021 (Roth 2021). The severely aggravated security dilemma would thus likely be a novelty even for French diplomacy. Germany, especially since the end of the Cold War, lacks experience in managing a nuclear dilemma or even in thinking in these terms. It is questionable whether Paris and Berlin, jointly or not, would be up to the task, notably in light of an increasingly aggressive Russia.

In sum, several arguments can be made against the assumption that some sort of Franco-German nuclear deterrent would make Germany and Europe safer. Moreover, as argued in the above paragraphs, major, presently unsurmountable, obstacles stand in the way of Franco-German cooperation on nuclear deterrence. Against this backdrop, it seems fair to conclude that the prerequisites for any concrete steps toward Franco-German nuclear cooperation, however defined, are simply not fulfilled.

Turning Inwards ... to the Bomb?

Writing in early 2023, Joschka Fischer, Germany's former Foreign Minister from the Greens, predicted turbulent times for Europeans. Starting from the premise that "[Europe] will have to adjust to the existence of a perpetual threat from the East, regardless of whether it is Putin or his successor," Fischer asked: "what will Europe do if another 'America first' isolationist is elected to the White House [...] followed by the ascent of French right-wing nationalist leader Marine Le Pen to the Elysée? This outcome is a distinct possibility." His conclusion: "Europe's task now is to overcome its internal divisions and its defenselessness as soon as possible. It must become a geopolitical power capable of self-defense and deterrence, including nuclear capability" (Fischer 2023).

Fischer's opinion piece points to a seldomly discussed hypothesis in the German debate about nuclear deterrence: that both America and France might be potentially unreliable security providers for a Europe besieged by Russia. One does not have to be a prophet to conclude that in a future world where exactly that constellation would become reality, shrill calls for a German nuclear deterrent would suddenly be on the rise.⁵ But would Germany even be capable and willing to field its own deterrent, and what could be the consequences of such a previously unimaginable course? As in the previous sections on the debate about a Eurodeterrent and the French role in it, it might prove helpful to think of the "unthinkable" (Kühn 2017) in terms of barriers and costs.

Many Barriers, Extreme Costs

A number of strong technical, legal, ideational, and structural barriers are in place that would make developing a German deterrent extremely costly. Some of those barriers would become more pronounced, depending on the political purpose of any German deterrent. In essence, any German leader seriously pondering proliferation would have to clarify first what the purpose of a German bomb should be. Would it be territorial defense for the German national state or would it be the defense of the entire EU? Determining the answer to that question would help with answering questions about size, force posture, command and control, early warning, and doctrine of a German deterrent.

Germany would most likely be able to develop a small number of nuclear weapons within a rather short period of time, despite its policy of nuclear phase-out. The phase-out process played out over several decades and resulted in Germany shelving most of its civil nuclear industry.⁶ The country continues to operate a uranium enrichment facility in Gronau, which does not produce highly enriched uranium (HEU) but could be repurposed by simply altering the piping arrangements in the enrichment cascade. Even though the German government points to rigid access restrictions and controls at the Gronau site,⁷ Wolfgang Liebert, a Professor at the Vienna-based Institute of Safety and Risk Sciences, warned of clandestine proliferation in an interview in 2013 (Werdermann 2013). Liebert (ibid.) noted,

although it's very unlikely to happen at Gronau: if you change the circuitry for a smaller portion of the centrifuges and do it cleverly, you could produce highly enriched uranium for one or more nuclear weapons within a few weeks. It might not even be noticed.

In addition, Germany has a declared stockpile of 0.35 tons HEU (IAEA 2021), which it uses in its research reactor in Garching.⁸ Although the material's composition is not directly suitable for weapons, it could be brought into weapon-usable form using chemical processing.⁹ The International Atomic Energy Agency (IAEA) estimates a conversion time for this kind of compound in the order of one to three weeks (IAEA 2022, 31). If all German HEU was repurposed for weapons production, this could be sufficient for at least 14 nuclear weapons.¹⁰ Whether Germany would have readily available technical know-how to construct a miniaturized implosion assembly device—ready for usage in a modern warhead—is more difficult to assess.

The organizational arrangements in place, however, create certain barriers to clandestine proliferation. The Gronau facility is part of the British–Dutch–German Urenco consortium. Both the Gronau and Garching facilities are under EURATOM and IAEA safeguards, including the Additional Protocol. Attempts to divert material from Garching and/or start the production of HEU in Gronau would likely be noticed, if not by the IAEA safeguards system then by the British and Dutch Urenco partners. Whether these barriers, however, would deter a possible German government determined to proliferate is questionable.

As regards further legal aspects, Germany would have to violate an additional number of agreements, some of which have become cornerstones of European and global security and stability. Back in 1954, West Germany had regained partial sovereignty and acceded to NATO and the Western European Union (WEU) only in exchange for pledging “not to manufacture in its territory atomic, biological and chemical weapons” (Western European Union 1954). In 1968, West Germany signed the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), thereby renouncing the nuclear weapons option. Finally, with unification in 1990, Germany committed itself once more to a non-nuclear status under the so-called Two Plus Four Agreement (Federal Republic of Germany et al. 1990). Shattering all these agreements would not only damage the global nuclear order—with the NPT having been established, in part, to prevent German proliferation (Gavin 2015)—but would also signal that Berlin was ready to deviate from its own history as regards NATO, the EU, and German unification. Such action, going against the grain of Germany's self-conception as a standard bearer of the international rules-based order, would ultimately result in negating German identity, which, as Müller (2003, 18) has argued, “has moved Germany more and more away from a traditional understanding of power politics and more in the direction of a normative orientation and a multilateral policy style.” This understanding is perhaps reflected in the German public's continued dismissal of the indigenous nuclear weapons option. Against the background of the Russian aggression against Ukraine, a majority of Germans, for the first time in decades, spoke out in favor of retaining U.S. nuclear gravity bombs

on German soil (Infratest Dimap 2022). At the same time, 71 percent dismissed the suggestion that Germans should have access to their own nuclear weapons (*ibid.*).

Finally, strong structural barriers, in an international security-political sense, would raise the costs of pursuing the bomb (Kühn and Volpe 2017). To begin with, it would be difficult to imagine any Russian leader sitting idly by as the EU's central power were to pursue a nuclear weapons program, aimed specifically at targeting Russia. Plain, visible proliferation would immediately raise pressure on Moscow to consider preemptive action (Debs and Monteiro 2014), including up to limited conventional precision strikes on German nuclear and military facilities. Moscow would not even have to declare a *casus belli*, but could aim to portray its "intervention" as an active contribution to global nonproliferation and could cite earlier military interventions, such as Israeli strikes against nuclear installations in Iraq and Syria as well as the second U.S.-led war against Iraq.

Depending on the political goal of German proliferation—a Germany-only deterrent or German deterrence for the EU—key European allies and neighbors of Germany might consider countermeasures (e.g., public condemnation, economic sanctions, or clandestine acts of sabotage) as well (Mehta and Whitlark 2017). France's historical fears about German proliferation are well documented (Hymans 2006, 113) and a nationalist French president, as presumed in Fischer's scenario, might have difficulties accepting a German bomb, if only for its disturbing implications for the EU's delicate balance of power. The fact that anti-German feelings run deep in certain French quarters was illustrated during the 2017 French elections when both Jean-Luc Mélenchon and Marine Le Pen—candidates from the extreme political left and right—used clear anti-German rhetoric to mobilize voters (Kunz 2020, 73). London, as well, might have serious reservations against another EU country going nuclear, and Warsaw, which has only recently signaled an apparent willingness to proliferate under extreme circumstances (Fritz 2023), might have a paramount interest in preventing itself from becoming wedged between nuclear Russia and nuclear-armed Germany.

Forecasting U.S. reactions in such a scenario would be more difficult. One of the weaknesses of the recent German proliferation debates has been vagueness about the specifics of an anticipated U.S. retreat from Europe. Would Washington simply shut down all its military installations in Europe and let Europeans fend for themselves or would the United States gradually retreat and leave in place certain security arrangements, including in the nuclear domain? In the latter case, for the United States to shepherd German proliferation might in fact be the only option that proliferation-determined German leaders might consider as being less costly if available.¹¹ Under such an arrangement, described by Narang (2017, 122–123) as "sheltered pursuit," Germany would "opportunistically [take] advantage of major power protection against external threats to pursue nuclear weapons." Accordingly, Berlin "may find itself in a transactional client-patron relationship with [Washington] that is complicit in, or at least tolerant of, its nuclear weapons pursuit and offers immunity against external coercion" (*ibid.*). Short of providing technical help, the latter point—i.e., protection against Russian coercion—would be necessary for Germany to prevent the impending security dilemma caused by German proliferation intent

to trigger war in Europe. Whether Washington would be willing to abandon its decades-long stance on nonproliferation (Gavin 2015) and accept all ensuing global consequences—including possible proliferation in East Asia and the Middle East—to aid Germany would just be one uncertain aspect of such risky strategy.

But even under a sheltered pursuit arrangement, and assuming that Germany would strive to build a nuclear deterrent for the protection of the entire EU, Berlin would still face massive hurdles to operationalize a German deterrent under extreme duress. In order to reassure EU allies, a German nuclear force would have to have a force posture, size, and doctrine credible enough to deter Russia from any military adventure against any EU country. In order to reassure particularly its nervous Eastern European allies of Germany's commitment, German leaders would most likely have to pursue a nuclear force that would have to combine survivability and visibility, which might be best achieved through a dyad of air-launched or land-based missiles together with a sea-based deterrence leg and the necessary infrastructure of constant deep-sea operations. Given the large Russian arsenal of sub-strategic nuclear munitions (Kristensen and Korda 2022), Germany would also have to consider a posture that would include a sizeable counterforce portion. The only other option, counter-value, would mean explaining to the German public that Berlin would be willing to target Russian population centers and 'trade' German for Russian cities early on in any military conflict. Whether the German political system, built on rules and procedures of consultation and compromise—be it between different ruling parties in a coalition as well as between the federal and state level—would be suitable to support nuclear decision-making, would be another open question. Particularly the latter would confront Germany's EU allies with the same problem that continues to impair the Eurodeterrent debate: would other EU states be ultimately willing to delegate nuclear decision-making to the German Chancellery?¹²

Of course, as with every extreme scenario, alternative outcomes are imaginable. Perhaps, Moscow would grudgingly accept a German bomb. Perhaps, EU member states would rather welcome German proliferation, particularly if aimed at providing extended deterrence to them. Perhaps, the global nonproliferation regime would survive Germany going nuclear, as it did with previous instances of states acquiring nuclear arms. It is nevertheless also possible that developing a German deterrent could trigger a profound security crisis in Europe, upset the EU balance of power, and negatively impair the global nuclear nonproliferation order beyond repair. Given all the described barriers and the potentially extreme costs associated, it is only realistic to argue that German proliferation would neither make Germany nor the EU safer. It is therefore difficult to imagine any German chancellor accepting these costs and turning decades of German deterrence and nonproliferation policies upside down. For now, and even with a war raging in Ukraine, a German nuclear deterrent remains a non-option.

Conclusions

As this chapter has argued, potential alternatives to Germany's preferred model of extended nuclear deterrence provided by the United States seem hardly realistic.

Obstacles abound at many levels, and political costs are likely to be tremendous. Neither the Franco-German option nor the unilateral development of a national deterrent is in line with existing strategic cultures and identities in France and especially Germany. Most importantly, however, neither approach to nuclear deterrence would make Germany and Europe safer. The adverse effects of pursuing such ambitions far outweigh the assumed benefits, most critically when it comes to potential Russian reactions and disruptions of intricate inner-European balances.

On the French side, national nuclear doctrine is not meant to be cooperative, but nuclear deterrence is central to the country's strategic culture and its approach to national strategic autonomy. Changing Paris' approach to it is consequently easier said than done—all the more so since there is no appetite for change in France. This is the key obstacle overlooked by German musings about Franco-German nuclear cooperation. But even if it were somehow to be overcome, it seems unlikely that Paris and Berlin could work together on such fundamental issues such as nuclear doctrine or war planning in a constructive manner. Their strategic cultures are too different, and the track record of Franco-German defense cooperation in other fields illustrates at times deep divergences in how Paris and Berlin read international dynamics.

Why then do German politicians and pundits continue their musings, for nothing more than musings they are, given the apparent unwillingness to seriously discuss (im)practicalities and consequences? Some scholars have argued that these debates are an elite-driven effort to reeducate the German public on issues pertaining to nuclear weapons and deterrence (Volpe and Kühn 2017). Alternatively, these musings, including the ludicrous idea of a "German bomb," could be interpreted as a signal to Washington to voice German worries about the durability of U.S. security guarantees. While the latter is certainly true—German officials are worried about a return of an "America First" policy with potentially profound negative consequences for Europe—the former, deliberate signaling, seems both unlikely and impractical. It is unlikely, because thus far no leading German politician *in power*, during the Merkel chancellorship as well as under Scholz' reign, has come out in favor of alternative deterrence arrangements. It would also be impractical, for signaling an apparent willingness to replace the U.S. umbrella might as well backfire under another possible "America First" policy, thereby speeding up a self-fulfilling prophecy. A final explanation could be that these musings are a reflection of the missing depth of German defense debates, thereby exposing the lack of strategic substance in political Berlin.

Instead of proposing non-options, German leaders should consequently take up President Macron on his offer to start a strategic dialogue—which does not, at this point, mean talks about joint nuclear deterrence. Any kind of strategic dialogue has been blatantly missing at the European level over the past years and even decades. The same applies to the bilateral Franco-German level. Although formats such as the Franco-German Defense and Security Council have existed for a long time, they never evolved into providing a space where Paris and Berlin discuss big-picture strategic issues (Kempin and Kunz 2018). In light of the uncertain future of U.S. involvement in European security affairs and the threat posed by an

unpredictable and aggressive Russia, the lack of strategic convergence between France and Germany is more problematic than ever. Most importantly, while France has thus not given up on European strategic autonomy and still considers it a necessity, German reactions to Russia's invasion of Ukraine clearly illustrate that Berlin's bet is on transatlantic business as usual. Depending on the outcome of the 2024 U.S. elections, the awakening may be rude for Germany. Discussing respective scenarios and their security implications would be a good start. Way below the nuclear level, Paris and Berlin therefore have homework to do.

Notes

- 1 FCAS is an initially Franco-German (now Franco-German-Spanish) defense industrial project, launched in 2017, initially against the resistance of France's defense firm Dassault, who would have preferred to cooperate with the British. At its core is the development of a next-generation fighter aircraft, intended to replace German and French aging fighter jets from about 2040 onward.
- 2 France and Italy jointly developed the *Système sol-air moyenne portée/terrestre*.
- 3 If official English translations were not available, the German sources used in this chapter were translated by the authors.
- 4 These bilateral guarantees have so far not resulted in any kind of concrete measure.
- 5 The option of a German deterrent has sporadically come up in the German debate about nuclear deterrence since late 2016; though, it was mostly invoked by journalists (e.g., Müller 2016; Kohler 2016; Pfister 2023).
- 6 See also Chapter Eleven by Ulrich Kühn in this volume.
- 7 The official answer of the German government to a request by the *Bundestag* faction of *Die Linke* in 2013 states: "a rigid system of access restrictions and controls ensures that only certain individuals within the [Gronau facility] have access to a limited subset of the technology at any given time" (Bundestag 2013, 6).
- 8 Today, Germany has no unirradiated plutonium held on its territory (IAEA 2021), and does not operate a reprocessing facility. It is typically assumed that plutonium separation is a process that is easier to manage compared to uranium enrichment. However, building a weapon with plutonium is more difficult (Union of Concerned Scientists 2009).
- 9 According to information contained at the web page of the Garching reactor, "the fresh and spent fuel assemblies [...] are not weapons-grade in their current form" (Technical University of Munich, no date). In fact, the fuel used at Garching is uranium-silicide, which would have to be transformed into metallic form for weapons purposes (Rodrigues and Gouge 1983).
- 10 The IAEA defines 25 kilograms of HEU as a "significant quantity [that is] the approximate amount of nuclear material for which the possibility of manufacturing a nuclear explosive device cannot be excluded" (IAEA 2022, 30–31). Since Germany has 350 kilograms of HEU, divided by 25, that would be enough for at least 14 weapons, which is a conservative estimate.
- 11 The first to describe this scenario (for West Germany) was Kelleher (1975, 310): "perhaps the only serious option is one often discussed in the 1970s with respect to Japan: the development of a national nuclear capability through the cooperation or at least active tolerance of the United States."
- 12 One should mention two aspects that might make potential German efforts to field a nuclear deterrent for EU purposes possibly easier. One might be that Berlin could aim to pool certain existing military capabilities among EU countries (Lübke 2021), for instance when it comes to enrichment, early-warning components, and missile technology. The other could be legalistic, for Berlin could try to argue that proliferation, intended to endow the EU with a nuclear deterrent, is NPT-compliant, given that West

Germany had stated its interpretation of the NPT in 1969 as not infringing on a possible future European nuclear weapons option: “the Government of the Federal Republic of Germany [...] states that no provision of the Treaty may be interpreted in such a way as to hamper the further development of European unification, especially the creation of a European Union with appropriate competence” (Federal Republic of Germany 1969). Reaffirming its rights and obligations under the NPT in the 1990 Two Plus Four Treaty, Germany also implicitly reaffirmed its note from 1969.

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6 German Public Opinion on Nuclear Weapons

Before and After Russia's Invasion of Ukraine

Michal Onderco

Introduction¹

To say that Germans dislike nuclear weapons would be an understatement. In every single public opinion survey conducted between 2000 and 2021, an overwhelming majority expressed that they want the U.S.-deployed nuclear weapons to be withdrawn from Germany; that they do not want Germany to develop its own nuclear weapons; and that they support the development of international norms to ban nuclear weapons. Such views have, if anything, only become stronger over time.

German public opinion is, as a matter of fact, at odds with German policy. Although never formally acknowledged, Germany hosts American nuclear weapons on its territory and would be—in case of these weapons' use—involved in the nuclear strike mission, as *Luftwaffe* fighter jets would deliver the nuclear weapons (Kristensen and Korda 2022). These nuclear sharing arrangements are seen by German politicians as fundamental to the North Atlantic Treaty Organization (NATO) alliance and its deterrence policies. For instance, the 2020 NATO Reflection Group, co-chaired by the former German Minister of Defense Thomas de Maizière, recalled that “nuclear sharing arrangements play a vital role in the interconnection of the Alliance and should remain one of the main components of security guarantees and the indivisibility of security of the whole Euro-Atlantic area” (de Maizière et al. 2020). The 2022 NATO Strategic Concept officially underlines the importance of this arrangement (NATO 2022). This makes Germany an important player in the alliance's nuclear deterrence setup.

At the same time, however, Germany has been challenged by the “humanitarian turn” in nuclear disarmament (Gibbons 2018). Germany has not participated in the negotiations leading to the conclusion of the Treaty on the Prohibition of Nuclear Weapons (TPNW). Although it did attend the TPNW's first and second Meeting of States Parties as an observer, it was one of the most hawkish contributors to the debate and its contributions showed how far the German position was apart from the rest of the 'TPNW crowd' (Onderco and Vignoli 2022). Until 2022, this pattern has placed German public opinion at odds with official German foreign policy.

In this chapter, my goal is twofold. Firstly, I am to map the assessments of German public opinion since 2000. I do this by reviewing existing public opinion surveys as well as presenting my new, original data. The latter is related to panel surveys, which I conducted (in cooperation with a number of collaborators)

between 2020 and 2023, and which are the only surveys of their kind looking at public attitudes towards nuclear weapons over time. Secondly, I wish to make sense of this data in two ways. On the one hand, by looking at whether the changes in public opinion, which we have seen in the wake of the Russian war in Ukraine, are likely to persist; and on the other hand, by looking at the tension between “responsiveness” and “responsibility” when it comes to German participation in NATO’s nuclear-sharing arrangements.

Beyond the immediate audience of nuclear weapons scholars, the findings in this chapter might be relevant also for scholars of German foreign policy as well as for experts on public opinion. As this chapter is one of the first ones to study the impact of the war in Ukraine on European public opinion related to foreign policy, scholars studying the future impact of the war on European security might also find the results presented here useful for their work.

The chapter continues as follows: in the first section, I look at public opinions on nuclear weapons in Germany between 2000 and 2021. Drawing on secondary sources and existing surveys, I outline the image of an anti-nuclear public opinion in Germany. In the second section, I look at the shift in German public opinion on nuclear weapons in the wake of the Russian invasion of Ukraine, using original panel data that tracks German views of nuclear weapons since 2020. Using three waves of this unique data from September 2020, June 2022, and May 2023, I show how the Russian invasion shifted German public opinion towards more hawkish positions. In the final section, I reflect on these findings, discussing how to square the continuation of current nuclear policies with the demands of democratic legitimacy in foreign policy.

German Views of Nuclear Weapons Through 2021

German public opinion has been rather anti-nuclear between 2000 and 2021. As I will show in this section, Germans have been skeptical about nuclear sharing, supportive of nuclear disarmament, and opposed to Germany developing its own nuclear weapons.

This pattern does not surprise. Scholars of German foreign policy have, for a long time, argued that German public opinion has been opposed to a muscular foreign policy, of which nuclear weapons are quite likely the ultimate expression. The idea of equipping the *Bundeswehr* with nuclear weapons was a contested issue amongst West German elites (Deutsch 1966) and subject to strong public opposition and multiple rounds of protests throughout the Cold War (Müller and Risse-Kappen 1987; Risse-Kappen 1983). These protests matched a broader image of West Germany as a civilian power (*Zivilmacht*), and the public aversion to the use of force is part of the reason why also the reunified Germany emerged as a civilian power (Maull 1990). Scholars have argued that a normative aversion to the use of force has been an important element in explaining German foreign policy (Boekle, Rittberger, and Wagner 2001).

At the same time, German political elites understood nuclear deterrence as a key element of ensuring the security of their country. Successive German leaders

have been essential in persuading American leaders (or leveraging their country's peculiar position) to extend and strengthen nuclear deterrence in Europe—including stationing nuclear weapons on German soil (Colbourn 2022; Hunt 2022).

In this section, I outline German views on nuclear weapons until 2021 along three lines: views on nuclear sharing; on the use of nuclear weapons; and on Germany's role in global nuclear disarmament. All of these three areas are essential for Germany's role in NATO's nuclear deterrence arrangements. As was argued above, nuclear sharing is often perceived as a key practice for the current alliance's nuclear posture. A key element of nuclear deterrence is the willingness to use nuclear weapons. If a weapon can never be used, then it does not deter. Accordingly, more muscular support for nuclear disarmament—including supporting the banning of nuclear weapons—would make Germany's participation in NATO nuclear deterrence impossible. In the following, I look at public opinion polls on nuclear weapons policy, conducted in Germany since 2000.

Public Opinion on Nuclear Sharing

Nuclear sharing has been unpopular among Germans. While there is significant variation in the wording of the questions asked—some of them were more leading than others—the uniform pattern which emerges from these surveys is nonetheless clear: regardless of how the questions were asked, a majority of Germans has consistently opposed nuclear sharing.

The first survey which I was able to find was conducted in April 2005 by TFN Infratest. In this survey, 76 percent of the respondents felt that nuclear weapons should be withdrawn from Germany (Der Spiegel 2005). Two years later, 60 percent of respondents answered, in a survey fielded by the Simons Foundation, that Germany should not participate in nuclear sharing (The Simons Foundation 2007). These views persisted, and gained strength, over time. In 2015, in response to a YouGov poll, 66 percent of Germans indicated that they would support withdrawal of nuclear weapons from Germany “and thus the end of the nuclear sharing” (Schmidt 2015). One year later, in a survey commissioned by the International Physicians for the Prevention of Nuclear War (IPPNW), 85 percent of respondents indicated that nuclear weapons should be withdrawn from Germany (IPPNW 2016). In 2018 and 2019, in surveys commissioned by the International Campaign Against Nuclear Weapons (ICAN), 70 percent and 67 percent of respondents (respectively) answered that the weapons kept at the Büchel Air Base should be withdrawn (ICAN 2018; 2019b). An even higher share (84 percent) indicated in 2019 in a Greenpeace-commissioned study that nuclear weapons should “completely vanish” from Germany (Greenpeace 2019). A very similar share (83 percent in 2020 and 82 percent in 2021) preferred the withdrawal of U.S. nuclear weapons in the two subsequent years (Greenpeace 2020, 2021). In an academic survey (Egeland and Pelopidas 2020), only ten percent of the respondents in Germany stated that countries without nuclear weapons should seek nuclear allies, and 75 percent of the respondents stated that non-nuclear countries should seek nuclear abolition.

However, in 2019, in a Körber-Stiftung-commissioned poll, only 31 percent of the respondents indicated that Germany should “abandon nuclear protection,” while 22 percent preferred to continue the “protection by the U.S. nuclear umbrella” (Kantar 2019). In 2020, two-thirds of respondents in a survey commissioned by the Munich Security Conference answered that Germany should not continue to rely on nuclear deterrence in the future (Bunde et al. 2020), and over half of respondents (57 percent) again opposed a nuclear deterrent, based in their own country, one year later (Bunde et al. 2021).

While a majority of the surveys were commissioned by anti-nuclear NGOs (non-governmental organizations), there is overwhelming evidence pointing to the unpopularity of the nuclear sharing arrangement among German respondents. The only exception to this pattern was the 2019 survey conducted by the Körber-Stiftung, which, however, used an unusual term—“nuclear protection”—and therefore should be taken with a grain of salt.

Public Opinion on Nuclear Use

Similarly, Germans have been historically opposed to the use of nuclear weapons, although only a handful of surveys addressing the issue directly are available. These figures indicate that public opinion is at odds with nuclear deterrence postures in a fundamental way.

In the Simons Foundation survey, 77 percent of participants responded that nuclear weapons-use by NATO would not be justified (The Simons Foundation 2007). Similar findings were made in a survey conducted by myself and my co-researchers more than a decade later. In different surveys conducted in 2020, we found a majority of respondents disagreeing with nuclear weapons-use. In our September 2020 survey, 82 percent of Germans stated that even a demonstrative use in response to a Russian demonstration strike could not be justified (Onderco, Etienne, and Smetana 2022). Only three percent of the respondents agreed with a first-strike scenario against Russian military units. In 2020, we also conducted a unique survey in which we fielded the same questions we had asked the German public to members of the *Bundestag*. We found that the nuclear taboo—the non-codified norm against the use of nuclear weapons—was even stronger among members of the *Bundestag* (Onderco and Smetana 2021; Smetana and Onderco 2022). These findings confirmed the argument advanced by Nina Tannenwald (2021) that the nuclear taboo is stronger at the elite level, though our results also indicated that support for the nuclear taboo at the public level is not as brittle as Tannenwald feared.

As mentioned earlier, scenarios of nuclear weapons-use involving German forces would most likely involve German fighter jets. The renewal of the aging fleet was a major policy issue in Germany.² Were the fleet not modernized, nuclear sharing and, implicitly, also nuclear use involving German armed forces, would be put into question. Hence, Germans’ views on the modernization or replacement of the *Tornado* fighter jets mattered for nuclear use. Were the *Tornado* jets not replaced, Germany would technically drop out of the nuclear sharing arrangement,

and hence an essential element of the alliance's current deterrent posture would disappear.

Surveys demonstrated that Germans thought that the government should not invest further in the renewal of the nuclear-capable aircraft fleet. In surveys fielded by nuclear disarmament proponents, well over half of the respondents were opposed to such investments—55 percent in 2018, 61 percent in 2019 (ICAN 2018, 2019b), and 71 percent in 2021 (Greenpeace 2021). Similarly, 86 percent of Germans opposed the theoretical future stationing of potential intermediate-range nuclear missiles in Germany (Greenpeace 2019).

While the number of questions on nuclear use has been lower than those on nuclear sharing, there has also been a rather clear pattern indicating strong anti-nuclear views on the use of nuclear weapons and also on the renewal of the fighter jet fleet for such use.

Public Opinion on Nuclear Disarmament Norms

Last but not least, Germans have been consistently supportive of nuclear disarmament norms, including the development of specific international legal instruments to that effect. In 2006, 70.5 percent of respondents stated that they wanted Europe “to be free of nuclear weapons” (Greenpeace 2006). In 2007, 81 percent of respondents stated that the German government's goal should be “eliminating nuclear weapons worldwide” (The Simons Foundation 2007). In 2016, 93 percent stated that nuclear weapons should be prohibited by international law (IPPNW 2016). In 2019, 82 percent of respondents indicated that “existing international nuclear arsenals should be destroyed” (Greenpeace 2019). The 'abolitionist' share of the population remained fairly consistent in subsequent years (84 percent in 2020 and 79 percent in 2021) in two surveys commissioned by Greenpeace (2020, 2021).

Similarly, large majorities of Germans were in favor of international treaties as instruments of nuclear disarmament. In 2007, 95 percent of Germans supported “eliminating all nuclear weapons in the world through an enforceable agreement” (The Simons Foundation 2007). Once the TPNW had entered the picture, Germans consistently supported their country becoming a party to the treaty, even if the TPNW lacked an enforcement mechanism. In the August 2017 ICAN survey, 71 percent were in favor of Germany joining the treaty, with large majorities across all political parties (ICAN 2017). That share remained almost constant in the subsequent year (ICAN 2018). Even larger majorities in favor of signing the TPNW (91 percent in 2019 and 80 percent in 2021) were found in surveys commissioned by Greenpeace (2019, 2021).

Again, while the individual wording of questions in different surveys varied, the evidence is sufficiently consistent to conclude that a majority of Germans was in favor of signing the TPNW and other treaties promoting nuclear disarmament and arms control.³ Hence, public opinion is again at odds with NATO nuclear deterrence policies and even the alliance's views on nuclear disarmament. While NATO is on paper supportive of arms control (NATO 2023), it has been rejecting the

TPNW ever since. If German official policy had followed public preferences, it would have had a profound impact on the alliance's nuclear posture.

German Views of Nuclear Weapons Since 2022

Russia's 2022 invasion of Ukraine brought some changes to how Germans view nuclear weapons. That is not entirely shocking. Public opinion scholars have for a long time recognized that major shocks trigger changes to public opinion (Lambert et al. 2010; Lambert, Schott, and Scherer 2011). This shift in German public opinion was picked up in other surveys as well. An *Allgemeine Rundfunkanstalten Deutschlands* Panorama-commissioned survey in June 2022 showed that 40 percent of the population felt that U.S. nuclear weapons should remain in Germany, and an additional 12 percent felt that they should be modernized and their number increased (Infratest Dimap 2022). This shift did not translate to a stated desire to acquire nuclear weapons. In the same survey, 71 percent of respondents said that Germany should not get access to its own nuclear weapons; and in October 2022, 91 percent of respondents stated that Germany does not need its own nuclear weapons to guarantee its security (Körber-Stiftung 2022). However, the surveys documented a shift away from earlier anti-nuclear views.

A more scientifically sound method to track shifts in public views is a panel survey. A panel survey allows us to study how individual views of the public move over time. While it is not possible to isolate a causal effect (since views could have moved due to other factors), it is possible to track rather precisely how views move over time, and thereby approximate them to other events that happen.

In a survey, which I conducted with colleagues (Onderco, Smetana, and Etienne 2023), we found that public views have shifted towards more favorable views of nuclear deterrence. The first wave of that survey was conducted in September 2020, the second wave in June 2022, and the third one in May 2023. Between the first and second wave, the Russian invasion of Ukraine started. Between the second and third wave, Russia attempted nuclear coercion a number of times (Horowitz and Arndt 2023). One could argue that there have been enough events that could be associated with shifts in public views. In this chapter, I look at the third wave of that survey data to study further how the Russian war in Ukraine affected public views.⁴

Deterrent Effect of Nuclear Weapons

Let us first look at public views on the deterrent effect of nuclear weapons. In the survey, we asked whether the respondents agreed with the statement that the nuclear weapons stationed in Germany deterred nuclear attacks against NATO countries, and whether the respondents thought that the nuclear weapons stationed in Germany deterred non-nuclear attacks against NATO countries. The respondents could express their (dis)agreement on a scale from one to six, which was then dichotomized.

The results, shown in Figure 6.1, demonstrate that the public now sees much more strongly a deterrent effect of U.S. nuclear weapons stationed in Germany.

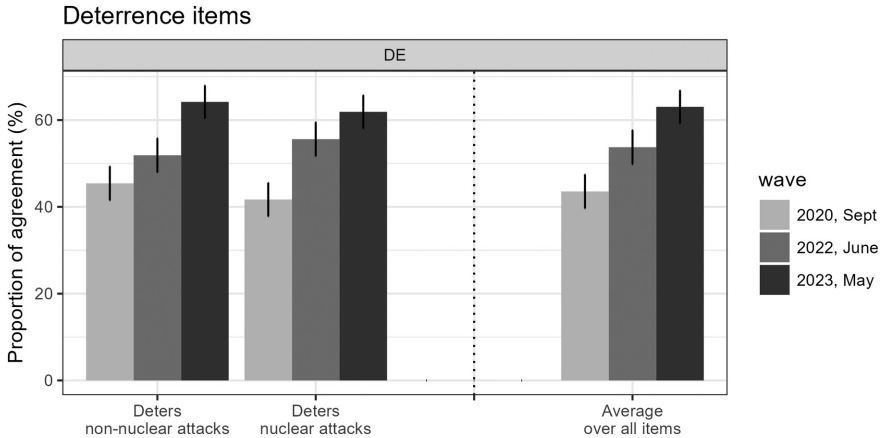


Figure 6.1 Public opinion on the deterrent effect of nuclear weapons stationed in Germany

Source: Author's creation

Whereas in 2020, 45 percent of the public thought that stationing U.S. nuclear weapons in Germany deterred non-nuclear attacks and 42 percent thought that their stationing deterred nuclear attacks; in 2023, the share of the public expressing these views increased to 64 and 62 percent respectively. This is an increase by about 20 percentage points—a rather significant increase in the population's view of the deterrence effect of nuclear weapons against non-nuclear attacks. The increase is particularly strong among respondents above the age of 35. In the age group between 35 and 49 years, the increase amounts to 32 percentage points, and in the group between 50 and 64 years, the increase is 25 percentage points. When it comes to the deterrence effect against nuclear attacks, the increase is most pronounced in the age group of those older than 65 years (plus 30 percentage points), followed by the age group between 18 and 34 years (plus 22 percentage points) and the age group between 35 and 49 years (plus 19 percentage points). Whereas in 2020, we recorded major gender differences, in 2023, there is almost no gender difference as regards the belief in a deterrence effect against nuclear attacks (both around 62 percent). The gender gap, however, persists when it comes to a deterrence effect against non-nuclear attacks (52 percent of women, compared to 73 percent of men, believe that nuclear weapons deter non-nuclear attacks).

These results indicate that after the start of the war in Ukraine, belief in the deterrence function of nuclear weapons among the German public increased. Whereas in the past, Germans did not attach great value to the U.S. nuclear weapons deployed on their territory, and hence favored their removal, this changed with the war.

Use of Nuclear Weapons

An important element of nuclear deterrence is the willingness to use nuclear weapons. We asked respondents whether they would agree to use nuclear weapons in

the context of an armed conflict between NATO and Russia over the Baltics in four scenarios: (a) as a demonstrative explosion over an unpopulated area to de-escalate with the aim of stopping an ongoing Russian invasion of the Baltic countries; (b) to target Russian military units and thereby gain a military advantage over Russia in the conflict; (c) as a demonstrative explosion over an unpopulated area to respond to a similar demonstrative nuclear explosion previously conducted by Russia; and (d) to target Kaliningrad in response to a Russian nuclear strike against NATO troops, with the aim of stopping an ongoing Russian invasion of the Baltic countries. These scenarios vary over two important axes. They represent first-strike (a, b) and second-strike (c, d) scenarios, as well as purely demonstrative use scenarios without human casualties (a, c) and with human casualties (b, d). In constructing these scenarios, different expert writings (including Kühn 2018) were consulted. Again, the respondents could express their (dis)agreement on a six-point Likert scale, which was then dichotomized.

The results, shown in Figure 6.2, indicate that while the willingness to consider the use of nuclear weapons increased slightly since 2020, the increase is nowhere near as large as when it comes to the increasingly positive views of nuclear deterrence. Compared to 2022, the figures did either not change or even declined. Overall, in comparison to 2020, we see either no change (option a) or a maximum increase by six percentage points (option d). In option c, there has been a four-percentage point decline since 2022 (from 30 percent approval down to 26 percent approval).

When looking at patterns across different age groups, we notice that in the first scenario (demonstrative explosion to deescalate) there is an increase in approving views among the older respondents between 2020 and 2023. This increase is visible particularly in the group of respondents older than 65 years (by 17 percentage points, from ten to 27 percent). By contrast, the support among younger groups for use in this scenario is stable or declines. In the age group between 18 and 34 years, support remains almost exactly the same as in 2020, and in the age group between 35 and 49 years, it declined by 13 percentage points (from 18 to five percent). By contrast, in the second scenario (targeting Russian military units), the support increases across almost all age groups, and most strongly in the age group between 18 and 24 years. In the third scenario, there are only small changes across all age groups except for the respondents above 65 years, amongst whom support increased by almost ten percentage points. In the fourth scenario (targeting Kaliningrad in a retaliatory strike), we see an increase in the younger group of respondents (from six to 19 percent in the age group between 18 and 34 years) as well as among the older respondents (from 13 to 29 percent among respondents older than 65 years). In all of the scenarios, a gender difference between men and women persists. Men are consistently more likely to support the use of nuclear weapons.

In these use-scenarios, we see that important differences exist between different age groups, which become visible once we apply different scenarios. The German youth is among the age groups that have become more hawkish over time. That finding might correspond with the shifting foreign political strategies of those German parties, which they generally tend to support (such as the Greens).

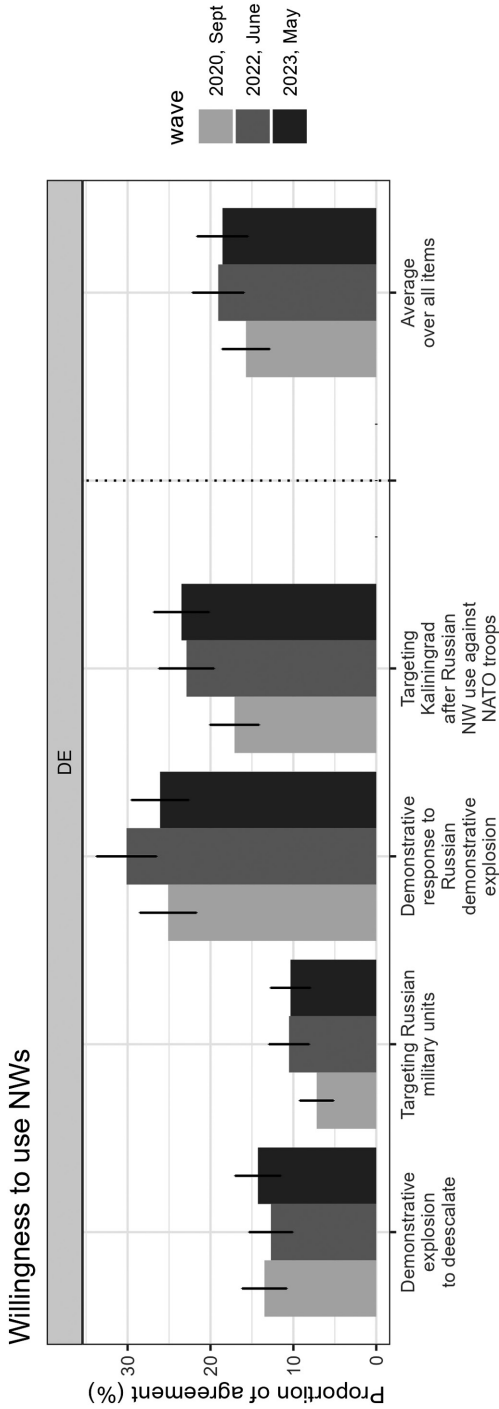


Figure 6.2 Public opinion on the use of nuclear weapons stationed in Germany

Source: Author's creation

Support for Withdrawal

Last but not least, we asked respondents about their support for withdrawing U.S. nuclear weapons from Germany. We asked them to express their (dis)agreement with five withdrawal scenarios: unconditional withdrawal, withdrawal in exchange for U.S. conventional reinforcements, withdrawal in conjunction with conventional reinforcements by European NATO allies (including Germany's own forces), withdrawal in a negotiated U.S.-Russian arms control framework, and no withdrawal "under any circumstances." These scenarios represent different logics of the potential purpose of nuclear weapons—as a sign of U.S. commitment (which could be replaced by conventional reinforcements), as a compensation for conventional weakness (which could be compensated by conventional reinforcements by European allies and Germany bolstering its conventional forces), or as a bargaining chip in arms control negotiations. Again, the respondents could indicate their (dis)agreement on a Likert scale from one to six, which was then further dichotomized. The results can be seen in Figure 6.3.

While after the start of the war support for withdrawing nuclear weapons dipped, it recovered as the war progressed. The most popular option remains withdrawal in the framework of U.S.-Russian nuclear arms control. This option gets supported by 63 percent of respondents, with very little difference since 2020 (a decline of four percentage points). Support for unconditional withdrawal declined by ten percentage points since 2020, but increased by nine percentage points since 2022. Support for withdrawal in the other scenarios also increased, certainly since 2022. While general support for withdrawal has thus decreased since 2020 on average (as can be also seen in Figure 6.3's right-most panel), it has decreased less than one might expect given the strong increase in support for the deterrence function of nuclear weapons. This might suggest that public views are not necessarily always fully consistent.

When looking at support by age groups, two findings spring up. Support for withdrawal decreases across almost all scenarios and almost all age groups, with some exceptions and quite a bit of variation. The decline in support for unconditional withdrawal decreases between 2020 and 2023 across all age groups, and most among those older than 65 years (from 60 to 39 percent). Yet in other scenarios, the patterns vary. In the scenario of withdrawal in the framework of U.S.-Russian arms control, support remains high (above 50 percent, and above 70 percent for the youngest and the oldest age groups). Female respondents are consistently more supportive of withdrawal, with the difference compared to male respondents often being rather stark. For instance, the difference in support for withdrawal with conventional reinforcements is as high as 19 percentage points (36 percent among men and 55 percent among women).

These results indicate that while appetite for additional arms control and disarmament steps in Germany declined during the war, it also somewhat sprang back after the initial shock. Support for withdrawal is now only somewhat lower than it was before the start of the war, and support for withdrawal in a negotiated arms control framework has virtually remained stable, despite the war. Germans seem to remain fans of treaty-based instruments to address nuclear risks.

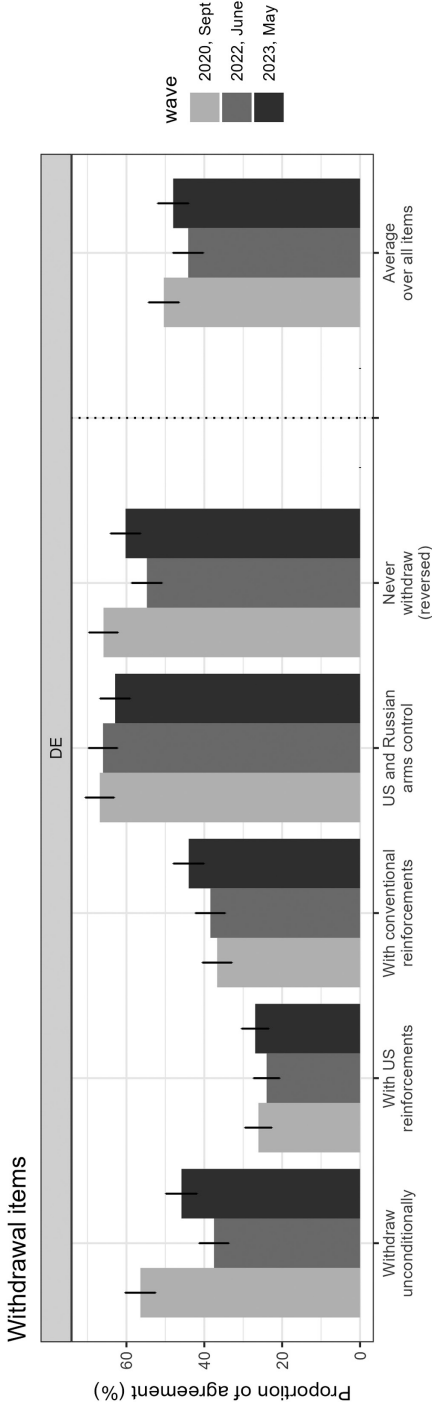


Figure 6.3 Public opinion on the withdrawal of nuclear weapons stationed in Germany

Source: Author's creation

Changing Patterns?

Our data reveals some interesting patterns. Before the war, it was clear that the majority of the German public would have historically preferred to have their country's security ensured without nuclear weapons playing any role. Since the start of the war, however, Germans increasingly seem to believe in the deterrence function of nuclear weapons. At the same time, their willingness to consider their use does not increase correspondingly (and declines somewhat after the start of the war). And while support for withdrawal decreased somewhat, it has subsequently bounced back.

A major question is whether the growing support for the existing nuclear deterrence arrangements will remain. Of course, a major factor in trying to predict the future is how the war in Ukraine will continue to develop. Any new nuclear threats from Russia could lead to further shifts in public opinion. Indeed, it is not uncommon for wars to lead to major shifts in public opinion (Onderco, Smetana, and Etienne 2023). It is also not uncommon for public moods to swing back to old patterns once wars are over. There is at least some evidence that seems to indicate that such a swing is already happening, with German public opinion on withdrawal swinging slowly back to pre-war levels. In addition, our results indicate that Germans continue to appreciate arms control and disarmament. And while they might not be *pushing* for arms control policies, if the German government were to go in that direction, it would find a rather strong support base among the public.

Responsiveness and Responsibility in Nuclear Policy

Instead of offering a conclusion—which would inherently be rather intuitive—I wish to address the dilemma that emerges from our data. As I have outlined in the previous two sections, there have been two main trends in the German public's views on nuclear weapons. The first one is that the public has been consistently at odds with German foreign policy, which has, also consistently, underlined the importance of and commitment to the existing NATO arrangements, including nuclear sharing. Secondly, in the wake of the war in Ukraine, the German public has increasingly started to view U.S. nuclear weapons in Germany more favorably.

These two findings require some additional discussion on how we should understand the apparent contradiction between the negative public views of nuclear weapons and the continuation of the existing NATO nuclear posture in Europe, which sees nuclear sharing as one of its key elements.

It is a frequent argument from supporters of nuclear disarmament that the lack of public support for nuclear sharing and nuclear deterrence creates a valid reason for the withdrawal of such weapons (ICAN 2019a). Academics studying nuclear weapons similarly point to the perceived lack of democratic legitimacy for the continuation of nuclear deterrence policies (Egeland and Pelopidas 2020; Pelopidas 2019; Pelopidas and Egeland 2023). Some have criticized the so-called “nuclear guardianship” (Pelopidas 2020). According to that critique, nuclear weapons are apparently

excluded from the democratic control over foreign policy and policies of nuclear deterrence frequently contradict popular sentiment. This line of argumentation has been previously advanced within the United States, with Dahl (1985) articulating it almost four decades ago and Scarry (2014) providing a more contemporary perspective. More recently, it has been transported to the European setting.

This argument is not particularly innovative or unique to nuclear weapons—the lack of democratic legitimacy has been broadly criticized when it comes to foreign and security policy in general. Foreign policy is a policy area where the executive enjoys dominance, and public views are often not fully reflected in the executed policy (Raunio and Wagner 2017). Scholars have also found that elite views on foreign and security policy are often strongly aligned—regardless of ideological proclivities (Kreps 2010).

However, to make sense of the gap between public opinion and official policy, we need to look at democratic governance more broadly. The starting point for such exploration is rather simple. In democratic polities, governments are expected to reflect public preferences (Dahl 2020). Political science research demonstrates that on major issues of public policy, policy often trails public opinion (Page and Shapiro 1983), and public opinion often drives policy (Caughey and Warshaw 2022). While such a link between public opinion and foreign policy has been traditionally weaker, nowadays quite some evidence exists that, at least tentatively, public opinion matters even when it comes to foreign policy (Everts and Isernia 2015; Holsti 2004). Theorists have made arguments about the need for such a link, based on the argument that the public would ultimately pay for foreign policy, either in blood or treasure (Lord 2011). This is what scholars often call “policy responsiveness.”

However, as Mair (2009) remarked about 15 years ago, democratic policy-making is in fact caught between two forms of control: “responsiveness” and “responsibility.” Responsiveness refers to a “[sympathetic response] to the short-term demands of voters, public opinion, interest groups, and the media” (Bardi, Bartolini, and Trechsel 2014, 237). Responsibility refers to the

necessity [...] to take into account (a) the long-term needs of their people and countries, which [...] underlie and go beyond the short-term demands of those same people; [and] (b) the claims of audiences other than the national electoral audience, including [...] the international commitments and organizations that are the root of their international credibility.

(*ibid.*)

As Laffan (2014) argues, involvement of supranational institutions, and particularly the pooling of sovereignty and taking on commitments on behalf of others, is highly conducive to placing more weight on “responsibility” at the expense of “responsiveness.”

The responsibility-responsiveness dilemma might help us understand why the German public’s dislike of nuclear weapons does not affect the continuation of Berlin’s existing nuclear policies. Nuclear sharing seems to be a perfect example of a policy which stimulates “responsibility.” It is undertaken within a framework

of international commitment in a formal alliance on behalf of others and deals with a policy which extends beyond short-term goals.

Two further facts render democratic pressures weaker when it comes to the continuation of nuclear deterrence. Firstly, the prominence of nuclear weapons in the public discourse has declined since the end of the Cold War. Hence, while the public appears to have certain preferences, these views on nuclear weapons are not terribly prominent for the direction in which citizens cast their votes. In other words, nuclear weapons neither win nor lose elections. Also, European governments have adopted practices that create a semblance of responsiveness without accepting the core demands, such as parliamentary debates where nuclear topics are being discussed, the inclusion of members of parliament in official delegations to major conferences, or participating in multilateral nuclear negotiations. Such “symbolic adjustment” allows for the prominence of these issues to decrease (Risse-Kappen 1991, 502). To illustrate: arguably, the German government’s decision to participate in the two TPNW Meetings of States Parties allowed it to remain committed to nuclear deterrence, because it “symbolically adjusted.”

Secondly, nuclear deterrence as a policy is traditionally decided by technocrats. These technocrats sit in the Chancellery, in the Ministry of Defense, the Federal Foreign Affairs, as well as in Washington (and to a degree in Brussels at NATO). Technocracy sets itself apart from democratic policymaking by basing its source of legitimacy in superior knowledge, independence from and unresponsiveness to the public mood, representation of the good of the whole society, and rationally-justifiable goals (criteria based on Caramani 2020, 2–3). Especially when it comes to nuclear deterrence, the rational justification of the goal—e.g., the military purpose of the weapons—can be seemingly questioned. However, the point is not that such rational justification should be unquestionable, but that it should be defensible. And nuclear deterrence is a defensible policy, even if better alternatives might exist.

The critics’ charge that European technocrats—whether at the NATO International Staff or in the national ministries—show too little responsiveness to public opinion mistakes a feature of the system for a bug. Technocrats derive their stature from the ‘air of neutrality’ and expertise that they are supposed to have. However, insulated from direct public pressure, they are generally at arm’s length from majoritarian institutions.

Hence, we might understand that in the case of nuclear sharing, the balance tips in favor of “responsibility” rather than “responsiveness.” Supranational elements and the issue area of national security (where policies are difficult to produce and/or overturn overnight) strengthen the side of “responsibility.” Symbolic adjustment and technocratic practice weaken the hand of “responsiveness.” This is not a defense of the practice, but an explanation of why we need to broaden the aperture on the democratic legitimacy of nuclear policies.

This argument does not imply that alternative deterrence postures (whether nuclear or not; for both Germany and as a German contribution to European security) do not exist, nor does it assert the superiority of the present one or dismiss public opinion. For the current German nuclear policy to remain feasible in the long run, the four key elements of responsibility and responsiveness (supranational

element, symbolic adjustments, low prominence, technocratic decision-making) must remain in balance. Conversely, if German policymakers were to violate the symbolic adjustments or the supranational element, the whole edifice of NATO nuclear deterrence might crumble.

Having said this, the latest public opinion trend in Germany can be interpreted as some indication of public support for the current NATO nuclear posture, especially when looking at public views about the deterrence effect of nuclear weapons. The charge against nuclear deterrence based on the lack of public legitimacy has received a dent as a result of the war in Ukraine. As discussed above, it is not clear whether such patterns will persist, and there are indications that public opinion might be swinging back. But the idea that it makes sense not to abolish a particular policy, especially if it becomes popular in times of crisis, even if the effects of that policy are hard to prove, is very strong. In other words, even if temporary, the growing popular support for nuclear weapons in moments of crisis will undoubtedly come back as an argument for not changing nuclear postures when the mood swings again.

Notes

- 1 I am very thankful to the participants of the workshop in Hamburg in February 2023 for their sharp and helpful comments on the initial draft, which helped me to improve the manuscript and ideas presented therein. Reinout van der Veer has been a source of great insight when it comes to technocracy and democratic legitimacy of international organizations. Liviu Horovitz edited the manuscript with much care. I am also thankful to Giannis Aivatidis for his excellent research assistance, and to Tom Etienne for cooperation in analyzing the data. The data collection was funded partially from the Charles University Research Centre program under Grant UNCE/HUM/028 and partially from a Stanton Foundation Grant.
- 2 For the leading argument against the renewal of the Tornado, see Monath (2020); for a response from a prominent proponent, see Brauss (2020).
- 3 As a side note, Germans seem to be particularly attracted to the idea of treaty-based instruments—a large majority supported Germany’s ratification of the Comprehensive Nuclear-Test-Ban Treaty in 1998 (The Simons Foundation 2007), and 56 percent expressed worries about the collapse of the Intermediate-range Nuclear Forces Treaty (Greenpeace 2019).
- 4 In total, 640 participants responded to all three waves of the survey, which was conducted by Kieskompas, a leading Dutch polling institution. Our prior experience with the second wave of the survey indicates that respondents are not all equally likely to answer the questions. In particular, some demographic groups seem to be more likely to answer the questionnaire while others are less likely to answer. This is not a problem of this survey alone, but of all surveys. While in one-off surveys this is relatively easy to address through additional recruitment of respondents, in panel surveys the differential attrition becomes more complex to resolve. To correct for potential biases in sampling and response strategies, the data was weighted using post-stratification and an iterative proportional fitting weighting procedure (Mercer et al. 2018).

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Part III

Arms Control and Disarmament



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7 German Efforts to Halt the Disintegration of Nuclear and Conventional Arms Control

Wolfgang Richter

Introduction

Only three days after the Russian Federation had launched its military aggression against Ukraine, Chancellor Olaf Scholz in the *Bundestag* announced a fundamental change of German security politics: a *Zeitenwende*. He condemned the Russian aggression as an attack on the rules-based global and European security order and heralded a change of paradigm from security cooperation towards deterrence of Russia. In consequence, Germany would break with traditional military restraint policies, allow weapons deliveries to Ukraine, increase the defense budget to a permanent level of two percent of the country's gross domestic product, and establish an extra budget of 100 billion Euro in order to bring the *Bundeswehr* up to full strength and enhance its capabilities. Germany would stand firmly by its allies and contribute significantly to the collective defense of the North Atlantic Treaty Organization (NATO)'s eastern flank.

However, the future of arms control, which had always figured high on the list of German security priorities, was not mentioned. It had played a crucial role in ending the Cold War and helped to establish a cooperative security order in Europe, with the Organization for Security and Co-operation in Europe (OSCE) at its center. The stabilizing and interlocking arms control architecture rested on four central pillars: the Treaty on Intermediate-Range Nuclear Forces (INF), the Treaty on Open Skies (OST), the Vienna Document (VD) of the OSCE, and, in particular, the Treaty on Conventional Armed Forces in Europe (CFE) (CFE 1990), which was labeled the "cornerstone of European security" (OSCE 1999b, 7).

The bilateral U.S.–Soviet INF Treaty of 1987 and the multilateral CFE Treaty of 1990 had reduced military capabilities of the two then-existing military blocs for launching surprise attacks or large-scale aggression. They also paved the way for significant unilateral reductions of tactical nuclear weapons deployed on German soil. For Germany, which would have been the geographical center of Cold War warfare in any major conflict in Europe, such agreements were vital as they ensured mutual military restraint, arms reduction, and the withdrawal of foreign forces. The VD, modified after 1990, and the 1992 OST provided for complementary military transparency and confidence-building. Military and political *détente* between NATO and the former Warsaw Pact was an indispensable precondition for Germany to overcome its division and achieve unification. Since then, Germany

has always underlined the crucial role of arms control for maintaining stability in Europe and preventing the return of military threats to Germany.

Against this backdrop, Germany played a leading role within the NATO alliance and the OSCE in developing conventional arms control concepts and shaping implementation and adaptation processes. Germany was also among the leading protagonists of multilateral initiatives geared to enhance global nonproliferation of weapons of mass destruction and humanitarian arms control, and fighting the illegal and destabilizing spread of small arms and light weapons.

In contrast to these ambitions, the European arms control architecture underwent significant changes with the start of the new millennium. It began to erode after 2001 and, eventually, collapsed entirely several months before Russia unleashed its full-scale invasion of Ukraine. This development begs a number of questions that will be discussed in the following parts. Have German policymakers done enough to prevent the deterioration of the nuclear and conventional arms control order, particularly affecting Europe? Were there missed opportunities and failed German policies that contributed to the current state of affairs? Is Germany reluctant when it comes to assuming a leadership role on European arms control, and, if so, what are the reasons for that? The following three parts focus on German CFE, INF, and OST arms control policies respectively. Each part seeks to describe the international developments that led to their respective unraveling as well as German efforts to halt their disintegration. The final part contains the conclusions.

Reviving Conventional Arms Control in Europe: Germany's Unsuccessful Up-Hill Battle

Throughout the 1990s, German and U.S. governments held similar views on the crucial role of conventional and nuclear arms control for maintaining European and global stability. They agreed that conventional arms control needed to be adapted to remain relevant in times of geopolitical changes, which had emanated from the collapse of the Soviet Union and NATO's enlargement in Central Europe that would soon include three former Warsaw Pact member states (Kühn 2020). Germany and the United States harmonized their approaches in order to dispel Moscow's concerns about NATO moving closer to Russian borders. Renewal of mutual security guarantees, regular consultations, and adaptation of conventional arms control seemed to be the best way to maintain security cooperation.

To that end, NATO and Russia in 1997 and 1999 agreed to strengthen the OSCE, to enhance NATO–Russia security consultations, and to keep military restraint through modified arms control. Both sides committed to adapting the CFE Treaty, recognizing that the bloc-related collective arms ceilings in Europe and its sub-regions were obsolete and needed to be replaced by national and territorial ceilings for every CFE State Party. Furthermore, the treaty was to be opened for accession of all OSCE participating States located between the Atlantic and the Urals. NATO committed to refrain from permanent additional stationing of “substantial combat forces” until such adaptation agreement would enter into force (NATO and Russian Federation 1997). Russia committed to similar restraint in

the Kaliningrad and Pskov regions bordering Poland and the Baltic States (OSCE 1999c: Annex 5) as well as the former Leningrad Military District bordering Norway and Finland (Russian Federation 1999). NATO also pledged not to move forward tactical nuclear weapons from their current positions (NATO and Russian Federation 1997). This understanding materialized in the 1997 NATO–Russia Founding Act, the 1999 CFE Adaptation Agreement (ACFE), an exchange of letters between Russia and Norway (Russian Federation 1999), and in the European Security Charter of the OSCE, which was signed in 1999 by all 56 OSCE participating States (OSCE 1999b).

This situation changed when U.S. President George W. Bush took office in 2001 and began to cut back on U.S. arms control commitments. After withdrawing from the Anti-Ballistic Missile Treaty, he also refused to ratify ACFE, claiming that Russia had first to withdraw forces from Georgia and Moldova as agreed at the OSCE Istanbul Summit in 1999. This U.S. demand exceeded NATO’s earlier position of May 2000 that had made ACFE ratification contingent only on Russian compliance with treaty ceilings in the so-called “flank” areas of Europe (NATO 2000). Moreover, the Bush administration questioned the usefulness of the OSCE concept of cooperative security and announced a “freedom agenda” to be pursued within a historical window of opportunity. In this context, Bush vigorously promoted NATO’s enlargement into the post-Soviet space to include Ukraine and Georgia (Kühn 2019). Simultaneously, he heralded the fight of democracies against “rogue countries.” Russia’s distrust of the new U.S. geopolitical objectives was demonstrated by an increasingly assertive policy in its so-called “near abroad” (Toal 2017, 98–104, 109–124).

The U.S.-led military campaign against Iraq in 2003, supported by a “coalition of the willing,” divided allies as neither NATO nor the UN Security Council were able to reach consensus. Thereby, Washington banked on Central and Eastern European NATO accession countries, labeled “new Europe,” while “old Europe”—led by France and Germany—refused to participate in the war that was widely assessed as an aggression violating international law.

NATO was also split as regards conventional arms control in Europe. Germany, France, and other Western European countries were in favor of ratifying ACFE, for Russia had fulfilled its *treaty-related* commitments, such as reducing its holdings in the CFE “flank areas” (Federal Foreign Office 2002, 12). Several “new European” states, however, supported Washington in blocking ACFE ratification and confronting Russia with its failure to implement its *political* Istanbul commitments. Thus, the formal conclusions of the second CFE review conference in 2001 remained ambiguous (CFE 2001). As no consensus could be reached, NATO’s common position reflected both the desire to advance ACFE and reservations on moving forward on ratification as long as Russia had not fulfilled “all” commitments (NATO 2002). Therewith, no clarity existed among allies as to what “all” commitments entailed. NATO’s common positions remained unchanged even after Russia, by 2007, had withdrawn completely its regularly deployed forces from Georgia following a bilateral treaty concluded in 2006 (Socor 2006).

Eventually, only two Russian commitments remained unresolved, namely the acknowledgment by Georgia of the withdrawal of regular units from Gudauta, Abkhazia, and the withdrawal of ammunition from Kolbasna in the Trans-Dniester region of Moldova, which had stalled after a Russian–Moldovan draft treaty failed in 2003. In addition, the issue of Russian peacekeepers in Abkhazia and Trans-Dniester came under dispute. Their presence had been mandated by ceasefire agreements of 1992 and 1994, acknowledged by the UN Security Council and the OSCE, and monitored by UN and OSCE observers. Therefore, Germany held that the presence of Russian peacekeepers in zones of protracted conflicts was not subject to the Istanbul commitments. Already in its annual arms control reports to the *Bundestag* in 2002 and 2003, the Federal Foreign Office had expressed concern that secondary issues of sub-regional disputes might block progress towards entry into force of the ACFE, which was of fundamental importance for the stability in Europe (Federal Foreign Office 2002, 12, 2003, 36).

In consequence, Germany tried to promote a common understanding on the content and the status of fulfillment of Istanbul commitments by submitting a respective “matrix” to NATO fora. It underlined that commitments undertaken by allies, such as the obligation to ratify the ACFE, were of equal importance.¹ In 2005, a German attempt to facilitate a “status-neutral” observation of the Russian troop withdrawal from Gudauta failed because of remaining Georgian and U.S. reservations (Kapanadze et al. 2007, 21).

While ACFE ratification stalled, further NATO enlargement rendered the 1990 CFE limitations irrelevant. Four of the ten countries acceding to the alliance in 2004 were not CFE States Parties, with the Baltic States directly bordering Russia in proximity to Saint Petersburg. The subsequent U.S. policies of stationing strategic missile defense assets in Poland and the Czech Republic and of rotating combat forces into Romania and Bulgaria, which were labeled “non-substantial,” triggered Moscow’s protest. Russia had ratified the ACFE in 2004 and, at the third CFE review conference in 2006, had warned of the consequences of any further delay of ACFE ratification by NATO allies. Germany’s attempt to bring about compromise language within the alliance failed due to U.S. pressure on like-minded countries.² For the first time, CFE States Parties were not able to agree on a common concluding document.

In May 2007, Russia requested convening an extraordinary conference, invoking security concerns. It not only formally asked for immediate ACFE ratification by NATO allies but also demanded five more points to be settled: the accession of the Baltic States to the treaty without further delay; the fulfillment of Istanbul commitments of four Central European States to reduce their territorial ceilings; a definition of the term “substantial combat forces;” and the reestablishment of a force balance in Europe; and deletion of Russian sub-regional “flank ceilings” that Moscow assessed as unjustified and “discriminatory” in the new geopolitical environment (Federal Foreign Office 2009, 26–27). In the absence of any compromise, Russia warned that it would suspend the CFE Treaty within six months should NATO not respond positively.

Again, Germany made efforts to halt the disintegration of CFE and proposed addressing both alliance concerns on the Russian fulfillment of Istanbul

commitments and the six Russian points simultaneously. As usual, Germany consulted these proposals first within the so-called Quad, comprising the United States, the United Kingdom, France, and Germany. This time, Berlin seemed to be more successful since Washington was now concerned that an important lever for securing further NATO enlargement might disappear, were Russia to lose interest in conventional arms control. Therefore, the United States agreed to pursue both ratification by allies and fulfillment of remaining Russian commitments through a “parallel action package” (PAP). Despite remaining reservations by Turkey and Romania, allies agreed in principle to the PAP and entrusted Washington with conducting bilateral consultations with Moscow (*ibid.*). Consultations started in the fall of 2007, while Germany, France, and Spain seconded the bilateral process through informal multinational discussions. Under the roof of the Vienna-based CFE Joint Consultative Group (JCG), a “Group of Likeminded States” under German leadership launched a “Structured Dialogue” on possible ways out of the crisis.³

With this fundamental change of course, the United States demonstrated that ACFE ratification was first and foremost a question of political will rather than one of norms and principles. However, Washington did not energetically pursue bilateral PAP consultations with Moscow. On December 12, 2007, Russia suspended the CFE verification and information regime. In spring 2008, Washington’s interest shifted to the increasing tensions in and around Georgia. On several occasions, Germany voiced concern about the delay of PAP proceedings.

The recognition by NATO’s leading powers of the independence of Kosovo and the 2008 NATO Summit in Bucharest revealed two more breaking points. Washington, supported by Eastern European allies, pushed for immediate NATO accession of Ukraine and Georgia. Germany and France, with the support of other Western European allies, disagreed. They argued that, under current circumstances, this would neither promote the security nor the values of the alliance but rather divide Ukraine, further alienate Russia, and undermine the arms control architecture and the security cooperation in the OSCE space. In consequence, NATO’s Bucharest declaration (NATO 2008, 23) remained ambiguous, stating that Ukraine and Georgia “will join NATO,” while also highlighting that a Membership Action Plan and consensus by all allies were preconditions for accession. De facto, these conditions were not met.

When Georgian President Mikheil Saakashvili felt encouraged to attack the breakaway region of South Ossetia, a short Georgian-Russian war erupted in the summer of 2008 (IIFFMCG 2009, 10–12, 19, 22–23). That war foreshadowed the coming confrontational era (Toal 2017, 146–168). In consequence, PAP consultations, which had petered out before the war, were not resumed. Russia’s subsequent recognition of the independence of South Ossetia and Abkhazia and the issue of the remaining deployed Russian forces created further obstacles to reviving conventional arms control. Nevertheless, the change of the U.S. administration in 2009 and U.S. President Barack Obama’s “reset” policy towards Russia seemed to open another window of opportunity for German arms control ambitions and U.S.-German cooperation on that matter.

While the development in the nuclear field seemed promising with the conclusion of New START in 2010 and the Iran deal in 2015, Germany also sought to revitalize conventional arms control in Europe. To that end, an attempt was made in the winter of 2010/2011 in the format of “34,” meaning all 30 CFE States Parties plus four NATO members not bound by CFE (Federal Foreign Office 2012, 26). Consultations started promisingly with the proposal to agree on the generic definition of “host nation consent to the stationing of forces” contained in the ACFE, which pertains to states “within their internationally recognized borders” (OSCE 1999a). However, the process stalled when the U.S. delegation declared that the withdrawal of Russian forces from conflict areas in Georgia within her recognized borders before 2008 was a precondition for further progress. By the end of 2011, allies stopped providing Russia with annual CFE information and Russia stopped submitting aggregate numbers of CFE-related holdings to CFE States Parties but remained in the JCG. In 2015, Russia left the JCG (Federal Foreign Office 2016, 42–43).

In February 2014, when protest and repression had resulted in severe bloodshed on the Maidan, the foreign ministers of Germany, France, and Poland undertook to mediate between Ukrainian President Viktor Yanukovich and the opposition in the Ukrainian parliament. Although both sides agreed to a compromise, Maidan “commanders” were not prepared to accept this. Thus, the mission failed, Yanukovich fled to Russia, and Moscow annexed Crimea and supported anti-Maidan rebels in the Donbas. Again, Germany and France took the lead in conflict mediation, promoted the OSCE Special Monitoring Mission led by the Swiss OSCE chair, established the Minsk-format, and negotiated the ceasefire agreements of 2014 and 2015. All this was coordinated with the U.S. government, which continued a dialogue on strategic stability with Russia.

In response to growing threat perceptions in Central and Eastern Europe, NATO started to strengthen its deterrence and defense postures, enhanced sea and air space patrols, conducted sequential exercises, and established a rotating “Enhanced Forward Presence” (eFP) in its Eastern flank region (NATO 2016). Germany demonstrated alliance solidarity by leading the eFP battle group in Lithuania and contributing significantly to NATO’s response force. In parallel, the Federal Foreign Minister, Frank-Walter Steinmeier, launched another initiative to revitalize conventional arms control in Europe. Thereby, he implicitly recognized that the long-standing erosion of conventional arms control and other stabilizing guardrails might contribute to growing threat perceptions and undermine peace and stability in Europe. Therefore, his initiative focused on destabilizing force deployments and large-scale military exercises in sensitive areas, new military capabilities and weapon systems, effective verification, and stability mechanisms for conflict areas (Steinmeier 2016). To that end, he founded the aforementioned “Group of Likeminded States,” composed of NATO members and neutral countries (Federal Foreign office 2017, 40). At the same time, Steinmeier assumed the responsibilities of the 2016 OSCE chairmanship—a courageous undertaking in times of crisis. His ambitious leitmotif was “renewing dialogue, rebuilding trust, restoring security.” (OSCE 2016a)

Despite reservations voiced by the United States and NATO Eastern European allies, the 2016 OSCE Ministerial Meeting in Hamburg was able to agree by consensus on a decision to organize a “Structured Dialogue” on the conditions under which conventional arms control in Europe could be revitalized (OSCE 2016b). The dialogue was initiated under the Austrian OSCE chairmanship in 2017 and continued under the subsequent OSCE chairs up to 2023. It was conducted in informal working groups under German, Belgian, Dutch, Spanish, and Finnish chairs. Initially, it produced valuable insights into mutual threat perceptions, force compositions, deployment and exercise patterns, as well as various interpretations of existing treaties and political commitments. However, NATO remained divided as to the purpose and objectives of the dialogue and the future of security cooperation and arms control in Europe. Thus, the initiative petered out without any concrete result. Since Russia’s invasion of Ukraine in 2022, the future of the “Structured Dialogue” remains as unclear as the future of the OSCE as a whole.

Maintaining Nuclear Stability in Europe: Germany and the Demise of the INF Treaty

With the U.S. and Russian withdrawals from the bilateral INF Treaty in 2019, another key element of the European arms control architecture collapsed. The treaty was signed in 1987 to end the INF deployment race. It obliged the Soviet Union and the United States to destroy all ground-launched ballistic and cruise missiles with a range between 500 and 5,500 km, as well as their launchers and infrastructure. It prohibited their reintroduction, manufacture, flight-testing, and depot storage.

The INF Treaty ended the “missile crisis” between NATO and the Soviet Union that lasted from 1978 to 1985. Germany and other Western European countries had concerns that the USSR might blackmail Europe with a massive deployment of ground-launched SS-20 intermediate-range missiles. NATO’s non-nuclear weapon states feared that U.S. extended nuclear deterrence might fail because the global balance of nuclear weapons with intercontinental range had ensured a second-strike (“*mutual assured destruction*”) capability for both sides and this could discourage the U.S. from strategic escalation in case of regional war in Europe. In order to counter this perception of “decoupling,” in 1979, NATO decided by consensus to station 572 ground-launched medium-range cruise missiles and ballistic missiles in Western Europe, and to seek dialogue with the USSR (“*double-track decision*”).

Though not being a party to the INF Treaty, Germany had a vested interest in its conclusion and smooth operation. In NATO’s nuclear planning and potential nuclear operations, Germany had a special role to play as it was the geostrategic center in any major war scenario in Europe and the main stationing area for U.S. forward-deployed ground-launched missiles, and about 5,000 tactical nuclear weapons (TNW). Furthermore, as a nuclear-sharing country, Germany provided hundreds of nuclear-capable delivery systems such as combat aircraft, various artillery pieces, and ground-launched short and medium-range ballistic missiles

(SRBM/MRBM). Germany's 72 Pershing 1a MRBM with a range of about 780 km fell within the scope of the INF Treaty.

As a basing country for most of the operational U.S. INF infrastructure in Europe, including all 108 Pershing II MRBM, Germany also played a major role in the verification of the treaty. From German launching areas, U.S. missiles could reach Moscow and other targets in western Russia within several minutes. Therefore, Germany had to host most of the Soviet inspections—and after unification—also of U.S. inspections on former East German territory. INF verification in sovereign third states, like Germany, required the conclusion of separate “INF basing countries agreements.”

Against this background, Germany was significantly involved in the consultation processes within NATO and bilaterally with the United States and the USSR. The question of the German Pershing 1a became the last obstacle standing in the way of the conclusion of the INF agreement. The USSR requested a negotiated “double zero” solution to include Germany's Pershing 1a holdings. Bonn argued that it did not possess nuclear warheads while Washington held that the missiles were in national possession of Germany. The United States rejected a multilateral solution mainly to keep issues of strategic relevance exclusively under national control. Washington claimed that, in peacetime, nuclear warheads are held under the custody of U.S. forces and could be released for use through allied delivery only after the U.S. president had given authorization. However, the INF Treaty did not contain any provision on nuclear warheads other than separating them from their delivery means before their destruction. Eventually, the bilateral solution became possible only after Chancellor Helmut Kohl had declared that West Germany would destroy its Pershing 1a missiles unilaterally (Geiger 2021, 148–150).

The INF Treaty entered into force in 1988. By May 1991, 846 U.S. and 1,846 Soviet INF systems had been completely destroyed under intrusive mutual verification. Since the treaty eliminated a whole category of nuclear-capable missiles, it was considered an important turning point on the path to ending the Cold War and a key element of the European security architecture. The INF verification regime, however, ended in May 2001 while its Special Verification Commission (SVC) continued to meet sporadically in an extended format. Ukraine, Belarus, and Kazakhstan had become SVC members after the break-up of the Soviet Union. However, the INF Treaty did not contain any mechanisms, such as short-notice inspections of undeclared facilities, after 2001 to prove whether a party was circumventing treaty rules. In order to enable such steps, the two treaty parties would have had to agree bilaterally or at the SVC to reintroduce the INF verification regime with some modifications.

Since 2014, the United States had been accusing Russia of having flight-tested and deployed Iskander 9M729 (“SSC-8” in NATO vernacular), ground-launched cruise missiles (GLCMs) with a maximum range of 2,600 km (U.S. Department of State 2014, 8–10; CRS 2019b, 2). In 2018, two units had been deployed on mobile launchers, while more units followed from 2019 onward. According to confidential U.S. intelligence, Russia had tested the new system since the late 2000s and by 2015 had completed flight-tests from both fixed and mobile launchers. Doing so,

Russia had purposefully tried to disguise the true nature of the new system: first, it had tested it from a fixed launcher to distances well over 500 km (CRS 2019b, 2–4). Such tests are allowed by the Treaty for other purposes than the development of banned GLCMs (INF 1987: Art. VII, Para. 11). Thereafter, however, Russia had tested the same missile at ranges below the INF threshold of 500 km from a mobile ground-launcher, which is subject to INF provisions. Washington concluded that, by combining these two test patterns, Russia was able to produce a new intermediate-range cruise missile capable of launches from a ground-mobile launcher. It was thus in material breach of the Treaty (CRS 2019b, 24).

Moscow conceded the existence of the 9M279 system but denied its alleged range and rejected the accusation that it was in breach of the Treaty (CRS 2019b, 3). Later, it stated that a second GLCM system (in addition to the Iskander-M) with ranges below the INF threshold was needed to accommodate a larger warhead and a sophisticated guidance system to evade missile defenses (MacFarquhar 2019). In turn, Moscow accused the United States of Treaty violations, suggesting it had deployed MRBMs to test its missile defense systems. Furthermore, the technical features of U.S. long-range drones matched those of banned GLCMs. Above all, Washington had deployed Aegis ashore Mk-41 launchers for missile defense purposes in Deveselu, Romania, and had plans to deploy them in Poland too. These launchers are also used on U.S. Navy ships for vertically-launched Tomahawk cruise missiles. As a result, and after a few possible modifications, the United States would be able to launch GLCMs against targets in Russia (Arbatov 2018; U.S. Department of State 2017).

The U.S. option to develop conventional GLCMs on short notice, based on Tomahawk land-attack missiles and converted Mk-41 launchers, was explicitly mentioned in a 2019 report of the Congressional Research Service to the U.S. Congress (CRS 2020, 1). The U.S. Fiscal Year 2018 National Defense Authorization Act authorized funding for developing a new conventional road-mobile GLCM or adapting available missile systems to INF ranges (U.S. Congress 2018, 968). Finally, the 2018 U.S. Nuclear Posture Review introduced a program for the development of a new nuclear warhead for sea-launched cruise missiles (U.S. Department of Defense 2018, 54–55), which was then canceled by the administration of Joe Biden in 2021.

Washington rejected Russia's accusations, stating that a combat drone was not a cruise missile and that the missiles used for missile defense tests were not banned by the INF Treaty (U.S. Department of State 2017). Due to their modified software and cabling, the Aegis ashore systems were only suitable for launching missiles for defensive purposes. Furthermore, the legally binding bilateral deployment agreement with Romania ensured that the system could only be used for missile defense. Therefore, according to the U.S. Department of State, Aegis ashore systems were not subject to the INF Treaty, and any Russian request for on-site inspections was unfounded (*ibid.*).

Perhaps these mutual accusations could have been solved cooperatively if there had been the political will. This would have required detailed data exchange in order to substantiate the allegations and to determine whether differences in

interpretation of technical provisions could be eliminated with the help of clarifying protocols such as defining the “standard design” of the 9M729 system. The “standard design” is an INF Treaty term that serves to define the maximum distance that the standard version of a missile can travel until the fuel has been fully consumed (INF 1987, Art. VII, 4). It takes into account that the operational ranges of missiles depend on a number of variables such as the masses of the missile’s components, in particular the warhead, the guidance systems, and the fuel tank, but also of engine thrust and aerodynamic properties.

Further complicating the setting, the INF Treaty did not prohibit the flight-test and fielding of medium-range air- and sea-launched cruise missiles or of stages of intercontinental-range missiles, even if their technical components were similar to those of ground-launched missiles. Therefore, flight-tests of such systems from fixed launchers were permitted while tests of similar systems from mobile ground-launchers were prohibited (INF 1987, Art. VI, 1; VII, 11). To clarify these issues, a new agreement on data exchange and mutual verification would have been essential. However, at several bilateral and SVC meetings between 2017 and 2019, no new agreement could be reached.

To NATO, the U.S. argument seemed plausible that the INF Treaty would no longer be in Russia’s geopolitical interest as neighboring countries had stationed INF systems (CRS 2019b, 24). In this context, Russia and the United States had jointly attempted at the UN General Assembly to multilateralize the INF Treaty, which failed in 2007 (CRS 2019b, 6, 24). On December 7, 2017, U.S. Secretary of Defense James Mattis briefed allies that Washington wanted Russia to return to treaty compliance. This was confirmed by the State Department in April 2018 (U.S. Department of State 2018a, 11). The NATO Council issued a statement on December 15, 2017, expressing concern but maintaining its support for the INF Treaty and calling on Russia to show transparency and dispel any doubts in a technical dialogue (NATO 2017). Still, in July 2018, NATO states unanimously declared that the INF Treaty was fundamental to European security and must be preserved (NATO 2018a, 42, 46).

In early October 2018, after Mattis had presented new findings, NATO defense ministers again called on Russia to comply with the Treaty and clarify unresolved issues in a transparent manner (NATO 2018b). Only a few days later, on October 20, 2018, U.S. President Donald J. Trump announced that the United States would withdraw from the Treaty (Borger and Pengelly 2018; CRS 2019b, 6). This came as a surprise, as it contradicted common NATO positions. Trump put the decision in the context of a political power struggle between the United States, Russia, and China. China had meanwhile fielded a huge INF arsenal to the strategic disadvantage of the United States. According to the U.S. position, a future trilateral treaty should, therefore, also include China. As long as this was not achieved, the United States would have to deploy its own missiles in response to Russia’s and China’s arsenals, as U.S. National Security Advisor John Bolton stated (CRS 2019a, 2). However, Trump did not mention the strategic situation in Europe or a concrete threat to NATO partners (CRS 2019b, 6).

China’s massive stationing of MRBMs in coastal areas of the East and South China Sea does not threaten U.S. mainland territory but provides Beijing with a

formidable anti-access/area denial capability against U.S. naval forces, for instance in case of a crisis around Taiwan. Under Trump, Washington aimed at curbing these capabilities either by forcing Beijing to join the INF Treaty or by withdrawing from the Treaty to clear the way for potentially deploying new U.S. INF systems in the future (CRS 2020). The Chinese rejection was predictable: first, major nuclear powers would have to scale down their arsenals to the levels of those possessed by smaller powers before Beijing would consider participating in multilateral nuclear disarmament treaties (Zhao 2020).

Another reason for China to reject the U.S. proposal was the fact that the U.S. military could still rely on its superior arsenal of sea- and air-launched cruise missiles (SLCM/ALCM), not subject to the INF Treaty, while China would lose most of its land-based missiles if it joined the Treaty. From a Chinese perspective, a hypothetical accession to a trilateral treaty would have necessitated either the inclusion of SLCM/ALCM or the introduction of upper limits for ground-launched INF missiles based on reciprocity. The latter would have provided the United States with a legal basis for the limited regional deployment of a new generation of INF-range GLCMs that were already under development (U.S. Congress 2018, 968; Aviation Week 2019). However, doing so would have undermined European security, as it would have allowed Moscow to deploy new INF systems in its European part.

In a bilateral meeting on October 23, 2018, U.S. National Security Advisor John Bolton informed his Russian colleague, Nikolai Patrushev, that the United States would withdraw from the Treaty (CRS 2019b, 6), having China rather than Russia in mind.⁴ That might explain the relaxed attitude with which Moscow received Washington's formal note of February 1, 2019 on the withdrawal of the United States from the INF Treaty within six months.

Shortly before, in December 2018, NATO Foreign Ministers, including Germany, had supported the U.S. view that Russia had violated the INF Treaty. However, at the demand of Germany and France, allies also committed to maintain arms control as a key component of Euro-Atlantic security and to seek dialogue with Russia (NATO 2018c). Thereafter, the United States postponed its formal note of withdrawal by two months, insisting that Russia had to destroy all SSC-8 systems (U.S. Department of State 2018b).

In a bilateral meeting in Geneva on January 15, 2019, Washington rejected the Russian offer of a technical solution and mutual transparency measures (CRS 2019b, 6). In the same vein, Russia offered to Western officials and the media an on-site observation of a 9M729 system displayed on a training area near Moscow on January 23, 2019. The United States, France, Germany, and the United Kingdom refused to attend, claiming that only observing the launching tubes from outside would not allow them to draw any conclusions about the missile's range. In fact, even inspecting the outer dimensions of the missile itself would only allow for approximations of its probable range. This argument, however, works both ways: since satellite images do not allow for conclusions on the variables inside a missile, also the U.S. claim that satellite observation had proven that the Russian missiles tested first from fixed and then from mobile launchers were identical seems at least incomplete.

Proper verification would require exchanging telemetric data, demonstrating systems in operation with intrusive inquiry of components and variables of the missile, and observing flight tests. On this basis, further regular observation of deployed systems could involve multilateral on-site inspections and aerial observation. Germany and other allies could have supported such an approach. Certainly, one single (outside) observation of the system, as offered by Moscow, could not have solved the issue; but it could have been the beginning of a new verification process. Rejecting it out of hand was a missed opportunity, also for Germany.

While Berlin shared the U.S. assessment of Russia's Treaty violation (NATO 2018c; Federal Foreign Office 2018a, 4, 5), it disagreed with Washington's conclusion that the United States had to withdraw from the Treaty, as that would destroy an important international norm (CRS 2020, 1; Federal Foreign Office 2018b) and give Moscow a free hand to deploy INF systems in its European part. During the six months left until the U.S. withdrawal notification became effective, Germany launched multiple diplomatic initiatives to rally international support for maintaining the Treaty. High-ranking German diplomats appealed to Moscow to return to compliance, and, informally, tried to convince China to join the INF Treaty (Federal Foreign Office 2018b).⁵ That was remarkable, as not even Washington had started bilateral consultations on this matter with the Chinese. As expected, China did not move one inch.

The U.S. withdrawal from the INF Treaty became effective on August 2, 2019. Russia followed suit. Only two weeks later, the U.S. military tested its first INF-range GLCM since 1987 (U.S. Department of Defense 2019) and started consultations on possible deployments in the Asia-Pacific region, which did not result, however, in any concrete agreements so far. A U.S. test with an INF-range ground-launched ballistic missile followed on December 12, 2019 (CRS 2020). The first land-based Tomahawk and SM-6 launcher (Typhoon) was delivered to the U.S. Army in December 2022 (Helfrich 2022). Such systems could be subordinated to the 2nd Multi-Domain Task Force Command, established in Mainz, Germany, in September 2021 (U.S. Army Europe and Africa 2021). Whether NATO might come to a point to formally discuss the possible deployment of new conventional U.S. INF-range systems to Europe in view of the fundamentally changed strategic circumstances remains an open question for the time being. At some point, Germany might have to develop a position on this.

Maintaining Transparency in Europe: Germany and the Erosion of the Open Skies Treaty

In October 2019, U.S. President Trump announced that the United States would also leave the Open Skies Treaty (Andelman 2019). At the time, the OST area of application contained all territories of 34 States Parties including Europe, the United States, Canada, and the Russian Federation. The Treaty was signed in 1992 but entered into force only in 2002 when 26 states had ratified it and Russian President Vladimir Putin had overcome long-standing internal reservations that the OST would 'legalize espionage.'

The Treaty provides for transparency in support of nuclear and conventional arms control agreements. It permits cooperative observation flights over the territories of States Parties in accordance with a specific quota system and maximum flight distances relating to the size of overflown areas. Thus, it also allows for maintaining a minimum of military transparency in times of crisis. For instance, after Russia's annexation of Crimea in March 2014, Western states used the OST to monitor Russian military movements and exercises in the geographical neighborhood of Ukraine and NATO.

NATO was officially informed of President Trump's intent to leave the OST in November 2019. On May 22, 2020, the U.S. State Department notified the U.S. intent to withdraw from the OST. The United States explained that it could no longer accept Russia not implementing the Treaty adequately, as it had unlawfully restricted flight distances over the Kaliningrad exclave and, in 2010, prohibited observation flights in a 10 km-wide strip on Georgia's disputed borders (U.S. Department of State 2020a, 63–67; Bell, Richter, and Zagorski 2020, 2–4). This position stood in sharp contrast to a U.S. State Department report published in the previous year, in which these issues were not mentioned (U.S. Department of State 2019, 12).

Russia had recognized the independence of Abkhazia and South Ossetia in August 2008 and, in May 2010, invoked a treaty provision, which prohibits observation flights at the borders of non-State Parties (OST 1992, Art. VI, Sec. II, 2). Georgia and the West opposed this position. However, only Georgia had claimed that this constituted a substantial breach of the treaty. In 2012, Tbilisi therefore unilaterally suspended the OST with regard to Russia (Ministry of Foreign Affairs of Georgia 2012). In addition, Moscow had introduced flight distance limitations over the Kaliningrad exclave in 2015. In 2014, a Polish observation flight over this area of 15,000 km² had lasted for several hours, so the airspace had to be closed for other flights. Poland had made full use of the maximum flight distance of 5,000 km that was allowed for the whole of western Russia. For Kaliningrad, the Treaty did not provide for a separate flight distance limitation. To avoid repetition, Russia declared a specific route limit of 500 km for flights over this area. Thereby, Russia referred to Treaty provisions determining maximum flight distances in relation to the size of overflown areas, e.g., 250 km for the Danish Faroe Islands, 3,000 km over Alaska, and 6,500 km over the Asian part of Russia (OST 1992: Annex A, Sec. III).

Certainly, the unilateral Russian flight restriction violated OST rules. While changes to the respective protocols are possible, in principle, they have to be agreed by consensus within the Open Skies Consultative Commission (OSCC). But neither the United States nor any other State Party had claimed a material breach of the Treaty. In fact, it was still possible to implement its purpose as observation flights over the exclave remained possible and were carried out by Western states, including the United States. Furthermore, in response to unilateral Russian action, Washington had applied more severe restrictions over Alaska and its Pacific islands since 2017. As a result, Russian airplanes could no longer fly over Hawaii and other U.S. Pacific islands.

In the past, several disputes on the interpretation of Treaty rules were resolved amicably. Among them were repeated Greek-Turkish controversies over Cyprus' accession to the OST, or the refusal by Ankara of a Russian flight request over a Turkish region bordering Syria in early 2016. In 2013 and 2018, Washington delayed certification of Russian digital cameras. In September 2019, claiming safety reasons, Russia rejected a segment of a planned U.S.–Canadian observation flight over central Siberia where a large-scale Russian exercise was taking place. The Georgian refusal to allow for Russian observation flights burdened the smooth operation of the OSCC and its sub-committees since 2012. Nevertheless, more than 1,500 successful flights had been carried out between 2002 and 2017. In 2016, it was possible to settle the contentious minimum flight altitude established earlier by Russia over Chechnya.

The situation turned dire in the autumn of 2017, when Moscow no longer accepted Tbilisi's blockade of Russian flights over Georgia and the subsequent coordination of flight quotas for 2018 failed. In consequence, no flights took place in 2018—with the exception of a consensual observation mission in December following the escalation in the Kerch Strait. When Moscow made concessions in the coordination of flight quotas for 2019, regular flights were resumed.

However, this did not solve the wider dispute between Washington and Moscow. Republican senators had long suspected that Russia was using observation flights over the United States for “espionage.” (Gould and Mehta 2019; U.S. Congress 2016) In late October 2019, they tabled a Senate resolution with the aim of withdrawing from the OST (U.S. Congress 2019). They claimed that the Treaty was of strategic disadvantage to the United States and that Russian espionage posed a threat to national security. In November 2019, a senior official of the Trump Administration declared that a Russian observation flight in 2017 had flown over Washington and illegally observed critical military and political infrastructure. U.S. Secretary of State, Michael Pompeo, stated on May 21, 2020 that Russia had “weaponized” the treaty against U.S. interests; therefore, it no longer had any strategic value (U.S. Department of State 2020b). According to Pompeo, Washington could achieve better observation results with satellites.

Such allegations were without factual basis. Since 2002, the United States had undertaken three times as many observation flights over Russia than the other way around. Of the 1,500 observation flights carried out between 2002 and 2017, 500 were over Russia and Belarus, involving about 200 U.S. missions. In contrast, Russia conducted about 70 observation missions over the United States and used the bulk of its flight quotas for observation of European countries (Graef and Kütt 2020). In 2019, there were 18 U.S. flights over Russia and seven Russian flights over the United States. According to the OSCC quota distribution, the number of Russian flights would have remained the same in 2020, while the United States had planned to use the maximum quota of 21 flights over Russia (OSCC 2020). This plan was canceled on May 22, 2020 when Washington notified its withdrawal.

In general, when Russia wanted to fly over U.S. territory, it had to give 72 hours of advance notice and the routes had to be approved. Permissible aircraft and sensors were always subject to joint certification and pre-flight inspections. During the

flights, U.S. inspectors on board would ensure that the agreed flight profiles were observed. After the flights, jointly obtained sequences of images and films would be copied so that both the observing and the observed party could develop them independently. Per the Treaty, images and films can be relayed on request to other OST States Parties.

The allegation that the OST allows for “espionage” was thus not only unfounded but also stood in sharp contrast to the claim that satellites would produce better results. The utility of satellites depends on operational conditions and objectives. A higher sensor resolution is irrelevant for the purposes of the OST. In contrast to national intelligence, the OST aims at cooperatively gaining information, the factual basis of which cannot be disputed or manipulated in the political discussion, and which therefore contributes to confidence-building. Moreover, for many States Parties that do not have national satellites, observation flights provide independent information.

When allies had been informed of the U.S. intent to withdraw from the Treaty, Germany took the lead of like-minded states in order to preserve it. On May 22, 2020, Germany, France, and ten other European states issued a joint statement in favor of maintaining the OST (Ministry for Foreign Affairs of Sweden 2020). On the same day, a NATO Council meeting demonstrated that European allies would not simply follow the United States in withdrawing, and that such an action had the potential to divide the alliance (Mehta and Cook 2020). This impression was reinforced when the *Bundestag*, with unanimous support from all factions, posted a letter to the U.S. Senate and the House of Representatives calling for the U.S. government to remain in the Treaty (Bundestag 2020).

On July 6, 2020, an extraordinary conference of States Parties was held online to discuss the consequences of the U.S. withdrawal. While delegations repeated well-known national positions, Russia warned it would not tolerate this situation for long. The U.S. withdrawal from the OST became effective on November 21, 2020, shortly before the new U.S. administration under Joe Biden took office.

Biden had repeatedly criticized Trump’s decision and had signaled support for remaining in or returning to the Treaty. He was therefore expected, once in office, to apply administrative measures to implement treaty provisions without relying on the Senate for renewed ratification (Pifer 2021). Trump had disregarded a request by the Congress to issue a 120-day advance notice before formally notifying U.S. withdrawal in order to consult allies and to explain in a separate report the disadvantages for national security if Washington were to remain in the Treaty. The Biden Administration, once in power, however, did not change course (Bugos 2021).

Shortly after the U.S. withdrawal, Russia requested NATO allies to ascertain that Russian flights over U.S. military installations in Europe would remain possible and that allies would not pass on to the United States information gained through observation flights over Russian territory (Ministry of Foreign Affairs of the Russian Federation 2020). European NATO allies referred these issues to the next OSCC routine meeting in late January 2021. In a joint letter of December 30, 2020, the foreign ministers of Germany and of 15 other European states underlined

the need for consensus in possibly changing treaty rules and envisaged an OSCE meeting to deal with the Russian requests (Kingdom of Belgium 2020). In response, Russian Foreign Minister Sergey Lavrov issued an indignant statement and warned allies not to delay an issue of vital importance to the security of Russia (Ministry of Foreign Affairs of the Russian Federation 2021).

Eventually, Moscow had to weigh the pros and cons of staying in the Treaty or following the U.S. example. By remaining in the Treaty, it would have still gained insights into movements of NATO troops, including U.S. forces. It could have asserted that security cooperation with Europe was possible, even without the United States. On the other hand, Russia would have lost the possibility of aerial observation of U.S. territory, which was important for reasons of political status and for additional verification of U.S. strategic nuclear arsenals. Having received a note from the Biden administration that it did not intend to return to the OST (Bugos 2021), the Kremlin decided in favor of reciprocal action. In June 2021, Russia notified its intent to withdraw from the OST, which became effective on December 18, 2021.

As Germany valued the OST as one of the key components of the Euro-Atlantic arms control architecture, Berlin always played a leading role, together with the United States, in improving its implementation. Germany chaired the annual flight quota distribution, advanced the certification of sensors, and shared observation and training missions with other States Parties. Having lost her national Open Skies aircraft in a crash in 1997, Germany had to use aircraft of third parties in accordance with Treaty provisions. A new German aircraft was procured in 2017 at the price of 60 million Euro and became operational by mid-2021, exactly at the time the OST had lost its strategic value due to U.S. and Russian withdrawals.

Conclusions

There is no doubt that Berlin has pursued nuclear and conventional arms control during the past three decades with seriousness and vigor. It has always recognized its crucial role for maintaining stability in Europe. In doing so, it has never regarded arms control as a goal in itself but rather as an important part of an integrated security policy, which serves Germany's national security interest.

This interest can be broken down into five overarching goals. First, overcoming the division of Europe and preventing the return of military threats. Second, establishing a zone of peace, reciprocal military restraint, and security cooperation in the OSCE space to include Europe, the United States, Canada, and Russia. Third, preventing the return of nationalism in Europe through progressive integration of the European Union, with Franco-German cooperation at its center. Fourth, maintaining the strategic alliance with Washington, bilaterally and within NATO, also in context with Germany's commitment to remain a non-nuclear power. Fifth, enhancing strategic stability through promoting nuclear arms reductions, global nonproliferation, and conflict resolution within the UN framework.

In pursuing these goals, Germany would build on its political and economic weight as a leading European power. However, the German imperative to "never

act alone,” and instead always together with partners and allies, implies that opportunities to pursue these goals vigorously are limited and, to a large extent, dependent on the policies of allies and partners. Therefore, actual German political ambitions always need to be adjusted to the political realities in other allied capitals. For Berlin, this can lead to unpleasant choices, compromises, and changes of priorities. Since the end of the Cold War, all German governments have been conscious of the vital importance of their nuclear alliances for maintaining the security of Germany, in particular with the United States. Therefore, it was imperative to keep alliance solidarity and close cooperation with Washington also in times of crisis when German and U.S. policies differed.

The ups and downs of German arms control policies reflect these limits and dependencies. Germany’s efforts to promote both arms control and alliance solidarity in parallel worked without ruptures as long as German and U.S. policies proceeded from a common understanding that the course of security cooperation in Europe, agreed in the early 1990s, remained largely unchanged. This situation changed, however, when the two U.S. Presidents George W. Bush and Donald Trump returned to a geopolitical agenda that was in conflict with the earlier understanding and undermined arms control in Europe. They were prepared to act unilaterally, as in the case of the OST, or in concert with like-minded allies, as in the cases of the Iraq War, the disputes over ACFE ratification, or the push for further NATO enlargement into the post-Soviet space. As a result, Washington neglected German and French reservations, risked the division of the alliance, and traded the fate of European arms control, e.g., in the case of INF, against its wider geopolitical goals such as curtailing China’s military rise. These policies eventually contributed to the collapse of the arms control architecture in Europe. Also, Russian selective compliance, unilateral changes of implementation rules, and lack of transparency helped to erode the network of agreements as well.

For Germany, at certain times resisting U.S. positions was possible only when the country was supported by a significant number of European allies, first and foremost France. It remains an open question, though, whether Germany could have achieved more if Berlin had put stronger emphasis on political cohesion and impact of its coalition efforts. The heterogeneous composition of the 2016 “Group of Likeminded States,” for instance, was less suited to advance new arms control ideas and lacked political cohesion and ambition to impact the OSCE’s “Structured Dialogue.” As the group included states that were on record opposing earlier German ideas to revitalize conventional arms control, a better outcome could not be expected. After the disaster of NATO’s split over the Iraq War, the ACFE, and the Bucharest Summit Declaration on Ukraine’s envisaged NATO membership, however, Germany did not want to risk another division and preferred acting within the Quad format.

When Trump neglected European security interests in order to force Chinese concessions, Berlin followed Washington’s lead and assumed that the keys for any solution to the INF crisis were held exclusively by Moscow and Beijing. In contrast, it did little to convince the Trump administration of cooperative ways to verify the disputed 9M729 missile and to promote possible verification of Aegis

ashore systems to facilitate a cooperative solution. Ironically, three years later, the Biden administration offered exactly that in its response to the Russian demands of December 15, 2021.

With the U.S. and Russian withdrawals, the Open Skies Treaty has also lost its strategic and political relevance. As Belarus intends to leave as well, 28 of the remaining 31 OST States Parties are NATO/EU Member States, which do not need to verify one another. In 2021, no observation flight over Russian territory could be carried out while Russia conducted large-scale exercises in the vicinity of Ukrainian borders.

Eventually, Germany had to face the limits and intrinsic contradictions of its parallel approaches of both keeping solidarity with the United States and continuing efforts to strengthen and adapt arms control in view of geopolitical changes and growing Russian distrust and assertiveness. While many of the instruments discussed in this chapter had been destroyed by Republican Presidents, Democrat Presidents have not done much to redress this situation. With a Democrat in the White House, usually, German–U.S. differences in arms control would remain, although the tone would soften and both sides would reassure each other of common values and full solidarity. This pattern is likely to prevail once the war in Ukraine has come to an end. By then, the center of gravity will be China, which the United States has prioritized as the number one geopolitical opponent.

There is no reason, however, to assume that Germany's parallel pursuit of alliance solidarity and cooperative security will change in principle. In the short and medium term, however, since the strategic situation in Europe has significantly worsened, German security policies will emphasize the role of alliance defense and deterrence, as it will be difficult to achieve arms control in a non-cooperative environment. Yet, there will be a need for new stabilizing measures to prevent a wider escalation in Europe for two related reasons: first, NATO has returned to collective forward defense at its eastern flank. The accession of Finland implies that the NATO–Russia line of contact has doubled in length. In June 2022, NATO members agreed to build an iron belt from the High North down to the Black Sea, with additional deployments, enhanced air defense, multiplied air space and sea patrols, more than 300,000 Response Forces available on short notice, and frequent military exercises. The discussion on the potential deployment of conventional INF-range missiles to Europe is still in its infancy. No decision has yet been taken by NATO capitals. The U.S. Army in Europe, however, has already established a possible command structure to accommodate such deployments.

Second, Russia's conventional forces have suffered heavy losses as a result of its invasion of Ukraine, and Moscow is confronted with an extended frontier with NATO–Europe. With inferior conventional forces, Russia is going to restructure its military districts in Northern Europe, increase its reliance on dual-use tactical missile forces, and has announced the deployment of tactical nuclear weapons in Belarus together with a nuclear sharing arrangement. Moscow claims that its strategic nuclear forces, constrained by the New START agreement, could become targets for short-range weapons the closer allied military infrastructure moves towards Russian borders. While this perception neglects genuine European

security interests, Moscow holds that such a threat has already materialized, as demonstrated by a Ukrainian drone attack against the Russian strategic airbase in Engels on December 26, 2022. According to Moscow, the United States and its allies, therefore, had to stop arming Ukraine. On February 21, 2023, the Russian President announced the suspension of Russia's participation in New START and prohibited U.S. on-site inspections on Russian soil. The provision of Russian notifications was suspended on March 29, 2023.

Among the reasons Moscow gave for its decisions were the continuing development of new nuclear weapons and delivery means by the United States and the failure of New START to cover French and British nuclear weapons and to prevent the United States from rapidly uploading munitions on strategic bombers and non-operational launch tubes on strategic submarines beyond agreed limits. Such complaints are likely to be reflected in future bilateral strategic stability talks, should they be resumed as proposed by U.S. National Security Advisor Jake Sullivan on June 2, 2023 (The White House 2023). While such talks could aim at a potential New START follow-up agreement in the best case, the worst case—a world without any agreed limits on strategic nuclear weapons—has become a realistic scenario too.

In consequence, Europe's security environment will be confrontational and characterized by a high density of forward-deployed forces, more sea and air patrols in narrow sea and air spaces, rotating force deployments, more emphasis on nuclear weapons on the Russian side, and increasing frequencies of large-scale military exercises in close geographic vicinity. Thus, the likelihood of inadvertent military incidents will increase as well—and with it the risk of unintended escalation. Against the background of the collapse of stabilizing arms control guardrails, this is a disturbing picture.

In view of the sharp increase of military instability, it is in Europe's security interest to hedge against growing escalation risks. Effective risk reduction, incident prevention, and de-escalation mechanisms are vital in order to avoid misperceptions and military overreactions. Agreeing on such mechanisms would also reduce the risk of nuclear escalation, which would not occur out of the blue but be linked to a conventional military context.

To that end, a minimum of political and military-to-military contact and certain transparency measures are required. That entails implementing and enhancing remaining instruments. Stabilizing measures in NATO–Russia contact zones, including aerial observation, are advisable. In order to maintain nuclear restraint and predictability, the strategic dialogue between the United States and Russia must be resumed. It would also be in Europe's interest to avoid another INF missile race.

Germany might be able to resume its leading role in promoting arms control and stabilizing measures but, certainly, only in coordination with and not in opposition to the alliance. As a non-nuclear weapons state, Germany regards NATO as the indispensable security guarantor for maintaining its national sovereignty and independence. Therefore, keeping strong transatlantic bonds and demonstrating solidarity with the alliance ranks first among the top priorities of Berlin's security interests. That includes the role of the United States in providing extended

nuclear deterrence for allies and Germany's commitment to nuclear burden-sharing. Although, at times, Berlin struggles with the inherent dilemmas of its parallel pursuit of both nuclear deterrence and credible arms control, its priorities are clear. This was demonstrated by the decision of the German government to strengthen nuclear sharing capabilities by procuring dual-capable F-35 fighter bombers in context with the *Zeitenwende*, three days after Russia's invasion of Ukraine. Also, its decisions to take a leading role in providing conventional collective defense capabilities by significantly strengthening German armed forces and launching the European Sky Shield Initiative to enhance European air and missile defenses point in the same direction. It would certainly be unfair, though, to conclude that German arms control efforts are 'fair weather' policies only. However, while arms control will still stay high on the German political agenda in order to reestablish a stable cooperative security environment, its limits are clearly defined by the national imperative of securing collective deterrence and defense.

Notes

- 1 The author contributed to drafting this "matrix."
- 2 At the CFE review conferences in 2001 and 2006, the author was a member of the German delegation.
- 3 At the CFE extraordinary conference in 2007, the author was a member of the German delegation. He also represented Germany in the JCG between 2005 and 2009.
- 4 This was confirmed by Russian participants of arms control workshops on November 1, 2018 in Oslo and on November 15, 2018 in Brussels.
- 5 Ibid.

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8 The Greens and Nuclear Weapons

Between Disarmament Aspirations and Pragmatism

Giorgio Franceschini

Introduction

When the Greens¹ took office in the so-called Traffic Light Coalition² with the Social Democrats (SPD) and the Free Democrats (FDP) in December 2021, expectations were high that some discontinuity in German nuclear policies would occur (Fuhrhop, Kühn, and Meier 2020). After all, in the years before government, the Greens as an opposition party had often lamented the slow pace and low ambition of previous German governments in advancing nuclear disarmament (Bundestag 2018).

However, once in government the Greens quietly agreed to purchase new U.S.-made F-35 combat aircraft to replace Germany's aging Tornado fleet, thereby prolonging Germany's participation in the U.S.-led effort to extend nuclear deterrence to European North Atlantic Treaty Organization (NATO) members, known as nuclear sharing. In addition, previous Green calls for Germany to accede to the Treaty on the Prohibition of Nuclear Weapons (TPNW), which entered into force in January 2021, subsided. Hence, after 16 years of opposition, the Green participation in government did not lead to any tangible progress on nuclear disarmament, and instead led to a strong push to modernize Germany's material participation in extended nuclear deterrence.

The cultural roots of the Greens lie in the peace and anti-nuclear movements of the 1970s and 1980s (Klein and Falter 2003; Mende 2011). The credo of the extra-parliamentary opposition those days was easy: "no to NATO," "no to war," "no to nuclear weapons," and "no to nuclear energy" (ibid.). After the Green party was established in 1980 and Greens started to take on government responsibilities, these maximalist claims came under duress due to domestic and international pressure. Some demands fell rather quickly ("no to NATO"); others have persisted to the present day ("no to nuclear energy"). With respect to nuclear weapons, the Green position became more nuanced over the years, up to the point where the current Green policy does neither foresee the immediate withdrawal of U.S. nuclear weapons from Germany nor Berlin's signing the TPNW. What explains this evolution in Green nuclear weapons policy?

Although the official Green narrative insists that Russia's aggressive revisionism is the major driver for the current Green disarmament hesitation, this chapter argues that there are also additional intra-party dynamics to be taken into account.

It is not possible to understand current Green nuclear policies without due regard to a number of incremental shifts that have taken place in Green thinking about war and peace since the late 1990s.

This chapter proceeds in two steps. First, the Green shifting from nuclear orthodoxy—“no to nuclear weapons” and “no to nuclear energy”—to the recent pragmatic course is documented, based on a number of qualitative interviews with leading Green politicians.³ Second, the question why nuclear discourses changed in the Green party is examined against the background of intra-party dynamics and external events. The chapter concludes that the Greens are still somewhat torn between disarmament aspirations and political pragmatism when it comes to nuclear weapons, though recent developments indicate that for the time being the party might have found a third way—pragmatic abolitionism—for dealing constructively with its conflicting interests.

Documenting Change: From Orthodoxy to Pragmatism

This section describes the evolution of Green nuclear policies from the late 1990s until today, focusing on the party’s stance towards three nuclear policy fields: NATO nuclear policy and nuclear deterrence writ large, the TPNW and nuclear disarmament, and, finally, nuclear energy. For each policy field, the history of Green policies is recalled and then set in relation to the empirical evidence of qualitative interviews with leading political figures from the Green party. Highlighting how change has occurred within the party, this section makes the case that the Green nuclear orthodoxy—except for the military use of nuclear energy—started to crumble long before Vladimir Putin started his hybrid and kinetic wars in Eastern Europe.

NATO and Nuclear Deterrence

The first cracks in the Green nuclear orthodoxy became visible towards the turn of the millennium when the Greens joined the Social Democrats (SPD) in the so-called Red-Green Coalition, which governed Germany from 1998 to 2005. For the Greens, that was their first time in government at the federal level. Immediately after the Red-Green Coalition took office, Green Federal Foreign Minister Joschka Fischer tried to tackle nuclear policies at his first NATO Foreign Ministers Meeting in Brussels. Both the Greens and the Social Democrats were uneasy with NATO’s nuclear posture, which, in their view, was still too much grounded in Cold War thinking. Fischer proposed to consider a No First Use policy for NATO, but his proposal was not well received by the other alliance members (Franceschini and Müller 2013, 48).

Fischer’s foray did not succeed, but taught the Greens a number of critical lessons. First, maximalist demands, which had characterized the policies of the first generation of Greens, worked well for an opposition movement, but not for a ruling party of a leading NATO nation. Second, on matters of security and defense, coordination and consultation with allies was key, while German unilateralism was bound to fail. Third, the gap between ambition and reality on nuclear affairs

turned out to be significant: in their 1998 election program, the Greens had not only demanded the complete withdrawal of U.S. nuclear weapons from Germany, but also a “general denuclearization of NATO” (Bündnis 90/Die Grünen 1998).⁴ Compared to this level of ambition, Fischer’s attempt to discuss NATO declaratory policy was rather modest. Still, even that modest attempt failed and the Greens had to learn the hard lesson that, without a critical mass of supporting allies, even small changes to NATO nuclear policy were not attainable.

Fischer’s cabinet colleague Peter Struck (SPD), then-Defense Minister, tried a similar foray a few years later, questioning the rationale of continuing NATO’s practice of nuclear sharing at a meeting of the NATO Defense Planning Committee in 2004 (Franceschini and Müller 2013, 48). Again, the initiative failed to attract enough support among other NATO allies. Hence, the second attempt of the Red-Green Coalition to alter the nuclear status quo of the alliance also did not yield any result. Again, there was not enough coordination with key NATO allies and, in order to avoid major frictions in the alliance, Chancellor Gerhard Schröder (SPD) decided to restrain further nuclear initiatives by Fischer and Struck for the remainder of his tenure (Meier 2007a). In sum, the first Green federal government experience ended in 2005 and yielded no visible accomplishments as regards changes to NATO nuclear policies.

For the following 16 years, the Greens returned to the opposition bench. Being in opposition, the party easily fell back to maximalist demands with respect to NATO nuclear sharing, e.g., demanding an immediate withdrawal of U.S. B61 gravity bombs from the Büchel airbase, which, by 2007, had become the last German site to host these weapons.⁵ In the run-up to the 2013 *Bundestag* elections, the Greens called for the withdrawal of the remaining 20 gravity bombs from Büchel (Bündnis 90/Die Grünen 2013, 310). In the subsequent elections in 2017, they furthermore stigmatized the underlying NATO practice of nuclear sharing as a breach of international law (Bündnis 90/Die Grünen 2017, 84). Finally, in 2020, the Green faction in parliament demanded a cessation of Germany’s role in NATO nuclear sharing due to excessive costs associated with the maintenance of German aircraft assigned to this mission (Bundestag 2020).

By 2021, however, when the Greens once again had a serious chance of governing, their position had become more cautious. At first glance, the 2021 Manifesto of Principles (*Grundsatzprogramm*) contains all classical Green principles on nuclear arms control and disarmament, including “the goal of a Europe free of nuclear weapons [which] requires a Germany free of nuclear weapons and thus a swift end of nuclear sharing” (Bündnis 90/Die Grünen 2020, 95). But as attentive observers noticed, the word “swift” left ample room for interpretation: whether the end of nuclear sharing was an immediate goal, whether it was to be achieved within the term of the next government, or whether it just indicated a mid-term aspiration, remained unclear (Pifer 2021, 7).

Decoding Green nuclear NATO policies became even trickier once the party had entered the Traffic Light Coalition under Chancellor Olaf Scholz (SPD). In March 2022, a few weeks after Russia had started its attack on Ukraine, the coalition decided to purchase U.S.-made F-35 fighter jets as new delivery vehicles for

the B61 bombs in Büchel. The decision was remarkable, as it signaled a clear commitment to Germany's continued role in NATO nuclear sharing—perhaps for the next decades. In theory, the Greens could as well have opted to extend the lifetime of the aging German fleet of Tornado aircraft, thereby postponing a decision on the future of U.S. nuclear arms in Germany to the next legislative term, when geopolitical tensions with Russia might have eventually decreased. Instead, the Greens chose to commit to NATO nuclear policy.

Explaining that turn still represents a problem for parts of the Greens. According to the Deputy Chairwoman of the Subcommittee on Disarmament, Arms Control, and Non-Proliferation of the *Bundestag* Merle Spellerberg,

the withdrawal of nuclear weapons from Germany should not be our only goal. We should aim at a global reduction of all nuclear weapons, until we eliminated these weapons completely. For this truly global ambition it is of secondary importance, if—for the time being—some nuclear weapons are still stationed in Germany.

(Spellerberg 2023)

Still, “U.S. nuclear weapons should be withdrawn from Germany,” she insisted (*ibid.*). “And the date for this decision should neither depend on the availability of new delivery vehicles and the purchase of F-35s nor on the modernization of the warheads” (*ibid.*). Hence, for Spellerberg, the withdrawal option remains on the table and should become reality once an appropriate window of opportunity opens up.

Much like for Agnieszka Brugger, Deputy Federal Chairwoman of the Green Party and a Member of the *Bundestag*, the time for a possible withdrawal was not ripe when the Greens entered government in late 2021:

We could have opted for the easy way and delay the Tornado replacement to an extent that the continuation of nuclear sharing would have encountered serious technical and financial obstacles. However, we took a difficult political decision to purchase the F-35, and this decision must be seen in the context of our overall position on nuclear sharing, on the TPNW, and on our broader set of principles and values. Ending our role in nuclear sharing now without considering the security implications for our partners or going for a technical solution [i.e., betting on the material aging of the Tornado fleet] would have been a too easy way out.

(Brugger 2023)

Spellerberg and Brugger's statements illustrate the difficult balancing act that Green decision-makers have to manage in the current coalition. On the one hand, what Brugger calls “principles and values”—basically the cultural roots of the party in the peace movement—still implies policies of military restraint and disarmament. On the other hand, and against the background of the Ukraine war, the same principles and values require Germany to be a trustworthy partner to its European allies

and to coordinate its security policies, particularly with the weakest and most vulnerable partners in NATO. It is easy to dismiss this dilemma as Green doublespeak (Kütt 2022). To the contrary, managing that dilemma is an integral part of any value-driven realpolitik.

What the two statements furthermore show is the importance of effective communication between Green decision-makers and their voters. Here, the key message is that it is necessary and possible to pursue security and defense policies, which, at first glance, might seem hawkish—increasing the defense budget, purchasing new military hardware, and modernizing Germany’s nuclear-capable aircraft—as long as these policies are explained the way Brugger and Spellerberg do it: the Greens remain committed to disarmament and arms control, but these policies have to contribute to containing an aggressive Russia and reassuring nervous allies. Annalena Baerbock has been arguing along these lines, both in her previous capacity as Chairwoman of the Green party as well as in her current role as Federal Foreign Minister since December 2021. At the meeting of the Stockholm Initiative for Nuclear Disarmament in December 2021, she stressed Germany’s dual commitment to nuclear disarmament and NATO nuclear sharing. According to Baerbock, these two principles “go hand in hand” (RND 2021). When launching Germany’s first National Security Strategy process in March 2022, Baerbock reiterated: “we must understand disarmament and arms control as being complementary to deterrence and defense” (Federal Foreign Office 2022).

This turn in Green rhetoric and actual policy is significant, given the longstanding Green reservations against nuclear deterrence, based on ethical, legal, and security arguments. For decades, the Greens, together with the SPD and the Left (*Die Linke*), had represented the deterrence-skeptical part of the political spectrum in a country where nuclear deterrence has polarized policy debates ever since (Fuhrhop 2021). The difference to the current situation lies in the fact that a pluralization of views on deterrence (and as a consequence a certain degree of polarization) has somewhat taken hold in the Green party itself. “Nuclear deterrence is still not legitimate, and will never be. Any threat to use nuclear weapons is unacceptable and should be condemned in the strongest manner,” Merle Spellerberg (2023) said. Her statement was recorded after the start of Russia’s war against Ukraine, after Vladimir Putin’s repeated nuclear threats, and in light of NATO’s reserved responses in the nuclear domain. Brugger as well admits to have continued problems with the concept of nuclear deterrence: “during the Cold War, the nuclear arms race was at least accompanied by some rules, by crisis communication, by arms control and disarmament initiatives” (Brugger 2023). Nowadays, she explains, with arms control agreements in shambles and a complete erosion of trust between the West and Moscow, nuclear deterrence has to deal with two heightened risks: a possible technical or human error, which might lead to accidental nuclear escalation, or a fatal misjudgment or misperception, which could also usher in catastrophic consequences.

While these statements are still representative of the classical Green take on nuclear deterrence, two cracks in the Green deterrence discourse are noteworthy. First, as Brugger puts it, “in the conventional domain, we have learned to think differently”

(ibid.). Accordingly, in today's Green strategic thinking, an implicit acceptance of the necessity of conventional deterrence is emerging, especially in the context of NATO's Enhanced Forward Presence along the so-called Eastern flank. Spellerberg as well assessed that "our assessment of conventional deterrence—especially in the current situation—can't be as severe [as of nuclear deterrence]" (Spellerberg 2023).

But even on nuclear deterrence, some Green politicians are much more outspoken these days. Viola von Cramon, a Member of the European Parliament Committee on Foreign Affairs, does not hide behind disarmament or arms control rhetoric when it comes to Russia, a country she knows well due to personal ties. Instead, she emphasizes "the necessity of a credible nuclear deterrent, even if it sounds old-fashioned [...]. And this will hold, as long as Russia is the country it is" (von Cramon 2023).

The TPNW and Nuclear Disarmament

The TPNW is a milestone on the way to a nuclear-weapon-free world. Germany should join such an important treaty, which was negotiated with a major contribution of countries in the Global South, of scientists and civil society, in any case, and it should do so rather sooner than later. But the moment [of joining the Treaty] must be pondered carefully.

(Spellerberg 2023)

This statement of Spellerberg summarizes the current Green policy towards the TPNW, which has gained centrality in the Green nuclear disarmament discourse of recent years.

The TPNW can be seen as the culmination of Green nuclear disarmament aspirations. Hence, it comes as no surprise that leading Green politicians pay regular homage to the agreement, for it contains major elements of Green political principles: the handwriting of the Global South and of civil society as well as the insignia of the United Nations, which the Greens have always favored over Western institutions such as NATO or the EU. And of course, the goal of the Treaty—global nuclear abolition—has been a longstanding and central political goal of the party itself. The first reactions of the Green party, after the TPNW opened for signature in 2017, were positive. Agnieszka Brugger remembered that she and other Green members of the *Bundestag* Working Group on Security, Peace, and Disarmament, such as Omid Nouripour and Katja Keul, were supportive of the Treaty. According to Brugger, there was unanimous support for the TPNW within the party, and reservations against the Treaty were heard more elsewhere:

We saw that there was opposition against the TPNW in the Federal Foreign Office and other German parties, and we discussed these issues thoroughly within our Working Group. Additionally, we also exchanged views with other NATO countries hosting U.S. nuclear weapons and with Scandinavian partners.

(Brugger 2023)

Given this generally positive stance, the only open question for the party remained when it would be an appropriate moment for Germany to accede to the TPNW. The 2021 Manifesto of Principles gave some clues: “to achieve [Germany’s accession to the TPNW] we must work together with our international and European partners towards the goal of a Europe free of nuclear weapons” (Bündnis 90/Die Grünen 2020, 95). This statement is noteworthy, since it links Berlin’s possible accession to a nuclear-free Europe. The hurdles towards realizing the latter remain immense. As referred to before, under NATO’s nuclear sharing arrangement approximately 100 U.S. nuclear gravity bombs are still deployed in Europe. French and British nuclear arsenals comprise a combined total of approximately 500 warheads. Last but not least, Moscow’s huge arsenal of several thousand nuclear weapons is scattered all over the European part of Russia.⁶ Taking these realities into account, Brugger recalls the TPNW coming up in the 2021 Traffic Light Coalition negotiations: “as we knew that the issue was critical for some NATO members, during the coalition negotiations we also had consultations with the United States, France, and the United Kingdom on our position on the TPNW” (Brugger 2023).

One could argue that with Russia’s war against Ukraine, with the Greens’ decision to support the purchase of the F-35, with the Kremlin’s repeated nuclear threats against Ukraine and NATO, with the complete erosion of trust between Moscow and the West, and with the demise of all major arms control agreements involving Russia, “a Europe free of nuclear weapons” and therewith—according to Green logic—an accession of Germany to the TPNW, is not in the cards for the foreseeable future. However, few Greens openly admit that context, and some simply do not share such a pessimistic outlook. Spellerberg, for example, does not exclude that in the coming years a window of opportunity might open up,

in which it will be possible to end nuclear sharing and to develop a roadmap for the withdrawal [of U.S. nuclear weapons from Germany]. At the end of the day, Germany will be able to join the TPNW once we have such a strategy and a roadmap to end nuclear sharing.

(Spellerberg 2023)

Below the level of such classic Green takes, however, more nuanced views on nuclear disarmament have started to emerge, some of which are rather skeptical of the rationale of disarmament.⁷ Von Cramon’s is one such skeptical voice. According to her, pushing for nuclear disarmament in the current geopolitical situation was not sensible, particularly “if we look how Russia has been acting in its neighborhood, if we look at the almost daily threats they issue, how they violated Baltic airspace and have been engaging in hybrid warfare over the last years” (von Cramon 2023). Her skepticism towards nuclear disarmament per se is even more fundamental. Referring to Ukraine’s giving up Soviet-era nuclear warheads under the 1994 Budapest Memorandum and Russia’s illegal annexation of Crimea in 2014, she highlights that “at the latest in 2014, it was clear to every country, that giving up nuclear weapons [in the current environment] was not a good idea” (ibid.). For von Cramon, with an all-out war against Ukraine, the security situation

in Europe is now even worse: “you have to be suicidal, if you considered renouncing nuclear weapons under these circumstances” (ibid.).

Her conclusions are typical of the diversity of views in the Green security discourse these days. Similar statements can be heard from two disarmament-skeptical camps within the party: a camp of 'liberal hawks' and human rights defenders, which has been in existence since the wars in the former Yugoslavia, and a camp supportive of Eastern Europe that slowly emerged over the last two decades, encompassing prominent figures such as Rebecca Harms, Marieluise Beck, Ralf Fücks, Robin Wagener, Sergey Lagodinsky, and von Cramon.⁸

Nuclear Energy

Today, German Greens treat nuclear energy and nuclear weapons differently. With respect to the civilian use of nuclear energy, the German Greens have not moved one inch over the last half century. The party is still united in its rejection of nuclear power as an acceptable form of energy supply.

This is remarkable for at least three reasons. First, as discussed before, Green positions on the military dimension of nuclear energy are more pluralistic these days and show some dramatic departures in comparison to the Greens' founding generation: the views on nuclear deterrence are more nuanced and the expectations on nuclear disarmament quite divergent. Second, within the global family of Green parties, the discussion on nuclear energy is much more pluralistic than within the German Green party. Some Green parties, such as the Finnish Greens, openly embrace nuclear power as a safe, reliable, and environment-friendly energy source (Lynas 2022). Others, such as the Greens in the United Kingdom, are split on the issue, with a faction openly advocating for nuclear power as a key tool to combat climate change (Roy, Vaughan, and Yelland 2020). Similar debates take place within the climate movement, especially in light of the fact that most scenarios laid out by the Intergovernmental Panel on Climate Change seem to at least suggest the possibility of using nuclear energy to contain global warming. Third, Russia's war against Ukraine put the decision to phase out nuclear energy in Germany once more prominently on the political agenda. In the years before Russia's invasion, three German nuclear power plants were shut down in 2015, 2017, and 2019 respectively, in line with previous plans. By the end of 2022, the last three operating nuclear power plants were scheduled for their final shutdown. However, since Berlin had limited its import of Russian oil and gas drastically in 2022 due to the European Union (EU) fossil fuel embargo on Russia, public appeals to extend the lifetime of the last three operating German power plants grew louder by the day.⁹ As a result, the Traffic Light Coalition decided to extend the lifetime of the three remaining reactors at reduced power for the first four months of 2023. By the end of April 2023, all were shut down. Despite this short-lived extension, the Greens held their ground on opposing nuclear energy.

Independently of the fact that the rejection of atomic energy is a founding element of our party, when weighing benefits and costs these days, we still

come to the conclusion that the risk of civilian use of nuclear energy is too high for humans and nature.

(Spellerberg 2023)

This statement by Spellerberg sums up longstanding Green thinking on nuclear energy, irrespective of the impact of Russia's dwindling gas supplies in the second half of 2022. Brugger spelled out two additional risks that the use of nuclear energy would entail amidst the current geopolitical crisis with Russia. According to her, the continued operation of nuclear power plants would create new dependencies with respect to nuclear fuel and increase Germany's exposure to the uranium market, which is currently dominated by Russia and a few other states (Brugger 2023). In addition, Brugger argued, it would create incentives for nuclear energy use elsewhere in the world, during a time of heightened proliferation risk (*ibid.*). Following her rationale, the risk that civilian nuclear programs in Iran, Turkey, or Saudi Arabia could be used for non-peaceful purposes was real. Phasing out nuclear power in Germany was therefore the right signal to the international community in such a volatile situation, she concluded (*ibid.*).

Despite the many (standard) anti-nuclear energy arguments Brugger and Spellerberg put forward—e.g., the unsolved question of the final disposal of spent fuel, the risk of critical accidents, the difficult coexistence with renewable energies, and cost issues—in the interviews conducted for this chapter, their case against nuclear energy did not transpire with the same passion as against nuclear weapons (Brugger 2023; Spellerberg 2023). Among German Greens, the most determined nuclear energy opponents can be found in the more senior ranks of the party, i.e., the “boomer generation” of the 1950s and 1960s, where an almost unchallenged consensus that nuclear energy should be phased out exists. This anti-nuclear energy establishment comprises both relatively hard-nosed realists, such as Rebecca Harms and Reinhard Bütikofer (both members of the European Parliament), and left-wing representatives, such as former federal ministers Jürgen Trittin and Renate Künast.

Younger party members like Brugger and Spellerberg repeat the anti-nuclear energy statements of the older generation with less passion and vigor, and abstain from heated debates on nuclear energy. Other younger Green party members tend to avoid the nuclear energy issue altogether. Private conversations of the author suggest that a large fraction of younger party members is not entirely convinced of the official party line on nuclear energy, but at the same time do not want to risk their careers over an energy source which was about to go offline in Germany anyway. This may explain why, after the last nuclear reactor went offline in April 2023, the reactions within the party were rather muted—although phasing out nuclear energy had been one of the central goals of the party for almost half a century.¹⁰

Von Cramon indicated some reservations against the phase-out decision, although in an indirect manner. Her critique focused on the current German energy and industrial policy in general, and not the specific decision to phase out nuclear power. According to von Cramon (2023), the current energy transition not only jeopardizes the German industrial base, but also has some serious political credibility problems, since the carbon footprint of Berlin's energy mix is still very high

and its emission profile not much better than Europe's biggest air polluters, Poland and Bosnia-Herzegovina. "How can we approach, for example, countries in the Western Balkans and ask them to decarbonize their economies, if we still rely on coal and gas to the extent we do?" she asked (von Cramon 2023). The blind spot von Cramon touches upon is the causal link between Germany's increased reliance on coal and gas and the phase-out of nuclear energy. Nobody in the Green party, however, seems to be prepared to address this issue head on.¹¹

Taken together, it seems that neither the arguments put forward by some of the younger climate-concerned generation nor those of the pro-nuclear FDP or of leading EU and NATO partners have had any lasting impact on Green policies towards nuclear energy. The latter is remarkable, since allied and domestic coalition partners' preferences loom large when Greens formulate their nuclear weapons policies these days. On nuclear energy, the Greens (still) act much more fundamental and unilateral than in other nuclear domains.

Explaining Change: From Dichotomy to Pragmatic Abolitionism

The previous section has documented how Green nuclear policies have changed during the last two decades, and in some instances quite significantly. While the Greens continue to repudiate nuclear energy, divergent opinions prevail on nuclear weapons policies—be it on NATO, deterrence, the TPNW, and disarmament—and more pragmatic takes have come to shape Green positions, particularly in the current coalition led by Chancellor Scholz. The following section seeks to explain why Green nuclear policies have changed. It sets the evolution of Green nuclear policies in relation to the traditional party dichotomy of left-wing fundamentalists and centrist realists and highlights a number of dynamics that have contributed to shifting the discourse on nuclear weapons towards the realists. The section concludes with an examination of "pragmatic abolitionism," a potential third way for Green nuclear weapons policymaking.

Fundis/Left Wing, Realos, and the Shifting Discourse on Nuclear Weapons

Undoubtedly, the Green nuclear discourse has changed over the last decades, and in a quite visible way in recent years. In order to understand that shift, it is necessary to first recall the classical Green dichotomy between the traditional left wing (or "Fundis" as they were called in the inner-party jargon in the last century), and the realist faction of the party (or "Realos" in Green parlance), and their respective political positions on nuclear weapons.

The Fundis can be described, to a certain extent, as the parliamentary wing of the West German peace movement of the 1970s and 1980s (Nishida 2005, 119, 128). As such, they represent the non-compromising first generation of Greens, for whom nuclear disarmament was seen as both an existential necessity as well as a central element of their political identity. Fundamentalist positions on nuclear weapons are still widely shared amongst the first generation of Greens. At the same time, they can still be found amongst ordinary party members and within the party working groups on peace and international affairs. Until today, Green

fundamentalists have strong pacifist convictions, are staunch disarmament supporters, and share classical leftist views of international affairs. Consequently, their criticism of global nuclear affairs is mostly directed against NATO, the United States, and Germany; and almost never against Russia, China, North Korea, or Iran. Classical Fundi positions these days can still be found within the party base, but not any more in the party leadership after most Fundi leaders left the Greens before the turn of the century.

The political heir of the Fundis is the Left Wing of the Green Party, which shares some basic assumptions of their predecessors, but is generally more pragmatic and solution-oriented.¹² Their most prominent leaders today are Jürgen Trittin, currently Foreign Policy Spokesperson of the Greens in parliament and one of the most senior members of the *Bundestag*, Katja Keul, currently Minister of State in the Foreign Office, and Agnieszka Brugger.

In contrast, the Realos played a minor role in the early years of the West German party. As the Greens started to take on more and more government responsibilities, first at the local level and then at state and even federal levels, their relative power within the party, however, increased. Realos share most of the core values of the Left Wing—from peace to ecology to feminism—but are generally more inclined to compromise on these issues (Nishida 2005, 74–94). On nuclear disarmament, for instance, Realos are more at ease with an incremental step-by-step process than their fundamentalist counterparts. Hence, not surprisingly, their most charismatic leader, former Foreign Minister Joschka Fischer, tried to advance nuclear disarmament in the established NATO fora (and failed, as explained in the previous section). Today, the most prominent Realo leader is certainly the Federal Chairman of the party, Omid Nouripour.

Historically, Realos and Left Wing/Fundis both supported a world without nuclear weapons. But beyond this smallest common denominator, a number of differences loom large. First, Realos do not share the left-wing anti-Western resentments against the United States and NATO, and are therewith more inclined to consider the contextual relationship between nuclear disarmament, NATO cohesion, and the military balance of power between NATO and its strategic rivals. This rift was visible in the NATO-Russia context of the last decade: Realos emphasized the importance of reassuring vulnerable allies, especially on NATO's eastern flank, whereas the Left Wing proposed to put NATO assets, such as U.S. tactical nuclear weapons or U.S. missile defense installations, on the negotiating table in order to defuse tensions with Moscow (Trittin 2019). Second, the Left Wing pursues its disarmament agenda much more rigorously and with fewer political constraints (such as the preservation of NATO cohesion) than their Realo counterparts. Of the two potential disarmament roadmaps put forward during the last two decades—the state-centered incremental approach of the U.S. administrations of Barack Obama and the Global Zero movement, and the TPNW approach touted by civil society and the Global South—Realos clearly favored Obama's road to zero, whereas the Left Wing preferred the straightaway approach proposed by the TPNW supporters. Third, Left Wing representatives are much more apodictic when it comes to nuclear deterrence. In a January 2021 session of the *Bundestag*, Keul referred to

nuclear deterrence as “an aberration. NATO will have to abandon this aberration, and sooner rather than later” (quoted from Onderco and Smetana 2021, 630). Her continued opposition to nuclear weapons is strongly based on legal arguments and the conviction that Germany’s participation in NATO nuclear sharing violates principles of the Treaty on the Non-Proliferation of Nuclear Weapons, and that any use of nuclear weapons would be incompatible with international humanitarian law. Fourth, and finally, Realos do not believe in non-violence as an absolute principle of international politics. To the contrary, their thinking is deeply rooted in just war theories, in the emerging UN norm of the Responsibility to Protect, and the conviction that sometimes the use of force is necessary and legitimate to prevent crimes against humanity and large-scale human rights abuses (Bellers and Porsche-Ludwig 2012). On the other hand, the Left Wing’s position on the use of force oscillates between the pacifism of the founding generation and strict adherence to the UN Charter.¹³

It may come as no surprise that the coexistence of Realos and Fundis/Left Wing was at times very difficult. Up until today, discussions between these two factions, particularly on nuclear disarmament, may become turbulent if not toxic at times. Since the end of the Cold War, however, and increasingly in recent years, three partially overlapping dynamics have shifted the discourse on nuclear weapons in favor of the Realos. That change in discourse has been caused by: a generational effect, a changed balance of power between the Left Wing and the Realos, and a slow drifting of the party mainstream towards centrist positions.

The most visible dynamic is the generational effect. In 2016, the Green party had 61,596 registered members. By 2022, with 125,737 registered members, that figure had more than doubled (Statista 2023). The majority of the current Green party members thus joined the party only in the last six years. These new Greens are mostly young and have other political priorities than older party members. They are more interested in climate and social justice issues and less in nuclear matters, both civilian and military.¹⁴ And since most of them were not socialized during the Cold War, they do not share the anti-Western discourse of the peace movement and of parts of the elder generation of Greens. Therefore, most young Greens are largely agnostic when it comes to anti-NATO and anti-American slogans, which still infuse parts of the German disarmament discourse. Rather, the new generation approaches nuclear topics from feminist, intersectional, or de-colonial perspectives.

The second dynamic has to do with the intra-party balance of power, which over the years increasingly tilted towards the Realos; more precisely, towards its moderate and pragmatic camp represented by former party leaders Annalena Baerbock and Robert Habeck as well as the current Chairman Nouripour. The relative decline of the Fundis/Left Wing was caused by a combination of global trends and some specific domestic factors. First, since the end of the Cold War, a general crisis of leftist ideologies took place, affecting also the left spectrum of the Green party. Second, the Fundis/Left Wing were not able to rally around a leader of comparable charisma to Realo Joschka Fischer during the 1990s, or comparable to the Baerbock/Habeck duo in recent years. The decisive factor, however,

was the inclusion of the East German *Bündnis 90* civil rights movement in 1993. *Bündnis 90* was a loose coalition of grassroots non-governmental organizations (NGOs) in the former East Germany. Its integration into the West German Green party strengthened the human rights defenders within the party and weakened the anti-capitalist and anti-NATO forces, which had dominated the political discourse throughout the early years of the party. The altered balance of power became first visible in the late 1990s during the war in Bosnia-Herzegovina and Kosovo, when the unified party *Bündnis 90/Die Grünen* voted for Germany joining the NATO military campaign against Serbia. The decision to support the NATO campaign stood in clear contrast to the pacifist credo of the first generation of West German Greens. It was a watershed moment with respect to Green thinking about war and peace and—indirectly and implicitly—also about the role of nuclear weapons in international affairs.

Finally, a third dynamic is the slow drifting of the Green mainstream towards more centrist positions (Wedell and Milde 2020). Successful opposition movements almost inevitably undergo this transformation, particularly once they take on government responsibilities. The slow drift of the party towards more centrist and more moderate positions has been an ongoing process since the early days of the Greens, and it has been accompanied by almost constant complaints about the party leadership 'betraying core Green values.'¹⁵ Another side-effect of the Green drift towards the political center is the party incrementally broadening its political agenda. Today, the Greens are not a party focused exclusively on only a few topics, such as peace, the environment, or feminism, anymore. As a result, nuclear topics are today discussed in a broader context and lack the singularity that, for example, disarmament NGOs like the International Campaign to Abolish Nuclear Weapons can assign on a daily basis.

A Third Way: Pragmatic Abolitionism

The shifts in discourse on nuclear weapons, as described above, provide the political background to the latest policy changes that have taken place since the Greens entered government as part of the Traffic Light Coalition. These changes, however, have to be seen in relation to Russia's all-out war against Ukraine.

Our position with respect to our basic values hasn't changed. To the contrary: we now see clearly the immense risks associated with nuclear weapons, when a state like Russia wages a brutal war of aggression and threatens to use nuclear weapons. This is an absolute breach of taboo and an enormous step back for the global arms control and disarmament agenda.

(Brugger 2023)

The Russian factor was also the major explanatory variable for Spellerberg: "currently, the fact, that a nuclear weapon state started an illegal war of aggression, represents the biggest obstacle for Germany, but also for other NATO members to propose a disarmament agenda and to join the TPNW" (Spellerberg 2023).

It is difficult to overstate the role that Foreign Minister Annalena Baerbock has played in shaping Green policy responses to the war. Much has been written about Baerbock's style of policy communication and the first section of this chapter has already referred to her skills in that regard (Sievert 2022). In essence, she combines political pragmatism with a strong moral, value-driven, and sometimes emotional approach to international affairs. That combination and the low level of intra-party opposition to Green government decisions on nuclear issues—most notably the Traffic Lights Coalition's decision to purchase new nuclear-capable F-35 jets—has ushered in a new Green approach towards nuclear disarmament, which the author labels “pragmatic abolitionism.” Pragmatic abolitionism is the result of three interacting developments.

First, as clearly expressed by the Green interviewees, Russia's brutal war of aggression certainly changed the security calculus of many Green party members and weakened the non-compromising Left-Wing take on nuclear disarmament, if only because disarmament after February 2022 would have meant unilateral disarmament steps by Germany alone. Second, two leading Left-Wing figures on disarmament, Trittin and Keul, were institutionally tamed so that they could not openly challenge Baerbock in her new role as Foreign Minister. Trittin, likewise in his new position as Foreign Policy Spokesperson, is now the reference point for the *entire* Green foreign policy establishment, and not just for the Left Wing. That task requires him to actively support the Green Foreign Minister, and not antagonize her. This taming effect applies even more to Keul—previously perhaps the most uncompromising voice on nuclear disarmament—who entered the Federal Foreign Office as Minister of State together with Baerbock in October 2021.

The decisive third factor was Baerbock investing time and energy in explaining the Greens' decision to extend and modernize Germany's material contribution to NATO nuclear sharing to the Green constituency and the party. In March 2022, Baerbock explained:

we must take account of the fact that the entire eastern alliance area is subject to a new threat, which means that we must establish NATO presences in the countries of southeastern Europe [...] the war has also brought this home to us: NATO's nuclear deterrent must remain credible. That is why the German government has now decided to procure the F-35. Nevertheless, our goal remains a world free of nuclear weapons. We want to talk about this goal with our partners.

(Federal Foreign Office 2022)

For a party in which moral and ethical principles play an important role in every policy field, the fact that she explained her principles and values guiding her foreign policy approach, and at the same time acknowledged the political obstacles, which often stand between the ideal aspirations of the party and the 'real world,' was key. Her success, thus far, proves that Green politicians must go to considerable lengths to explain and justify their decisions to their constituencies. The Green milieu has repeatedly demonstrated that it is prepared to accept also tough decisions, which

run counter to its ideal-type preferences, as long as it is sufficiently reassured that core values and principles of the party are taken into consideration in the decision-making process.¹⁶

The interviews conducted for this chapter with Brugger, Spellerberg, and a third Green Member of the *Bundestag* highlight this causal mechanism: despite the F-35 nuclear-sharing decision, all three insisted that the Greens have not changed their general stance on nuclear disarmament, and that their general values remain intact (Anonymous 2023; Brugger 2023; Spellerberg 2023). This mechanism can cut both ways. When, in January 2021, Ellen Ueberschär, the former Co-President of the Heinrich Böll Foundation—the Green think tank—co-authored an article which called for continued German commitment to NATO nuclear sharing (Ueberschär and Keller 2021), fierce protests from the party and its sympathizers led to an early end of her tenure. What Ueberschär lobbied for was exactly what Baerbock, once in office, executed less than a year later. The big difference was that Ueberschär’s article lacked reassuring references to disarmament and arms control as well as a carefully communicated message that calls for bolstering nuclear deterrence in Europe were indeed painful, entailed risks, and involved difficult trade-offs.

Over time, pragmatic abolitionism might become a third way or middle ground for the Greens, reconciling some of the intra-party differences on nuclear weapons. The approach acknowledges the difficult trade-offs involved in nuclear disarmament policies. As an example, pragmatic abolitionism highlights critical (in)security factors, such as Russia’s aggressive behavior or the vulnerability of NATO members along the Eastern flank. Then again, pragmatic abolitionism holds up the normative and moral dimension of nuclear disarmament, including the ethical case to be made against nuclear weapons, in a more pronounced way than classical Realos had done in the past. Under the new approach, Green politicians invest more time and energy in explaining difficult decisions and tough trade-offs. As a result, pragmatic abolitionism allows left-wing Greens such as Brugger and Spellerberg to accept centrist or Realo positions put forward by Baerbock and Nouripour. If pragmatic abolitionism proves to be sustainable and successful, the approach might even become one of the dominant traits of Green foreign policy, thereby helping to overcome the old Fundi/Left Wing-Realo dichotomy on matters of war and peace.

Conclusions

When the Greens entered German politics in 1980, their anti-nuclear position was the central pillar of the party, as—in the eyes of the founding generation—the civilian and military use of nuclear energy symbolized both the aberrations of the German environmental policy and of its foreign and security policy. After more than forty years, this credo does not hold anymore.

Formally, the Greens still repudiate nuclear energy and support nuclear phase-out. But, when the last German nuclear power plant went offline in early 2023, there was no euphoria in the party—though terminating nuclear energy in Germany has been a priority for the Greens for decades. Both the accelerating climate crisis and the fossil fuel embargo against Russia in conjunction with the war suggested

postponing nuclear phase-out and instead prioritizing the phasing out of coal power plants. Making sure that the anti-nuclear energy firewall held, however, only a few Greens would say so openly.

The anti-nuclear dam did not hold with respect to nuclear weapons, though. When it comes to the urgency and speed of nuclear disarmament, the general assessment of nuclear deterrence, and Green takes on NATO, the party's position has moved considerably. Three factors explain this shift in the Green nuclear weapons discourse of recent years.

First, Moscow's all-out war against Ukraine has led to a general reassessment of German security policy—the *Zeitenwende*—which, according to most Greens, was based on over-optimistic and obsolete assumptions about the nature of the Russian regime. As a consequence of the Russian aggression, accompanied by nuclear brinkmanship and blackmail, the regime is no longer deemed trustworthy anymore. Most Greens considered it high time to rethink the Western approach towards Moscow, and to review basic nuclear parameters within this recalibration process.

Second, intra-party dynamics of the last decades show a slow, but constant drift of the Green party towards more centrist and moderate positions. This is the result of a number of overlapping internal processes within the German and Green political landscape: the slow decline of an anti-NATO, left-wing pacifist movement; the parallel erosion of its parliamentary wing, the Green Fundis; the growing pragmatism and “responsibility” approach of the Left-Wing heirs of the Fundis; and a general strengthening and growth of the Realo wing of the Green party.

Thirdly, these trends are reinforced by charismatic leaders such as Habeck and especially Baerbock (Mielke 2021, 471). The new Foreign Minister, who combines passion and pragmatism when talking about nuclear weapons, can be seen as the spearhead of a new generation of pragmatic abolitionists within the Green party. This camp—unlike the Realos and the Left Wing—has no formal representation within the party. Despite its lack of formality, this camp is likely to grow as a bipartisan enterprise in the years to come. Pragmatic abolitionism is likely to become the dominant Green paradigm in nuclear matters.

The general drift towards moderate and pragmatic nuclear weapons policies does not imply that fundamental debates on nuclear disarmament and nuclear deterrence will disappear from the Green party. But these discussions will probably shift to the party's periphery. They will hardly affect the future leadership of the Greens. Though, predictably, a part of the party base and especially the Greens of the founding generation will not be at ease with the accommodating nuclear positions of its leadership.

Some of these abolition purists might consider leaving the party. The German political landscape, however, does not offer too many alternatives. Only *Die Linke* has a more straightforward nuclear disarmament agenda. Though, their policy is imbued with anti-Americanism, hostility towards NATO, and regular appeasement takes on Russia—perhaps a difficult-to-accept mix for disarmament activists within the Green milieu.

The above-mentioned trends are part of a larger evolution of the Green party and its base from a left-wing extra-parliamentary movement to an established party in the political space between progressivism and liberalism (Wedell and Milde 2020). Within this decades-long transformation process, it comes as no surprise that the Green position on nuclear weapons has become more mainstream. Rather, it is more surprising that the Greens' orthodox stance on nuclear energy has survived the change of times.

Notes

- 1 The correct German name of the party is *Bündnis 90/Die Grünen* (Alliance 90/The Greens). When referring to the party in this chapter, the short forms “the Greens” or “Green party” are used. Members of the party are referred to as “Greens.”
- 2 The traffic light metaphor refers to the colors associated with the three parties: red for the SPD, yellow for the FDP, and green for the Greens.
- 3 The interviews were conducted in April 2023 in German with Green politicians Agnieszka Brugger, Viola von Cramon, Merle Spellerberg, and a fourth Green Member of the *Bundestag* who wished to remain anonymous. All translations from the German were conducted by the author. The translated quotes used in this chapter have been authorized for publication by the interviewees.
- 4 Still, the 1998 election program was already a rather moderate policy document, as it called only for a “radical disarmament of NATO” and not for its dismantlement, as well as for the dissolution of the *Bundeswehr*, as the Green election platform had demanded, for example, back in 1990 (*Bündnis 90/Die Grünen* 1990, IV–V).
- 5 Back in 2007, experts estimated that the Büchel air base hosted 20 B61 gravity bombs after the United States had withdrawn a sizeable amount of tactical nuclear weapons from the Ramstein Airbase some time before (Meier 2007b).
- 6 For an in-depth analysis of the obstacles to moving towards a denuclearized Europe, see Müller et al. (2015).
- 7 This assessment is based on numerous informal discussions between the author and the Green security and defense establishment over the last five years, especially in the context of the Forum New Security Policy (*Forum Neue Sicherheitspolitik*), which is a network of progressive defense intellectuals who are more or less close to the Green party. Additional voices, skeptical of the classical Green approach on nuclear disarmament, can be found outside the formal security policy circles, e.g., among members of the *Bundestag* and the European Parliament, within the Green party's federal and regional working groups on peace and international affairs, and among party sympathizers.
- 8 Beck and Fücks are furthermore founders of the Center for Liberal Modernity (*Zentrum Liberale Moderne*)—a very active Berlin think tank, founded in 2017, with a green-liberal orientation and a strong focus on Eastern European affairs.
- 9 The CDU/CSU opposition and the FDP coalition partner advocated for a “life extension” (*Laufzeitverlängerung*), demanding not only the life extension of the last three operating power plants, but also the reactivation of the three power plants that had been separately shut down in 2015, 2017, and 2019.
- 10 These observations were confirmed by Bütikofer at the semi-annual gathering of the Böll Foundation on May 12, 2023: nuclear phase-out was a Green success story, according to Bütikofer, which has not been sufficiently celebrated within the party.
- 11 An exception may be Fücks, who pointed out that the nuclear phase-out decision had resulted in a substantial increase of new gas-fired power plants in Germany (Fücks 2023). Fücks also claimed that the refusal of most of the Greens to reevaluate the potential of nuclear energy was more a result of their personal “anti-nuclear” biographies than

- based on sound empirical arguments (Fücks 2022). Still, Fücks has no senior position in the Green party and made these statements in his capacity as a public intellectual and a 'simple' party member.
- 12 The pragmatism of the Left Wing is underscored by the fact that a part of their leadership uses the self-designation of *Regierungslinke* ("government left") to underscore their ambition to take on government responsibilities and not simply act as a "fundamentalist" opposition force (Nishida 2005, 234).
 - 13 Left Wing representative Katja Keul's political biography reflects this inner-party division vividly: when the Red-Green coalition agreed to NATO's intervention in Kosovo in 1999, she left the party in protest against this formal breach of the UN Charter. In contrast, the Realo-dominated government faction argued that the intervention was morally justified to prevent mass atrocities.
 - 14 This trend, especially with respect to Green attitudes towards military matters, has been visible since the beginning of the century (Bukow 2016, 128).
 - 15 See Hentschel (2022) for a critique directed against the current Green feminist and peace agenda.
 - 16 The most recent example is the acceptance of the party base to deliver heavy weapons to Ukraine, although the Greens have traditionally favored a very restrictive arms export policy.

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9 The Treaty on the Prohibition of Nuclear Weapons

Changing Disarmament Discourses in Germany?

Katja Astner and Moritz Kütt

Introduction

On January 22, 2021, the Treaty on the Prohibition of Nuclear Weapons (TPNW) entered into force, marking a historic moment as the first, and thus far the only, multilateral agreement outlawing nuclear weapons. The agreement comprehensively prohibits nuclear weapons, including production, possession, use, and threat of use. It further explicitly bans the deployment and stationing of nuclear weapons by other countries in member states. With 70 member states and 27 more signatory states in January 2024, the TPNW has changed the international legal framework on nonproliferation and disarmament. Although Germany is not a member, the agreement has affected both its position towards the world and domestic German debates. The TPNW has significantly impacted and challenged the global nuclear disarmament discourse, particularly surrounding discussions about the humanitarian consequences and the security value of nuclear weapons (Kmentt 2021; Thakur 2022). As an example, world leaders underscored the importance of international humanitarian law and the protection of civilians and infrastructure during armed conflict and deemed the use or threat of use of nuclear weapons unacceptable in response to Russia's invasion of Ukraine during the G20 Summit in Bali in November 2022 (G20 2022).

This chapter uses the TPNW as a probe to examine the discourses on nuclear disarmament in Germany, addressing the question: how has the emergence of the TPNW changed the disarmament discourse in Germany? Germany plays a unique role as a country strongly committed to a world free of nuclear weapons and at the same time a North Atlantic Treaty Organization (NATO) member, reliant on the United States for extended nuclear deterrence as a security concept, and hosting approximately fifteen U.S. nuclear weapons under NATO's so-called nuclear sharing arrangement (Kristensen 2021). These mixed nuclear messages have often boiled down to a *sowohl als auch* (as-well-as) policy, as opposed to an either-or approach.

Rather than offering a historical analysis, this chapter will focus on assessing whether the TPNW and the humanitarian initiative that brought it about have had an impact on Germany's discourses. In preparation for the main question noted above, we also discuss where the government and main parties stood and stand with regard to the Treaty and its negotiation process. Since the option of joining the Treaty has

been discussed in the *Bundestag*, we further add a thought experiment in which we assume Germany would join. Doing so helps to shed light on what challenges and constraints would remain. Finally, we conduct a discourse analysis of German speech acts in international fora and domestic discourses on disarmament in general. We start from 2010 and continue through 2022, looking at both conservative nuclear deterrence-focused and progressive humanitarian disarmament arguments.

Towards the end of our period of analysis, Germany faced several concurrent transitions. The 2021 elections brought a shift in government, with the new coalition consisting of three parties: the Social Democrats (SPD), the Free Democrats (FDP), and the Greens. Many observers had hoped that nuclear disarmament would become a more prominent issue since the Greens had consistently advocated for Germany to join the TPNW, both during the election campaign and previously as an opposition party (Rosen and Hall 2018, 284; see also Chapter Eight by Giorgio Franceschini in this volume). The Russian invasion of Ukraine, however, prompted a significant change in Germany's foreign, security, and defense policies, which Chancellor Olaf Scholz (SPD) called a *Zeitenwende*, or turning point, in European history.

The chapter is divided into four parts. The first gives a brief summary of the developments surrounding the TPNW and the positions that German governments and main parties have taken with regard to the new Treaty. Based on the hypothetical scenario of a German decision to join the TPNW in the future, the second part will discuss some of the requirements and challenges associated with German accession. The third part then empirically explores the question of a potential change in discourse. The last part sets out our conclusions.

A Short History of Germany and the TPNW

Building on the tradition of other humanitarian arms control treaties that prohibit cluster munitions and anti-personnel landmines, the TPNW emphasizes the humanitarian and environmental risks associated with nuclear weapons, with the goal of delegitimizing nuclear weapons and nuclear deterrence practices. Although Germany has expressed a strong preference for a world free of nuclear weapons (Federal Foreign Office 2023, 16, 2022b, 30), Germany has not yet signed or ratified the TPNW and has repeatedly voiced its opposition as part of joint NATO statements (NATO 2020, 2021, 2023). The country took part in the early stages of the process, missed out on the negotiations, and recently turned towards the Treaty again, participating as an observer at the First Meeting of States Parties (1MSP) to the TPNW. This section describes the history of the TPNW, from the early negotiations to 1MSP. It looks at Germany's positions on the Treaty, first at the international and then at the domestic level.

TPNW Negotiations

The TPNW was pushed by a group of like-minded states together with the International Campaign to Abolish Nuclear Weapons (ICAN). The process to

develop a “ban treaty” began due to frustration with the slow progress of disarmament (Kmentt 2021). Before the TPNW was negotiated at the UN level, three conferences on the humanitarian impact of nuclear weapons, held in 2013 and 2014, played an important role in stipulating this process. Germany participated in all three.

The Norwegian government hosted the first conference on the humanitarian impact of nuclear weapons in March 2013, in Oslo, with 127 states participating (among them nuclear weapons possessors India and Pakistan), as well as several UN agencies, civil society actors, and international organizations (Reaching Critical Will 2013). The conference ended with the announcement of a second conference to be held in Nayarit in February 2014, hosted by the Mexican government and with 146 states participating (again including India and Pakistan). The Nayarit conference concluded with the need to establish a legally binding instrument to address the humanitarian consequences of nuclear weapons (Acheson, Fihn, and Harrison 2014). The third conference, hosted by the Austrian government in Vienna in December 2014, saw the participation of 158 states, for the first time including two nuclear weapon states under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the United Kingdom and the United States (Reaching Critical Will 2014). Although the third conference was initially not centered on the possibility of a nuclear weapons ban, the Austrian government concluded the conference with an invitation to endorse the Humanitarian Pledge (Kmentt 2021, 14). This pledge aimed to “fill the legal gap for the prohibition and elimination of nuclear weapons” (Austrian Federal Ministry for European and International Affairs 2014).

Germany’s position at these three conferences remained rather indecisive. As Meier and Vieluf (2021, 366) argue in their comprehensive summary of the TPNW process, Germany became increasingly trapped between nuclear deterrence and disarmament the more the humanitarian movement pushed for a nuclear weapons ban. While Germany was among the states that argued in Oslo that the elimination of nuclear weapons is the only way to assure their non-use (Reaching Critical Will 2013, 5), in Nayarit it rejected a path of banning nuclear weapons without the involvement of the nuclear weapon states and circumventing the NPT Action Plan (The Federal Government 2014). In Vienna, the German statement at the conference welcomed the participation of two NPT nuclear-armed states but rejected the notion of a ban on nuclear weapons due to its practical and political impediments (Federal Foreign Office 2014). Moreover, Germany and other NATO members refrained from signing the Humanitarian Pledge and questioned the existence of a “legal gap” within the NPT (Meier and Vieluf 2021, 367).

Beyond these conferences, the humanitarian impact has also been mentioned regularly within the NPT review cycles since 2010, leading to discussions of nuclear disarmament within the wider UN system. In 2012, an Open-Ended Working Group (OEWG) on nuclear disarmament began its work. OEWGs are regularly used by the General Assembly to create subsidiary bodies for topical discussions. A second OEWG met in 2016, established through a resolution at the 2015 UN General Assembly (UNGA 2015). Ultimately, the OEWG put forward

a recommendation to the UN General Assembly (UNGA) to issue a negotiating mandate for a ban on nuclear weapons. On August 19, 2016, the final report of the OEWG was approved by a majority of 68 participating states, with 22 voting against and 13 abstaining (Acheson 2016).

Meier and Vieluf (2021, 368) show that within the second OEWG, the German government again found it challenging to maintain its ambiguous stance. Germany participated, although it rejected launching negotiations on a nuclear ban without the involvement of nuclear-armed states (Permanent Representation of the Federal Republic of Germany to the Conference on Disarmament in Geneva 2015). In the end, Germany voted against adopting the final report (Acheson 2016). In the follow-up of the 2016 OEWG, the UN First Committee passed a resolution on “[t]aking forward multilateral nuclear disarmament negotiations” in its 2016 session, and 34 states were lead sponsors of the resolution. A total of 123 states voted in favor, 38 against, and 16 abstained (Reaching Critical Will 2016). With this resolution, two negotiation conferences were set up in 2017. Germany and other NATO member states voted against the resolution (UNGA 2016).

The negotiating conferences for the TPNW took place in March and July 2017 in New York, and 124 states participated, among them The Netherlands (a NATO member). Further European participants included Ireland, Austria, Malta, Sweden, Switzerland, Liechtenstein, San Marino, and the Holy See/Vatican (UNGA 2017). Germany did not participate. After multiple weeks of discussion, nearly all participating states voted in favor of the draft treaty text, with the exception of The Netherlands (against) and Singapore (which abstained from voting). The Treaty opened for signature in September 2017. It entered into force in January 2021, 90 days after the 50th state party had ratified (UNODA 2017).

In June 2022, 1MSP took place in Vienna. The event, which was supposed to take place within the first year of entry into force, was delayed due to the global Covid-19 pandemic. On the day before 1MSP, the Austrian government organized another conference on the humanitarian impact of nuclear weapons, as a follow-up to the three conferences prior to treaty negotiation (Austrian Federal Ministry for European and International Affairs 2022). Germany participated both in the conference on humanitarian impact and in 1MSP. In the latter, Germany played the role of an observer state (Federal Foreign Office 2022a). The second Meeting of States Parties (2MSP) took place in November 2023. Germany participated in the conference as an observer.

NATO has frequently commented on the TPNW (NATO 2017, 2020, 2021, 2023). These documents must also be considered as reflecting the German government’s position, as they were issued through the consensus of all member states. The statements in 2020 and 2021 clearly state that NATO members “reiterate our opposition to the [...] TPNW” (NATO 2020, 2021). In 2023, this formulation was softened to “the [...] TPNW stands in opposition to and is inconsistent and incompatible with the Alliance’s nuclear deterrence policy” (NATO 2023). All NATO statements make a legal claim, announcing that NATO members will not accept the TPNW as customary international law.

The Domestic Discussion

In March 2017, two of the opposition parties in the *Bundestag*, the Left (*Die Linke*) and the Greens (*Bündnis 90/Die Grünen*), tabled a joint motion requesting that the German government participate in the TPNW negotiating conference (Bundestag 2017d). The motion was dismissed by the majority of the ruling parties, the Union parties (CDU/CSU) and the SPD. It followed a minor interpellation and written questions on why the German government had neither supported the report at the 2016 OEWG nor voted in favor of the 2016 UNGA resolution calling for negotiations on a treaty banning nuclear weapons (Bundestag 2016a, 2016b). Both parties tabled three additional motions regarding the negotiations in 2017, all of which were dismissed (Bundestag 2017a, 2017c, 2017d). Ultimately, Germany, along with all other NATO member states except The Netherlands, did not take part in the negotiations leading up to the adoption of the TPNW. According to Meier and Vieluf (2021, 375), this was the first time in the history of post-war Germany that the country did not participate in a multilateral disarmament negotiations framework.

The Greens and the Left announced their support for a treaty to eliminate nuclear weapons in their 2017 election platforms (Bündnis 90/Die Grünen 2017, 84; Die Linke 2017, 97). The documents do not explicitly name the TPNW, as they were drafted around the time the Treaty was negotiated. In comparison, the party platform of the SPD (then in government) supported a world without nuclear weapons (SPD 2017, 103), and the FDP called for a new approach to arms control and disarmament with a leading role for Germany (FDP 2017, 105). By contrast, the CDU/CSU party platform did not mention the topic of nuclear weapons (CDU/CSU 2017).

In the 2021 party platforms, again, the Greens and the Left explicitly set the goal of joining the TPNW (Bündnis 90/Die Grünen 2021, 249; Die Linke 2021, 137). The Greens, however, were more cautious, pointing out that a world free of nuclear weapons could only be achieved through interim steps. Both the SPD and the Greens explicitly mentioned the goal of a German participation in IMSP (SPD 2021, 63; Bündnis 90/Die Grünen 2021, 250). The FDP platform saw a nuclear weapon-free world as a long-term goal and envisioned a leading role for Germany (FDP 2021, 52). The CDU/CSU platform did not list a nuclear weapon-free world as a goal, mentioning only “a world, in which nuclear weapons are no longer needed as a deterrent” (CDU/CSU 2021, 9).

The TPNW opened for signature just prior to the start of the 19th *Bundestag* in 2017. During the following four years, the Left and the Greens continued in opposition. Throughout this electoral term, each party tabled two unsuccessful motions requesting that Germany become a TPNW member (Bundestag 2017b, 2018a, 2021c, 2021d). In addition, requests to join the Treaty were tagged onto larger motions on peace and disarmament nine times within the four years—one by the Greens (Bundestag 2020d) and eight by the Left (Bundestag 2018b, 2018c, 2019, 2020a, 2020b, 2020c, 2021a, 2021b). Although not all motions were debated, the motions that were debated helped to make nuclear disarmament a regular topic in

the *Bundestag*. Other parties did not specifically address the TPNW in motions or resolutions. No motions with regard to the TPNW have been tabled in the 20th *Bundestag*, which went into session in September 2021.

While the official position of the German government is to refrain from joining the TPNW due to Germany's participation in NATO nuclear sharing, which is in conflict with the Treaty's extensive prohibition obligations, the government's policies towards the TPNW have undergone constant change. A key source for tracking the government's views and perspectives in this regard is the Annual Disarmament Report, published by the Federal Foreign Office, which the cabinet adopts and presents to the *Bundestag*. Starting in 2017, the German government has regularly referred to the TPNW in these reports. Criticism initially dominated the assessments, but certain points of critique have been dropped over time, e.g., the notion that the Treaty would not make a real contribution to disarmament. In another example, from 2020 onward, the government has acknowledged the concerns of TPNW member states regarding the slow pace of nuclear disarmament. While Norway, Sweden, and Switzerland established national working groups to review the Treaty and its implications as regards potential accession (Meier and Vieluf 2021, 373–374), Germany did not initiate a similar process.

Germany's participation as an observer at 1MSP was explicitly mentioned in the 2021 coalition agreement between the SPD, the FDP, and the Greens. It further defines a Germany free of nuclear weapons as a goal (SPD, Bündnis 90/Die Grünen, and FDP 2021, 145). At 1MSP, the German government's representatives acknowledged the need for further cooperation, stating that both "supporters and sceptics of the TPNW can work shoulder to shoulder" in reducing global nuclear stockpiles and preventing nuclear proliferation (Federal Foreign Office 2022e). In addition, Germany has warmed to the so-called positive obligations of the TPNW. The Treaty stresses assistance for victims affected by nuclear detonations and testing and the remediation of affected and contaminated areas (Nuclear Weapons Ban Monitor 2023a). In response to the question of why Germany participated in 1MSP, German Foreign Minister Annalena Baerbock (the Greens) emphasized the importance of improving dialogue and cooperation in the field of victim assistance and environmental remediation (Federal Foreign Office 2022c). Table 9.1 summarizes the German government's shifting views on the TPNW, based on the Annual Disarmament Reports from 2017 to 2022 (Federal Foreign Office 2017, 2018, 2019, 2020, 2021, 2022b).

Sowohl als auch

Germany's official position on the TPNW can be characterized as a *sowohl als auch* approach, incorporating the necessity of both nuclear deterrence and nuclear disarmament and thereby avoiding an either-or perspective. Germany has taken part in the conferences on the humanitarian impact, but in speeches there it has also highlighted the role of nuclear weapons as a potential security guarantee. The country 'ignored' the negotiations by not participating but was later eager to attend 1MSP. In addition, Germany has demonstrated clear opposition to the Treaty

Table 9.1 German government's views on the TPNW

2017	TPNW not suitable for real contribution to disarmament; does not limit fissile material production; verification standards below International Atomic Energy Agency (IAEA) and NPT (Federal Foreign Office 2017)
2018	TPNW not compatible with nuclear sharing; not compatible with alliance obligations; not suitable for real contribution to disarmament; no nuclear weapon state part of negotiations; verification standards below IAEA and NPT (Federal Foreign Office 2018)
2019	TPNW not compatible with nuclear sharing; not compatible with alliance obligations; not suitable for real contribution to disarmament; adds to polarization; leaves open questions with regard to verification (Federal Foreign Office 2019)
2020	TPNW includes only limited regulations on verification; not compatible with nuclear sharing; not compatible with alliance obligations; not suitable for real contribution to disarmament; no support by nuclear weapon states; no mentioning of IAEA additional protocol; Germany recognizes reasons/motives of TPNW supporters; Germany shares (with TPNW supporters) concerns about standstill of nuclear disarmament, abandonment of agreed obligations, nuclear modernizations, and rising escalation risks (Federal Foreign Office 2020)
2021	TPNW includes only limited regulations on verification; not compatible with nuclear sharing; not compatible with alliance obligations; not compatible with concept of nuclear deterrence; no support by nuclear weapon states; Germany shares (with TPNW supporters) concerns about standstill of nuclear disarmament, abandonment of agreed obligations, existing agreements, nuclear modernizations, and rising escalation risks; Germany will visit IMSP as observer (Federal Foreign Office 2021)
2022	Germany shares (with TPNW supporters) concerns about standstill of nuclear disarmament, abandonment of agreed obligations, nuclear modernizations, and rising escalation risks; Germany shares common goal of nuclear weapon-free world; Germany participated in IMSP; TPNW not compatible with nuclear sharing; not compatible with alliance obligations (Federal Foreign Office 2022b)

Source: Authors' creation

through NATO statements while at the same time highlighting support for the Treaty's positive obligations.

All these points suggest that when it comes to Germany, neither opposition nor support for the Treaty is clear cut. With the option for accession open, the next section uses a thought experiment to discuss steps that could be taken with regard to German TPNW membership.

A Path to German Accession?

Germany has thus far rejected the idea of acceding to the TPNW. However, accession would be a step towards realizing the German goal of a world free of nuclear weapons. This section proposes a thought experiment: what would Germany have to do if it were to join the Treaty? We discuss both legal and political aspects. While our thought experiment is specific to Germany, parts also offer a potential blueprint for other NATO members should they choose to join the TPNW.

TPNW Requirements

The TPNW imposes a special obligation on States Parties to the Treaty never to “[a]llow any stationing, installation or deployment of any nuclear weapons or other nuclear explosive devices in [their] territory or at any place under [their] jurisdiction or control” (TPNW Art. 1.1.g). Were Germany to accede, this article would apply directly. Figure 9.1 gives an overview of the process that would have to unfold were Germany to decide to accede to the TPNW. The removal of nuclear weapons stationed in Germany would be a necessary step on the path to German accession to the TPNW. Ninety days after Germany ratified the Treaty, it would enter into force for the country. No later than 30 days after entry into force, Germany would have to declare that it is hosting the nuclear weapons of another country on its soil (Article 2.1.c).¹ These weapons would have to be removed as soon as possible, within a maximum deadline of 90 days after entry into force. After the removal of the weapons, Germany would declare the fulfillment of its obligations to the UN Secretary General (Article 4.4).

No verification of weapons removal would be required. Germany, however, could offer voluntary measures once the weapons were removed. These could include opening storage sites to international inspectors, who could then verify that no nuclear weapons remained. Inspectors could also verify the conversion of delivery systems. That a storage site previously held weapons could potentially be proved immediately following their removal based on measurements of neutron-activated concrete in the storage bunkers. Article 3 of the Treaty would require Germany to adopt agreements on safeguards with the IAEA (UNODA 2017). Germany has already ratified the Comprehensive Safeguards Agreement (INFCIRC/153), as required by the NPT. Article 3.2 of the TPNW requires such an agreement as a minimum standard (UNODA 2017). Germany has also ratified the

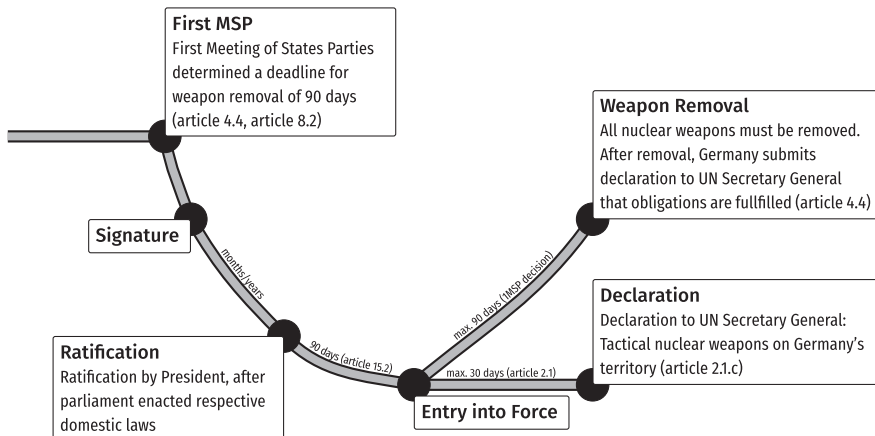


Figure 9.1 The German TPNW accession process.

Source: Authors’ creation

Additional Protocol (INFCIRC/540), which grants the IAEA extended rights during inspections. This agreement is voluntary under both the NPT and the TPNW, but TPNW Article 3.1 requires Germany to “maintain its [IAEA] safeguards obligations in force at the time of entry into force of this Treaty” (UNODA 2017). Hence, it would have to keep its commitment to the Additional Protocol.

Germany-Specific Aspects

Under German law, international agreements may require a German Treaty Act (*Vertragsgesetz*) for domestic application, which could involve both German legislative bodies, the *Bundestag* and the *Bundesrat*. For West Germany’s accession to the NPT, approval by the lower chamber, the *Bundesrat*, was required, and thus it is likely that this would also be the case for the TPNW. According to Article 5 of the TPNW, Germany would be required to adopt legal measures to prevent activities prohibited under the Treaty (*ibid.*). Currently, the legal system already in place in Germany includes numerous measures prohibiting the development, production, acquisition, import, export, and transport of nuclear weapons in various laws and codes. These laws and codes specifically define a nuclear weapon as a device that contains (or is made to contain) nuclear fuels or radioactive isotopes for the purpose of mass destruction, mass damage, or mass poisoning. Parts of such devices are also considered nuclear weapons. The concomitant legal obligations also refer to the Brussels Treaty of 1954, which prohibits Germany from acquiring atomic weapons (Western European Union 1954).

None of the existing laws and codes listed above regulate the threat of use of nuclear weapons. New legal provisions could therefore be required in order to bring Germany into compliance with TPNW stipulations. Additional legal measures might also be necessary to prohibit the stationing of nuclear weapons of other countries on German soil. Currently, German law includes a special exception to allow weapon-related activities as part of NATO activities under Article 16 of the German War Weapons Control Act. At a minimum, this article would have to be revoked in order to comply with the TPNW.

Germany’s Relations with NATO

A central political aspect of German accession would be its relations with NATO. As a member of NATO, Germany is legally bound by the 1949 North Atlantic Treaty, which does not make reference to nuclear weapons. Still, Germany participates in NATO nuclear sharing and is a member of NATO’s Nuclear Planning Group (NPG), which means that the country takes part in the alliance’s nuclear policymaking. Furthermore, Germany supports NATO’s 2022 Strategic Concept, which was adopted by consensus and which underscores that “as long as there are nuclear weapons in the world, NATO will remain a nuclear Alliance” (NATO 2022). The Concept casts Germany as a “nuclear umbrella” state because it receives security guarantees that involve the possible use of U.S. nuclear weapons to defend Germany.

The relationship between NATO and the TPNW has rarely been discussed in scholarly works. While some analysts have argued that being a member of the TPNW would not prohibit NATO membership in general (International Human Rights Clinic 2018), others have stated that it would not be possible as long as NATO remains a military alliance (Dall 2017). A study by the parliamentary research service of the *Bundestag* concluded that joining the TPNW as a NATO member is prohibited neither by the TPNW nor by the North Atlantic Treaty (Wissenschaftliche Dienste Deutscher Bundestag 2021, 13). A more detailed legal study on whether membership in both agreements is possible will have to be undertaken in the future.

Independent of the simple question of membership, several difficulties exist for states that are interested in being party to both frameworks. Parties to the TPNW are bound never to “assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Treaty” (UNODA 2017 Art. 1.1.e). Nuclear umbrella arrangements, such as those stipulated by NATO, could be considered “encouragement,” and as such would have to be renounced to fully comply with the TPNW (Nuclear Weapons Ban Monitor 2023b; International Human Rights Clinic 2018). An official U.S. “non-paper” from 2016 on the possible implications of a nuclear weapons ban treaty supports the view that the nuclear umbrella arrangements would need to be renounced (NATO 2016).

Upon joining the TPNW, Germany would therefore have to leave the NPG and make clear that the nuclear weapons-related wording contained in the 2022 Strategic Concept would no longer apply to Germany. Although such a move might not be viewed favorably by other NATO countries, there are examples of individual national policy choices within NATO. Denmark, Norway, and Spain do not allow the deployment of nuclear weapons in peacetime, while Iceland and Lithuania refuse to host nuclear weapons under any circumstances (Eide 2014). For individual elements of NATO policy, Germany could practice a strategy used by Denmark during the 1980s known as “footnoting.” At the time, the Danish government disagreed with certain aspects of NATO strategy and voiced its disagreement through footnotes inserted into the respective NATO documents (Petersen 2012).

Legally Possible, Politically Difficult

From a legal perspective, none of the TPNW requirements presents an insurmountable obstacle to Germany’s accession to the Treaty. Certain steps would have to be taken, and laws would have to be changed. Germany could take all of these steps even prior to joining the TPNW, including requesting that the United States withdraw the tactical nuclear weapons currently stationed in Germany. The detailed implications deserve further study, however. Such studies should consider both the advantages and the disadvantages of the Treaty’s various requirements as they would apply to Germany, in particular Germany’s relations with NATO. The following section discusses our empirical analysis of the disarmament discourse in Germany both before and after the adoption of the TPNW.

The TPNW and Its Effects on Disarmament Discourses

In this section, we use discourse analysis to analyze Germany's position on nuclear disarmament amidst conflicting discourses. Discourse analysis enables us to understand how actors form, maintain, and modify shared meanings through communication in policy areas (such as nuclear disarmament) and how these shape actors' social reality (Holzscheiter 2014, 144). We aim to explore whether Germany is adopting humanitarian disarmament concepts in domestic and global fora, and thus whether it is taking a more progressive stance in comparison to nuclear-armed states and other NATO allies.

Over the past decade, particularly during the negotiation of the TPNW, nuclear disarmament has become a contentious policy area on the global stage, with two central adversarial discourses. Hanson (2022) and Ritchie (2022) argue that those who adhere to the dominant narrative or "nuclearism" argue that responsible nuclear weapon states and nuclear deterrence practices are legitimate as long as nuclear weapons exist. Conversely, advocates of the TPNW and of "anti-nuclearism" reject this view, arguing that nuclear weapons are inhumane and do not provide security.

Methodology

Within global fora, we analyzed German representatives' statements on nuclear disarmament, using Leifeld's (2009) Discourse Network Analyzer. We looked specifically at 57 statements made at NPT Preparatory Committees and Review Conferences and First Committees of the UN General Assembly. Statements were taken from the online compilation provided by the Reaching Critical Will webpage, which provides the most comprehensive list of speeches made at disarmament fora. Within the domestic discourse, we analyzed 205 statements on nuclear disarmament made by members of the *Bundestag* in plenary debates. These statements were sourced through keyword searches from Open Discourse (2023) to obtain machine-readable text files.²

We coded Germany's stance in international nuclear disarmament debates and the stances of domestic actors within the German debate by differentiating between arguments based on the two main colliding narratives: humanitarian disarmament vs. security-based approaches. Since actors can agree or disagree on concepts and ideas from both narratives, we categorized positions as either "conservative" or "progressive." We view a conservative stance as favoring the status quo, opposing humanitarian disarmament-related concepts, and aligning with the security-based approach, which emphasizes the role of nuclear weapons and deterrence in maintaining security. Supporters of this perspective at the international level, such as nuclear-armed states and NATO allies, commonly defend nuclear weapons by emphasizing their contribution to security. In the 2022 NPT Review Conference, U.S. Secretary of State Antony Blinken asserted that "[...] as long as nuclear weapons exist, the fundamental role of U.S. nuclear weapons is to deter nuclear attacks on the United States, on our allies, and partners" (U.S. Department of State 2022).

By contrast, progressive stances challenge assumptions about the current nuclear status quo and favor humanitarian disarmament ideas. The TPNW community has voiced the most progressive stance by unequivocally rejecting nuclear deterrence as a foundation for collective security (Ritchie and Harries 2017). TPNW proponents favor the prohibition of nuclear weapons, the withdrawal of foreign nuclear weapons, engagement in victim assistance, environmental remediation, and ensuring the equality of states, gender sensitivity, and the participation of younger generations in the debates surrounding nuclear weapons.

Since conservative and progressive stances hold what Ritchie (2022) calls incommensurable ontological positions, we consider any disagreement with status-quo statements as being in agreement with humanitarian disarmament, and vice versa. Germany often incorporates ideas from both, arguing for nuclear deterrence and nuclear disarmament at the same time. Our analysis aims to explore Germany's position along this discursive spectrum. To track changes in Germany's stance over time, we compare its position during the negotiation phase of the TPNW in 2016 and 2017 with two specific points in time. First, we analyze Germany's position during the "golden year" of nuclear disarmament in 2010, which followed U.S. President Barack Obama's famous call for "nuclear zero" in Prague in 2009, the successful 2010 NPT Review Conference and Action Plan, and the signing of the bilateral New START agreement between the United States and Russia. That year, the CDU/CSU, the FDP, the SPD, and the Greens voted in the *Bundestag* in favor of withdrawing all U.S. nuclear weapons from Germany (Bundestag 2010a). Also taking into account then-Foreign Minister Guido Westerwelle's (FDP) strong support for nuclear disarmament initiatives, we consider this a decisive year for nuclear disarmament. We establish this year as a reference point to identify the ideas and concepts being discussed before the Humanitarian Initiative emerged in 2011. We expect that humanitarian concepts will be cited less often in this period than after the TPNW negotiation process in 2016/2017.

Second, we explore 2022 as a global turning point in the disarmament discourse following Russia's invasion of Ukraine. The TPNW had entered into force only one year prior. At the same time, the 16-year conservative era under Chancellor Angela Merkel (CDU) came to an end. In 2021, a coalition of three parties—the SPD, the Greens, and the FDP—formed the current government. Since the Greens had strongly pushed for Germany to join the TPNW during the election campaign, many observers had hoped that nuclear disarmament would become a more prominent issue (Rosen and Hall 2018). In a speech to the *Bundestag*, however, three days after the war began, Chancellor Scholz spoke of a *Zeitenwende*, which, among other things, led him to announce an extra-budgetary military investment of 100 billion Euro. The Chancellor also renewed Germany's commitment to NATO's goal of members spending at least two percent of their gross domestic product on national defense (The Federal Government 2022). When Green Foreign Minister Baerbock kickstarted the drafting of Germany's first National Security Strategy (see Chapter Three by Amy Nelson in this volume), she reiterated the long-term goal of eliminating nuclear weapons but also stated that nuclear deterrence and nuclear sharing arrangements should remain credible in light of the Russian aggression

against Ukraine (Federal Foreign Office 2022c). Given this ambiguity, we expect that Germany's position in 2022 will tend more towards a conservative approach to nuclear disarmament and extended deterrence under the guise of ensuring national security than towards a progressive humanitarian stance.

The “Golden Year” of Nuclear Disarmament

In 2010, during the session of the UNGA First Committee, the German ambassador referred to humanitarian consequences only once, arguing that the advantages of nuclear weapons outweighed their grave consequences (Permanent Mission of the Federal Republic of Germany to the United Nations New York 2010, 3). Further, the German delegate to the 2010 NPT Review Conference (RevCon) asserted during the general debate that

[t]hey [nuclear weapons] do not serve a military purpose and do not provide security. The German government's intention to bring about, in agreement with our allies, the withdrawal of the tactical nuclear weapons still stationed in Germany can also be seen in this light.

(Federal Foreign Office 2010, 3)

This statement highlighted Germany's intention to call into question the status quo of NATO nuclear sharing. It is the only time within our timeframe of analysis that Germany referred to the withdrawal of U.S. nuclear weapons and acknowledged their existence in the presence of allies. In comparison, German representatives referred ten times to conservative stances against the two previously mentioned progressive arguments. In the NPT RevCon general debate, the German representative rarely mentioned extended deterrence and/or the security implications of nuclear weapons and instead focused on arguing for the inclusion of tactical weapons in future disarmament agreements, increasing transparency, and establishing disarmament verification measures (Federal Foreign Office 2010, 3).

In the domestic debate, the request that nuclear weapons be removed from Germany peaked in 2010. As Figure 9.2 illustrates, all political parties in the *Bundestag* supported the removal of U.S. nuclear weapons, with CDU/CSU, FDP, SPD, and the Greens backing a cross-party motion on nuclear disarmament (Bundestag 2010a). The Greens were the most outspoken advocate of removing nuclear weapons from Germany in 2010. The humanitarian consequences of nuclear weapons did not play a prominent role in the debates. Only one Member of Parliament (MP) from the Left argued that nuclear-armed states have the potential to destroy humanity (Bundestag 2010b). Overall, German MPs referred to conservative arguments almost twice as often (32 statements) as progressive ones (18 statements). Extended deterrence was not debated in the *Bundestag*. Debates concerning the security value of nuclear weapons did take place, however. For example, whereas MP Agnieszka Brugger (the Greens, at the time under her maiden name Agnieszka Malczak) argued that nuclear weapons were a residual of the Cold War, MP Roderich Kiesewetter (CDU/CSU) cautioned that conflating nuclear disarmament with global peace would be a grave mistake (*ibid.*).

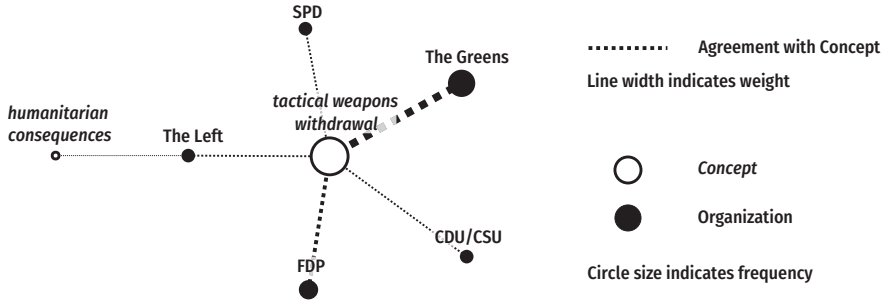


Figure 9.2 Progressive positions in the 2010 *Bundestag* plenary debates. In 2010, all parties agreed to the removal of nuclear weapons. Thus, no conservative position was documented.

Source: Authors’ creation.

To summarize, in 2010 Germany advocated for the withdrawal of U.S. nuclear weapons stationed in Germany at the international level, thus supporting the notion that this was a “golden year” for nuclear disarmament. The cross-party agreement on nuclear disarmament at the national level similarly underscores this notion. As such, Germany’s policies were in line with this global nuclear disarmament momentum. However, conservative arguments dominated the discussion, and humanitarian references related to the latter TPNW discourse were extremely rare.

The TPNW Negotiation Phase

As the TPNW and the Humanitarian Initiative gained momentum in the international discourse, German delegations increasingly addressed the humanitarian impact of nuclear weapons. During the 2015 NPT RevCon, Germany recalled the Hiroshima and Nagasaki bombings and referred to its own participation in the 2013 (Oslo) and 2014 (Nayarit and Vienna) conferences concerning the humanitarian consequences of nuclear weapons. Starting in 2014, German representatives referred to the prohibition of nuclear weapons each year during the NPT Preparatory Committee (PrepCom) meetings. Unsurprisingly, all of these declarations opposed the ban treaty. For example, the German representative at the 2017 NPT PrepCom argued:

While many NPT members in this room have now embarked on negotiations of a legally-binding instrument to prohibit nuclear weapons, others, like Germany, remain skeptical of such negotiations. We are convinced that concrete nuclear disarmament with real security gains cannot be achieved by negotiating a declaratory nuclear weapons prohibition. Only concrete, verifiable and irreversible nuclear disarmament steps involving the active participation of nuclear weapons states can help to achieve the goal of a

nuclear-weapon-free world in line with Article VI of the NPT and ultimately make this world a safer place.

(The Federal Government 2017)

As Figure 9.3 shows, the *Bundestag* also began to address the humanitarian consequences and prohibition of nuclear weapons during this timeframe. Of all TPNW-related matters the prohibition of nuclear weapons was the most frequently referenced concept, with the CDU/CSU being the most active in these discussions. Opposition parties, including the Greens and the Left, called for the immediate withdrawal of U.S. tactical weapons from Büchel and for German accession to the TPNW (Bundestag 2018d). Several MPs opposed these arguments, such as Katja Leikert (CDU/CSU), who described the TPNW as a utopian undertaking from non-nuclear weapons states and likened it to a mouse aiming to eradicate cats (Bundestag 2017e). MP Alexander Müller (FDP) compared the TPNW community to a sheep trying to pull out the wolves' teeth (Bundestag 2018d). In addition to highlighting the divergent ontologies held by TPNW supporters and opponents, these analogies also demonstrate the perceived power hierarchy between nations that possess nuclear arms and those that do not (Ritchie 2022).

Other arguments against the TPNW were raised by Nikolas Löbel (CDU/CSU), for instance, who argued that Russia's annexation of Crimea, the unraveling of the Intermediate-range Nuclear Forces Treaty, and world leaders' increasingly aggressive nuclear rhetoric were all signs that the security environment did not allow for a ban on nuclear weapons (Bundestag 2018d). Compared to previous years, 2018 saw the highest number of arguments supporting the nuclear weapons ban (eleven by the Left and the Greens) and the highest number of arguments made against it (24 by the CDU/CSU, the FDP, and the SPD). Unsurprisingly,

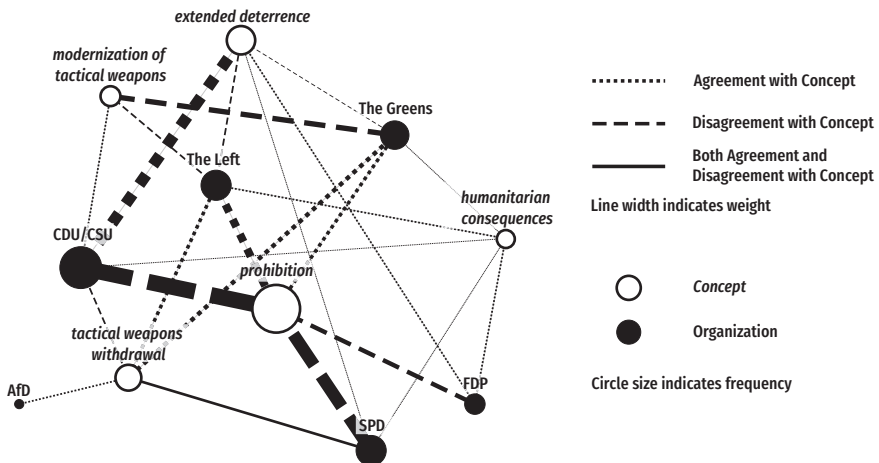


Figure 9.3 Humanitarian disarmament statements in *Bundestag* plenary debates 2016–2018.

Source: Authors' creation

arguments in favor of nuclear sharing and those highlighting the security context also increased. They included arguments for remaining in NATO for the safety of Germany and Europe in general, the fear of undermining the partnership with the United States, and proliferation arguments stressing that if nuclear weapons were to be withdrawn from German soil, the result could be more nuclear weapon states in Europe, in particular Poland (Bundestag 2018f). MP Matthias Höhn (the Left) argued that Germany would not have to leave NATO to join the TPNW, although U.S. nuclear weapons stationed in Büchel would have to be returned (Bundestag 2018f).

Between 2014 and 2018, German MPs argued 32 times in support of withdrawing U.S. tactical weapons, compared to five times when MPs opposed. Proponents of withdrawal included MPs from the Left and the Greens, but also from the right-wing Alternative for Germany (AfD) party (Bundestag 2018e). Taken together, debates on the prohibition and the withdrawal of nuclear weapons spiked in 2018 (Bundestag 2018f).

Despite Germany's generally conservative approach to nuclear disarmament, the prevalence of the TPNW and its associated concepts remains evident in the broader discourse. Key issues such as the ban on nuclear weapons and the withdrawal of existing nuclear weapons have been central topics in the debates. Although many statements were in opposition to the TPNW, its impact on framing the discourse and introducing the idea of nuclear weapons prohibition has been substantial. Moreover, the catastrophic humanitarian consequences of nuclear detonations triggered discussions about the value of Germany's nuclear sharing arrangement with NATO.

Zeitenwende

In international discussions in 2022, Germany made reference to humanitarian disarmament concepts more frequently than in any other year (17 out of 28 times). Among them were the humanitarian consequences of nuclear weapons and the positive obligations of the TPNW, such as the remediation of contaminated areas and victim assistance. Foreign Minister Baerbock also emphasized in the general debate at the Covid-delayed 2022 NPT RevCon that nuclear disarmament decision-making processes should include countries from the Global South and should address gender-sensitive issues related to the disproportionate effects of nuclear weapons on women and the lack of female representation in disarmament debates (Federal Foreign Office 2022d). Furthermore, Germany emphasized the importance of involving younger generations (Permanent Mission of the Federal Republic of Germany to the United Nations New York 2022b). These concepts are integral parts of the TPNW discourse and underscore Germany's disarmament commitment on an international scale. Figure 9.4 shows that the period between 2010 and 2022 saw a clearly visible rise in German references to TPNW-related issues. German official representatives still rejected joining the prohibition treaty in the near future in their statements at the UNGA First Committee and the 2022 NPT RevCon.

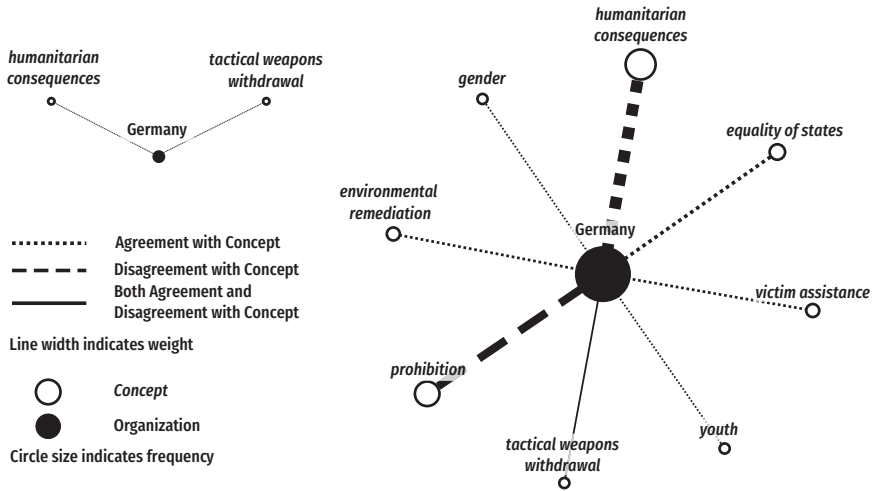


Figure 9.4 Humanitarian disarmament statements in the NPT and UNGA from 2010 (left) to 2022 (right).

Source: Authors' creation

Interestingly, Germany took a strong position to defend the legality of nuclear sharing under the NPT. Germany used its right of reply in the general debate of the 2022 NPT RevCon to fiercely refute the argument that NATO nuclear sharing and U.S.-based nuclear weapons in Europe infringed on NPT commitments. Accordingly, the German ambassador asserted that nuclear sharing arrangements are in line with the NPT and that the United States maintains complete control over the weapons (Permanent Mission of the Federal Republic of Germany to the United Nations New York 2022a). However, he did not directly address foreign nuclear weapons stationed in Germany or Germany's position on the matter. While conservative arguments for nuclear disarmament (37) outnumbered humanitarian concepts (17) in Germany's international statements, the increased frequency of the latter compared to previous years can be seen as evidence of the TPNW's influence on the German discourse.

At the same time, the internationally voiced enthusiasm for TPNW-related concepts was not mirrored in domestic discussions in 2022. In the *Bundestag*, MPs barely mentioned nuclear disarmament. Only Jürgen Trittin, Agnieszka Brugger (both the Greens) and Nils Schmid (SPD) referenced humanitarian disarmament, primarily advocating for Germany's participation in the first TPNW state party meeting as an observer state (Bundestag 2022a, 2022b). Schmid was the only one to argue that observer status could lead to full treaty membership (Bundestag 2022b). As Giorgio Franceschini stresses in Chapter Eight in this volume, full TPNW membership had been a Green party promise to its supporters before the party joined the coalition government. In 2022, however, only SPD politicians endorsed membership in domestic discussions.

It would be reasonable to expect a general shift towards conservative arguments on nuclear disarmament following the Russian invasion of Ukraine. However, we cannot find evidence for such a shift, mostly because our analysis indicates a general lack of domestic debate on nuclear disarmament. While there were debates on whether allocating two percent of Germany's gross domestic product for military spending to meet NATO requirements would be beneficial, nuclear disarmament was conspicuously absent from these discussions.

Changes in the Discourse from 2010 to 2022

Despite Germany's traditionally conservative stance on nuclear disarmament, the TPNW has had a profound impact on discussions about nuclear disarmament within the country. At international level, Germany continues to be a prominent advocate for disarmament. Our analysis confirms that German representatives discussed humanitarian disarmament with increasing frequency between 2010 and 2022.

Domestically, however, we see a different pattern. Although humanitarian disarmament arguments were prominent during debates surrounding the TPNW negotiation phase in 2016 and 2017 and before the 2021 national election, German MPs increasingly shied away from discussing nuclear disarmament issues in 2022.

Internationally, Germany seems to have increased its progressive stance on nuclear disarmament, at least when it comes to the positive obligations laid out by the TPNW. While it is unclear what caused this recent lack of domestic discourse, we believe this could indicate that German officials may be more concerned with appearances than meaningful action—talking positively about the TPNW abroad without showing visible support in domestic debates.

Conclusions

During the last twelve years, Germany has maintained its *sowohl als auch* approach when it comes to policy issues related to nuclear disarmament, such as nuclear sharing, nuclear deterrence, and, since 2017, the potential accession to the TPNW. In an attempt to shed light on how the Treaty has changed Germany's disarmament discourses, we discussed the country's role within the Treaty negotiations and important government and party positions.

First, we found evidence for *sowohl als auch* policies: while Germany has taken part in three international conferences on the impact of nuclear weapons, it did not participate in the TPNW's negotiating conference. It aligned with multiple NATO statements that were highly critical of the Treaty, but also participated as an observer in IMSP.

Second, we set out a thought experiment that envisioned Germany's choosing to join the Treaty. Based on this experiment, we analyzed potential obstacles to accession and found that if challenges were to arise, they would stem not from the technical or legal domain but rather from a lack of political will. If Germany were to join the TPNW while remaining in NATO, it could continue its *sowohl als auch* policy within a new setting.

Our third empirical part, a comprehensive discourse analysis, underscores that two events stand out within the disarmament discourses. First, in 2010, an all-party consensus prompted Germany to seek the removal of U.S. nuclear weapons from German soil. Second, in 2022, the Russian attack on Ukraine changed Germany's general course on security, defense, and foreign policies. We found that the first event represents an instance of Germany's *sowohl als auch* policy. While the consensus on nuclear weapons withdrawal was a strong sign in support of nuclear disarmament, it did not have a tangible effect since the weapons still remain in Germany (a fact further explored by Michal Onderco in Chapter Six in this volume).

Since late 2016, the TPNW has become a prominent discussion point in the German parliament. Here, we see evidence of *sowohl als auch* policies within German parties, particularly the Greens. They were strong supporters of the TPNW in the discourse and, when in the opposition, filed motions for Germany to join the Treaty. Since joining the government in 2021, this position has not followed through in action.

The broad domestic debate ended with the aforementioned second key event: Russia's attack on Ukraine. Our discourse analysis suggests that disarmament is generally no longer an important domestic policy topic. Future studies may be able to determine whether this was a short-term effect of a multitude of other foreign policy topics that demanded German policymakers' attention in 2022 or whether 2022 marked a significant long-term shift in German policy. Despite this, German foreign policy has supported positive obligations as stipulated under the TPNW. The government's position continues to take the form of a *sowohl als auch* approach.

Thus, the overall question posed by this chapter can be answered as follows: the TPNW has had an effect on the disarmament discourse. It has added new elements (the humanitarian discourse) but has also encouraged more conservative statements (in opposition to the Treaty). The Russian invasion would seem to have suspended the domestic disarmament discourse. In the future, similar research across a longer timeframe could examine this effect in more detail.

Throughout this chapter, we have highlighted the frequent mention of the need for both nuclear deterrence and nuclear disarmament in official German statements. These are conflicting goals, however, which cannot be jointly met in the long run. There is an evident lack of serious debate on nuclear deterrence in German political discourse. Such debate should address whether the concept has positive security implications for Germany, but it should also discuss its legitimacy, consequences, and potential disadvantages.

Independent of the general political opposition towards the TPNW, there are parallel signs that Berlin may take a more favorable stance towards the Treaty. This is reflected in the language of the Foreign Office's Annual Disarmament Reports and in recent governmental statements in international fora, where not only is the TPNW accepted as a Treaty in its own right but areas of potential collaboration are listed, particularly in activities related to victim assistance and environmental remediation of the effects of nuclear weapons and nuclear testing. The latter topics

have yet to enter the domestic discourse to a significant extent. If and when they do, this will be a sign that the German government's previous disarmament announcements are poised to become more than just words.

Notes

- 1 During the Cold War, a larger number of countries hosted U.S. and Soviet nuclear weapons on their soil. Today, the only NATO countries hosting such weapons, besides Germany, are Belgium, Italy, The Netherlands, and Turkey. In the spring of 2023, Russian President Vladimir Putin announced that his country was preparing for the deployment of nuclear weapons to neighboring Belarus (President of Russia 2023).
- 2 This section does not aim to present a complete overview of nuclear disarmament discourses in Germany. It is limited by missing transcripts of speeches made by German representatives in international debates and by keyword search limitations that may have resulted in the overlooking of debates featuring different keywords. Further, it does not look at non-official discourses, e.g., the discussions and activities of think tanks. Nevertheless, the corpus is of sufficient size to provide insights into trends and changes in Germany's position on nuclear disarmament and the influence of the TPNW on national and international debates. The German sources used in this chapter were translated by the authors.

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Part IV

Nonproliferation



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10 Germany and the Nonproliferation Treaty

Harald Müller

Introduction

An evaluation of Germany's changing attitude towards the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) as well as its policies adapting to change within the NPT framework must start with a comparison to the Cold War era. In essence, Germany changed from the role of "troublemaker" to that of a "good citizen." Accompanying this fundamental shift, changes in German NPT policies, after the end of the Cold War, were mostly incremental and followed a reformist agenda aimed at strengthening nonproliferation, disarmament, and the peaceful uses of nuclear energy—the three "pillars" on which the NPT rests. This incremental reformist approach in constant defense of the viability of the NPT continues to this day, despite or perhaps even because of the Russian aggression against Ukraine negatively impacting the NPT and other nonproliferation efforts writ large.

This chapter has three main sections. The first two sections evaluate German NPT policies directed specifically towards the Treaty during two periods. Assessing the first period, I start with a crisp description of pre-1990 "nuclear West Germany" and then note the change from "troublemaker" to "good citizen," epitomized by Germany's constructive role in bringing about the indefinite extension of the NPT in 1995. Analyzing the second, longer, period from 1995 through today, I focus on Germany's adapting to changes within the NPT framework by analyzing German policies in the NPT review cycle.¹ In the third main section, I then conduct a detailed analysis of German policies as they relate to the three "pillars" of the NPT, from 1990 to the year 2022. For each "pillar" I select the most salient fields. For disarmament, I focus on nuclear weapons in Europe, the Comprehensive Nuclear-Test-Ban Treaty (CTBT), the Fissile Material Cut-off Treaty (FMCT), and the Treaty on the Prohibition of Nuclear Weapons (TPNW). For nonproliferation, I look at safeguards, export controls, and the attempts to prevent Iran from developing nuclear weapons. Finally, for peaceful uses, I assess the multinational fuel cycle arrangements.

In this chapter, I combine a temporal and a systematic analysis to develop a full picture by comparing NPT-endogenous and NPT-exogenous German nonproliferation and disarmament policies. My central source is the Federal Foreign Office's Annual Disarmament Reports.² I complement this source through my own first-hand experience as a researcher, participating observer, consultant, and actor in

German nonproliferation policy. I rely on secondary sources only to the necessary degree; frequently, their distance from practice devalues the judgments offered.

From “Troublemaker” to “Good Citizen”: Germany at the End of the Cold War

This first section looks at Germany’s changing role as regards nuclear nonproliferation, from the Cold War days to the end of the bloc confrontation and the immediate years thereafter.

Postwar “nuclear West Germany” passed through several metamorphoses that accompanied the rehabilitation of a pariah state to an accepted member of the international community. In the first phase, West German elites expected their country to become a nuclear weapon state (NWS). Bonn concluded a treaty with France and Italy in 1957 to realize this pipe dream, but failed due to the resistance of the new French President, Charles de Gaulle (Strauss 1989, 313–319; Heuser 1997).

The United States and the North Atlantic Treaty Organization (NATO) offered an alternative: remaining a non-nuclear weapon state (NNWS), protected by an alliance with a powerful nuclear-armed leader and closely linked by NATO’s nuclear sharing arrangement. The NPT, promoted by the United States and the Soviet Union during their *détente* in the late 1960s, left no alternative. Misgivings in Bonn were strong, notably because Germany’s nuclear industry, other than those of the NWS, would be subject to inspections. The NPT remained unpopular in the German center-right. Conservatives grumbled, but did not seriously put up a fight (Radkau and Hahn 2013, 214).

Afterwards, West Germany wanted to become a nuclear energy giant and a world supplier. The first aim failed due to domestic opposition, badly managed nuclear energy economics, and negative public reactions to accidents in Harrisburg and Chernobyl during the Cold War, and in Fukushima in 2011. The second aim failed due to U.S. insistence on strict nuclear and dual-use trade rules, and Germany’s burning its fingers with several dubious deals facilitated by shoddy domestic export control policies and practices (Müller 2003).

The years from 1985 to 1995 represented a period of profound change. The Gorbachev years opened new political space. The Soviet threat evaporated; sticking to the strongest NATO extended deterrence posture possible lost its attraction; arms control and disarmament gained appreciation. Bonn prevailed in NATO to postpone indefinitely the replacement of the short-range Lance missile. For the first time, a conservative-led West German government blocked a plan for modernizing the extended deterrence posture. German unification accelerated this policy shift (De Andreis 1991).

'United Germany' reappearing presented a nightmare for many. Some believed Berlin would revive its great power ambitions and move towards nuclear weapons; some even approved of this prospect (Mearsheimer 1990). These concerns led the German leadership to pursue “good international citizenship” as the country’s new *Leitbild* (model). This model meant the renunciation of nuclear weapons beyond German NPT membership in the Two Plus Four Agreement—a price that German

politicians and diplomats accepted in return for unification. Nonproliferation, arms control, and disarmament became core elements of German security policy (Müller 2003). Germany embraced the NPT as the cornerstone of this policy. In 1990, for the first time, a German Federal Foreign Minister, Hans-Dietrich Genscher, addressed the NPT Review Conference (RevCon) to demonstrate this new commitment.

Germany's commitment to the NPT and the country's permanent NNWS status were confirmed in the context of the NPT Review and Extension Conference in 1995. In the *Bundestag*, all parties, except for the far-left Party of Democratic Socialism (PDS; later changed to *Die Linke* or the Left), supported the indefinite extension of the NPT. Dissenting views in the Federal Foreign Office's Disarmament Department were silenced.³ The Federal Government initiated the first Joint Action of the EU's Common Foreign and Security Policy: a diplomatic campaign to collect support for extending the NPT indefinitely. Germany energized and coordinated the campaign during its 1994 European Union (EU) presidency and participated in this campaign at a high political level (Onderco 2021, 53–56). During the 1995 conference, Germany joined both the conference president's informal group and, as the only NNWS, the 'invisible conference management,' set up by the United States, Russia, the United Kingdom, and France. These consultations produced the NPT extension decision and accompanying documents.

Germany's enthusiasm for its nuclear industry evaporated simultaneously. The most influential nuclear enthusiast, former atomic, defense, and finance minister as well as Prime Minister of Bavaria Franz Josef Strauss, died in 1988. For Germany's plans for plutonium recycling (including reprocessing), for the production of mixed oxide fuel, and for a fast breeder reactor, his passing meant the death knell as well. Germany's High Temperature Reactor, fueled with highly enriched uranium, was phased out too—no new reactors were ordered thereafter (see also Ulrich Kühn's chapter on nuclear phase-out in this volume). In 1990, Germany had already abandoned its opposition to comprehensive safeguards in the recipient country as a mandatory condition for the delivery of nuclear goods—and tightened its rather leaky national export control system between 1989 and 1992, making it the strictest in Europe.

After 1995, Germany experienced history as the fulfillment of its wildest dreams. The stability of the rules-based, liberal international order (Fukuyama 1989) seemed to be guaranteed by the superiority of Western, notably American, power (Krauthammer 1990). The NPT, now indefinite, was an essential pillar of both. In Europe, the establishment of a peaceful order around the Charter of Paris and the Organization for Security and Co-operation in Europe was, in German eyes, close to perfection.

The more traditional German preoccupations—French enmity and the Russian/Soviet threat—had changed into friendship and, respectively, a viable relationship with buffer space in between. The United Kingdom, another erstwhile rival, was a member of Germany's core security institutions, the EU and NATO, protected by the security partnership with the supposedly ever-reliable United States.

Germany's attachment to this status quo was not static but instead geared towards a reformist agenda. The realm of arms control, disarmament, and nonproliferation

had to be expanded through new rules; old informal or political understandings to be transformed into legal instruments; confidence-building measures multiplied and intensified; and security institutions strengthened and, where necessary, newly created. All this was an indispensable part of Germany's security policy and considered on a par with defense (Federal Foreign Office 2014, 5). Russia, as the main successor of the Soviet Union, had to be integrated into as many cooperative endeavors as possible.

The Proactive NNWS: Germany in the NPT since 1995

In this second section, I focus on Germany's policies within the NPT framework, concentrating on the respective five-year review cycles of the Treaty since its indefinite extension in 1995. During that period, German nonproliferation policy in particular developed increasingly in the framework of the EU's Common Foreign and Security Policy (CFSP). CFSP had gained a new quality through its legalization and institutionalization in the Maastricht Treaty of 1992 and its later amendments, notably the Lisbon Treaty of 2007, which established the European External Action Service. Post-Cold War Germany regarded CFSP as a chance to enhance its influence for the promotion of cooperative policies in the nuclear sector through the leverage which the growing European Union afforded to its largest member. Doing policy through the CFSP framework would persistently dampen the fear of 'united Germany' and at the same time give the project of a rules-based international order additional momentum. Germany invested much diplomatic energy in this endeavor. As a consequence, The EU Non-Proliferation Strategy, adopted by the European Council in 2003, bears a visible German signature with its emphasis on peaceful, cooperative, and multilateral approaches (Federal Foreign Office 2004, Appx. 1).

The 2000 RevCon

In the run-up to the 2000 NPT RevCon, a steadfast German effort to bring about unity of approach produced a substantial EU Common Position, including the proposal most desired by the Germans, to include non-strategic nuclear arms in American-Russian arms control. The Common Position also promoted the entry into force of the CTBT and the start of negotiations on a strictly verified end of the production of fissile materials for weapons purposes (cut-off). Germany had a stake in both proposals (Müller 2020).

The proactive German engagement in 2000 almost ended in a curious disaster: after a consensual final declaration of the RevCon was ready for adoption in the plenary, Berlin told its own delegation that language emphasizing the positive effects of nuclear energy on the climate problem was unacceptable. The delegation escaped the trouble of exploding the consensus by uttering the statement at the very end of the final session *after* the vote on the declaration was taken. This maneuver—certainly not what the Federal Minister for the Environment from the Green party had in mind when he requested a statement of dissent—saved Germany from

being the spoiler, thereby perhaps ruining its reputation of “good international citizen.”

The 2000 NPT RevCon was a success with a substantial document demanding action in all three pillars, particularly disarmament, plus work on a Middle East nuclear-weapon-free zone. Germany could be satisfied with this step towards incremental disarmament, a strengthening of the Treaty, and the inclusion of many formulations from the EU Common Position into the final declaration. However, the process had revealed strong divisions within the Union that could hamper the German effort to use CFSP in the NPT context. Ireland and Sweden sided with the New Agenda Coalition of six disarmament-minded states from the North and the South, while France, the most reluctant NWS, accepted concessions only when complete isolation loomed. This split foreshadowed troubles to come.

The Review Cycle Leading to the 2005 RevCon

The Iraq war of 2003 was framed by the administration of U.S. President George W. Bush as a Manichean conflict between an evil “rogue state,” ready to unleash mass destruction on a hapless world, and the forces of good, represented by the (Republican) United States. Nonproliferation was dwarfed by counterproliferation that, according to this worldview, needed no embedment into international law. Germany, together with France and Russia, objected (Federal Foreign Office 2003, 16–17). The war was a disaster for the West because it discredited both the truthfulness of the alliance leader and the claim that the West stood for the rule of law. Repercussions are still felt today, and the opposition taken by Germany, France, and other countries of “old Europe” did not effectively counteract the negative image presented by the Bush administration. If there was a winner, it was the International Atomic Energy Agency (IAEA), which, together with the United Nations Monitoring, Verification and Inspection Commission, had diagnosed the situation—that no Iraqi nuclear or other weapons of mass destruction and projects were left in the country—with laudable precision, contrary to Bush, British Prime Minister Tony Blair, and their obedient intelligence services (Blix 2004; Cirincione et al. 2004). Germany had stood on the right side, but its project of fostering the rules-based international order had suffered a setback. The malevolent invectives which U.S. conservatives fired against the IAEA and the UN (including UN Secretary General Kofi Annan) augured badly for the stability of the international regimes and institutions on which the German project relied (Bolton 2007). Berlin’s dissent with its major ally was equally uncomfortable.

Preparing for the 2005 NPT RevCon, the Federal Foreign Office noted critically that the renewed emphasis on nuclear deterrence in NWS doctrines, particularly U.S. plans to develop new weapon types, clouded the NPT climate (Federal Foreign Office 2005, 29). Germany submitted substantial working papers during the negotiation process. One was a detailed argument for incremental disarmament leading to a nuclear-weapons-free world (NWFV). A second one addressed compliance and enforcement. A third one proposed strengthened procedures to handle withdrawal from the NPT; an amended version was tabled during the RevCon (ibid.:

Appx. 8, 10). Most remarkable was a strong plea for the inclusion of sub-strategic nuclear weapons (SSNW) into the disarmament process (Federal Foreign Office 2003, Appx. 1, 2), which became part of the Common Position of the EU for the RevCon. The Foreign Office defined a “treaty-based and verifiable downsizing of these weapons system” as objective (*ibid.*, 22). This implied the eventual elimination of nuclear weapons on German territory, as a German post-RevCon statement on “treaty-based reduction of sub-strategic nuclear weapons up to and including their complete elimination on all sides” confirmed (Federal Foreign Office 2006, 6).

The 2005 NPT RevCon confirmed the worst expectations: the Bush administration was not in for consensus, but for pushing its “unipolar” agenda. The rift between the United States and Russia had grown wider, and joint conference management was out of reach. Yet, both agreed on the undesirability of taking the *acquis* of 2000 as a starting point for negotiations or accepting constraints on the further “modernization” of their nuclear arsenals. This alienated all disarmament friends, including the whole Non-Aligned Movement (NAM) (*ibid.*, 20). While France agreed enthusiastically, Ireland, Sweden, and Austria insisted on the steps agreed to in 2000 and asked for more. As a consequence, the EU was incapable of action, which was highlighted by an acerbic Irish-French exchange on nuclear disarmament on the floor. Germany’s attempts to put the EU into a mediating position in order to extricate a minimal consensus failed on the categorical French refusal to accept the results of 2000. Eventually, the energetic German delegation leader steered the EU towards overcoming the procedural hurdles that had been built up by the United States, Egypt, Iran, and France. Instead of a Final Document, the RevCon could at least produce a formal report, on the basis of which the next RevCon could be convoked (*ibid.*, 19–20; Müller 2005b).

The only substantial result of the 2005 NPT RevCon, shortly before its conclusion, seemed to be a draft joint statement of the P5 (China, France, Russia, The United Kingdom, and the United States), which, however, did not contain language on an FMCT and the CTBT—the two disarmament measures most fervently sought by the NNWS. France, then chairing the P5, regarded the statement as a national achievement. For Germany, a P5 statement ignoring FMCT and CTBT was even worse than an inconclusive RevCon. An unnoticed communication between Berlin and Moscow did reportedly evoke the surprising Russian veto on the P5 understanding and ensuing French frustration. Germany, it seems, was on that occasion more successful in deconstruction than in constructive productivity. This ‘role perversion’ was one of many counterproductive consequences of the neo-conservative counterrevolution against multilateral arms control (Müller 2005b).

All in all, the 2005 RevCon was disturbing for Germany. German hopes for continued strengthening of a rules-based international order were shattered. The EU had worked more disparately than in 1995 or 2000. U.S.–Russian relations were deteriorating, and the complacency of the Bush administration after the dismal end of the RevCon did not foreshadow a smooth development of disarmament and nonproliferation in the NPT context.

The Review Cycle Leading to the 2010 RevCon

Vladimir Putin's irate Cold War-like speech at the Munich Security Conference of 2007 (President of the Russian Federation 2007), followed by Moscow's suspension of the Conventional Armed Forces in Europe Treaty, the ensuing 2008 war in Georgia with Russian participation, and the multivariate nuclear armament plans of the governments in Washington and Moscow (and China's steady enlargement of its arsenal) added to these concerns in the following years.

Germany tried to use its EU presidency in early 2007 to give an impulse to the stagnating NPT process by a substantial European input. At the first session of the NPT Preparatory Committee (PrepCom) in 2007, the EU produced joint statements and working papers on key issues of all three pillars (Federal Foreign Office 2008, 18). Hopes rose with U.S. President Barack Obama's disarmament speech in Prague in 2009, and were strengthened by the conclusion of the U.S.-Russian New START agreement of 2010.

In the fall of 2009, a new, conservative-liberal government formed in Germany. In the coalition contract, the parties advocated for the removal of nuclear weapons from German soil in conjunction with the development of a new NATO Strategic Concept (CDU, CSU, and FDP 2009, 120). Then-Foreign Minister Guido Westerwelle from the Liberals made this a key priority for the 2010 NPT RevCon. Germany used its EU presidency before the RevCon to negotiate a comprehensive Common Position with proposals for an "action plan" covering all three pillars of the NPT. On disarmament, SSNW and an FMCT figured highly (Germany had supplied the draft for the respective EU working paper). On nonproliferation, the IAEA's Additional Protocol, strengthened export controls, and elaborate procedures for withdrawal from the NPT led the menu. On peaceful uses, emphasis was placed on multilateral fuel arrangements (Federal Foreign Office 2010, 9, 13, 2011, 4–5). For the 2009 Preparatory Committee (PrepCom) session, Germany had even co-authored with Russia a working paper on the latter subject (Federal Foreign Office 2010, 13).

Even though Germany got its EU partners to endorse Berlin's priorities, success at the 2010 RevCon was mixed. The term "SSNW" was not used due to Russian resistance; at least the final declaration demanded that *all* types of nuclear weapons be included in disarmament, and this covered sub-strategic arms as well. Germany had worked hard to achieve this result, and had collected the signatures of eleven "interested countries" on the demand, among them Poland, a staunch supporter of NATO's extended deterrence. The German/EU preferences for improved nonproliferation measures, however, were blocked by Non-Aligned Movement (NAM) resistance (Federal Foreign Office 2011, 14–15).

The 2010 RevCon experience stimulated some reconsiderations in Berlin. Germany had over decades worked in the context of the so-called Western Group and the EU. The resulting limitations concerning disarmament impeded German flexibility in agreeing with the non-aligned countries. Sometimes German diplomats felt their nuclear-armed allies took German solidarity for granted. Inside the EU, divergences tended to grow between the disarmament wing and the NWS.

A side-remark in the annual German disarmament report revealed later that it was these intra-EU disputes which motivated the German delegation to seek new company (Federal Foreign Office 2015, 6). At the 2010 UN General Assembly (UNGA) meeting, Germany, together with other states from the West and the South (Australia, Chile, Canada, Mexico, Poland, The Netherlands, Turkey, and the United Arab Emirates), formed a group first called Friends of the NPT and later the Non-Proliferation and Disarmament Initiative (NPDI), as a new policy option. Germany continued to argue for broadening the membership to include more NAM states; in 2013, Nigeria and the Philippines acceded to the new group (Federal Foreign Office 2014, 19).

The Review Cycle Leading to the 2015 RevCon

These new partners shared many positions with Germany and were more open to agreeing to new nonproliferation measures (Federal Foreign Office 2011, 15). As the group included countries from the global South, it could not be depicted as another “Northern” grouping. Already in 2011, the group adopted the “Berlin Declaration,” which emphasized known German priorities: FMCT, CTBT, transparency of nuclear arsenals, and universalization of the Additional Protocol. In this catalog, only sub-strategic nuclear weapons were missing (Federal Foreign Office 2012, 4). To underline its commitment to transparency, the group forwarded a draft for structuring the reports on nuclear holdings required from the NWS (*ibid.*, 6). The NPDI was active in the 2012 PrepCom with four working papers on disarmament education, an FMCT, transparency, and the Additional Protocol. Encouraged by their impact, NPDI foreign ministers adopted in their annual meeting two Berlin-authored working papers on tactical nuclear weapons and on reducing the role of nuclear arms in military doctrines (Federal Foreign Office 2013, 12). In 2013, Germany organized a panel discussion for the NPDI at the next PrepCom session, addressing nuclear doctrines (Federal Foreign Office 2014, 18).

Surprisingly, Germany supported establishing an Open-Ended Working Group on nuclear disarmament by the UNGA in 2012—in deviance from its NWS allies (Federal Foreign Office 2013, 6, 36). Addressing nuclear disarmament outside of the conventional venues—i.e., the UN Conference on Disarmament (CD) in Geneva and the NPT RevCons—opened a road which was later taken by TPNW supporters. For now, Germany kept its distance from far-reaching disarmament proposals. In 2013, it opposed negotiations on a nuclear weapons convention, arguing that it could possibly weaken the NPT (Federal Foreign Office 2014, 78). After some consideration, Germany accepted the importance of humanitarian concerns about nuclear explosions and participated in the second “Humanitarian Conference” in 2014 in Nayarit, Mexico. Then again, Germany refuted the prompt prohibition of nuclear weapons (Federal Foreign Office 2015, 6). During the 2014 NPDI ministerial meeting in Hiroshima, Foreign Minister Frank-Walter Steinmeier nevertheless declared the necessity of “Global Zero” (*ibid.*, 13).

During the 2014 PrepCom, unprecedented divergences showed up due to Russia’s annexation of Crimea. Many states, including the whole EU, condemned

the violence against a NNWS that had earlier returned thousands of nuclear weapons to Russia (*ibid.*, 12). A possible joint Russian-American management of the upcoming 2015 RevCon was therewith out of the question. The exchanges between the two superpowers were acerbic. Nevertheless, the two—echoed by the United Kingdom, and even louder by France (with China silently consenting)—were united in their opposition to a proposal, orchestrated by Austria, to create a legal prohibition of nuclear weapons. Germany stood by the allies' side in condemning the Russian aggression against Ukraine. Accepting humanitarian arguments against nuclear weapons use, the German delegation argued that a parallel process outside the NPT would harm the Treaty without promoting disarmament, and would deepen the rifts among NPT members at a time when disunity already reigned.

For the first time since 1985, Germany was not represented by the Foreign Minister at the 2015 NPT RevCon. The German delegation had sought to gain greater Western acceptance of the abolitionists' humanitarian concerns while simultaneously addressing the security concerns of deterrence advocates. Its goal of making this the possible mediating stance of a common EU position failed, however, due to French and British resistance. In the end, the Germans relied more on the NPDI—which it would chair for three years after 2015 (Federal Foreign Office 2017b, 13)—than on the EU to pursue collective positions, promoting nuclear transparency, and negative security assurances.

The Review Cycle Leading to the 2022 RevCon

The next NPT review cycle for the 2020 RevCon started in 2017 with an NPDI ministerial meeting in Berlin, chaired by Foreign Minister Sigmar Gabriel. The German focus for 2020 would remain, as ever: transparency and NWS reporting, FMCT, and CTBT (*ibid.*, 13, 23). Germany defined the role of the NPDI as a collective bridge builder between TPNW proponents and the determined foes of prompt nuclear abolition. Berlin aimed at broadening the NPDI's thematic tableau by adding negative security assurances, de-alerting, reducing the role of nuclear arms in military doctrines, and strengthening the NPT review process (Federal Foreign Office 2018, 16–17, 22).

NPDI, meanwhile, had gotten competition. With his Swedish colleague Margot Wallström, the new Foreign Minister Heiko Maas had co-founded the Stockholm Initiative (SI), which included 14 additional countries⁴ and aimed at building bridges by proposing feasible steps (“stepping stones”) on the road to nuclear disarmament, including transparency, restraint, renewal of the New START agreement, and the development of verification technologies. Whether this new format was the result of pure political sympathy between two social-democratic ministers or a sign of dissatisfaction with the difficult process to get consensus in the NPDI remains as much an open question as the added value of SI, with a partial overlapping membership and agenda (Federal Foreign Office 2019, 18–19, 21).

Maas had used the German chairmanship of the UN Security Council (UNSC) in April 2019 and one year later in 2020 to convoke two sessions on the NPT and nuclear disarmament (*ibid.*, 7). Meanwhile, German bridge-building efforts had

helped to produce joint EU statements for the 2019 PrepCom concerning all three pillars of the NPT (*ibid.*, 28; 2020, 9, 15). In addition, Germany joined its SI partners to issue, on the occasion of the 50th anniversary of the NPT, a list of 22 “stepping stones,” of which almost all can be found in the Plan of Action of the 2010 RevCon final document (Federal Foreign Office 2020, 9). A similar document, a new “Landing Zone Paper,” was presented to the president-designate of the 2020 RevCon by NPDI states (*ibid.*, 16).

The turn of the year 2021/2022 changed the German position fundamentally. Defense and deterrence gained political priority over cooperative security, because the Russian war of aggression destroyed what had remained of trust in this difficult partner. Strengthening the *Bundeswehr* gained primacy. Nevertheless, the German government emphasized that security could not be gained in the long run without complementing defense and deterrence with arms control, arms export controls, and disarmament. It further underscored that the objective of a nuclear-weapon-free world remained valid. Before any potential restoration of trust, the German position cautioned, cooperative security moves would be rare and require strictest verification and reciprocity (Federal Foreign Office 2021, 1, 10, 23). It might have been cautionary foresight that already in 2021, both the NPDI and the SI had strengthened their focus on risk reduction efforts (*ibid.*, 11, 22–23).

Together with her EU, NPDI, and SI partners, Germany fought for a consensual document at the 2022 RevCon, which had been postponed from 2020 due to the Covid-19 pandemic. In the end, that proved to be impossible. This time, Berlin had sent Foreign Minister Annalena Baerbock. The operational delegation leader, Germany’s CD Ambassador, however, was called away amidst the RevCon to chair a meeting at the CD in Geneva. Therefore, Germany was not present at ambassadorial level in the endgame. Anyway, the failure of the 2022 RevCon was unambiguously ascribed by Berlin to the Russian refusal to accept critical language on the war against Ukraine, notably the breach of the Budapest Memorandum (Federal Foreign Office 2022, 19). With that failure, the only trace the 2022 RevCon left was the installation of a working group for improving the review process—an NPDI proposal promoted by Germany (*ibid.*, 22).

In light of the war, the German government conducted a fundamental reflection of the concept of cooperative security, and arms control, disarmament, and non-proliferation in particular (*ibid.*, 6–7). It concluded that the tense situation required sticking to these policy instruments even while assisting Ukraine simultaneously. Escalation control would become a particular focus; preventing nuclear proliferation would require undiminished efforts. While deterrence and defense would be strengthened, the objective of a NFW would not be forgotten, the Federal Foreign Office argued (Federal Foreign Office 2022, 7; 2023).

German Policies in the Three NPT “Pillars”

In the following third section, I assess Germany’s specific policies as they relate to the three “pillars” of the NPT on nuclear disarmament, nonproliferation, and peaceful uses, from 1990 to 2022. For each “pillar,” I have chosen different sub-fields,

which, read together, present a full picture of how Germany has dealt with shifts and changes in the international environment.

Pillar I: Nuclear Disarmament

Assessing Germany's policies as they relate directly to the nuclear disarmament "pillar" of the NPT, in the following, I concentrate on German efforts to achieve a withdrawal of the U.S. nuclear weapons deployed in Germany in conjunction with negotiations on SSNW and against the background of Europe's worsening disarmament crisis as well as German policies directed towards the CTBT, FMCT, and the TPNW.

Nuclear Sharing and Disarmament in Europe

After 1990, the prospects for serious conflict that would bring nuclear deterrence back to the forefront seemed almost impossible. For Social Democratic and Green policy circles, it was an annoyance that NATO still maintained nuclear deterrence as a kind of background insurance. Faint attempts to drop the first-use option or to remove nuclear weapons from German territory were made by a Green (Joschka Fischer) and a Liberal (Guido Westerwelle) foreign minister, though not energetically pursued (Sonne 2018, 30). More assertiveness might have unsettled the pleasant status quo.

The Ministry of Defense, first under Social Democratic and then under a much longer Conservative leadership, neglected the armed forces. Replacing the Tornado dual-use aircraft, destined for Germany's role in nuclear sharing, was postponed time and again. Among the Social Democrats and the Greens, there was even hope that the end of the Tornado's lifetime might terminate the nuclear sharing role of the *Luftwaffe* by default (Meier 2020). Among the Conservatives, verbal commitment to nuclear sharing stood alongside a lack of enthusiasm to take initiatives to avoid being punished by public opinion at the polls. On the question of the Tornado succession, no differences showed up between a Social Democratic and a Conservative chancellorship.

An intervening factor might have been the increasing role of nuclear sharing as a critical topic in the NPT context. The Soviet Union and its legal successor, Russia, had always kept silent on the issue. The NAM had hardly raised it. From 2005 onward, however, nuclear sharing became a subject of controversy during NPT RevCons. It was first criticized by disarmament NGOs (non-governmental organizations), and their criticism was echoed with increasing fervor by the NAM and later by Russia.

Germany, like other NATO members involved in nuclear sharing, tried to play down the issue, refraining from explanation, and sticking to the frugal statement that the practice was legal under the NPT. Keeping the lid on the debate was chosen to avoid a dispute that might have torpedoed agreement within the NPT community—no RevCon had ever failed due to the issue—and to evade a controversial domestic debate that could have led to increased opposition to the nuclear deployment in Germany. Though occasional manifestations at the Büchel deployment site

attracted only few protestors, opinion polls continuously revealed clear majorities for removing the U.S. weapons (see the chapter by Michal Onderco in this volume).

In 2007, Germany started an initiative with Norway, later joined by Belgium, Luxemburg, and The Netherlands, to enhance NATO's role in nonproliferation, arms control, and disarmament. NATO's 2008 Bucharest Summit endorsed this push (Federal Foreign Office 2008, 4), and the 2010 Lisbon Summit made nonproliferation, arms control, and disarmament key areas of the alliance's activities, thereby establishing the Weapons of Mass Destruction Control and Disarmament Committee. U.S. President Obama's policies helped a lot to declare a NFWF a long-term NATO objective in the 2010 Strategic Concept. The German government had proposed that step without success during the two previous summits in Bucharest and Strasbourg/Kehl (Federal Foreign Office 2011, 4–5, 10). On Germany's initiative, the NATO–Russia Council (NRC) opened a Working Group on Arms Control, Disarmament and Nonproliferation in 2009 (*ibid.*, 39).

In 2011, the Foreign Office approached the United States and Russia to include SSNW into the arms reduction process, and, together with Norway, the Netherlands, and Poland, introduced a proposal on related transparency measures (Federal Foreign Office 2012, 5). Germany sought no less than a fundamental review of the whereabouts of nuclear sharing, and viewed such transparency measures as a first step towards future reductions. Berlin celebrated this foray as its own diplomatic achievement, but had to concede that decisions on nuclear sharing would have to be taken by alliance consensus (*ibid.*, 34–35).

Germany continued pressing for change. At the 2012 NATO Summit in Chicago, the alliance's new Deterrence and Defense Posture Review vowed to further reduce the role of nuclear weapons in NATO strategy, offered to Russia a dialogue on transparency measures for sub-strategic weapons, and recognized the negative security guarantees given by allied NWS to NNWS. A year later, NATO created two new institutions: the Special Advisory and Consultative Arms Control and Non-Proliferation Committee and the Committee on Proliferation. Berlin saw these developments as a direct contribution to the envisaged removal of the remaining nuclear weapons from Germany (Federal Foreign Office 2013, 5–6).

Consequently, Berlin intensified its disarmament diplomacy in 2012, talking to Washington and Moscow, and sending the Federal Commissioner for Disarmament and Arms Control to the Russian capital no less than four times (*ibid.*, 5–6, 13). Further consultations with the United States and Russia followed in 2013, and at a meeting in the unusual format of German, Polish, and Russian political directors on disarmament affairs, the sides talked about SSNW. Meanwhile, NATO explored confidence-, transparency- and security-building measures concerning this weapons category (Federal Foreign Office 2014, 26, 71–72).

Germany continued its “shuttle diplomacy” between Moscow and Washington after the Russian annexation of Crimea and reacted to U.S. accusations that Russia was breaching the Intermediate-range Nuclear Forces (INF) Treaty with “welcoming [...] both sides’ [intention] to maintain the INF Treaty” (Federal Foreign Office 2015, 6). When Washington underlined its accusations in 2015 and 2016, Berlin called for maintaining INF and continuing cooperation with Russia since “a

sustainable partnership with Russia was in NATO's interest" (ibid.). While civilian and military contacts remained frozen, Foreign Minister Steinmeier persuaded the allies to revive the NRC at ambassadorial level. Consequently, Germany struggled to keep NATO on an arms control track for SSNW and conceded that after the annexation of Crimea, political conditions were not favorable for progress (ibid., 6–7, 39, 2016, 16–17, 2017, 15). Berlin viewed the resumption of NRC meetings in 2016 as a hopeful step to continue work on arms control and disarmament, particularly on SSNW, once the impediments resulting from Russia's aggression against Ukraine had disappeared (Federal Foreign Office 2016, 16). It was only in 2017 that the government expressed "concern" about the INF Treaty and maintained that Russia had to take efforts to address the U.S. accusations "verifiably." Simultaneously, the Germans multiplied their efforts to persuade both sides to stick to the agreement, and supported further meetings of the NRC (Federal Foreign Office 2017b, 12, 37). The years 2018 and 2019 witnessed the peak of German attempts to save the INF Treaty by repeated approaches at the highest levels, including by the German Chancellor and her Foreign Minister (see also the detailed chapter by Wolfgang Richter in this volume). Those efforts were unsuccessful in the end. The U.S. administration of Donald J. Trump withdrew in June 2019, followed by Russia. Germany placed the responsibility for restoring the status ante quo unambiguously on Russia (Federal Foreign Office 2018, 5, 26).

Relentlessly, Germany continued its high-level diplomacy in both Washington and Moscow, demanding the renewal of the New START agreement (Federal Foreign Office 2019, 31, 2020, 23). Germany prevailed in NATO to offer Russia a renewal of arms control talks in the NRC and prodded the alliance to enhance its related efforts even under these difficult circumstances by addressing risk reduction and enhanced transparency (Federal Foreign Office 2019, 32–33, 2020, 24).

Germany's perpetual efforts to intensify NATO's arms control and disarmament work suffered a fatal setback through Russia's 2022 invasion of Ukraine. Now the government realized that "a business-as-usual dialogue about questions of European security and arms control is presently not possible" (Federal Foreign Office 2021, 30–31). It maintained, however, that, in principle, security could not be gained without future such efforts (ibid.). Berlin continued its support for arms control talks and the respective U.S.-Russian agreements, insisted on the inclusion of SSNW in future negotiations, and pleaded for new confidence-building measures (Federal Foreign Office 2022, 32, 34). NATO's 2022 New Strategic Concept defined Russia as "the most significant and direct threat" (NATO 2022, 4). To Germany's satisfaction, the alliance also included a strong arms control section, qualified as "complementary" to defense and deterrence (Federal Foreign Office 2022, 33).

Comprehensive Nuclear-Test-Ban Treaty

As a logical corollary to the NPT extension, CTBT negotiations were concluded in 1996. Germany's energetic CD Ambassador Wolfgang Hoffmann worked hard to convince its reluctant allies, particularly France and the United States, that the

Treaty should aim for a real (i.e., a zero yield) stop to nuclear testing. Hoffmann soon became the Executive Secretary of the Comprehensive Nuclear-Test-Ban Treaty Organization's (CTBTO) Preparatory Committee. Afterwards, Germany held on to the objective of bringing the Treaty into force, against the mainly Republican opposition in the United States. In 2010, for example, the Federal Government initiated an EU Joint Action to support the CTBTO's verification system with a total of five million Euro (Federal Foreign Office 2011, 16). Germany emerged as the third largest contributor to the organization. It supported the verification system permanently with two seismic and two infrasound stations as well as one radionuclide station (Federal Foreign Office 2013, 13). During the German EU presidency in early 2007, Berlin undertook a global demarche action for universalizing and bringing the CTBT into force and to improve the financial situation of the CTBTO (Federal Foreign Office 2008, 21).

German foreign ministers regularly used UNGA autumn sessions and the Conferences of CTBT parties to urge for ratification of the Treaty by all states on whose membership the entry into force was conditional (Federal Foreign Office 2012, 4, 11–12, 2013, 13). Germany conducted repeated high-level demarches to convince Indonesia to ratify, succeeding in 2012 (Federal Foreign Office 2013, 13). Even to the regular biannual conferences for fostering the CTBT's entry into force—because of their desperate spirit called “handwringing conferences”—Germany sent its foreign minister to demonstrate its commitment to the Treaty (Federal Foreign Office 2015, 17).

Germany's activism for the test-ban was rewarded in 2013 when the country was invited into the “Friends of the CTBT” group, which regularly prepares the biennial ministerial meetings of CTBT parties (Federal Foreign Office 2014, 22). One year later, Germany's former Ambassador Hofmann was coopted into the “Group of Eminent Persons,” created by the CTBTO to lobby for new ratifications—another recognition of the proactive German role (Federal Foreign Office 2015, 15). From 2018 onward, Germany was also represented in the CTBTO Consultative Committee for Budgetary Issues (Federal Foreign Office 2018, 18).

In 2019, then-Foreign Minister Maas, together with Algeria, took over the co-chairmanship of the entire “Article 14 process” and consequently of the related conference, which promote entry into force (Federal Foreign Office 2019, 8, 23). The two chairs convened a virtual meeting in early 2021 to address the connection between the strengthening of the CTBT verification system and chances for bringing it into force (Federal Foreign Office 2020, 17, 2021, 24). Afterwards, Germany initiated a new EU demarche campaign to persuade additional hold-out states to ratify, and co-authored an EU working paper on this purpose.

Fissile Material Cut-off Treaty

Germany was an early supporter of an FMCT. When the CD became permanently blocked, Germany presented a working paper in the 2008 NPT PrepCom to create new momentum for an FMCT, in addition to bilaterally propagating immediate negotiations (Federal Foreign Office 2009, 37). In the 2010 NPT RevCon, China

opposed the FMCT becoming part of the Action Plan. Germany then tried an indirect route to progress by focusing on technical issues. It gained support from its NPDI partners, first, for a working paper in the CD and second, for a proposal in the UNGA to establish a group of technical experts to explore the technical aspects of an FMCT. The UNGA adopted the proposal in December 2011 (Federal Foreign Office 2012, 4, 39). On the basis of this mandate, Germany co-organized with The Netherlands two preparatory FMCT expert meetings in 2012 (Federal Foreign Office 2013, 37). When the UN installed a Group of Governmental Experts (GGE) in 2013, Germany ensured its membership (Federal Foreign Office 2014, 79).

Berlin chaired a series of informal consultations in the CD in 2015, which, the Foreign Office claimed, showed that the process of shoring up consensus had progressed “to the degree of maturity where negotiations could begin” (Federal Foreign Office 2016, 18). In the aftermath of the failed 2015 NPT RevCon, Germany emphasized at an NPDI meeting convoked in Berlin to continue down the chosen path (*ibid.*, 14), but to explore at the same time new venues for taking nuclear disarmament forward. This sounded surprisingly close to the promoters of nuclear abolition, but was meant only as an effort to seek out possibilities to negotiate on more moderate steps—notably on an FMCT—outside the NPT review process and the CD (*ibid.*, 7). Thus, a resolution by Germany, Canada, and The Netherlands, tabled in the UNGA, to initiate a process for preparing FMCT negotiations in the UN context was adopted. Only Pakistan objected (Federal Foreign Office 2017b, 6, 12). As a first step, the UNGA installed a High-Level Preparatory Group (HLPG) of 25 members, outside of the CD. The group was to review the reports by the GGE and to give, by consensus, recommendations for substantial elements of an FMCT. That way, the FMCT was to be maintained as a topic on the international disarmament agenda and moved closer to negotiations (*ibid.*, 18).

The HLPG started with an informal consultative meeting in March 2017. Germany, as one of two cosponsors, immersed itself intensely, financed experts, and focused on verification as one of the most contested areas. Moreover, Germany engaged in knowledge-building by holding several information meetings in Geneva. The first round of the Group’s work discussed scenarios for how an FMCT might be worked out, what definitions might be used, and what the institutional framework might look like (*ibid.*, 27). The Group’s 2018 report, which presented many elements for a treaty and contained recommendations for the negotiations process, was adopted by the UNGA with a broad majority (Federal Foreign Office 2018, 19–20). Having achieved that success, Germany took the chair in a sub-working group on an FMCT within the CD to keep the issue alive in this venue as well. This was an auxiliary ploy to circumvent the still-reigning blockage in Geneva (Federal Foreign Office 2017b, 40).

Since 2019, Germany, Canada, and The Netherlands have tabled annually a resolution in the UNGA First Committee to keep the item on the UNGA agenda (Federal Foreign Office 2022, 25). In addition, the three countries have tried to persuade the P5 to take a processual approach granting more transparency on their fissile material stocks and thereby leading to reductions of these stocks as steps towards an FMCT (Federal Foreign Office 2019, 24). Foreign Minister Maas

picked the subject up in the UNSC session he chaired in early 2020 and called on the NWS to engage more on a cut-off (Federal Foreign Office 2020, 18).

Treaty on the Prohibition of Nuclear Weapons

The 2015 Mexican suggestion to create an open-ended working group (OEWG) for filling the “legal gap” of nuclear prohibition was refused by Germany as a further impulse to political polarization (Federal Foreign Office 2016, 13–14). Nevertheless, Germany participated in the three OEWG meetings in Geneva with a bridge-building intention, but did not support the majority conclusion of seeking a direct way to prohibiting nuclear weapons (Federal Foreign Office 2017a, 5–6). Hence, Germany voted in the UNGA against Resolution A/71/450 for direct negotiations on a prohibition treaty, which it regarded as pointless, insufficient on verification, indifferent on fissile material production, counterproductive by way of polarization, damaging to the NPT, and incompatible with Germany’s NATO obligations (*ibid.*, 12). Germany did not join the ensuing negotiations. In the view of the government, a prohibition treaty was not an early step, but the logical and necessary final point of disarmament (Federal Foreign Office 2017b, 31–32).

Against the background of a rising number of ratifications and a growing probability of the TPNW entering into force soon, Germany reclaimed its role as a bridge-builder between NWS and NNWS, between TPNW supporters and opponents, and noted a slightly improved climate for this endeavor as the sharpness of the controversy diminished (Federal Foreign Office 2018, 14). This change helped the Germans to achieve the first common EU position on nuclear disarmament in the UNGA since the beginning of the TPNW controversy (*ibid.*, 16–17).

German comments on the TPNW became more mellow and even friendly. Germany acknowledged the motivations of abolitionists, and conceded that it shared concerns about stagnating disarmament, the cancellation of previous commitments, the modernization of nuclear arsenals, and rising escalation risks. Berlin was seeking to reinvigorate the dialogue between NWS and NNWS to create new disarmament dynamics (Federal Foreign Office 2020, 22). This course crossed an important line in 2021 after the formation of a new domestic coalition between the Social Democrats, the Greens, and the Liberals: Berlin decided to participate in the 2022 first TPNW Meeting of States Parties as an observer and with the intention to engage in a substantial dialogue (Federal Foreign Office 2021, 29). At the meeting in June 2022, Germany lobbied for a condemnation of the Russian aggression against Ukraine, signaled its principal agreement with the aim of a NFWF, and issued support for the TPNW’s humanitarian commitments to cope with the consequences of nuclear testing (Federal Foreign Office 2022, 31).

Pillar II: Nuclear Nonproliferation

Focusing on Germany’s NPT policies as they relate directly to the Treaty’s nuclear nonproliferation “pillar,” in the following section, I look at German policies directed towards nuclear safeguards, export controls, the interdiction of risky

transfers under the Proliferation Security Initiative (PSI) framework, and the Iran dossier.

Nuclear Safeguards

The insights into the Iraqi nuclear weapons program had confirmed the long-criticized insufficiencies of the NPT safeguards system to detect clandestine nuclear weapons activities. Negotiations on improvements started in 1993 at IAEA headquarters. As Germany's chief negotiator in the decisive bilateral talks with U.S. counterparts, the German government re-activated Reinhard Loosch, the retired Department Director in the former Ministry for Research and Technology—a veteran 'battle-horse' of Bonn's traditional nuclear policy. The talks resulted in a viable compromise for a capable investigative verification system, codified in the IAEA's Additional Protocol (AP) of 1997. Loosch and his team worked constructively for a positive result, contrary to past decades. Still, Germany pursued an old preference: 'sharing misery' meant that the AP should not apply to NNWS only, but should impose obligations on NWS as well. The United States accepted the German suggestion and, as a result, a version of the AP for the NWS imposed some duties concerning nonproliferation measures (Loosch 2000).

With the adoption of the AP, Germany's attitude towards IAEA safeguards changed by 180 degrees. Germany signed and ratified promptly. The protocol entered into force for Germany only in 2004; not because of German, but of EU partners' delay. From then on, the German government supported further improvements in the IAEA's verification system and funded safeguards work beyond the regular budgetary contributions for new methods, special instruments, and the provision of experts. By 2015, such voluntary assistance for the IAEA labs had reached 7.8 million Euro (Federal Foreign Office 2016, 20) and was reliably continued afterwards (Federal Foreign Office 2021, 33). Germany promoted the adoption of the AP by all NPT parties, and advocated for AP implementation as a precondition for supply in the Nuclear Suppliers Group (NSG).

Export Controls

German export policies and controls on nuclear and other sensitive goods were initially strengthened between 1989 and 1992. Germany then led the effort to install a European export control system in 1992. The reason: Germany did not want its industry to suffer competitive disadvantages from its new policy compared to its European contenders. Thus, Germany became a driver of sharp export controls. This role was recognized in the support program for third countries, which the EU established in 2006: the Federal Office for Economic Affairs and Export Control (BAFA) was entrusted with the mission to operate this program. This continuing task included outreach to convey information on export controls, encourage partners to build effective export control systems, and offer practical assistance for their creation (Federal Foreign Office 2012, 35; 2014, 102–103).

This profound change was not a one-time event. Germany argued for including intangible technology transfers and catch-all clauses into the NSG's portfolio.

Later, it supported the adoption of the AP by transfer recipients and the permanence of IAEA safeguards on transferred items even after a potential withdrawal from the NPT (Federal Foreign Office 2003, 29, 2005, Appx. 9). German proposals to improve intangible technology transfer as well as end-use controls followed in 2008 (Federal Foreign Office 2009, 40), and were adopted by the NSG in 2009 (Federal Foreign Office 2010, 40). When years of persuasion attempts in the NSG to cover brokerage and transit trade gained ever more support but could not overcome the resistance of a small group of hard-headed members, Germany, in the fall of 2013, presented a stopgap measure: a Best Practices Guide with useful recommendations for the practice of national authorities (Federal Foreign Office 2014, 87). The Guide was adopted as an official NSG document one year later (Federal Foreign Office 2015, 46–47).

Further on, Germany cooperated with other active NSG members to intensify information exchange about license denials—an important warning measure to flag 'shopping tours' by potential proliferators (Federal Foreign Office 2008, 32). In 2008, Berlin suggested adopting NSG rules for brokerage and transit (Federal Foreign Office 2011, 44), and in 2011, the NSG adopted rules for strict criteria on the transfer of sensitive technologies that Germany had initiated (Federal Foreign Office 2012, 41).

A special export control case was the request by Washington in 2007 to exempt India from the NSG's transfer condition of full-scope safeguards. The case was very much contested in the NSG and it took two years to reach consensus. Even though intense internal discussions as well as critical questions by the *Bundestag* arose, the Federal Government gave in relatively early. Unlike the 1970s and 1980s, it was not a commercial interest, but rather a political reason to join in. Berlin did not want to lengthen the list of grave disputes it already had at that time with the George W. Bush administration. The relationship was bumpy enough. In addition, Germany took into account India's weight as a rising power in an important world region as well as its potential role as a nuclear exporter, the latter of which motivated German assistance to India to establish an effective control system (Federal Foreign Office 2011, 44, 2012, 41, 2013, 40–41). Thus, it might not have been incidental that the exemption clause for India was adopted by the NSG in 2008 when Germany was presiding (Federal Foreign Office 2009, 40). Later, Germany joined forces with Austria, one of the critics of India's inclusion in the NSG, to convene a clarification workshop on the conditions of accession of non-NPT parties. The workshop was applauded, but did not finally settle the issue (Federal Foreign Office 2016, 51).

A remarkable German export control initiative outside of the NSG has been the so-called Wiesbaden Process in the context of UNSC Resolution 1540 of 2004. From the beginning, the Resolution had served the goal of making certain measures to oversee nuclear and nuclear-related transfers obligatory for all UN members. The German initiative focused on cooperation between export control agencies and related industry with a view to enhancing industry awareness and professional handling of security risks while drawing on industry experiences and concerns to optimize control practices by governmental agencies (*ibid.*, 8). Wiesbaden

Conferences became a regular venue for discussing relevant issues such as supply chains, due diligence obligations of companies, and compliance programs for medium and small enterprises. Regional offspring conferences in East Asia and Latin America proved the global value of this format (Federal Foreign Office 2017b, 66).

The good standing of Germany in the NSG was demonstrated by the appointment of a BAFA official as Chair of the Permanent Consultative Group in 2019. The work of the experts in this Group has grown in importance, as consensus has been escaping the NSG plenary since 2022 due to controversies concerning the war in Ukraine (Federal Foreign Office 2022, 102).

Interdiction of Risky Transfers: PSI

In 2003, Germany joined the George W. Bush administration's Proliferation Security Initiative (PSI) for the interdiction of proliferation-relevant contraband. Berlin, however, emphasized the priority of civil interdiction measures and did not participate in military interdiction exercises for reasons of national and international legal constraints (Federal Foreign Office 2005, 35, 41). In the PSI's core grouping, the Operational Expert Group (OEG), Germany sought to walk a fine line between effective measures to prevent proliferation in case undesirable transfers were already on their way and the flaws of Washington's extralegal unilateral application of force. It tried to prove its good faith participation by convening the first regional PSI meeting for the European continent, which served the purpose of familiarizing the EU and EU members not participating in PSI with the work of this group (Federal Foreign Office 2006, 35).

Berlin used its chairing of the OEG at the 2011 Berlin meeting to put emphasis on training PSI partner nations who were not OEG members in interdiction activities while focusing on cooperation between law enforcement institutions (and not armed forces) for this purpose. Germany influenced the decision to enhance PSI outreach activities and undertook to complement the classified PSI website, accessible only to OEG members, by an open website, which would provide information to all interested parties. Germany used the double incidence of a cooperation-friendly U.S. executive under Obama and its own chairmanship in 2011 to move the priorities of PSI activities remarkably close towards the realm of its own political preferences (Federal Foreign Office 2012, 6, 43). It initiated a working group on legal issues and assumed its chair to further move the PSI focus on activities within the boundaries of international law (Federal Foreign Office 2013, 43).

The ultimate success of the German PSI line was the OEG's decision in 2014 to reduce emphasis on military interdiction and enhance the focus on civilian institutions such as customs, police, and export control agencies as well as on enhanced outreach and assistance to relevant states that would not become OEG members in the foreseeable future (Federal Foreign Office 2015, 49). Germany presented the progress made at a 2015 OEG meeting in Berlin, and the Group's work informed interdiction passages in the 2017 UNSC Resolution 2375 concerning proliferation risks stemming from North Korea (Federal Foreign Office 2016, 54, 2017b, 117).

Finally, together with France, Germany coordinated the Mediterranean Sea Initiative, a regional PSI outlet, which held a workshop in 2022. At an OEG meeting the same year, Germany presented a study on how to counter multinational procurement attempts, i.e., simultaneous procurement operations in several countries (Federal Foreign Office 2022, 106).

The Iran Dossier

The strong effort to settle the issue of the Iranian nuclear program, started by the three EU states France, Germany, and the United Kingdom in 2004, soon joined by the European Union, represented by its High Representative for Foreign and Security Policy. It opened a new, high-level policy arena for German nonproliferation policy (see also the chapter by Cornelius Adebahr in this volume). The United States, and later Russia and China, joined the negotiations, now called correctly E3/EU+3 (and not P5+1, as the EU-ignorant United States would have it). The hard line of the Bush administration on the one hand, and of Iranian President Mahmoud Ahmadinejad on the other hand, made success impossible. Germany would consistently plead for a diplomatic solution, based on the double track of the readiness to impose additional sanctions in response to Iranian lack of cooperation and readiness to relax sanctions stepwise in response to Iranian concessions. Berlin counted optimistically on political reason, which would convince the Iranians that cooperation was in the best interest of their country and people (Federal Foreign Office 2008, 4, 15).

A breakthrough in nonproliferation concerning Iran appeared to be in reach, dwarfing the negative effect of the failed 2005 NPT RevCon. Germany's participation was justified by its unique expertise in centrifuge enrichment technology, which proved essential for the negotiations and was helpful to the IAEA, which, in parallel, had to help in establishing a viable verification system. The Germans persevered in their optimism and cooperative engagement, which, in 2013, yielded the first true breakthrough: the Joint Plan of Action to clarify the still open questions (Federal Foreign Office 2014, 5). In 2015, the process led to the Joint Comprehensive Plan of Action (JCPOA), one of the major triumphs for German diplomacy, which had refused from the beginning a strictly confrontational line towards Teheran, but pleaded rather for a combination of sticks and carrots. This combination had borne fruit, and Germany would supervise the result as one of five governments (plus the EU), and the only NNWS involved. Strong resistance by U.S. Republicans did not prevent the agreement from emerging, but suggested expectable troubles in case of a change of administration in Washington. Germany had inserted useful expertise on transparency, technological constraints, and the construction of the Procurement Channel, which Iran had to use to buy equipment. Of course, German participation was also useful because of the unique knowledge on centrifuge technology in German industry (Federal Foreign Office 2017a, 20). The German government celebrated the success as a "solution of the worst nuclear nonproliferation crisis in the NPT and the opening of new diplomatic spaces and channels" (Federal Foreign Office 2016, 5). Germany noted also that it would not

have been achieved without Russian cooperation, even at a time when Moscow was behaving so destructively in many fields of arms control and disarmament (ibid.). Germany also supported IAEA verification efforts financially (with 3.1 million Euro until the end of 2016), first of the Geneva Plan of Action and then the JCPOA (Federal Foreign Office 2017a, 209).

The triumphant feelings evaporated quickly when the incoming Trump administration started immediately attacking the JCPOA in 2017 until the final U.S. withdrawal in May 2018. Germany's Western partners and the EU closed ranks in defense of the agreement—while trying to accommodate the Americans by more frequent criticism of Iran's regional policies and missile programs—as the IAEA certified Iran's compliance with the JCPOA. The effort, nevertheless, proved an uphill battle (Federal Foreign Office 2017b, 1, 11). Germany left no doubts of its critical stance of the U.S. decision and continued its financial support for IAEA verification efforts under the JCPOA (ibid., 57, 2018, 49). Berlin engaged in keeping the JCPOA afloat and in ensuring Iranian compliance, using the Joint Commission, the IAEA Board of Governors, and top-level diplomatic contacts with Iran, including a visit of the Federal Foreign Minister to Tehran in June 2019 (Federal Foreign Office 2019, 50–51). Germany and its European partners, despite admitting an “existential crisis” of the JCPOA (Federal Foreign Office 2020, 10), maintained the agreement through 2020, though with increasing difficulties due to Iranian obstinacy and the indifference of the remaining P5 members.

Pillar III: Peaceful Uses

In the final, shortest part of this section, I assess Germany's NPT policies as they relate to peaceful nuclear uses, the third “pillar” of the NPT. As an exemplaric case, I analyze German policies vis-à-vis the multilateral fuel cycle arrangements.

Multilateral Fuel Cycle Arrangements

Germany's jealous fight to control and protect the national fuel cycle relaxed after unification. As a transparency measure, between 1994 and 1997 it co-negotiated the International Plutonium Regime and became a founding member of it. Plutonium-producing and plutonium-using states (i.e., the five NWS, Belgium, Germany, Japan, and Switzerland) agreed on rules for accounting, protecting, and notifying international transfers and initiated annual reports on stocks. Germany had wished to also subject military and “disarmed” plutonium to these rules, but some NWS balked (Federal Foreign Office 2005, 39).

Germany supported efforts to obtain multilateral fuel guarantees, possibly through multinational or international fuel cycle facilities (Müller 2005a). Already discussed in a working paper introduced in the PrepComs for the 2005 NPT RevCon (Federal Foreign Office 2005), it resulted in an initiative of Federal Foreign Minister Steinmeier: commercial actors would construct an uranium enrichment facility, controlled and operated by the IAEA on the basis of normal market economics, in a kind of extraterritorial area sanctioned by a treaty between the host state and the IAEA; it would be accessible to any customer in good nonproliferation standing.

The proposal was circulated by the IAEA in May 2007 (IAEA 2007), explicated later that year in a workshop for European decisionmakers, and presented to IAEA Member States and to a 2008 Berlin nuclear fuel cycle conference co-sponsored by The Netherlands and the United Kingdom. The Germans inserted a working paper on the proposal in the 2008 PrepCom for the 2010 NPT RevCon (Federal Foreign Office 2009, 12). Berlin drafted model treaties for the IAEA/host country and the IAEA/interested states relationships (IAEA 2008a, 2008b; Federal Foreign Office 2009, 45). In 2009, Germany presented its proposal to the IAEA's Board of Governors, and even in the rather obsolete UN Disarmament Commission (Federal Foreign Office 2010, 37–38, 46).

The concept was complex and opened up several difficult legal and political questions, such as how to ensure the security of the facility vis-à-vis the host state. Its determined supranational orientation provoked national policies of technology holders and triggered the NAM aversion against closing national routes to allegedly advanced technologies, the same aversion West Germany had shown for a long time (*ibid.*, 46). Offers by Russia and the United States for holding fuel stocks ready for customers unable to find supply on the normal market won more favor in the IAEA Board of Governors in December 2010, and a Russian offer to sell shares in one of its enrichment facilities attracted interest. The German government propagated its scheme in bilateral talks and continued to do so, without results, after Steinmeier had left the Foreign Office (*ibid.*, 38, 2011, 52). In 2012, the Federal Foreign Office remarked dryly that the fate of the proposal was contingent on states taking interest in it (Federal Foreign Office 2012, 45). This stated the problem quite well. In 2014, the Office concluded that reservations in the Board of Governors were so strong that it no longer made sense to table the German proposal “until a principal clarification of open questions” was reached (Federal Foreign Office 2014, 96). When Steinmeier returned as Minister in 2015, the Annual Disarmament Report discussed affirmatively the opening of an IAEA fuel storage facility under IAEA administration, a project that came closest to the initial German proposal, which was not even mentioned in this report (Federal Foreign Office 2016, 23). The major German effort concerning the third “pillar” had run its course.

Conclusions

German unification coupled with changes in domestic attitudes toward nuclear energy changed the “troublemaker role” of the country in the NPT most profoundly. This concerned the military side, where on the one hand Germany continued its staunch NATO commitments, but on the other hand also engaged in continued and sometimes daring initiatives for arms control and disarmament, including on the question of nuclear sharing or when Federal Foreign Minister Klaus Kinkel suggested a nuclear arms register in 1994. German arms control and disarmament activities increased in number, intensity, and sophistication over the years.

Beyond the cases discussed in the above section on “pillar one,” Germany engaged in the exploration of verifying nuclear disarmament in the International Partnership for Nuclear Disarmament Verification from 2016 onward, and in the

UN GGE on Nuclear Disarmament Verification, which was established in 2018 (Federal Foreign Office 2020, 19, 26, 2022, 30). In 2015, Germany took up the topic of Negative Security Assurances and developed it to a field of permanent activity (Federal Foreign Office 2017b, 28, 40, 2018, 14, 22, 40). In the U.S.-sponsored initiative for Creating an Environment for Disarmament, the German chair of the working group on escalation risks used his role to include Negative Security Assurances in his group's proceedings (Federal Foreign Office 2019, 9, 27, 2021, 28). Germany's active commitment to her priority disarmament topics—CTBT, FMCT, and SSNW—was consistent and perseverant, but unsuccessful because of American, Russian, and Chinese resistance. The embracement of the objective of a NFWF and the early shift from a completely hostile attitude to an accommodating, mediating position on the TPNW gives German disarmament commitment some credibility. Positions deviating from the NWS allies' preferences were taken repeatedly, but deviance found its limit when it could have undermined NATO's nuclear posture and arrangements.

Germany's "pillar two" policies constituted a veritable turnabout after 1990. Nuclear export rules and safeguards became exemplary, and the respective German policies acquired an almost missionary overtone. The effort to get stricter rules in both fields, exports and safeguards, showed perfect continuity, but met their limits when the NAM judged that new measures were only acceptable when disarmament proceeded, or when measures simply ran against the wall of NAM sovereignty concerns. In the Iran crisis, Berlin stuck stubbornly to a cooperative solution and almost prevailed. Unreasonable Trumpism, and later the equally unreasonable lust for power by Iranian extremists, destroyed that solution.

The same applies to the main "pillar three" activities on multinational fuel cycle arrangements. Germany was heavily involved in the U.S. Cooperative Threat Reduction program to secure fissile and radioactive material and related facilities on the territories of the former Soviet Union.⁵ Germany was a strong supporter of the G-8 Global Partnership Against the Spread of Weapons and Materials of Mass Destruction and President Obama's Nuclear Security Summits (Federal Foreign Office 2003, 20, 2005, 41). Yet, a strange relic from the old days of German "troublemaking" persevered: to protect its Research Reactor at Garching, which uses highly enriched uranium (HEU) for achieving the desired flux of neutrons, Germany insisted over decades that international efforts to eliminate HEU fuels in research reactors should remain qualified by "economic and technical feasibility" (Federal Foreign Office 2013, 44, 2016, 24).

All of this indicates that Germany's policies towards the three NPT "pillars" did not stop with agreeing to the wish lists contained in the final declarations of RevCons but instead aimed consistently at implementation as far as it was within German powers. German conduct in preparation of and during NPT RevCons proves a genuine interest and effort to keep the NPT stable and to develop its meanings further by consensus of its parties. The success of these good intentions did, of course, not depend on Germany. It failed all too often because of the narrow-minded power interests of right-wing U.S. Republicans, Russia's clinging to nuclear greatness, and the determination of China to draw level with its two main

competitors. It also failed due to the stubborn sovereigntist stances of NAM leaders. Germany looked for allies, first in the EU, where political space shrunk due to the disarmament radicalization of Austria and Ireland as well as staunchly pro-nuclear France, which left only the smallest common denominator. Germany then turned to two North/South groupings to engage in bridge-building: the NPDI and the SI. But alas, broadening the perspectives meant returning to the smallest common denominator, though on another level. German bridge-building failed more often than it succeeded.

Russia's war against Ukraine presents a *Zeitenwende*, comparable to 1990. Before the war, the German concept of being a "good citizen" with a reformist agenda was domestically suprapartisan and popular. It influenced the perception and assessment of political events. Through the mechanism of cognitive consonance, contradicting political evidence (which became more frequent over the years) was incorporated into this worldview and transformed into an impetus for even more cooperative policies. When Russia invaded Crimea and fastened its hold on the Donbass in 2014, German policymakers did not deem that a reason to strengthen defense and handle arms control and disarmament more cautiously. Rather, the Federal Foreign Office stated that "transparency and confidence-building measures in disarmament and arms control policy are urgently needed, especially in times of crisis: they can help to ensure military transparency and predictability and thus have a stabilizing effect" (Federal Foreign Office 2015, 5). In 2019, under the impression of rising nationalism and unilateralism, Germany initiated the Alliance for Multilateralism to counteract growing polarization and confrontation, with the aim "to defend, develop further, and, where necessary, reform the multilateral order" (Federal Foreign Office 2019, 6). Even though the alliance attracted 70 adherents, it was a valiant attempt to turn the clock back to the mid-1990s.

Today, with the war in Ukraine in its second year, Germany tries hard to keep the components of its "good citizen role" and its reformist approach together. Even though cooperative security initiatives are stalled by and large, when it comes to risk-reduction and transparency measures, at least modest steps are being explored and Germany even demands them from its allies. Over time, arms control and disarmament are to be developed anew. And, all the time, the NPT is to be maintained and, if possible, strengthened. Whether this vision will endure, or whether the human stupidity of the heads of the great powers and other ambitious leaders will force Germany into the tragedy of an unwanted, long-term confrontation or worse, remains an open question.

Notes

- 1 I deal with the period from 1995 to 2000 only briefly in this section, as this period is well researched (cf. e.g., Müller 2003).
- 2 All translations from the German regarding these reports have been conducted by the author.
- 3 The dissenters were not 'anti-NPT' but wanted guarantees for progress in nuclear disarmament.

- 4 The members of the Stockholm Initiative are Argentina, Canada, Ethiopia, Finland, Germany, Indonesia, Japan, Jordan, Kazakhstan, the Netherlands, New Zealand, Norway, the Republic of Korea, Spain, Sweden, and Switzerland.
- 5 For a ten-year balance, see Federal Foreign Office (2006, 34).

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11 Germany and the Puzzling End of Nuclear Latency

Ulrich Kühn

Introduction

For several decades, anti-nuclearism—meaning broad popular opposition to nuclear weapons and to the use of nuclear energy for civilian purposes—has been a defining feature of domestic German politics during and after the end of the Cold War (Radkau and Hahn 2013). Anti-nuclearism had helped propel the rise of the Green party, from its early days as a fringe opposition party to its first government participation under Chancellor Gerhard Schröder from the Social Democratic Party (SPD). Back then, at the end of the 1990s, the SPD-led coalition initiated legislation for Germany to get rid of nuclear energy. Relying on an overwhelming cross-party consensus, in 2011, it was Chancellor Angela Merkel from the Christian Democratic Union (CDU) who decided to completely phase out civil nuclear energy by 2022. The core meltdown in the Fukushima Daiichi plant had led Merkel to conclude: “Fukushima has forever changed the way we define risk in Germany” (Schwägerl 2011).¹

The Ukraine War and the resulting energy shortages, caused by a combination of curbed Russian gas deliveries and German plans to become independent of Russian gas, only briefly interrupted these policies. Even though the German *Bundestag* decided in November 2022 to extend the life of two of Germany’s remaining nuclear power plants for an additional three and a half months in order to cope with energy shortages, the ruling coalition of SPD, Greens, and Free Democrats (FDP) made it clear that the decision would not affect the principal plan to quit nuclear energy (Bundestag 2022).

Neither in the 2011 decision nor in the 2022 debate did the dual-use nature of nuclear energy production play any role.² This is puzzling, as nuclear latency—the technical capacity to produce atomic weapons—could theoretically serve as a hedge against future contingencies, notably the rise of an adversary or demise of an alliance; two scenarios, one could argue, that have become much more realistic for Germany lately. A recent wave of scholarship finds that allies in particular tend to leverage latency to hedge against contingencies (Levite 2002; Montgomery and Sagan 2009; Narang 2016), reap deterrence benefits (Fuhrmann 2017), and compel concessions (Mehta and Whitlark 2017; Volpe 2017, 2023), especially greater assurances from patrons (Roberts 2015, 217; Blankenship 2018; Lanoszka 2018).

In this chapter, I try to answer the question of why the latent nuclear weapons option that comes with mastering the nuclear fuel cycle did not play any role in Germany's decisions to phase out civil nuclear energy. The intuitive answer is domestic pressure to give up nuclear energy (Glaser 2012; Schreurs 2012). In 2022, however, a majority of Germans—previously in favor of completely shutting down Germany's nuclear power complex—had become supportive of continuing to use nuclear energy, even in the long term (World Nuclear News 2022). I argue that domestic politics alone cannot explain German phase-out. National leaders have to consider both domestic and international conditions (Mair 2009). Combining these two crucial dimensions, I argue that three independent variables would have to converge for democratically elected leaders to give up the nuclear latency option: no necessity, no credibility, and no viability.

Necessity refers to the international conditions: does the state face external threats? Is it in an alliance or not, and are the alliance guarantees perceived as credible and reliable? Are there foreign policy objectives that leveraging latency might help to achieve? *Credibility* refers to both international and domestic conditions: does the state have the necessary technical capabilities? Would leveraging latency lead the state to be better off or worse off in terms of its own security? Is the state confronted with international restrictions that would make it difficult to leverage latency? Finally, *viability* refers solely to the domestic conditions: does the state face domestic opposition to nuclear energy, and perhaps to nuclear weapons too? I argue that, in essence, any leader in a representative democracy has to answer three questions when it comes to acquiring and retaining nuclear latency: is it necessary, credible, and viable?

Examining three periods of German nuclear energy use—from 1954–1967, 1968–1989, and 1990–2011—I find that in conjunction with the end of the Cold War, retaining latency lost its allure as a “fallback option”³ for German policymakers, as it had become unnecessary, was not credible, and not viable anymore. Phase-out, put into legal practice at the end of the 1990s, was the logical consequence of this development, and the Fukushima accident only accelerated the pace with which Germany gave up nuclear energy, and hence the latent nuclear option. In the concluding section of this chapter, I argue that the conditions once conducive to phase-out have changed in recent years. Even though some of the conditions that would again speak for a German “fallback option” are again in place today, I assert that the international as well as domestic costs of reversing course are likely to be considered too high by German leaders—at least for the time being.

Acquiring and Leveraging Latency (1954–1967)

In 1954, West Germany regained partial sovereignty and acceded to the North Atlantic Treaty Organization (NATO) and the Western European Union (WEU) in exchange for a voluntary pledge “not to manufacture in its territory atomic, biological and chemical weapons” (Western European Union 1954).⁴ Only one year later, the so-called “Carte Blanche” NATO air maneuver made the West German public realize that a war between the two blocs would turn all of Germany into

nuclear ground zero (Kelleher 1975, 35–43). The same year, the first U.S. nuclear weapons were secretly deployed to West Germany (National Security Archive 1999, 246). In 1956, a leaked plan by the Chairman of the Joint Chiefs of Staff, Admiral Arthur Redford, to massively scale back military personnel in Europe caused fears of abandonment in Bonn (Kelleher 1975, 43). Finally, the 1957 Sputnik shock made West German policymakers realize that the Soviet Union had caught up to America and that the U.S. homeland was now at risk in a potential nuclear exchange.

In reaction to these developments, West Germany secretly probed possible proliferation through the short-lived but quite far-ranging Franco-Italian-West German (FIG) consultations for jointly manufacturing nuclear arms. Even though scholars disagree about the full scope of West German determination to acquire nuclear weapons (Lutsch 2018), the option was apparently considered up to the highest circles in Bonn. Because French President Charles de Gaulle put a sudden end to the FIG flirtation in 1958, the ultimate thrust of the project, which could have been either trilateral European cooperation resulting in three national nuclear weapons programs or a somehow combined European deterrent, remains unanswered.⁵ In response to West German concerns, the Eisenhower administration agreed to increase the number of tactical nuclear weapons deployed to Europe and equipped the *Bundeswehr* with these systems, though the ultimate control of the warheads remained under U.S. custody—a policy known as nuclear sharing. In addition, the U.S. Air Force started to train West German pilots on nuclear bombers, and in 1960 the Eisenhower administration unveiled a plan for the development of a European sea-based deterrent under NATO command: the Multilateral Force (MLF). When the Kennedy administration postponed the MLF and instead introduced doctrinal changes under the concept of Flexible Response, West German leaders reacted again with alarmism (Kelleher 1975). In 1963, West Germany signed the Partial Test Ban Treaty, a prelude to the negotiations on a Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

Meanwhile, West Germany's fast-developing civil nuclear research program gave Bonn another means for voicing its discontent with U.S. nuclear policies. West Germany's very determined pursuit of nuclear technology and the cross-party nuclear euphoria that characterized the 1950s and 1960s took place at a time when the benefits of civil nuclear energy were still a rather distant promise. The only proven application was militarily. Thus, Bonn's embrace of nuclear technology raised suspicions early on, the more so since West German leaders started to consider reprocessing and fast breeder reactors (International Panel on Fissile Materials 2015, 45).⁶ By the end of the 1950s, four federal and state-owned nuclear research centers were operating.⁷ All in all, five light water reactors were ordered by West German utilities in the second half of the 1960s. A 1966 U.S. National Intelligence Estimate found that West Germany by "Ignoring safeguards and other political restrictions [...] could probably have a first device ready for test in about one year." The estimate concluded, "Bonn will probably want to keep open what options it can for the eventual production of nuclear weapons" (Central Intelligence Agency 1966).

West Germany's building up a latent capacity dovetailed with vocal complaints about NATO's security arrangements brought forward in numerous meetings with U.S. officials. Chancellor Konrad Adenauer's (CDU) and Minister Franz Josef Strauss' (CSU) forceful pursuit of equipping the *Bundeswehr* with U.S. tactical nuclear weapons and their constant push for a West German voice in NATO nuclear decision-making created the impression of a nervous ally that would, according to U.S. Secretary of State Dean Rusk in 1962, "pressure for nuclear weapons unless there are multilateral arrangements in NATO" (Ahonen 1995, 25). Strauss himself had helped to build up the image of West Germany's renunciation of nuclear weapons being contingent on what he described in 1961 as "NATO's continuing to be in a position to carry out its protective function" (*ibid.*, 29). In 1961, the concerning combination of Bonn's drumbeat and West German advances in the civil nuclear sector had reached the White House. In a private meeting with Adenauer, U.S. President John F. Kennedy asked the Chancellor bluntly whether he would still feel bound by the 1954 pledge not to produce weapons of mass destruction. Kennedy concluded that if West Germany "began nuclear experimentation the danger of war would sharply increase without providing additional security compared to what we have at present" (U.S. Department of State 1961). Adenauer replied that his government "was not considering any nuclear experimentation" (*ibid.*). Obviously, West Germany's leveraging latency did not go unheard. But perhaps West German intentions were over-interpreted in the United States. In a private conversation with nuclear physicist Otto Haxel at that time, Strauss revealed,

he [Strauss] was not as stupid as to presume that Germany could afford to build its own nuclear weapons. But he wanted to have the capability for doing so as a bargaining chip in international negotiations. 'As a politician, you do not relinquish something like that just for nothing.'

(Radkau and Hahn 2013, 121)

Not relinquishing the weapons option became the core motive for West Germany's Conservatives. Accordingly, frustrations spread across Bonn when plans for an international, and this time legally binding, treaty preventing the further proliferation of nuclear arms—the NPT—surfaced. Adenauer, by then not in office anymore, vilified a first U.S. draft as "a tragedy for us Germans" which, over the long term, would hand over Europe to the Russians (Radkau and Hahn 2013, 214). The more the two superpowers inched closer to an agreement, the shriller the contributions by West German Conservatives became. Adenauer described the NPT as "a squared Morgenthau plan" and as the "death sentence" for Germany, while Strauss saw "a new Versailles of cosmic dimensions" (*ibid.*). In 1967, Chancellor Kurt-Georg Kiesinger (CDU) put down his foot and refused for West Germany to join the NPT, on grounds that this was "a question of national dignity and national prestige" (Schöllgen 2015). He also insisted that the treaty would only be of limited duration, in order to not "deprive Germany forever of the ultimate means of self-defense" (U.S. Department of State 1967). The same year, Washington finally

fulfilled a key West German demand by giving Bonn a role in NATO nuclear decision-making through the newly established Nuclear Planning Group.

Discussion

Taken together, between 1954 and 1967, West Germany faced a high-risk environment and experienced several instances of a perceived depreciation in the security provided by the United States. Even though the Eisenhower and Kennedy administrations were receptive and worked to adapt and improve upon extended deterrence commitments, from a West German view, acquiring latency handed Bonn a necessary fallback option. In addition, leveraging latency turned out to be useful for compelling the U.S. patron. In terms of credibility, the picture was mixed. On the one hand, West Germany was quick to acquire the technical capacities to proliferate. On the other hand, Bonn confronted strong barriers that would have made proliferation extremely costly.⁸ Perhaps the strongest was the fact that West German proliferation, though meant to increase security, would have immediately deteriorated the country's security situation, sparking a massive regional security dilemma.⁹ Also, Washington was adamantly opposed and imposed a number of stiff restrictions.¹⁰ In terms of viability, the Adenauer governments faced only minimal domestic opposition to nuclear energy initially and could build on broad political support.¹¹

Restricting Latency (1968–1989)

In 1968, NPT negotiations concluded successfully. One year later, the young and charismatic Willy Brandt became the first Social Democrat in the Chancellery. Only a few weeks after coming into office, Brandt signed the NPT. Meanwhile, the politics of U.S.-Soviet détente had kicked off a period of relaxation in superpower relations, paving the way for a West German opening towards the East under the label of *Ostpolitik*.

Already in 1968, Brandt had announced that he would alter West Germany's position on the NPT, should he become Chancellor:

Germany's renunciation of its own discretionary power over nuclear weapons, which is an integral part of our policy, is understood as a German contribution to détente in Europe and not as discrimination. The regulations within NATO, through which the Federal Republic participates politically and militarily in the nuclear planning, are not affected by the NPT.

(Brandt 1968, 221–222).

And with an obvious hint to the previous latency-wielding policy under Adenauer: "The Federal Republic does not pursue a policy of political blackmail. We reject a policy of nuclear blackmail that has already been tried in this world" (*ibid.*).

At the same time, drumming up West Germany's economic interests in the civil nuclear realm, Brandt made clear that NPT accession would come at a price

for Washington: West German freedom in the pursuit of peaceful nuclear use.¹² Only one year after its NPT signature, West Germany established Urenco, a West German-British-Dutch uranium enrichment consortium for civilian commercial purposes, based on centrifuges. Securing unhindered access to the world market for the West German nuclear industry, Bonn resisted U.S. calls for tighter nuclear safeguards and export control measures, and transferred highly sensitive nuclear technology and knowledge to states such as Iran, Brazil, or Argentina (Müller 2003). Washington grudgingly accepted West Germany's often reckless nuclear export policies.

In a separate note attached to its NPT signature, Bonn stated its interpretation of the NPT as not infringing on a possible future European nuclear weapons option.¹³ Prior to signing the NPT, Brandt had made it abundantly clear that the treaty should not prevent such development: "American interpretations made it clear that the treaty would not hinder a development that would one day enable the nuclear defenses of France or Great Britain, or both, to be incorporated into a federal European organization" (Brandt 1968, 224). In addition, Bonn and its European partners pushed back successfully against Soviet pressure during the NPT negotiations and achieved a more limited role of the International Atomic Energy Agency in monitoring European countries participating in Euratom. West Germany also successfully thwarted U.S. plans for an unlimited duration of the NPT. When the 1974 ratification debate in the *Bundestag* brought back all well-known grievances already voiced by Conservative leaders in the 1960s, it was the Parliamentary Spokesperson of the SPD that reminded the audience that "the Treaty leaves the European option open. This is why we will consent to the treaty" (Küntzel 1995).

The latter half of the 1970s was then marked by a whole series of strong transatlantic disagreements, starting with the acquisition of the controversial neutron bomb.¹⁴ While Chancellor Helmut Schmidt (SPD), who had taken over from Brandt in 1974, had already tied his political survival to supporting acquisition of the disputed weapon, U.S. President Jimmy Carter would unexpectedly scrap the decision only a few days before a major NATO meeting in 1977. From there on, the Schmidt-Carter relationship was damaged beyond repair. The Chancellor did not stop voicing his disagreement with U.S. security policy, and in particular America's arms control policy in the Strategic Arms Limitation Talks (SALT). His critique was that Washington had not yet addressed the growing tactical disparity caused by the Soviet SS-20 buildup in the SALT II negotiations (Haftendorn 1985). The West German call for broadening the focus of arms control talks was misread in Washington as a call for a tactical nuclear arms buildup.¹⁵ Until 1979, this transatlantic misunderstanding would evolve into NATO's dual tracks decision.

Misgivings about U.S. nuclear policies continued under Schmidt's successor Helmut Kohl (CDU). In the midst of deployment of U.S. medium-range missiles to West Germany in 1983, U.S. President Ronald Reagan unveiled his plans for a Strategic Defense Initiative (SDI). Strauss, at that time Minister President of Bavaria, remembered the difficulties West German leaders had voicing their perception of risk in Washington: "the Americans [...] did not understand that their efforts to become less vulnerable (in 1983 the catch word was SDI) were

interpreted by the Europeans as an attempt to retreat” (Strauss 1989). Had Bonn’s misgivings about SDI already been ignored in Washington, an unexpected bilateral U.S.-Soviet arms control breakthrough would rattle Chancellor Kohl even more. When U.S. and Soviet delegations agreed to eliminate all intermediate-range missiles between 500 and 5,500 kilometers under the Intermediate-Range Nuclear Forces (INF) Treaty, thereby leaving missiles with ranges below 500 kilometers untouched, Kohl saw a risk of exposing West Germany to superior Soviet conventional forces and nuclear blackmail. Fearful of limited nuclear war, the slogan “the shorter the ranges, the deader the Germans” made the rounds in his party.¹⁶ In a move which can only be described as nuclear panic, Kohl insisted that the *Bundeswehr’s* Pershing 1-A nuclear-tipped missiles would not be withdrawn as part of INF. When Washington increased pressure on Kohl in 1989, however, Bonn had no alternative but to surrender the missiles.

Meanwhile, in the civil nuclear domain, West Germany had approached the halcyon era of its nuclear program. Throughout the 1970s, for the Social Democrats, protecting and nurturing the growing nuclear sector was initially a key national interest (Häusler 1988). Together with the Conservatives, the Free Democrats, the West German industry, and the trade unions, the SPD was part of a powerful cross-cutting interest coalition on nuclear power.¹⁷ During those years, West Germany also closed the nuclear fuel cycle. Although suspicious from a nonproliferation perspective, the two key considerations behind the decision were of a purely domestic and rather mundane nature. On the one hand, Bonn decided to double down on the promise that nuclear energy production would soon rely on next-generation plutonium-driven fast breeder reactors.¹⁸ On the other hand, and more importantly, the government was still in search of a political and technical long-term solution for West Germany’s nuclear waste problem, which lingered unresolved since the 1950s. Back then, reprocessing was considered the only acceptable form of management of spent fuel (International Panel on Fissile Materials 2015, 47). As a result, West Germany had entered reprocessing with the commissioning of the Reprocessing Plant Karlsruhe (WAK) in 1971.¹⁹ In order to overcome resistance from reluctant utilities, the Schmidt administration was not shy to apply coercive means. Bonn even threatened to withhold licensing of new plants as long as utilities would not come forward with concrete plans for a reprocessing plant. These plans finally materialized in the form of a giant reprocessing and waste disposal plant in Gorleben, Lower Saxony.

Around that time, a bottom-up protest movement against nuclear energy started to form, first in the small town of Wyhl, where local protests against a proposed reactor site successfully thwarted the realization of the project. A much larger public controversy emerged over the Brokdorf site, a rural area close to Hamburg, where plans for the construction of a new light water reactor were ongoing since the late 1960s. The protests, “which ultimately led to numerous civil-war-like confrontations between police forces and opponents of the project” (Glaser 2012, 12), were initially less the result of deep-seated anti-nuclear sentiments than the non-transparent, authoritarian style of municipal, state, and ultimately the federal authorities in pushing through a prestigious industry project against the will of the

local population that caused the uprising. Soon, the protests would further spread and anti-nuclear sentiments would come to dominate domestic West German politics.

Meanwhile, in the late 1970s, West Germany's prestigious reprocessing project in Gorleben had come under immense pressure after massive protests had led to international hearings that questioned the safety of the envisioned plant.²⁰ Increasingly, the open question of the final disposal of nuclear waste came to dominate the public debate (Jahn and Korolczuk 2012). A 1979 conference between West German states (the *Länder*) and the federal government decided to make reprocessing legally mandatory for newly licensed reactors. That way, utilities would be obliged to deal with the irradiated fuel, and the extracted plutonium could be used for the envisioned next generation of fast breeder reactors. While Gorleben would still become the final repository site, the state of Bavaria announced to host the reprocessing plant in Wackersdorf, thereby immediately sparking "protests at levels that surpassed imagination, causing long and costly delays" (International Panel on Fissile Materials 2015, 48). In hindsight, the cancellation of the Wyhl reactor and Gorleben reprocessing plants were the first major setbacks for the nuclear sector in West Germany.

The 1986 Chernobyl nuclear accident and the subsequent nuclear fallout over northern and central Europe turned fringe sentiments into mainstream concerns. By then, the hitherto grass-roots anti-nuclear movement had obtained a voice and a face with the establishment of the Greens, who entered the *Bundestag* for the first time in 1983. At the same time, anti-nuclear protests at the Gorleben repository, Wackersdorf, Hanau, and Kalkar sites would not dissipate and instead become a constant, troubling feature of domestic politics. Surveys in the wake of Chernobyl showed that more than 70 percent of West Germans opposed nuclear energy (Jahn 1992). In an immediate reaction, the SPD, having supported nuclear energy well into the late 1970s, changed course and announced its intention to seek the legal phase-out of nuclear energy (Bundestag 1987). By joining forces with the Greens, the West German churches, and the trade unions, who also turned their backs on nuclear energy, the SPD formed a powerful anti-nuclear alliance, particularly successful at the *Länder* level.

Increasingly, the SPD used its power in the *Länder* to slow down, block, or simply obstruct a number of nuclear projects such as the Kalkar fast breeder initiative. With the foreseeable disappearance of the fast breeder, a potential major user for the plutonium, separated at Wackersdorf, had broken down. West German utilities were faced with a difficult situation. On the one hand, they had to cope with the fact that the legal requirement for reprocessing irradiated fuel—the most expensive way of dealing with spent fuel—remained in place. On the other hand, turning to the government was also increasingly a non-option as the West German state had to consider sunk costs of 9 billion dollars for the failing Wackersdorf and Kalkar projects (Glaser 2012, 15). "With dreams of an 'all nuclear' society based on limitless, cheap electricity produced in plutonium-fueled fast breeder reactors fading, reprocessing had lost its main rationale" (Rüdiger 2000, 51).²¹ As a consequence, the reprocessing plant in Wackersdorf was canceled in 1989.

The turn away from the back-end of the nuclear fuel cycle in the 1980s was not only due to anti-nuclear politics but also a combination of failed legislation, changing technological outlooks, and cost considerations. Spurred by Chernobyl, these factors coincided with a general nuclear fatigue.²² West Germany's continued strong reliance on and subsidizing of expensive domestic coal-powered energy production provided the last economic lifeline for nuclear energy.²³ When the Cold War entered its final stage, West Germany was already well on its way to abandoning nuclear energy at some point in the not-too-distant future.

Discussion

Taken together, in the period from 1968 until 1989, West Germany faced a security environment that gradually moved from a lower-risk environment in conjunction with détente to a high-risk environment during the first half of the 1980s, all of which relaxed suddenly at the end of that decade. While no major instances of a perceived depreciation in the U.S. security good had rattled the transatlantic relationship until the latter half of the 1970s, Washington repeatedly acted against West German interests in the nuclear weapons domain under the Carter and Reagan administrations.

Against the threat of an ongoing and, in parts, intensifying Cold War, retaining a latent capacity as a fallback option remained a necessity for West German leaders, though achieving specific foreign policy objectives by leveraging latency vis-à-vis Washington became increasingly unnecessary as America remained a reliable security provider. In terms of credibility, the structural restrictions of sparking a potential regional security dilemma remained in place. Below the level of open war, West German proliferation and even leveraging latency would likely have sabotaged *Ostpolitik*, Bonn's signature foreign policy. In addition, with the NPT, West Germany accepted the highest legal restrictions thus far. For the Brandt and Schmidt administrations, as for their successors, the NPT was not simply another legal instrument but, over time, came to symbolize the official end to any West German proliferation ambitions. At the same time, West Germany's latent capabilities had reached a technical dimension where it became increasingly difficult to leverage them in any convincing manner without causing immediate fears of proliferation. Finally, as regards the viability of retaining latency, an unexpected restricting factor emerged at the domestic level with a constantly growing grassroots movement opposing nuclear energy and also nuclear weapons policies in West Germany, which peaked in the 1980s.

With the costs of possible proliferation further accumulating and leveraging latency no longer reaping coercive diplomatic gains, latency, beyond providing a purely technical hedge, started to slowly lose its political allure for Bonn. It is this combination of high costs and depreciated latency returns in the international dimension, which suddenly interlocked with domestic nuclear opposition, the Chernobyl shock, industrial-political failures, and a stagnating and ultimately no longer profitable nuclear complex.

Shelving Latency (1990–2011)

In 1990, the reunified Germany committed itself once more to a non-nuclear status in the so-called Two Plus Four Agreement.²⁴ Regaining full sovereignty produced initial fears among Germany's neighbors about a rising hegemon.²⁵ Some U.S. scholars and government officials even worried that Germany would be tempted to acquire its own nuclear weapons (Mearsheimer 1990; Tyler 1992). A report by the Western European Union (1994) stressed the necessity to strengthen nuclear deterrence in Europe in the wake of uncertainties about America, thereby suggesting that Bonn might feel forced to develop its own nuclear deterrent. Concerns about a potential U.S. retreat from Europe seemed not unfounded at that time as a cacophony of diverging views on America's role in the world had come to dominate the U.S. political debate. However, the H.W. Bush administration decided early on against a possible retreat (Brands 2018). In a 1991 NATO meeting, U.S. President George H. W. Bush urged allies to show their true colors: "if our premise is wrong, if, my friends, your ultimate aim is to provide individually for your own defense, the time to tell us is today" (Cowell 1991). But contrary to predictions of German proliferation, Bonn did not pursue the nuclear route even when Washington started to withdraw thousands of nuclear arms from the former European theater. When the Clinton administration started to zero in on NATO enlargement in late 1994, a short period of uncertainty ended.

In line with Germany's nonproliferation pledge, the Kohl administration worked successfully behind the scenes to indefinitely extend the NPT.²⁶ At that time, Washington's own embrace of arms control, disarmament, and nonproliferation dovetailed positively with Germany's pursuit of nuclear disarmament, exhibited *inter alia* by Bonn signing the Comprehensive Nuclear-Test-Ban Treaty (CTBT).²⁷ But the 1995 NPT Review and Extension Conference also brought back Germany's idiosyncratic view on the peaceful use of nuclear energy. Language envisioning "that no new civilian reactors requiring high-enriched uranium be constructed" was successfully blocked by German diplomats (Meier 1998). Again, German commercial interests clashed with U.S. nonproliferation objectives.

Bonn's egoistic course can be explained with the massive pressure Germany's nuclear industry was facing at home.²⁸ In 1990, only one year after the cancellation of the Wackersdorf reprocessing plant, the WAK was closed. Another year later, the Kalkar fast breeder was shut down. During those years and "based on the lessons learned in the 1970s and 1980s [...] a *de facto* policy consensus in favor of a decreasing role for nuclear power in Germany [had] emerged," noted Glaser (2012, 17) in hindsight. Meanwhile, the decision to inconveniently ship spent fuel abroad and then later return it to the Gorleben interim repository gave anti-nuclear protesters another easy target. Whenever the specifically designed CASTOR casks would be transported through Germany—sometimes protected by up to 30,000 policemen—violent protests would occur.²⁹ In 1994, an amendment to the German Atomic Energy Act finally dropped the legal requirement for utilities to reprocess and to pursue direct disposal as an alternative. But only two years later, the European Union (EU) Electricity Directive finally cut the last lifeline of

nuclear energy in Germany. The new legislation pushed the liberalization of the EU electricity market and put an end to the German model of regional monopolies and state-backed investment regulations in fossil and nuclear energy (Hultman 2011, 404).³⁰ As a result, international coal became a much more attractive alternative to expensive German coal and lignite as well as to nuclear-generated power.³¹ When the SPD formed the very first coalition with The Greens at the federal level in 1998, the coalition partners were quick to prepare legislation for a complete nuclear phase-out.³²

The new millennium and the 9/11 attacks shifted the focus of U.S. foreign and security policy towards the global “War on Terror,” away from Europe. The subsequent “Pivot to Asia” under U.S. President Barack Obama further accelerated that trend. For Germany, America’s turn away from arms control policies—exemplified by Congressional legal (in)action and unilateral policies under the George W. Bush administration³³—increasingly clashed with its interest in reconciling the continued nuclear sharing arrangement with America with Germany’s policies of championing global nuclear disarmament (Meier 1998; Müller 2003). Upholding nuclear sharing as a purely political means of alliance solidarity thus became more difficult for Berlin, particularly as a majority of Germans and even parts of the second cabinet of CDU Chancellor Angela Merkel (2009–2013) favored the removal of the last U.S. tactical nuclear warheads from Germany. Even though they were favorable towards further NATO enlargement, Berlin, together with Paris, blocked a U.S. push for accession of Ukraine and Georgia in 2008. Increasingly, both capitals came to see further enlargement against Russian interests as problematic.³⁴

Meanwhile, on the domestic level, the SPD coalition with the Greens, led by Chancellor Gerhard Schröder (SPD), had worked closely with the German nuclear industry and the utilities to put phase-out into legal practice. Four years after coming into power, legislation entered into force in April 2002.³⁵ In 2005, the last plutonium batch stored at the Hanau vault was transferred to La Hague, France. When Conservatives and Free Democrats formed a coalition in 2009, they prepared legislation aimed at drawing out the initial phase-out scheme. The new plans foresaw an average life extension of twelve years for operating nuclear power plants, though, crucially, not a complete reversal of phase-out (Bundestag 2010).³⁶ The core meltdown in the Fukushima Daiichi plant in March 2011 made the revised phase-out scheme completely untenable.³⁷ Relying on an overwhelming cross-party consensus, the Merkel coalition revised again its previous revision, only to end up accelerating the original phase-out plan of the Schröder years.³⁸ In 2014, Feldhoff (2014, 41) argued that, for Germany, “a return to nuclear energy is now beyond any political imagination.”

Discussion

In the period from 1990 to 2011, Germany’s security environment changed dramatically and made for a mostly benevolent setting. Although fears of a depreciated U.S. security good were present in the immediate post-Cold War years, nuclear debates moved to the margins of the transatlantic relationship.³⁹ Throughout

the 1990s, America was receptive to German interests, steadfastly supporting Germany's quest for unification and remaining engaged in European security.

The relaxed structural barriers would have, theoretically, made German nuclear proliferation easier (Mearsheimer 1990). In reality, Germany doubled down on multilateral arms control and nonproliferation diplomacy as the result of a number of conditions. The changed European security environment did not justify retaining the ultimate fallback option anymore.⁴⁰ Instead of facing external threats, "Germany was now surrounded only by friends," as a well-known dictum of that period put it (Cohen 1999). Since the signing of the NPT, Germany had given up on leveraging latency in the pursuit of diplomatic gains, and had still achieved its main foreign policy objectives. As a result of unification, Germany accepted further legal restrictions, thereby also further clouding the credibility of any potential proliferation threat. More practically speaking, Germany's shelving of its entire nuclear industry and its massive stockpile of plutonium also erased the technical credibility of any such threat. No German politician would have been able to make a convincing case at that time, be it in public or in private, that Germany would be better off in terms of its security, were it to retain a nuclear hedge capacity. Finally, in terms of viability, with the first SPD–the Greens government, anti-nuclearism had finally moved from the fringes to the center of policy-making. Counting on broad and steady anti-nuclear sentiments in the German population, phase-out was the consequential policy choice, which only accelerated under Chancellor Merkel.

Conclusions

In this chapter, I set out to explain why latency and its security-political implications did not play any role in Germany's decisions to phase out civil nuclear energy. The answer is a combination of international and domestic policy considerations, which led consecutive post-Cold War German leaders to conclude that retaining the ultimate fallback option was not necessary, not credible, and not viable anymore—up to a point where it was not even considered or discussed. The major factors that contributed to this development were, in no particular order of their importance: continued U.S. security guarantees, West Germany's accession to the NPT, a benevolent security environment, the economic failure of the German civil nuclear complex in conjunction with political disengagement, and continued domestic opposition to nuclear energy (spurred by the Chernobyl and Fukushima accidents).

Table 11.1 illustrates how over the course of six decades, (West) German leaders came to a point where the three questions as regards the necessity, credibility, and viability of acquiring and retaining a latent capacity all came to be answered with a sounding "No."

Has Germany given up the latency option for good? Back in 2012, Glaser (2012, 18) noted: "foreign commentators sometimes suggest that Germany will rethink its decision [...] This view overlooks the long and complex history of nuclear power development in Germany, which has been dominated by confrontation and failure." Glaser is certainly right, and in addition to confrontation and failure at the domestic

Table 11.1 Acquiring and retaining nuclear latency in (West) Germany over time

	<i>Necessity</i>	<i>Credibility</i>	<i>Viability</i>
1950s/1960s	Yes	Yes/No	Yes
1970s/1980s	Yes/No	Yes/No	Yes/No
1990s/2000s	No	No	No

Source: Author's creation

level, the same factors that had restricted West German latency-wielding policies during the second part of the Cold War—multilateral legal restrictions, bilateral restraints imposed by the United States, and fear of creating a security dilemma in Europe—are still in place today. Chances are high that future German governments, even when faced with drastic security choices, would consider the costs of deliberately breaking or ignoring these restrictions as unacceptable. Furthermore, as Müller (2003) has argued, nonproliferation has become a defining feature of German national identity—an identity that German leaders would have to betray.

It is certainly correct to argue that some of the international and domestic conditions that enabled German nuclear phase-out have changed in recent years. Germany's security environment has once more dramatically declined as a result of Russia's two invasions of Ukraine. The Presidency of Donald J. Trump has brought back fears of U.S. abandonment and triggered ongoing debates in Germany about the reliability of U.S. security guarantees, all of which have been discussed in depth in the second part of this volume. Simultaneously, the previously negative public attitude in Germany towards nuclear weapons and nuclear energy seems to be undergoing perhaps lasting changes—the latter also being a result of concerns about the country's continued reliance on burning carbon-emitting fossil fuels. The fact that nuclear latency did not play a role, again, in the 2022 decision to extend the life of two of Germany's nuclear power plants, however, should serve as a reminder that even the shock of the Ukraine War was not enough to bring back the nuclear proliferation ghosts of Germany's past. Barring any possible future shocks, the past might well remain the past.

Notes

- 1 If official English translations were not available, the German sources used in this chapter were translated by the author.
- 2 In an interview conducted by the author of this chapter in March 2019 with Wolfgang Ischinger, the former Chairman of the Munich Security Conference, Ischinger claimed that, in conjunction with the 2011 phase-out decision by Merkel, "security considerations were certainly not on the agenda at all, let alone the implications for Germany, NATO, and Europe" (Ischinger 2019).
- 3 Referring to the 1989 decision to close down the Wackersdorf plant, Otfried Nassauer, a German nuclear expert, in an interview conducted by the author of this chapter in March 2019, explained that West "Germany didn't need any longer a fallback option" (Nassauer 2019).

- 4 At the same time, Protocol No. III of the Modified Brussels Treaty allowed West Germany to develop plutonium production capabilities for civilian applications.
- 5 Even though Chancellor Konrad Adenauer (CDU) remarked at a cabinet meeting that he “wanted [...] as quickly as possible, the chance of producing our own nuclear weapons,” he also proposed the 1957 established multilateral Euratom, responsible for developing nuclear power in Western Europe, as a facilitating body (Küntzel 1995).
- 6 From the beginning, West Germany’s scarce uranium resources were considered a potential long-term problem. Projections for the anticipated demand for West Germany’s nuclear program showed that it would soon exceed what the small uranium mine in Menzenschwand could produce. Werner Heisenberg and other scientists had preferred the indigenous development of heavy-water reactors in order not to be overly dependent on enriched uranium shipments from the United States. In hindsight, this policy, and Heisenberg’s early insistence on plutonium reprocessing, led some to question the peacefulness of his motives. From the perspective of the early 1950s, Heisenberg’s strong wish to acquire plutonium was neither plausible with respect to the development of fast breeders nor for use in light water reactors (Eckert 1989, 122, 1990).
- 7 These were a testing facility at Garching and three reactor development centers at Karlsruhe, Jülich, and Geesthacht.
- 8 A U.S. intelligence estimate from 1966 sums up the potential consequences of West Germany pursuing nuclear weapons: “A German government could embark on this course only as part and parcel of a fundamental and dramatic change of the country’s international orientation. This change would involve the sacrifice of postwar respectability, the loss of US favor and a high risk of forfeiting US protection, strong Soviet hostility and possible retaliation, and the alienation of all European states. In essence, Germany would be playing a lone hand against the world” (Central Intelligence Agency 1966).
- 9 Perhaps Moscow would have initiated military action against West Germany. The same could be said about France. Hymans (2006, 113) claims that the French nuclear weapons program was first directed against Germany: “whenever de Gaulle, as president of the Fifth Republic, would come to the CEA [Commissariat à l’énergie atomique] he would ask each time the same question: he wanted to know when, how, how fast and in how much time the Germans could in turn build themselves the bomb, if [...] they decided to make it.”
- 10 Schrafstetter (2004, 119) observes, “the allied restrictions imposed on the rearmament of the Federal Republic resulted from the immediate German past of aggression and extermination. Clearly, the same legal and moral constraints did not apply for Britain and France who continued to develop nuclear forces under sovereign control.”
- 11 As just one example, the SPD praised nuclear power as “the hope of our time: Man can make his life easier in the atomic age, free himself from anxiety and distress and create prosperity for all if he uses his ever-growing power over the forces of nature solely for peaceful ends” (SPD 1959).
- 12 Regarding the constraints envisioned under the NPT, he stated: “We start from the premise that the controls will not interfere with the objective of economically running our power plants, will not violate industrial production secrets, but will only be applied against the dangers of misuse. For that objective, the controls of the source materials and fissionable materials and of the fuel cycle on certain strategic points, preferably by automated instruments, are sufficient” (Brandt 1968, 216–218).
- 13 “The Government of the Federal Republic of Germany [...] states that no provision of the Treaty may be interpreted in such a way as to hamper the further development of European unification, especially the creation of a European Union with appropriate competence” (Federal Republic of Germany 1969).
- 14 The effects of the nuclear weapon, which would have left most infrastructures in place while increasing human lethality, led West German leaders to recall the devastating

- humanitarian effects of nuclear war on Germany and triggered a fierce debate within the SPD (Spohr Readman 2010).
- 15 What Schmidt had in mind initially was an increased political effort at conventional arms control in the Mutual and Balanced Force Reductions talks, and to ensure that the arms control gray zone of tactical nuclear weapons was covered either under SALT II or III (Haftendorn 1985).
 - 16 The slogan was coined by Alfred Dregger (CDU).
 - 17 According to Rüdiger (2000, 49), “the German nuclear industry was allowed to develop virtually unhindered by any political opposition until the mid-1970s.”
 - 18 West Germany pioneered this technology with the construction of a 300-megawatt electric prototype reactor near the town of Kalkar and the construction of the Hanau plutonium vault, the largest of any non-nuclear weapon state worldwide.
 - 19 The WAK remained in operation until 1990 and reprocessed a total of 208 tons of spent fuel.
 - 20 While moving forward with the waste disposal plans at Gorleben, the state of Lower Saxony ultimately blocked the reprocessing plans and demanded from the federal authorities a more even distribution of the mounting political costs of nuclear power among West German states.
 - 21 As a result, West German utilities signed contracts with French and British reprocessing companies COGEMA and BNFL to reprocess spent fuel at the La Hague and Windscale/Sellafield sites.
 - 22 According to Glaser (2012, 16), “the notion of building new nuclear reactors in Germany became completely unrealistic. Given that the climate change debate was still in its infancy and the economics of nuclear power unattractive, new nuclear construction was essentially a non-issue.” Krause (2005, 16) notes that “the coalition government led by Helmut Kohl [...] made no attempts to revitalize nuclear energy in Germany although in their rhetoric they remained in favor of it. They simply left nuclear energy at a standstill.”
 - 23 Matthes (2012, 44) argues that “after-the-fact analysis shows that without this coal-support policy, investments in nuclear power plants would have been unattractive in Germany after 1984.”
 - 24 “The Governments of the Federal Republic of Germany and the German Democratic Republic reaffirm their renunciation of the manufacture and possession of and control over nuclear, biological and chemical weapons. They declare that the united Germany, too, will abide by these commitments. In particular, rights and obligations arising from the Treaty on the Non-Proliferation of Nuclear Weapons of 1 July 1968 will continue to apply to the united Germany” (Federal Republic of Germany et al. 1990). In addition, Germany pledged under Art. 5(3) that no nuclear weapons or their carriers will be stationed on East German territory. However, by reaffirming its rights and obligations under the NPT, Germany also implicitly reaffirmed its 1969 note about “the creation of a European Union with appropriate competence,” thereby leaving open the door to a possible European nuclear weapons option.
 - 25 Back then, Italy’s Prime Minister Giulio Andreotti warned of “a new ‘pan-Germanism,’ Dutch Prime Minister Ruud Lubbers question[ed] the Germans’ right of self-determination and French President Mitterrand [said] that Europe isn’t ready for German reunification” (Wiegrefe 2010).
 - 26 In contrast to the 1960s and 1970s, no domestic political controversy accompanied that decision (Meier 1998).
 - 27 In addition to the extension of the NPT, the 1990s saw a whole range of arms control initiatives such as the conclusion of the 1990 Conventional Armed Forces in Europe Treaty and its 1999 adaptation agreement, the transformation of the Conference on Security and Co-operation in Europe into a permanent organization (the OSCE), the START I and II agreements, the CTBT negotiations, the Chemical Weapons Convention, and efforts to bring into force a Fissile Material Cut-off Treaty (FMCT). In addition, and as part of the

- Presidential Nuclear Initiatives, Washington scaled down the number of tactical nuclear arms of the United States and the Soviet Union/Russia, opting for a minimum deterrent policy in Europe.
- 28 In addition, Germany had scientific interests in using weapons-grade uranium in a research reactor in Garching, Bavaria.
 - 29 The acronym CASTOR stands for “cask for storage and transport of radioactive material.” While most anti-nuclear protests in the wake of Chernobyl had dissipated throughout the rest of Europe by the 1990s, in Germany the disputed CASTOR transports effectively “build a bridge” (Glaser 2012, 16) to the early protests of the 1970s and 1980s.
 - 30 The Directive thereby created new uncertainties for the German nuclear industry by allowing costs to be recovered only from sales to a competitive intra-EU market.
 - 31 Until then, Germany’s energy market had followed a scheme that dated back to the Energy Supply Industry Act of December 1935 and the Monopolies Act, which exempted electricity and gas supply from laws regulating monopolies. “Once an investment had been approved [by the authorities], the electric utilities were allowed to include the respective investment costs and a fixed profit margin in electricity rates” (Matthes 2012, 44). Successive German administrations continued that practice until the mid-1990s and applied the same incentives as regards nuclear investments. Even though nuclear power generation peaked in the 1990s in terms of contributing to Germany’s overall electricity supply (Cherp et al. 2017, 618), EU market liberalization also led German politicians and the public to reconsider the escalating sunk costs that had gone into subsidizing the German nuclear sector over four decades. Public spending for the German nuclear sector totaled 88 billion Euro from 1950 to 2012 (at 2012 prices; Matthes 2012, 44). A Greenpeace study even concluded that state sponsorship of nuclear energy in Germany totaled 203.7 billion Euro in 2010 market prices (Meyer and KÜchler 2010, 7). The cost argument would become additionally pertinent the more Germany started to invest in wind energy as a clean and less risky alternative to fossil fuels and nuclear power (Schreurs 2012, 33).
 - 32 The 1998 coalition agreement stated unambiguously: “Restructuring of energy supply has to take into account technological, ecologic, and energy-efficient requirements. Due to its severe security risks and the danger of immense harm, nuclear energy is not justifiable. Therefore, the new government will do anything to end the use of nuclear energy as soon as possible” (SPD and Bündnis 90/Die Grünen 1998).
 - 33 During these years, the United States did not ratify the CTBT and the Adapted Conventional Armed Forces in Europe (CFE) Treaty, lost interest in an FMCT, agreed to a strategic arms reduction treaty with almost no verification provisions (the 2002 Moscow Treaty), and exited from the 1972 U.S.–Russian Antiballistic Missile Treaty.
 - 34 Even though German officials referred to the two countries’ not fulfilling NATO membership criteria, the fear of entrapment in a potential localized conflict or even war with Russia seems to have played a role as well (Lanoszka 2017).
 - 35 The new act prohibited the construction of new nuclear power plants, restricted the overall lifetime of nuclear power plants to 32 years since initial operation, and ended the practice of reprocessing shipments abroad by 2005, instead obligating utilities to build reactor on-site facilities for dry-cask storage (Bundestag 2002). In the words of then-Federal Minister for the Environment Jürgen Trittin (the Greens), the new legislation is “the logical answer to Chernobyl” (Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety 2002).
 - 36 The argument brought forward in favor of life extension was that of nuclear energy serving as a “bridging technology” between fossil fuels and the envisioned strong reliance on renewable energy sources. Even among conservative voters, the reaction to the Merkel U-turn was largely negative. An opinion survey from July 2010 found that 49 percent of Germans were against any life extension, and 29 percent supported a maximum extension of ten years (Brost 2010). Commemorating 25 years of the Chernobyl

- catastrophe in April 2010, roughly 120,000 anti-nuclear protesters expressed their disagreement.
- 37 Facing a number of upcoming elections at the *Länder* level, Merkel had to fear that sticking to her plan would cost her significant political capital. In an immediate precautionary measure, the government ordered a three-month operating moratorium for Germany's seven oldest reactors. Two review committees were tasked with evaluating nuclear energy—one on reactor safety, the other one on the ethical implications of nuclear power. While the safety committee concluded that all of Germany's nuclear reactors satisfied the highest industry standards, the ethics committee assessed the risks and costs of a nuclear accident as too high to bear (Schwägerl 2011).
 - 38 Under the new 13th Amended Nuclear Energy Act, fixed plant closure dates for each reactor were agreed with the last ones scheduled to go offline in 2022. The old reactors, already temporarily switched off under the moratorium, remained offline (Bundestag 2011). Due to contracts with France, German utilities were put in a position to irradiate all remaining plutonium also by 2022.
 - 39 Meier (1998) even reckons that “after the end of the Cold War, nuclear weapon and nuclear non proliferation issues were almost absent from political and public debate in Germany about the future direction of its foreign and security policy.”
 - 40 Kamp (1995, 288) notes that “Given that for years to come the U.S. commitment to Europe appears reasonably credible and reliable, discussions about Western European nuclear deterrent cooperation may remain abstract and can be deferred to an uncertain future—at least from a German viewpoint.”

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12 Germany's Role in the Success and Failure of the Iran Nuclear Deal

Cornelius Adebahr

Introduction

It was a huge step in an arduous, years-long process. It involved all five permanent members of the United Nations (UN) Security Council, which gave it its full legal blessing and tasked the world's most advanced regional organization, the European Union (EU), to implement the agreed text. It also included two middle powers and non-nuclear weapons states, Germany and Iran, on either side of the bargaining table. Importantly, all co-signatories "anticipated" that full implementation of the agreement reached would "positively contribute to regional and international peace and security" (E3/EU+3 and Iran 2015).

Still, the Joint Comprehensive Plan of Action (JCPOA), as the 2015 nuclear deal with Iran is formally known, may ultimately be confined to the history books without having had the chance to reach its intended impact—whether this is about ensuring the peaceful nature of Iran's civilian nuclear program or contributing to the wider goals of strengthening regional security as well as the global nonproliferation regime.

The agreement's current difficulties notwithstanding, Germany's two-decade-long contribution to first finding and then safeguarding a diplomatic solution to the Iranian nuclear challenge marks an important waypoint for its nuclear nonproliferation policies. After all, the Iran file is the first case of Germany contributing to the solution of an active case of nuclear proliferation. As a consequence, Berlin has held the deal it helped achieve in high esteem: not only because it resolved the threat emanating from the Iranian nuclear program, but also based on its wider merits for the rules-based global order. While the JCPOA reined in Iran's nuclear program only in a time-bound fashion and, ultimately, not even for the entirety of its envisaged duration, the deal's implementation was clearly meant to reinforce "the rules, norms, and procedures that make up the global nuclear nonproliferation regime" (Davenport, Kimball, and Reif 2015).

That is why, to the present day, the German government has clung to the JCPOA as the cornerstone of its Iran policy, whether in the face of strong resistance under the U.S. administration of Donald J. Trump (Adebahr 2017; European Parliament 2020) or despite the Iranian regime's ongoing human rights violations, and in particular the brutal crackdowns on recurring popular protests, whether in 2017/2018, in 2019, or again in 2022 (Najdi 2022).

However, maintaining that policy will become more difficult for Germany. For one, the deal's possible unravelling continues to loom in the absence of both Iran and the United States resuming implementation. For another, Iran's growing military alliance with Russia has a direct impact on European security through the pair's collaboration in the war against Ukraine. Moreover, the potential for domestic unrest leading to a violent revolt with another actual revolution in what has to be considered a nuclear threshold state (Bowen and Moran 2015) is concerning—not just for regional stability, but also for its wider geopolitical repercussions.

This chapter first highlights the dimensions of change and the drivers of Germany's nonproliferation policies as they relate to the JCPOA. The main part of the analysis then looks at specific German contributions to the "Iran file," considering the international developments spanning nearly 20 years, from the beginning of European negotiations with Iran in 2003 to the present travails. It also takes in the previous decade as a prelude, given that the European Union (EU) passed its first bit of Iran policy, the Edinburgh Declaration, in 1992, endorsing a "critical dialogue" with the Islamic Republic as championed by Germany. The chapter concludes with an outlook based on the established track record of German nonproliferation policies and the changing environment, from the coming nuclear renaissance as part of many countries' green energy plans (sitting oddly with Germany having just phased out nuclear power generation) to the Middle East's shifting sands and the wider geopolitical rivalry.

Change and German Nonproliferation Policies

This book identifies three sources of change relevant to Germany's nuclear policies: changes to the international system, technological change, and change as a consequence of Russia's war against Ukraine. Of these, international systemic changes are the most relevant for the case of Iran. In fact, the way in which the "nuclear file" (as shorthand for the international community's efforts to rein in Iran's nuclear program) has developed over the past 20 to 30 years serves as an expression of the changes in the global distribution of power. This will become evident in the following section, in which Germany's contribution to the nonproliferation efforts directed at Iran will be highlighted.

Technological change, in contrast, has become relevant from a German perspective mainly towards the end of the period under investigation. True, Germany was crucial in setting up Iran's nuclear program in the first place, as it was a Siemens firm that began to build the nuclear power reactor in Bushehr in the late 1970s, with construction halted after the 1979 Revolution and completed by Russia's Rosatom only in 2011. More crucially, however, Germany's phasing out of nuclear power has deprived the country of commercial leverage and scientific expertise in this field—a point which will be taken up in the concluding section.

The third dimension of change, Russia's war against Ukraine, appears more in how it impacts the international order, i.e., the first dimension, rather than through its direct effects on Germany's position vis-à-vis nonproliferation in general or the JCPOA in particular. In the international arena, repercussions have arisen from the

emerging Russo-Iranian axis, which threatens European security through Tehran's supply of ammunition, drones, and, possibly, missiles to support Moscow's war. Consequently, in terms of nonproliferation policies, Germany's focus is primarily on European diplomacy and effective multilateralism.

Drivers of German Nonproliferation Policies

The main drivers and interests of Germany's nonproliferation policies when it comes to the JCPOA and the wider Middle East have been three: first, to defend the global nonproliferation regime as part of the oft-invoked "rules-based world order"; then to jointly act with European partners and, whenever and wherever possible, with the United States; and, finally, to highlight the country's own contribution as a responsible and active member of the United Nations. Each of these sits at a different level of the international structure: the multilateral system, regional (European) as well as mini-lateral (transatlantic) cooperation, and the foreign policy of a single state like the middle power that is Germany.

The first driver, the defense of the global order, is motivated by the benefits Germany has received from the post-war—and in particular the post-Cold War—international system. In very general terms, the country has built its economic strength on trade and investments facilitated by gradual globalization as enabled by various multilateral agreements based on the principles of the World Trade Organization. Regarding security, it has enjoyed relative security—again, especially after the end of the bipolar confrontation—thanks to U.S.-guaranteed NATO (North Atlantic Treaty Organization) protection, including nuclear sharing. At the same time, it has also promoted binding legal frameworks like the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). Given that Germany thus experienced the best of both worlds—a state without "the bomb" but protected by a nuclear umbrella—it is understandable for it to seek the preservation of the status quo.

In the context of Iran, it is important to mention that Germany has not always been a stalwart of global nonproliferation policies. While the country's position on the NPT is described in more detail in the chapters by Harald Müller and Ulrich Kühn in this volume, suffice to say here that Bonn was fairly reluctant to renounce the "nuclear option" when it acceded to the treaty in 1975. Some of the statements with which it couched its accession by way of an official note attached to its signature would contradict its relatively uncompromising position vis-à-vis the Iranian nuclear program some 30 to 40 years later: that the treaty should not "lead to restricting the [civilian] use of nuclear energy" or "hamper or inhibit research and development in this sphere." Explicitly, Germany referred to a remark from a U.S. representative to the UN in 1968 reassuring that the NPT "does not ask any country to accept a status of technological dependency or to be deprived of developments in nuclear research" (United Nations 1975). Of course, the restrictions placed on Iran in these areas by successive UN Security Council resolutions and, eventually, the JCPOA need to be seen in light of its previous inconsistencies with, and violations of, its obligations under its safeguards agreement (Hibbs

2015). However, the Germany of the 1970s and 1980s would hardly have accepted for itself the constraints it advocated for the Islamic Republic from 2006 onward, and which the nuclear deal of 2015 turned into an advanced and specific nonproliferation mechanism.

The second driver is the premium Germany has placed on European initiative. This long-standing principle of the country's foreign policy (Miskimmon 2007; Adebahr 2013) is in no way restricted to nuclear nonproliferation, nor to this country, as research on the "European reflex" of EU member states has shown (Duke 2005). For Germany, this entails close cooperation in particular with France and the United Kingdom: together, these three member states formed the "European Three" (E3) on the Iran file, beginning with their foreign ministers' trip to Tehran in 2003. Importantly, even after Britain's departure from the EU, the trio vowed to hold up its close consultations (Tabrizi, Coville, and Jalilvand 2018), and have mostly done so since then.

Germany's impetus to work with partners naturally includes transatlantic cooperation as well—if and when possible, that is. Considering Britain the United States' natural ally in security affairs and France being traditionally keener on independence from Washington—its own and, by extension, Europe's—Germany was in the position to act as a go-between: loth to demonize Iran over its nuclear activities, but wary of how Tehran's advances threatened regional and, in particular, Israel's security as well as endangered the global nonproliferation regime, Berlin would stress the need to get everyone—all EU member states, say, or Washington, Moscow, and Beijing—on board for a gradual increase of broadly coordinated countermeasures rather than pursue harsh sanctions with only a small group of countries (Adebahr 2019).

This interaction at the global level feeds into the third driver, i.e., the prestige that comes with being part of the special negotiation format established for the nuclear talks. Without its active contributions to the E3 format, Germany would not have been so closely involved in the UN talks. That is because it can only be a non-permanent member of the UN Security Council, as it was in 2003/2004, in 2011/2012, and again in 2019/2020. For Berlin, the Iran nuclear talks therefore offered a "privileged backseat" (Harnisch 2007, 20–21) at the UN table, even when it was not an official member of the world body's most exclusive grouping.

That special position became also clear in the frequently used "P5+1" designation describing the core group of negotiation partners facing off Iran over the latter's nuclear opacity. In official communications, Berlin would insist on the "E3/EU+3" formula, signifying the European beginnings of the diplomatic track—the E3—and the later addition of China, Russia, and the United States to the group. The internationally more common "P5+1", however, speaks to Germany's particular role: the "+1", meaning Germany, puts the country next to the permanent members of the UN Security Council—at the expense of the EU, though, which is entirely omitted.

This multilateral prominence becomes relevant in the wider context of Germany's ambition to join the UN Security Council as a permanent member as part of the UN's much-needed reform. Since unification in 1990, Berlin has—regularly and

successfully—campaigning for two-year non-permanent stints on the Council, at the shortest possible interval, i.e., every eight years. As late as in September 2022, German Chancellor Olaf Scholz, during his first appearance at the UN General Assembly, stressed his country's willingness to join the body on a permanent basis alongside other countries, in particular from the Global South (Noyan 2022). For this application to be ultimately accepted, being an active part of the Iran negotiation format remains a useful reference.

As this section has documented, the drivers of Germany's nonproliferation policies towards Iran go beyond both the issue area of nonproliferation and the regional context. At the same time, it has been argued that changes to the international system have been more relevant to the nuclear file than technological change or change as a consequence of Russia's war against Ukraine. This is what the next section will show, while the two latter points will be taken up again in the concluding section.

Germany and the “Iran File” in Light of International Developments (2003–2022)

It is not just a little ironic that, given how much time and resources Western governments have spent over the past decades to rein in Iran's nuclear progress, Germany was among the countries actively aiding the program's very beginnings.

Riding on the wave of the oil boom of the mid-1970s, the Shah of Iran, Reza Pahlavi, decided to diversify his country's energy portfolio by building a nuclear power reactor (Vaez and Sadjadpour 2013, 4). An original party to the NPT of 1968, Iran had signed and ratified its Safeguards Agreement with the International Atomic Energy Agency (IAEA), thus turning itself into a bona fide nuclear partner (IAEA 2013). The contract to build a first reactor at Bushehr on the Persian Gulf coast eventually landed with Kraftwerk Union AG, a subsidiary of Germany's Siemens industrial conglomerate (Glatz 2008, 65). Moreover, to further bind itself to European companies and their technology, Tehran invested one billion U.S. dollars in the European fuel manufacturer Eurodif in return for guaranteed uranium fuel supply (Reardon 2012, 11).

Such cooperation, however, did not last long after the Islamic Revolution of 1979. Initially, Germany had tried to maintain its neutrality, especially during the Iran–Iraq war of the 1980s. Indeed, Germany was Iran's biggest European trading partner at the time, despite the well-documented deals German companies also made with Iraq, in effect fueling Baghdad's war machine (Smith and Fischer 1992). Yet, eventually Western countries became uncomfortable with the religious fundamentalism espoused by the new regime, especially over the latter's decision to force foreign companies out of Iran's energy market. As it happened, in another twist of historical irony, the country's new leader, Ayatollah Ruhollah Khomeini, decided to forgo nuclear technology in order to be independent from the despised West: in a highly symbolic move, he asked for the unfinished plants in Bushehr to be used as silos for wheat storage (Milani 2010). Eventually, Germany—just like its partners such as the United States, the United Kingdom, and France—withdrawed its support for the regime.

This short historical digression provides the background to the nuclear saga building up in the 1990s and coming to full life from 2003 onward. Once Iran had come out of the cold after the end of its war with Iraq, Germany was—in principle—willing to help it return to the international community.

Policy Formation and Early European Negotiations

Germany was a proponent—if not the unofficial initiator—of the EU’s “critical dialogue” with Iran. This policy aimed at maintaining contact with, and ultimately influencing through engagement rather than ostracism, a regime stepping out of its international isolation (Reissner 2000, 33; Rudolf 1999, 75). What began with a series of German-Iranian human rights seminars in 1988 turned into a joint initiative by France, Germany, and the United Kingdom to become a European policy with the Edinburgh Declaration four years later (Struwe 1998, 15). However, the policy suffered serious blows, especially after a German court ruled that Iran’s leadership had been involved in the assassination of four Iranian-Kurdish opposition politicians in Berlin (Mousavian 2008, 94–123). Such setbacks notwithstanding, the EU evolved into Iran’s largest trading partner during the 1990s (European Commission 2001, 5; Pakfar 2010, 12).

Just as the EU began to formulate a policy on Iran based on Germany’s “engagement plus trade” formula, the United States opted for “isolation plus sanctions” (Moshaver 2003, 294). In 1994, the U.S. administration of Bill Clinton announced its new policy of “dual containment,” aimed at both Iran and Iraq—no matter that the two were still sworn enemies and that Washington had previously tried to “counterbalance one of the Gulf powerhouses by indulging the other” (Takeyh and Maloney 2011, 1302). Relying on economic sanctions and its superior military power, the United States would henceforth isolate Iran by banning virtually all trade and investment with Iran. The policy’s basic premise persisted vis-à-vis Iran well into the second half of the 2000s, despite a short-lived effort by the George W. Bush administration after the 9/11 terrorist attacks to replace containment with a policy of renewing relations with Iran (Brumberg 2002, 1).

The moment when America invaded Iraq in 2003 on the grounds of an alleged program of weapons of mass destruction (WMD) was also the beginning of Europe’s bid to negotiate with Iran over its previously-secret-but-then-disclosed nuclear program (Mazzucelli 2009). As a first step, the EU called off trade talks with Iran because of the evident concerns over “perceived limited Iranian progress” in the areas of human rights, WMD, terrorism, the Middle East, and in particular the nature and scope of its nuclear program (European Commission 2005).

Then, in the late summer of 2003, the foreign ministers of the E3 began an initiative to talk directly to the Iranian leadership in order to defuse the crisis. It was an immediate response to the split that the Iraq invasion’s violation of international law had created, pitting “old Europe” against “new Europe” (Goldthau 2008). Also, the initiative built on the means the IAEA had acquired in the wake of its engagement in Iraq, namely the Additional Protocol to the NPT. Iran’s signing and provisional implementation of the Additional Protocol was probably the

biggest achievement of the three foreign ministers' talks in Tehran in October 2003 (IAEA 2003; Esfandiary and Finaud 2016).

Germany's contribution to this (temporary) success was not limited to the presence of its foreign minister, Joschka Fischer, in the talks. Behind the scenes, Berlin helped bring about a broader intra-EU realignment on security policy, including nonproliferation. Only two months after the Tehran Declaration on Iran's nuclear program, the EU passed its first-ever European Security Strategy. The document was penned by the three foreign ministers' closest advisors in order to—literally, it seems—paper over the differences that had emerged inside the EU over America's Iraq invasion.

The strategy's drafting process took place in the second half of 2003, which means in parallel to the E3 outreach to Tehran. It was directed by German diplomat Christoph Heusgen, Head of the Policy Planning and Early Warning Unit (or Policy Unit, in short) attached to the office of the EU High Representative for Foreign and Security Policy, Javier Solana. While the strategy does not specifically mention Iran, it identified the proliferation of WMD as "potentially the greatest threat to our security" (European Council 2003). This made the E3's achievement vis-à-vis Tehran all the more significant.

For Germany, these various efforts—to first engage Iran and then constrain its nuclear program—embodied its different interests: from working with its European partners to preserving the global nonproliferation regime by getting Iran to come clean on its activities and accept additional restrictions into the future. It also became clear soon enough to the Europeans that the United States would have to sit at the table, too, if Iran was to make concessions in the long term. However, preoccupied with the Iraq war's aftermath and with the legacy of its dual containment strategy, Washington "oscillated between [...] tentative gestures of goodwill on one hand, and vague threats on the other" (Calabrese 2004, 6).

In the end, it was not the E3 talks' initial success but their rapid failure that would help bring in the American partners alongside Russia and China.

The Multilateral Talks

The European-Iranian talks broke down following the election of Mahmoud Ahmadinejad as President of Iran in mid-2005. Together with the United States, the Europeans then voted in the IAEA Board of Governors to pass the "Iran dossier" to the UN Security Council in February 2006. The relevant resolution cited "Iran's many failures and breaches of its obligations to comply with its NPT Safeguards Agreement" and the lack of confidence, as a result of a "history of concealment", that its nuclear program "is exclusively for peaceful purposes" (IAEA 2006).

In this situation, it was Chancellor Angela Merkel who managed to get Washington, which for years had refused to talk to the Iranians (Perkovich 2004), to join the negotiations. Building on a close personal relationship, Merkel convinced U.S. President George W. Bush of a coercive diplomacy approach (The Federal Chancellor 2007). While mostly leaving the actual negotiations to her foreign minister, the chancellor would only at times insert herself into the debates. Yet, when doing so, it would have an effect on the German position, such as with

her 2008 speech to the Israeli Knesset. There, Merkel boldly argued that an Iranian nuclear weapon would have “disastrous consequences” not only for Israel but “for all who cherish the values of freedom, democracy and human dignity” (The Federal Government 2008). That way, she famously posited Israel’s security and existence to be part of Germany’s *raison d’être*.

On the substance of the negotiations, the question of Iran’s uranium enrichment capabilities was key. That is because, under the cover of a civilian nuclear program, an indigenous enrichment capacity could potentially allow for the production of enough weapons-grade (i.e., highly enriched) uranium to kickstart and perhaps sustain a (clandestine) nuclear weapons program (Chubin 2006). Add to this the international prestige that comes with belonging to the exclusive club of countries running their own enrichment programs: the list of such countries is short, and it includes the world’s political powers and leading industrial economies such as Argentina, Brazil, China, France, Germany, India, Japan, the Netherlands, Russia, the United Kingdom, and the United States. Unsurprisingly, the Iranian leadership was quick to claim its membership in the group of civilian nuclear powers based on its early enrichment achievements (Wastell 2004).

For Washington, “zero enrichment” was for a very long time the only conceivable “objective guarantee” that Iran would not reroute any nuclear material produced under its civilian program to military purposes (Perthes 2008). “Delayed limited enrichment” as a second-best option, in contrast, would accept a domestic enrichment capacity in Iran but with a much-delayed timetable, limited scope, and highly intrusive inspections (International Crisis Group 2006). This idea proved quite controversial among the international negotiators, with Germany supporting it before its E3 partners did (Bergenäs 2010, 499). As one early observer wrote, it was “not by chance that Germany, the only non-nuclear weapons state in the EU-3, [took] the softest approach” to negotiations with Iran (Sauer 2007, 624). The United States, in contrast, outright refused to even countenance this prospect until the latest state of the negotiations.

If “zero enrichment” weighed heavily on the Europeans’ minds during their early negotiations with Iran as a yardstick for potential approval of their negotiation results in Washington, it became dominant once the UN Security Council had taken over the matter by 2006. Because in addition to a hardening of European positions after years of talking to the Iranians to little avail, America’s authority was also an expression of the different dynamics reigning at the Council itself. With neither Germany nor the EU a permanent member, the role of the P5—which means France and the United Kingdom on the European side, but more importantly the United States—became much more prominent in the nuclear dossier. In a way, having brought Washington to the table also meant that America would seize the initiative, at least to a certain extent (Alcaro 2011, 130).

An International Sanctions Campaign

This U.S. dominance at the UN notwithstanding, the EU reached a major milestone with its early 2012 decision to implement autonomous sanctions to pressure Iran.

It thus entered the sphere of coercive diplomacy outside the measures agreed at the UN Security Council in the years before (Adebahr 2014). If, in the autumn of 2011, the United Kingdom was the only European country adopting economic and financial sanctions against Iran, a stringent IAEA report in November of that year and the Iranians' subsequent assault on the British Embassy in Tehran decisively changed the mood among EU countries, including Germany. Berlin had indeed come to accept sanctions, including an oil embargo, as a means to both pressure Tehran and prevent military action from either Israel or the United States (Tabrizi and Santini 2012).

Importantly, the EU's sanctions packages, passed in 2012 and 2013 and coordinated with additional U.S. measures, not only squeezed Iran's economy; they also showed that even countries considered as 'friendly'—Germany within the E3, for example, or China among the P5—would be ready to turn to severe measures to get Iran to move. Germany lent its support to an EU embargo on Iranian oil that included important buyers such as Greece, while China, as well as India, South Korea, and Japan, yielded to American pressure to steadily reduce their crude oil purchases from Iran. Both actions together exacted a considerable price from the Iranian economy, which was losing its most important source of income: its oil revenues (Graaf 2013).

During this period, it was particularly important for Germany to keep all EU members on board, as considerable intra-European policy differences came to the fore. For example, Austria, Germany, Italy, and Spain were far more reluctant to apply sanctions against Iran than Britain or France were (Taylor 2009, 78). Central and Eastern European countries, with little to show in terms of trade with Iran, also did not, very generally, believe that sanctions against autocratic regimes could be effective (Oezbek 2010, 73). Still, over the years, the economic costs of EU-wide sanctions became widely distributed across Europe: “the Iran sanctions hurt Greek shippers, German exporters, French carmakers, and British banks, making it more difficult for one country to complain about unbalanced burden sharing” (de Galbert 2016, 4). Beyond these inner-European divergences, even the transatlantic role-sharing was not always clear-cut between “hawkish” Washington and “feeblish” EU capitals (Bahout and Haddad 2015). More than once, it was the Europeans who held their ground in the final stretch of the negotiations when the United States was willing to compromise—for example, France on the inclusion of the Arak heavy-water reactor, and Germany and the United Kingdom with regard to limiting Iran's centrifuge research and development (Borger and Traynor 2013; Solomon and Norman 2015).

At the same time, Germany also played a key role in the nuclear talks themselves. Helga Schmid, the lead negotiator behind the EU's High Representative, is a German diplomat with a long Iran-related career. She was Foreign Minister Fischer's Chief of Staff when he started the talks with his French and British counterparts, at a time when fellow diplomat Heusgen ran Solana's Policy Unit. When Heusgen moved to Berlin to become Chancellor Merkel's foreign policy advisor in 2005, Schmid soon became his successor at the Secretariat of the Council. With the creation of the European External Action Service (EEAS) under the Lisbon Treaty of 2009, Schmid and other Council units moved to the new body. As Deputy

Secretary-General of the EEAS, she quickly became the “linchpin” of the talks, “the key person in the negotiations” alongside her U.S. and Iranian counterparts (Baume 2015). Working intensely on the 100-plus-page final agreement, she steered the most intense period—and the conclusion—of the negotiations (Fabius 2016). A little over a year after the signing of the JCPOA, Schmid became the EEAS’ Secretary-General, which made her a central and towering figure during the deal’s implementation phase.

Germany’s significant diplomatic involvement in the negotiations stands in sharp contrast to the little attention the JCPOA received in the German parliament and the wider public. For example, in a plenary debate of the *Bundestag* taking place three days after the foreign ministers solemnly approved the text in Vienna, the deal was only mentioned once (Bundestag 2015, 11369). As it happens, at the time of the conclusion of the talks in July 2015, policymakers in Germany and elsewhere in the EU were more occupied with keeping the Eurozone together over fears of Greece going bankrupt than with hailing the country’s—and Europe’s—remarkable nonproliferation success.

From Implementation Phase to Intensive Care

The deal’s implementation started in a staggered, carefully choreographed half-year-long process. Signed on July 14, 2015, the JCPOA formally entered into force on October 18 that year (Adoption Day), after the UN Security Council endorsed it and all signatories confirmed it through the necessary domestic procedures. Implementation Day followed on January 16, 2016, after the IAEA had confirmed Iran’s preparatory work, including dismantling certain nuclear installations and shipping of a large part of its enriched uranium outside the country (Adebahr 2016). The spring of 2016 saw a flurry of activities to put the deal to work, e.g., by European companies descending on Iran to resume business ties and by U.S. officials traveling to EU capitals to explain the possibilities and remaining limitations for this. There was even talk of using the E3/EU+3 format to deal with other proliferation crises, such as that with North Korea.

The excitement proved short-lived, however, as a polarized U.S. election campaign cast a dark shadow on the deal. The ballot itself, then, in November 2016, turned American policy toward Iran decisively more aggressive, not even a year into the deal becoming operational. Even though U.S. President Trump initially upheld (if only grudgingly) Washington’s commitments under the JCPOA, he disparaged the agreement in public. After a lot of blustering and a number of—ultimately futile—attempts by the Europeans to come to a compromise, in May 2018, he formally announced America’s withdrawal from the deal (The White House 2018). By the end of 2018, Washington had fully re-imposed its pre-JCPOA set of economic sanctions against Iran under what came to be called a “maximum pressure” campaign (Krauss 2018; England and Khalaj 2019). Together with a list of twelve unsatisfiable demands (U.S. Department of State 2018), many observers came to the conclusion that the new policy’s end goal was regime change (Tisdall 2018).

Clearly, this approach was incompatible with the EU's policy of critical but constructive engagement, championed by Germany for more than a quarter of a century. Despite the obvious transatlantic rift that the U.S. policy change had created, Germany opted for continuity in its Iran and nuclear nonproliferation policy and for coherence with its European partners. In close coordination within the E3, Berlin carefully co-crafted the EU's response. As a first step in August 2018, Brussels re-activated a dormant "blocking statute" forbidding European companies to observe U.S. sanctions (Council of the European Union 2019). This, however, was mostly a symbolic measure with no effect on firms, which were quick to cease their Iran business as soon as these U.S. measures were announced, especially if they had significant exposure to the American market (Norman 2018).

Politically more important, though still with little practical impact, was the creation of a so-called "special purpose vehicle" to facilitate financial transactions with Iran (Johnson 2019). The Instrument in Support of Trade Exchanges (INSTEX), as it was called, became operational in 2019 as a joint enterprise of France, Germany, and the United Kingdom, based in Paris and run by a former German ambassador (Adebahr and Alcaro 2020). Although in principle only bound by EU laws, the clearing house would implicitly respect U.S. sanctions legislation by initially focusing on humanitarian trade, so as not to doom the enterprise from the beginning by rocking the boat with Washington too much. Despite such deference, it took the company over 14 months to execute its first and only transaction: the sale of blood treatment equipment valued at around half a million Euro (Norman 2020). Eventually, INSTEX, which had grown its shareholder base far beyond the E3 founders to include Belgium, Denmark, Finland, the Netherlands, Norway, Spain, and Sweden, was liquidated in March 2023. This was not because of U.S. pressure, after all, but due to "Iran's persistent refusal to engage with the company" (Federal Foreign Office 2023). The narrative that the Europeans were unable to hold up their end of the bargain suited Tehran too well for an instrument to succeed that would have allowed them to actually do so.

Defending the Deal at the United Nations

The showdown of transatlantic confrontation over Iran—and, ultimately, nonproliferation policy—came not in the boardrooms of European companies but in the gilded corridors of the United Nations in New York. It was there that the E3 proved they could build and lead an international coalition—not only with, but also against their American ally. And, while the open clash was about a conventional arms embargo against Iran, it touched upon the core of the nuclear deal's architecture.

Officially adopted by October 2015, three months after its official signing, the JCPOA foresaw an extension of an earlier UN arms embargo against Iran, including on the purchase of missiles and their technology, for another five years. What was a win for the E3/EU+3 back then, as Iran had long insisted that the ban be lifted, turned into a liability a couple of years later. Given the nuclear and regional escalation following Washington's withdrawal from the deal, it appeared clearly unwise to grant the Islamic Republic new access to destabilizing weapons.

As part of its “maximum pressure” campaign, Washington went all-in, pressuring the UN for an indefinite extension of the embargo—a clear violation of the JCPOA itself and of UN Security Council Resolution 2231 endorsing the deal. Germany and its E3 partners had previously suggested a compromise, built around a temporary extension to prevent further instability in the region but avoiding giving Iran any reason to finally withdraw from the agreement (International Crisis Group 2020, 10–12). In August 2020, a Washington-sponsored UN motion failed spectacularly, with only the Dominican Republic in support, both China and Russia casting their veto, and all other UN Security Council members abstaining (Tharoor 2020). Careful not to point a finger at its U.S. ally, Germany’s Deputy Permanent Representative to the UN explained his country’s abstention by stating that, while remaining “deeply concerned about Iran’s conduct,” the tabled resolution “does not enable us to effectively address the risks identified [...] and to improve security and stability in the region” (Talmon 2021).

This setback would not deter the Trump administration from the next assault on the UN system. Their new-found lever was the deal’s “snap-back” provision to reinstate all pre-2015 UN sanctions against Iran. It could be invoked by any one of the JCPOA signatories in case of non-compliance by another party, without the possibility of a veto from the permanent members of the UN Security Council. However, America’s exit from the agreement two years earlier had, in the eyes of most observers, robbed Washington of this possibility. As German Foreign Minister Heiko Maas put it in fairly explicit terms at the time, to invoke the JCPOA to reinstate all UN sanctions after having left it “is neither politically nor legally convincing” (Drebes 2020). The U.S. administration, however, in full campaign mode for the 2020 election, was determined to follow through. A month after the arms embargo debacle at the UN Security Council, it announced that all UN sanctions against Iran would be reinstated by late September. The remaining JCPOA signatories, however, as well as 13 of the 15 members of the UN Security Council rejected this position; only Israel openly backed it (Associated Press 2020).

As a consequence of this unilateral U.S. move, the UN for a couple of weeks had to ignore a split reality. While the organization itself and most of its members acted as if nothing had happened, Washington lived in an alternative “virtual reality,” in which all international sanctions had been reimposed (Adebahr 2020). This, however, did not have any immediate effect, barring the ultimate lapse of the UN arms embargo against Iran by mid-October, as the Europeans’ earlier efforts to introduce a compromise extension had been thwarted. Still, while Germany and its EU partners had held their ground in New York, it was eventually the decision by the majority of American citizens to elect a different U.S. president in early November that saved the United Nations from a major dispute over whose interpretation of international law should prevail.

A New Lease of Life—Or Not

The election of Joe Biden as U.S. President did give the Iran file a respite from early 2021 onward, but without allowing the actual return to the agreement promised

by the candidate during his campaign (Erlanger 2020). The U.S. administration's reluctance to unilaterally undo America's exit from the deal in the face of domestic pressure, plus Iran's continued ramping up of its nuclear activities, created a stalemate in the so-called "proximity talks" (i.e., without direct Iran–U.S. interaction) conducted in Vienna in late 2021 and early 2022. After the Iranian side rejected an August 2022 compromise proposal tabled by the EU High Representative as the talks' chair, the popular unrest unfolding inside the Islamic Republic and in particular the regime's ruthless crackdown on the revolt made renewed sanctions relief in return for Tehran returning to compliance with the nuclear deal untenable. Literally, German Foreign Minister Annalena Baerbock vowed in a parliamentary debate that "there will be no negotiations" with Iran, defending her government's position not to declare the JCPOA null and void in the face of the regime's brutality against its own citizens (Bundestag 2022).

By the end of 2022 and after two decades of nuclear negotiations with a limited number of highs and many more lows, the international community appears to be back at square one. In response to the UN Secretary-General's half-yearly report on the implementation of the relevant Security Council resolution to implement the JCPOA, the E3 deplored Iran's "violation of its commitments" for which it had, according to the E3, "no credible civilian justification" (Federal Foreign Office 2022).

The list of complaints is long: since 2019, Iran has increased its enriched uranium production capabilities at Fordow and Natanz well beyond the JCPOA's prescribed limits, both in terms of quantity and quality. The country has also suspended the IAEA's ability to monitor and verify important parts of its nuclear activities, *inter alia*, by denying access to certain sites and switching off the IAEA's installed cameras at others. Finally, it has pursued ballistic missile activities deemed inconsistent with UN Security Council Resolution 2231, such as testing space launch vehicles and shipping hundreds of drones to Russia for the latter's war against Ukraine (Foreign, Commonwealth and Development Office 2022).

Despite all this, the EU still concludes that there is no "better option than the JCPOA to ensure that Iran does not develop nuclear weapons" (European External Action Service 2023). Likewise, the United States made it clear that it was only because of Tehran's own disinterest in reviving the deal that Washington was "focused on other things," such as Iran's arms sales to Russia and the women-led uprising inside the country (AI-Monitor 2022). Even in the face of profound challenges, from Iranian nuclear non-compliance and continued human rights violations to an actual war being fought on European soil with Iran-made weapons, Germany and its EU as well as transatlantic partners decisively uphold diplomacy as the solution to a persistent—and festering—nonproliferation crisis.

The Changes to Come: A Nuclear Renaissance and Geopolitical Tensions

The short-lived actual implementation phase of the JCPOA from early 2016 to mid-2018 has given way to the current period of the world becoming 'unhinged':

first with Trumpism in the United States, then with the Covid-19 pandemic and China's particular role in it, and now Russia's war against Ukraine bringing not only destruction and displacement to Europe but also rattling energy markets, driving inflation, and creating a global food crisis. Unfazed, Tehran has steadily advanced its nuclear activities, defying U.S. sanctions and stonewalling on IAEA inspections. While not yet a failure, the JCPOA as a crucial element of the global nonproliferation regime seriously hangs in the balance—and by a thread.

A number of conclusions can be drawn from the previous analysis of Germany's position on the Iran file. The first has to do with the actual subject matter, nuclear energy—whether used for civilian purposes or in the military realm. Just as the world is experiencing rising nuclear tensions, whether through Moscow's nuclear threats in conjunction with its war against Ukraine or North Korea's persistent testing of ever more sophisticated missiles, it also faces increased demand for the civilian use of nuclear energy in pursuit of climate-friendly policies. Both will have an impact on Germany's nonproliferation policies. While the former requires more effort and means to further develop existing nonproliferation tools, the latter has more fine-grained implications for a country that has just finished its process of phasing out civil nuclear energy.

Even before Russia's invasion of Ukraine unleashed an energy crisis in Europe, the German government had received much criticism for the country's nuclear phase-out (Editorial Board 2022). Despite a nuclear renaissance in some countries, the German "exit" is based on a domestic trend long in the making and therefore here to stay. Today's co-governing Greens have their roots in the country's anti-nuclear movement, and the 2002 landmark decision to phase out nuclear energy is one of their main achievements (see also Chapter 11 by Kühn on nuclear phase-out in this volume). Still, it was then a center-right government that decided to accelerate the phase-out in the wake of the 2011 Fukushima nuclear disaster. As it happens, Germany completed the shutdown of its nuclear industry in parallel to—if also entirely independent of—the Iran negotiations, with the first reactor going off the grid in November 2003 and the last ones in April 2023.

While having broad public backing at home, Germany's nuclear phase-out will ultimately impact its foreign and security policy, not least by putting into question its status in international nonproliferation fora. With no nuclear reactors running and a significantly decreased nuclear sciences base, Germany's nuclear exit not only weakens its industrial base in this field, but, over time, could diminish its special status as the only non-nuclear weapons state among the E3/EU+3. It might also negatively impact Germany's standing within the IAEA, of which Germany was a founding member, having continuously maintained a seat on the IAEA's Board of Governors since 1972. Last but not least, without direct leverage in the civilian nuclear domain, Germany retains fewer options to influence Iran's neighbors that are now building up their own nuclear programs—whether the United Arab Emirates with their already-live reactors constructed by South Korea or Saudi Arabia nursing its nascent nuclear program with the help of China.

The second conclusion has to do with instability in the wider Middle East. The potential unraveling of the JCPOA could well lead to a regional conflagration,

whether through a race for conventional arms and for unfettered access to nuclear technology, or through a direct attack by Israel on Iranian installations—or both. Beyond the damage done to the people in a war-stricken region, such a development would increase the chances of a global confrontation between the great powers, given how involved the United States, Russia, and China are and how much regional powers like Iran and Saudi Arabia are playing up their respective alliances. Instead of diplomacy, containment—primarily of Iran, but possibly also of other would-be nuclear threshold states—may soon be the order of the day, should the JCPOA come undone.

Finally, the international coalition formed to prod Iran through sanctions and diplomacy was a specific product of its time. Back then, China was still carefully rising and Russia was not yet in open opposition to the West. Beijing's increasingly assertive stance under President Xi Jinping from 2012 onward and Russia's first invasion of Ukraine in 2014 have progressively made a repeat performance of this feat unlikely. Also, Iran's military siding with Moscow and its brutal domestic repression diminish Germany's potential—and willingness—to be a bridge builder vis-à-vis Tehran. Finally, the overall climate of geopolitical rivalry, not just between the United States and China but also with many regional powers in between, as well as Germany's dependence on the United States for security protection point to an approaching watershed moment for Berlin: the 2024 U.S. presidential election. Depending on its outcome, the country may be forced to further rethink the fundamentals of its foreign and security policy—not even three years after its government had declared a *Zeitenwende* in the wake of Russia's attack against Ukraine.

Consequently, Germany will need to adapt not only its nonproliferation policy but also its approach to Iran more broadly to a changing international environment. As difficult as it has been for Berlin over the years to see Iran through anything other than the nuclear lens, it now struggles to devise alternative pathways in the face of persistent violations of the JCPOA, an internal revolt, and the Islamic Republic's new alliances, whether globally with China and Russia or regionally in the form of renewed engagement with Saudi Arabia and the United Arab Emirates. At the same time, German nonproliferation policy needs to consider not only a possible revival of nuclear energy especially in emerging countries seeking to go green but also its own changing status as a result of nuclear phase-out.

Any potential reformulation of German nonproliferation policy would have to take the various sources of change into account that are analyzed in this volume. Regarding technological change, the country would be well advised to maintain advanced nuclear knowledge for its international and security policies. The phase-out at national level stands in contrast to a nuclear renaissance at global level. Investing in cooperation projects, from collaborative research to multilateral fuel banks, is a way to maintain relevance. Moreover, precisely because nuclear sharing has become more pertinent, given Russia's aggression towards Ukraine and the West, commensurate investments in nuclear nonproliferation are required. Any erosion of the NPT would only induce more states to seek “the bomb” in the face of a nuclear weapons state issuing random threats against other countries.

Finally, the observable trends in the international system point to more rather than less conflicts in the coming decades. Both above-mentioned strands require working with governments that are neither like-minded nor democratic. Any simplistic dichotomy à la “Cold War 2.0” or messianic slogans such as “democracies vs. autocracies” will therefore be detrimental to the very necessary long-haul work of containing the spread of nuclear weapons. If anything, the continuous Iran saga is testament to both the difficulties of, and the potential diplomatic solutions to, any coming proliferation challenges.

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Of Dependence and Conservatism

Conclusions for German Nuclear Policies in the 21st Century

Ulrich Kühn

Dependence and Conservatism

When it comes to nuclear weapons, Germany is both dependent and conservative; the latter is, in part, a function of the former. Germany is dependent for three main reasons: firstly, it depends on the United States because Germany relies on nuclear weapons for its security and continues to reject the option of acquiring nuclear arms itself. Germany's dependence on U.S. nuclear protection is an integral element of a longstanding German foreign and security tradition: *Westbindung* means the deliberate, deep integration of Germany into the U.S.-led transatlantic alliance. Secondly, Germany is dependent on the North Atlantic Treaty Organization (NATO) alliance because it is through the institutional arrangements of NATO that Germany is partaking in extended nuclear deterrence. Germany's dependence on NATO follows again a central tenet of German foreign and security strategy: the principle of "never alone" deliberately rejects past German unilateralism (*Sonderweg*) and instead opts for supranational institutions through which German policymaking, aimed at forging consensus, can operate. Thirdly, Germany is dependent on the United States operating in and shaping a rather benevolent security environment because it is in this environment that German arms control, disarmament, and nonproliferation policies are most effective. In that way, German systemic dependence is the result of the country's post-World War II basic orientation as a "civilian power" (*Zivilmacht*), civilizing politics and international relations.

Germany is also conservative. For nearly 70 years, Germany has relied on extended nuclear deterrence for its security, namely U.S. nuclear weapons. For nearly the same number of years, Germany has been a member of NATO; and at least since the peaceful end of the Cold War, the country has consistently advocated for nuclear arms control, disarmament, and nonproliferation. Extended nuclear deterrence, membership in a nuclear alliance, and the pursuit of reducing nuclear arms are obviously not just a passing whim. They are fundamentals of the modern German nation state. Germany seeks to preserve these foundations even in turbulent times, such as during the first nuclear *Zeitenwende* ("watershed moment") of 1989–1991 that Tobias Bunde described in Chapter Four of this volume.

German nuclear conservatism is partly a result of German dependence. As Barbara Kunz and I write in Chapter Five: "potential alternatives to Germany's

preferred model of extended nuclear deterrence provided by the United States seem hardly realistic.” Putting it bluntly: Germany will remain dependent on the United States for as long as Germany remains a non-nuclear weapons state relying on nuclear deterrence. Another example is NATO’s continued policy of forward-deployed nuclear arms in Europe—an arrangement that Germany sought to change twice during the last 15 years, but ultimately reverted back to conserve it because of its dependence on NATO.

German conservatism, however, is not solely a function of dependence limiting Germany’s options. In addition, positive historical memories and Germany’s deeply internalized identity as a normative force in international affairs (Müller 2003) contribute heavily as well. Having survived the Cold War nuclear standoff and finally achieved the peaceful reunification of the German nation state created positive memories of a scale that make it seem almost impossible for most German policymakers to imagine alternative foreign policies. According to a widely shared understanding of past events, U.S. and NATO protection throughout the Cold War, including by nuclear arms, safeguarded West Germany and ultimately paved the way for reunification and, in conjunction, massive arms reductions in Europe.¹ As a result, Germany emerged as the grand profiteer of post-Cold War stability in Europe. German nuclear policy choices had paid off massively.

The other factor, Germany’s identity of a normative orientation in international affairs, reinforces conservative takes towards the United States, NATO, and the rest of the globe. *Westbindung* and the principle of “never alone” are deeply intertwined with that identity. It is safe to assume that the United States, with its ideals of freedom and democracy, and despite increasingly retrograde domestic developments in recent years, is still the preferred choice of partner for most German politicians—especially in comparison with other major powers. From Berlin’s perspective, civilizing international conduct is still best pursued in partnership with Washington. Likewise, the principle of “never alone” epitomizes Germany’s multilateral orientation and finds its practical expression in constant German calls for solidarity with its NATO allies and a preferred policy of decision-making only in close consultation with allies or (increasingly) in frameworks of like-minded states.

Last but not least, German arms control, disarmament, and nonproliferation policies are not merely conservative choices in lieu of alternatives. Instead, they are based on the conviction that these policies, under the right conditions, contribute to a more peaceful and secure international environment. As Agnieszka Brugger (2023), the Green politician interviewed by Giorgio Franceschini for Chapter Eight, explained:

Our position with respect to our basic values hasn’t changed. To the contrary: we now see clearly the immense risks associated with nuclear weapons, when a state like Russia wages a brutal war of aggression and threatens to use nuclear weapons.

Germany’s Nuclear Order of Preference

German dependence and a predilection to conserve and continue past successful policies are undeniably in constant competition with each other and create conflicts

of interest that force Germany into difficult choices. Confronted with such conflicts of interest, German leaders usually aim to avoid one-sided and hasty decisions. As Katja Astner, Moritz Kütt, and Tobias Bunde in their respective chapters all point out, German nuclear policies habitually arrive at *sowohl als auch* (“as-well-as”), rather than either-or choices. Often to its critics’ frustration, Germany chose to promote nuclear disarmament without questioning NATO’s character as a nuclear alliance. In 2021, the incoming coalition of Social Democrats (SPD), Greens (Bündnis 90/Die Grünen), and Free Democrats (FDP) decided to modernize the ‘hardware’ of the nuclear sharing arrangement while simultaneously announcing that Germany will attend the first Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons (TPNW), though only as an observer. When the European arms control architecture started to crumble, Berlin worked relentlessly behind the scenes to preserve and modernize but avoided a public break with Washington, which in the eyes of many observers bore its share of responsibility for this development (see Chapters Seven and Ten of this volume).

Germany’s *sowohl als auch* policies sometimes conceal the fact that *Westbindung* (“never alone”) and *Zivilmacht* are not necessarily given equal attention—otherwise, German foreign and security policy would all too often fall into a state of paralysis. When push comes to shove in the nuclear weapons domain, Germany almost always prioritizes not disrupting the partnership with the United States and its membership in NATO. As Wolfgang Richter writes in Chapter Seven:

As a non-nuclear weapons state, Germany regards NATO the indispensable security guarantor for maintaining her national sovereignty and independence. Therefore, keeping strong transatlantic bonds and demonstrating solidarity with the alliance ranks first among the top priorities of Berlin’s security interests. That includes the role of the United States in providing extended nuclear deterrence for allies and Germany’s commitment to nuclear burden-sharing.

That explains why German leaders left the country’s participation in nuclear sharing intact, despite a broad cross-party consensus on seeking the removal of U.S. forward-deployed nuclear arms during the second tenure of Chancellor Angela Merkel (2009–2013), and despite the Greens entering government in 2021. No matter what parties were in power, the transatlantic bond and alliance solidarity simply trumped German arms control and disarmament aspirations. They did so as well throughout the 1990s and early 2000s when even NATO had difficulties explaining the military rationale behind U.S. forward-deployed nuclear weapons in Europe (see Chapter Four). This order of preference applies to all major German parties, including the Greens. When, shortly after Russia’s invasion of Ukraine in 2022, Green Foreign Minister Annalena Baerbock prompted Germans to “understand disarmament and arms control as being complementary to deterrence and defense” (Federal Foreign Office 2022), everyone understood that “complementary” did not necessarily mean “equitably.” It would be easy, perhaps too easy, to accuse German leaders of hypocrisy (Kütt 2022). Such claims, however, tend to ignore the fact that despite their

unofficial order of preference in nuclear affairs, German leaders never chose to entirely abandon one of their preferences, even in difficult times. This becomes most obvious when assessing how Germany deals with change in the nuclear domain.

Germany and Change in the Nuclear Domain

Dependence and conservatism are also good parameters to explain how Germany deals with and adapts to change. German dependence—on the United States and NATO as well as on a benevolent environment—has two very practical effects. First, whenever Washington and NATO change course on nuclear arms, i.e., in conjunction with a deteriorating security environment, German preferences for arms control, disarmament, and nonproliferation come under stress, eventually forcing the country to adapt. Wolfgang Richter, Harald Müller, and Cornelius Adebahr in their respective chapters all describe these adaptation efforts in great detail. When the United States and Russia increasingly turned away from arms control in the twenty-first century; when Republican U.S. presidents neglected the fundamental bargains contained in the Treaty on the Non-Proliferation of Nuclear Weapons (NPT); or when the administration of Donald J. Trump violated the Iran nuclear deal, German leaders and diplomats would consistently and with great patience work to preserve what is possible and to soften the negative effects of change. These efforts, though often bound to fail,² meant incremental adaptation, the exploration of alternative venues and initiatives (though always in a multilateral setting), and the continuation of discussions, if even for the sake of continuation. German persistence in keeping together what sometimes cannot be kept together anymore occasionally takes on comical forms, as in the case of opening negotiations on a Fissile Material Cut-off Treaty. Though, German incrementalism and persistence is also a force to be reckoned with, as Müller in Chapter Ten argues in the case of Berlin slowly moving the U.S.-led Proliferation Security Initiative to focus more “on activities within the boundaries of international law.” In any case, Germany’s preferred modus of adapting to change is to avoid rash or radical choices. Amy Nelson, in Chapter Three, finds these German adaptation practices in the defense-technological realm of innovation as well.

The second practical effect of German dependence plays out when Germany seeks to change existing nuclear parameters itself. In Chapter Seven, Richter notes: “the German imperative to ‘never act alone,’ and instead always together with partners and allies, implies that opportunities to pursue these goals vigorously are limited and, to a large extent, dependent on the policies of allies and partners.” In effect, Germany’s freedom of maneuver is limited by its alliance arrangements and its identity as a ‘good ally’ who would never threaten to ignore allied consensus or solidarity, even if German leaders have different policy preferences. The most obvious example was German uneasiness with U.S. forward-deployed nuclear weapons in Germany. When German politicians who sought to change that arrangement³ received pushback from allies and Washington in particular (see Chapter Four; Sonne 2018), the Federal Government ultimately reverted back to a passive form of conservatism, agreeing to keep the status quo.

Michal Onderco, in Chapter Six, offers a novel perspective on these two practical effects of German dependence. Relying on Mair's (2009) two-pronged model of control in democratic policymaking—responsiveness and responsibility—Onderco argues that the German executive's conservatism on nuclear sharing, despite opposite preferences by the German public, is in fact an example of a policy which stipulates responsibility towards an "international commitment in a formal alliance, on behalf of others, [that] deals with a policy which extends beyond short-term goals." Accordingly, Germany's involvement in supranational institutions, such as NATO or nuclear sharing at that, "and particularly the pooling of sovereignty and taking on commitments on behalf of others, is highly conducive to placing more weight on 'responsibility' at the expense of 'responsiveness'" (see also Laffan 2014). Onderco goes on to point out that German responsiveness in the nuclear domain, i.e., the "[sympathetic response] to the short-term demands of voters, public opinion, interest groups, and the media" (Bardi, Bartolini, and Trechsel 2014, 237), can take on forms of "symbolic adjustment" (Risse-Kappen 1991, 502) wherein certain political practices create a semblance of responsiveness without accepting the core demands of the electorate.

Astner and Kütt in Chapter Nine describe this practice in great detail, showing how German diplomats and policymakers softened their language and stance towards the TPNW in recent years while steering clear of tying their hands in any consequential way. Franceschini's Chapter Eight also describes this practice for the new Green leadership. Green politicians like Baerbock spend a good amount of time on responsiveness speech acts, therein explaining and justifying those policy choices that run counter to long-standing demands from the core Green electorate. In parallel, they pursue symbolic adjustment in the form of Germany attending the first TPNW states meeting as an observer or contributing to nuclear victims assistance, an activity stipulated by the TPNW (Permanent Mission 2022). Symbolic adjustment can be a tactical response to domestic calls for change. It would be unfair, though, to conclude that Germany's efforts to adapt to change in the realms of arms control, disarmament, and nonproliferation throughout the past two decades merely resemble these tactics. Rather, these diplomatic efforts are often the outcome of Germany balancing its various responsibilities—toward its supranational disarmament and its supranational defense commitments.

Two German policies of recent years partly break with the dependence/conservatism framework. As Adebahr explains in Chapter Twelve on the Iran nuclear deal, "despite the obvious transatlantic rift that the U.S. policy change [under the Trump administration] had created, Germany opted for continuity in its Iran and nuclear nonproliferation policy and for coherence with its European partners." Despite dependence, Berlin chose to part ways with Washington on the Iran file. This break with the principle of *Westbindung* can be explained by the specific negotiation setup and the topic at hand. In the E3/EU+3 framework—meaning France, Germany, the United Kingdom, the EU, China, Russia, and the United States—Germany was not only an equal stakeholder but also had direct support from its key European partners. In choosing to stay in the Iran nuclear deal, Germany was not necessarily forced to go it alone but could rely on a coalition with Brussels, London, and Paris.

While partly breaking with the dependence paradigm of *Westbindung*, Germany stayed within its conservative frames of “never alone” and of being a *Zivilmacht* that actively contributes to global nonproliferation. In addition, the usual German order of preference of *Westbindung* and NATO solidarity, and the extended deterrence arrangement that comes with both, over arms control and disarmament policies did not directly apply to the specific issue of preventing Iran from acquiring nuclear weapons.

The other case is Germany’s nuclear phase-out. Indeed, Germany’s accelerated turn away from nuclear energy in the wake of the Fukushima disaster breaks with German conservatism. In that case, Germany did go it alone, much to the bafflement of many of its closest allies and partners (Schreurs 2012). Viewed from the outside, Germany’s 2011 decision might have even come across as radical and rash. As I explain in Chapter Eleven, however, the process of phase-out unfolded over at least two decades and was directly linked to German satisfaction with the dependency relationship with the United States and the occurrence of a stable period of benevolent security relations in Europe. Only when domestic and international factors converged—when German leaders concluded that retaining the ultimate nuclear weapons fallback option was not necessary, not credible, and not viable anymore—did nuclear phase-out become a realistic possibility that allowed Chancellor Angela Merkel to act fast and without considering international security aspects.

Answering the central question of this volume, Germany deals with and adapts to changes through incremental adaptation efforts that avoid radical and unilateral choices. In doing so, German leaders seek to leave intact the country’s well-established preferences of extended deterrence provided by the United States, German participation in the nuclear-armed NATO alliance, and the pursuit of multilateral arms control, disarmament, and nonproliferation policies. In cases of conflict of interest, German leaders usually favor U.S.-provided deterrence and/or alliance unity.

No Atomic *Zeitenwende* ... for Now

This volume’s central question comes with an addition: how does the country deal with and adapt to change *since war has returned to Europe*? To begin with, Germany’s nuclear choices in conjunction with the *Zeitenwende* follow the patterns of dependence and conservatism. Berlin doubles down on *Westbindung* and NATO solidarity by modernizing its fleet of dual-capable aircraft, therewith prolonging German participation in nuclear sharing well into the future. As explained in this volume, this conservative choice prolongs an already decades-old tradition. German leaders did also follow through with their decades-old plans for nuclear phase-out, despite a short interruption in the spring of 2023. As of May 2023, Germany no longer produces nuclear energy. Perhaps the only visible change in German nuclear policies in conjunction with the *Zeitenwende*—though only visible to experts and specialized policymakers—was German leaders scaling back their disarmament rhetoric. Astner and Kütt document this shift in Chapter Nine. They

find that disarmament did not play any role in the *Bundestag* debates of the crucial year 2022. Bunde in Chapter Four as well argues that official political statements reflect a “changing debate in Germany, in which security concerns now seem to trump anti-nuclear sentiments.” Still, as highlighted before, German leaders do not break with long-standing German preferences, even during turbulent times. Less public emphasis on nuclear arms control and disarmament does not mean that Germany has abandoned these *Zivilmacht* policies. Rather, Berlin is currently looking for symbolic adjustment activities to engage in until a less hostile security environment may reappear. In so doing, Germany follows again its traditional order of preference in the nuclear domain. Despite the upheavals of the year 2022, a nuclear *Zeitenwende* in which Germany would radically alter its nuclear policies is not in sight.

The picture changes, however, if the purely nuclear lens of policymaking is put aside. Germany’s massive and sudden re-investment in defense—the 100 billion Euro extra budget by the Scholz government—is indeed a remarkable break with 30 years of post-Cold War ‘small defense’ politics. Liana Fix in Chapter Two argues that

Zeitenwende and its policy implications are not just another instance of “change in continuity” or “modified continuity” (Harnisch 2001) [...] when German foreign policy changed albeit incrementally but remained largely within the traditional continuity of “civilian power” and “military restraint” (Harnisch and Maull 2001; Baumann and Hellmann 2001).

Instead, she argues, “*Zeitenwende* is the most significant change since 1990, involving a shift from civilian to military power; however, without a final turn towards a militaristic or bellicose Germany.” Fix sees a country that is “now planning for the long-term re-establishment of Germany as a military power for the defense of Europe and the NATO alliance.”

Further widening the aperture, Bunde in Chapter Four suggests the year 2014, when Russia illegally annexed Crimea, as the real starting point of the *Zeitenwende* (see also Bunde 2022). Following his periodization, a *Zeitenwende* starting in 2014 would capture the U.S. presidency of Trump, the debate about NATO ostensibly being “brain dead” (The Economist 2019), and therewith the years of the shrillest public debate in Germany on the potential need to rethink the deterrence arrangement with the United States should America withdraw from European security (Kühn, Volpe, and Thompson 2020). Now that Russia has entirely broken with the rest of Europe, one does not have to be a prophet to predict that these frantic calls would resurface should Trump re-enter the White House in 2024. German calls for a nuclear deterrence backup solution may well come back with a vengeance, now that musings about a “Eurodeterrent” or deepened Franco-German nuclear cooperation have become mainstream among leading Christian-Democratic policymakers in Berlin (see Chapter Five of this volume). Accordingly, the *Zeitenwende* of 2022 may turn out to be just another milestone, and perhaps not even the most disturbing one for Germany, in an ongoing or prolonged period of profound changes turning

German policies upside down. As Robert Legvold writes in Chapter One outlining four possible futures German leaders might face,

the worst plausible case would appear to be a Russia that emerges from the Ukrainian war more menacing than ever, a United States as the guarantor of Transatlantic security that is fading or immobilized, and a deepened U.S.–Russia cold war that is joined to a new full-blown U.S.–China cold war. It would be a dystopian world that would confront Germany with stark nuclear choices that in other circumstances are likely to be either more improbable, ambiguous, or remote.

The degree to which many authors in this volume are either dissatisfied with Berlin's past policies or argue for structural changes to German nuclear policies might be indicative of an ongoing *Zeitenwende*. Interestingly, authors' dissatisfaction as well as their repeated calls for change are apparent in all three domains of German nuclear policymaking: deterrence, arms control and disarmament, and nonproliferation. Meanwhile, those contributors that describe recent changes, which may soon start to impact the traditional way of German adaptation, identify them at both the official level of policymaking and within the German public. In Chapter Eight on the Green party, Franceschini argues that

the new Greens are mostly young [...] are more interested in climate and social justice issues and less in nuclear matters, both civilian and military, [and] are largely agnostic when it comes to anti-NATO and anti-American slogans, which still infuse parts of the German disarmament discourse.

In her foreword, Catherine Kelleher sees the Greens as an unexpected force for change in German foreign and security policy:

One of the biggest surprises of my lifetime is the change in the Green party. The Greens, in part because of a new generation of leadership and the actual personal backgrounds of some of the people in the leadership now, are today much more of a working partner for the United States than they ever were.

Gauging shifts in public opinion, Onderco in Chapter Six assesses that “[w]hereas in the past, Germans did not attach great value to the U.S. nuclear weapons deployed on their territory, and hence favored their removal, this changed with the war [in Ukraine].” He finds that particularly “[t]he German youth [has] become more hawkish over time.” Reflecting particularly upon elite discussions, Fix in Chapter Two goes as far as to argue that a

new consensus [is emerging which] extends beyond rhetoric. It is characterized by a shift away from the culture of military restraint to an acceptance of the necessity of military power among the political elite, and in majority, among the public.

Taken together, the *Zeitenwende* that might not end with an uncertain settlement of the war in Ukraine may still hold some unpleasant surprises for Germany in the years ahead. In particular, Germany's dependence on the United States, combined with German leaders' preference for nuclear deterrence, could lead to an explosive arrangement the more America focuses on China in a new great power conflict that will reshape the twenty-first century. As Kelleher succinctly notes in her foreword, "[i]t looks to me as if German leaders have not yet made up their minds how to cope with those changes."

Opportunities for Further Research

As explained in my introduction, this volume comes on the back of a renewed scholarly interest in German nuclear weapons policies (see, for example, Egeland and Pelopidas 2021; Fuhrhop 2021; Kamp 2023; Kühn and Volpe 2017; Onderco and Smetana 2021). Authors' individual chapters and findings therewith interact with existing research, providing opportunities for further research on Germany.

In Chapter Two on the war in Ukraine as a source of change for German foreign and security policy, Fix claims that the *Zeitenwende* has already changed Germany's foreign and security policy identity from "military restraint" and "civilian power" to a return to military power and leadership. She argues that

the most important framework to understand German foreign policy after reunification—the so-called "change versus continuity debate" (Mello 2020; Harnisch 2001)—is no longer suited to grasp the extent of change in Germany's security policy after Russia's invasion of Ukraine.

Her conclusion somewhat contradicts most of the empirical findings that the authors to this volume have collected. Be it on deterrence, arms control and disarmament, or nonproliferation, Germany shows a lot of continuity in its adaptation to recent changes. The dependence/conservatism framework that emerges from authors' chapters rather reinforces the notion of a "modified continuity" (Harnisch 2001). Then again, the empirical basis for assessing the *Zeitenwende* is necessarily quite narrow at the time of writing. The years ahead might bring more scholarly attention to German security policy and perhaps a theoretical reframing of the German model of foreign policy. Whether the specific domain of German nuclear weapons policies would either verify or falsify broader theory claims remains to be seen.

Onderco's explanation of why and how German policymakers avoid changes to the nuclear sharing arrangement despite opposite public preferences in Chapter Six gives new input to the democratic representation debate and the purported special status of nuclear arms (Egeland and Pelopidas 2021; Pelopidas and Egeland 2023). His creative combination of responsibility/responsiveness and symbolic adjustment sounds persuasive but needs empirical backing. In addition, new research looking into German policymakers' beliefs about nuclear arms—particularly among Green politicians—might help in getting a better understanding of why supranational considerations trump domestic preferences, and whether Germany is a special case

in that regard. The turn towards large-*N* experimental surveys on nuclear arms (exemplary Press, Sagan, and Valentino 2013; Onderco and Smetana 2021) seems not yet over as Onderco demonstrates in Chapter Six. Disruptive events like the *Zeitenwende* warrant a closer scholarly look at the longevity of nuclear preferences of the public and populations' penchants to quickly 'forget' such events and return to previously cherished conservative takes. That way, continuous surveys of the German public might as well infuse the debate about a possible turn away from "modified continuity." Qualitative elite surveys, as applied by Franceschini in Chapter Eight, could complement such endeavors. Particularly gaining a better understanding of the preferences and beliefs of the German diplomatic corps—a crucial but often overlooked actor in the nuclear domain—would help to arrive at a more comprehensive understanding of German policymaking processes.

The puzzling end of German latency, the topic of Chapter Eleven, takes forward existing research on states' leveraging nuclear latency in pursuit of specific foreign policy gains (Volpe 2023). While the German case is indeed rather special and partly defies established expectations about the perceived value of latency (Narang 2016; Fuhrmann 2017; Metha and Whitlark 2017), the story of one of the world's once biggest plutonium possessors (Kelleher 1975, 311) shuttering its entire nuclear complex and getting rid of almost all weapons-grade material still holds a number of novel insights. From the impact of a powerful anti-nuclear public audience to the latency-restricting consequences of tying one's hands in international nonproliferation agreements, the German phase-out is a unique example of domestic and international factors converging in an unexpected way.

The repeated references by authors to the framing of a "third" or "new nuclear age," which has been suggested recently by a number of scholars in response to profound technological and systemic changes (exemplified by Futter and Zala 2021; Narang and Sagan 2022), point to a need to embed the foreign policy upheavals that Germany is experiencing in a larger, global context. Some of the features of a "third" or "new nuclear age" have clearly started to impact Germany: the crisis or end of nuclear arms control, the return of nuclear coercion tactics, or fears of abandonment. Whether these features are all that new, historically speaking, and how German policies and debates compare to those of other non-nuclear U.S. allies, e.g., South Korea and Japan, would be worth investigating.

Nuclear Studies in Germany

A few final remarks on nuclear studies in Germany. Scholarly sound German research on nuclear deterrence, based on new empirics or theory, is still an absolute rarity—as is a serious political debate on deterrence (Fuhrhop 2021; see also Chapter Nine of this volume). Meanwhile, German research on arms control and disarmament, though numerous and internationally competitive, has too often reproduced cooperative models for the sake of cooperation. While the former results from a combination of missing intellectual leadership from internationally recognized senior scholars and (at least until recently) a certain disinterest among students, the latter was partly a reflection of post-Cold War German politics and,

increasingly so, of a conceptual crisis of arms control and disarmament research (Kühn 2022, 177–179). As a consequence, there is no fruitful scholarly exchange on these topics in Germany.

Compiling this volume, I have tried to break with this unhealthy tradition. The book, therefore, gives equal space to researchers with a penchant for disarmament and arms control as well as more deterrence-leaning analysts and scholars. Bridging the gap between these two camps has resulted in remarkable similarities in findings, but also significant differences in conclusions and recommendations. Authors, including myself, did not shy away from zeroing in on the potential extremes of German nuclear policies: German proliferation and unilateral abolition. It is hoped that this volume will contribute both to a better and more informed debate on nuclear arms in Germany and to an improved understanding of German nuclear policy abroad.

This volume is dedicated to my long-term mentor and friend, Catherine Kelleher. Hence, she deserves the final words. Writing in 1975 during a period of East-West relaxation, Catherine tried to look into the future and urged West German leaders to be cautious:

To predict German policy beyond the end of the 1970s would seem a foolish task [...] forecasting for half a decade is at best a chancy exercise. But if the present firm commitment to policies of cautious nuclear strategy and of total abstinence from direct access to nuclear weapons has only reduced past nuclear dilemmas, there seems little reason to expect their total elimination by 1980. Choices will still be hard and in need of constant recalculation. And although greatly lessened, the underlying German predilection to give no major hostages to an uncertain future will—and perhaps should—die hard.

(Kelleher 1975, 314–315)

Notes

- 1 This is evidenced by the constant recourse to the end of the Cold War in most German foreign policy speeches (for an analysis see Kühn 2024, forthcoming).
- 2 See the cases of preserving the Conventional Armed Forces in Europe Treaty, the Intermediate-range Nuclear Forces Treaty, and the Open Skies Treaty, or in opening negotiations on a Fissile Material Cut-off Treaty.
- 3 The two most obvious examples were Foreign Minister Guido Westerwelle in 2009–2010 and the leader of the Social Democrats in the *Bundestag*, Rolf Mützenich, in 2020–2021.

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