FRIEDRICH KITTLER

OPERATION Valhalla

WRITINGS ON WAR, WEAPONS, AND MEDIA

Edited and translated by Ilinca Iurascu, Geoffrey Winthrop-Young, and Michael Wutz

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BUY

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EDITED AND TRANSLATED
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WITH AN INTRODUCTION BY
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Editors' Preface

ILINCA IURASCU, GEOFFREY WINTHROP-YOUNG, AND MICHAEL WUTZ

Operation Valhalla is a selection of texts by Friedrich Kittler (1943–2011) written over the course of almost thirty years that focus on the intersection of war and media. They deal with weapons development, the evolution of tactics, military hardware, advances in army communications, the literary mobilization of gendered subjects, the technological conditions of terrorist activities, and deposits of war in music and literature. Addressing different audiences, they vary in length and format, ranging from public lectures, op-ed pieces, and handbook entries to autobiographical musings, detailed literary analyses, and a conversation with theorist and filmmaker Alexander Kluge. Of the eighteen texts assembled here, six have already appeared in English. Of the remaining twelve, two—"Manners of Death in War" and "Playback: A World War History of Radio Drama"—have never before appeared in print and are here both published and translated into English for the first time.[1]

Given the high profile of the topic, in particular the discussion of how cyberwar, netwar, and the ongoing mobilization of the divisive impact of social media force us to reconceptualize the nexus of war and media, we think of *Operation Valhalla* as a collection that contributes to current discussions. Kittler is tackling a host of timely and troublesome issues. Much of what he says about weapons and wars, and about World War II and the Third Reich in particular, is both highly topical and strikingly original, yet some of it, as so often in his work, is dubious, if not downright disturbing. We therefore adopted a proactive editorial procedure. First, this collection contains an extensive introduction. In fairness to Kittler, a quick summary of the texts will not do, especially one that comes with critical objections. Though Kittler was neither a professional soldier nor a military historian,

he was a lifelong aficionado who acquired an in-depth knowledge of Prussian and German military matters. To explain, extend, and occasionally challenge his analyses, it is necessary to go into detail and meet him, as far as possible, on his own ground.

Second, we reconnoitered and invaded the texts more than is usually the case, but we believe there are good reasons for doing so. While some of the essays in this collection are immediately accessible (e.g., "Free Ways," "A Short History of the Searchlight," and the conversation with Alexander Kluge), others (such as the autobiographical essay "Biogeography," the short piece "Tanks," and "Ottilie Hauptmann") are densely packed with arcane names, puns, and allusions that will be accessible to only a thin slice of specialized German(ist) readers. Then, there is the case of "Playback: A World War History of Radio Drama," which exists in a longer German manuscript version and a truncated and reconfigured version in Kittler's English. We compared the two texts and assembled them into a new English variant that seeks to capture accurately the substance and spirit of both. Finally, we herded the essays into thematically oriented sections and breached the individual texts with editorial notes to make sure that no reader is left too far behind.

On occasion Kittler revised texts that originally had little to do with war or with military matters. The prime example is the "Ottilie Hauptmann" essay. First published in 1977, it started out as a discourse-analytical reading of the ways in which Goethe's novel *Elective Affinities* addresses the intersection of motherhood, love, and education. For its republication in 1991, however, Kittler inserted long sections on military telegraphy and the German Wars of Liberation against Napoleon without changing the original portions. As a result, it becomes difficult to tell where Kittler draws the line between love and war, education and mobilization, or the marital and the martial—if indeed he draws any at all. To illustrate this weaponization and allow readers a glimpse into Kittler's mode of operation, we used different fonts to highlight the martial portions added in 1991.

Third, the mistakes: Kittler connoisseurs know that he specializes in two types of inaccuracy. There is the simple a.k.a. honest blunder: an incorrect date, a faulty name, a misremembered song. As a teacher, Kittler could be surprisingly indulgent when it came to allowing his students to develop their own ideas and interests, but he could be quite unforgiving when it came to factual inaccuracies, also and especially in matters historical and military. "I have always tried to introduce criteria," he stated in an interview, "to determine what is not true, what is the result of sloppy research,

and what is wrong. For instance, I will, as it were, slap the face of any-body in my seminar who claims that the Red Army reached Berlin in 1941."[2] However, Kittler produced his own share of slips and snafus. In minor cases we tacitly corrected the text without further ado.

But then there are mistakes that appear to have method to them. Take a Kittler trademark, the creatively enhanced quote. He will (mis)cite a source in ways that tend to align it with his own argument. For instance, in *Untimely Meditations* an exasperated Friedrich Nietzsche dismisses his fellow human beings as "thinking-, writing- and speaking-machines" (*Redemaschinen*).[3] The younger Kittler was fond of this quote, yet occasionally the "Redemas-chinen" are promoted to "*Rechenmaschinen,*" or calculating machines.[4] The epigraph at the beginning of *Gramophone, Film, Typewriter*, in turn, is taken from Thomas Pynchon's *Gravity's Rainbow*: "Tap my head and mike my brain / Stick that needle in my vein." In the original German edition, *tap* appears as *tape*. A mere slip? Maybe. Yet in both cases the sloppiness serves to update the source. Nietzsche is fast-forwarded into the Turing age of computing machines, and Pynchon's ditty now supports the link between analog technology and cerebral functions analyzed in *Gramophone, Film, Typewriter*. Or, to move from quotes to gaffes: in the lecture "Of States and Their Terrorists" (contained in this volume), Kittler repeatedly describes Rudyard Kipling's eponymous hero Kim as a "half blood" with an Indian mother. In the novel, however, Kim, the son of Kimball O'Hara and Annie Shott, is clearly identified as having a full-European heritage; indeed, the whole story hinges on the fact that the pseudonative proto-spy Kim is not Indian. But Kittler's mistake supports his argument: the growing indistin-guishability between the armies of the imperial nation-states and old or new nomadic collectives becomes all the more apparent if both sides start to merge on an ethnic level.

At times Kittler's gaffes can take on a slightly obsessive character. In the following introduction, the section "Pynchon's Rocket" will deal with one of the most prominent and revealing items, which appears in *Gramophone, Film, Typewriter* as well as in the autobiographical essay "Biogeography." It is the factually incorrect claim that an early German computer, Konrad Zuse's z4, was used for the construction of the v-2 rocket. Ultimately, it is a wishful mistake that sheds light on one of the central motives of Kittler's mar-tial theorizing. In short, Friedrich Kittler the writer was prone to display some of the habits that Friedrich Kittler the analyst attributed to writers of the "Discourse Network 1800" like Goethe and Hegel, who at times gran-diloquently bungled or creatively enhanced quotes in self-serving ways.

We realize that our notes and procedures may strike some as know-it-all gotcha politics, but the bottom line is that these questionable items are no less part and parcel of Kittler's work than his remarkable insights. Both are linked to a strong personal interest that occasionally borders on the obsessive. Unlike some, Kittler was fully aware of his own error-prone stubbornness; unlike many, he had no difficulties admitting it. As he pointed out in a letter to one of the editors, referring to himself in the third person, "Kittler errs quite often, but because he is fascinated by something."[5]

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Introduction

The Wars of Friedrich Kittler

GEOFFREY WINTHROP-YOUNG

In the beginning was the war. The greatest and deadliest on record, it transcended its own boundaries and refused to end even after it was over. Unprecedented in scope, it defied the strategies of combatants just as it came to defy the explanations of historians. It began with confident plans to secure rapid regional victories by means of lightning strikes and decisive battles but soon grew into a global conflict of grinding attrition. Afterward, in so-called peace, efforts to understand the war were marked by equally confident narratives designed to seal off the past with definitive accounts, but they, too, were eroded by the growing awareness of the more complex dimensions of the conflict. As a result, this war, World War II, has come to resemble an undead monster that disturbs the living because it was not properly buried. The essays in this volume were written by a man convinced that the hidden history of World War II has not yet come to light. His texts revolve around the claim that we need to access the war's deeper layers that so far have been neglected—either because we lacked the proper means of understanding them or because those layers were concealed under more opportune narratives.

Friedrich Adolf Kittler was born in Rochlitz in the vicinity of Dresden on June 12, 1943, roughly four months after the German defeat at Stalingrad, less than a year before the invasion of Normandy, and almost exactly on the day Anglo-American forces first breached the soft underbelly of Adolf Hitler's "Fortress Europe" by crossing over from North Africa to Sicily. There is an ongoing debate among military historians over at what point Germany was no longer able to win the war. Was it the Battle of Kiev that delayed the advance on Moscow? The Battle of Moscow that put an end to all blitzkrieg operations and forced Germany to wage a deep war for which

it lacked the necessary resources? Or the split offensive of 1942 that broke down in Stalingrad and the Caucasus? But then again, does it make sense to succumb to the "allure of battle" and foreground clashes and campaigns as decisive turning points?[1] Is it realistic to assume that Germany could ever have won? In any case, Kittler's early childhood was overshadowed by defeat, and those days remained with him. Sixty years after the fact, he claimed to dimly recall "the fires of Dresden" of the air raids of February 13–15, 1945.[2] If true, it would be a remarkable feat of memory, but even if it is one of his taller tales, it remains a revealing pseudoreminiscence.

The undead war set the future literature and media scholar on his path. In a book-length interview Kittler recounts that his father, a teacher barred until 1953 by the new Socialist regime, took to lecturing his sons instead, with the result that at the tender age of seven Kittler was able to recite long passages from Goethe's *Faust* by heart. At the same time, his elder half-brother, a former wireless operator, assembled illegal radios using parts scavenged from abandoned military aircraft in order to impress the local girls.[3] Thus the basic binaries and building blocks of Kittler's later work were already in place: Goethe versus gadgets, high classicism versus modern communications technology, the ensnaring and imprinting of young children by humanist discourse versus the abuse of army equipment for entertainment purposes. Not to mention that so-called history is best understood as a sequence of changing epistemo-technical regimes in which women inspire men to do something with media.

Maybe it all boils down to the right preposition. Kittler was not born *during* but *into* the war, and the question is whether he ever got out of it. As in the case of his theoretical brother-in-arms Paul Virilio, World War II ricochets through large portions of his work. Like Virilio, Kittler was prone to project the impact of his childhood war back into the past, thus turning war into a transhistorical driving force. As a result, *war* is one of the most overdetermined words in Kittler's writings. It is less a clearly defined term than a dirty semantic bomb that wreaks conceptual havoc. Kittler's *war* is almost as confusing as Kittler's *media*: what does the word mean when it is supposed to mean so much?

The following remarks aim to provide signposts and markers for the war-related essays in this collection.[4] The next section will sketch a basic triple-M model, arguing that in Kittler's martially oriented texts war figures as *motor*, *model*, and *motivation*. This tripartition, however, is little more than a heuristic triage to provisionally separate layers in order to gain access to Kittler's war universe. Very soon, motor and model will flow into

each other to the point of indistinguishability. The following sections trace a more historical trajectory by working through the primarily German wars that feature prominently in this collection. Indeed, reading Kittler, you may well doubt whether there ever was a serious war that did not involve Germany and the Germans. Though he will now and then leave his native domain and pay his respects to the chariot charges of Megiddo ("Animals of War") or the machine-gun massacres of Omdurman and Port Arthur ("A Short History of the Searchlight"), in the end it all will come down to the great German three: the Prussian Wars of Liberation against Napoleon, World War I, and World War II. The introduction's third section ("Discourse Nation") will center on the age of Napoleon, with special emphasis on Heinrich von Kleist's controversial play *The Battle of Hermann*, while the fourth section ("Social Word Wars") aims to connect the discourse mobilization of wars past with the mobilized discourse fragmentation brought about by social media in wars present. The next two sections will address some of the more troubling and personal aspects of this collection by focusing on World War II ("Blitzkrieg Nation" and "Missile Subjects"). The end point—in some ways, the point zero of Kittler's war-related texts—is the v-2 rocket, which is at the center of the seventh section ("Pynchon's Rocket"). The concluding section ("The Benefits of Defeat") returns to the triple-M model by delving into the question of motive. Why war? More to the hidden point: Why so much war by a *German* theorist?

Motor and Model: From the Medial a Priori of War to the Martial a Priori of Media

In Kittler's most martial utterances, war is the motor, the determining base of media history. Wars are "in truth and fact the historical a priori" of modern media; hence, "the unwritten history of technical norms is a history of war."[5] If wars determine media, and media, in turn, "determine our situation," war emerges as the prime mover of history.[6] Periods of peace are blank pages in the combat manual of history.

Upon closer inspection, this martial a priori turns blurry. On the one hand, we read that "media were developed for technological wars."[7] Kittler's prime exhibits include, among others, the mechanical telegraph installed in 1794 by the revolutionary French government under siege from coalition forces, and the computer, the universal discrete machine that crossed over from Alan Turing's mind into technical reality as a means to crack

the encoded German Enigma communications. On the other hand, Kittler provides a detailed account of the nonmartial origins of radio technology, only to add: "A world war, the first of its kind, had to break out to facilitate the switch from Poulsen's arc transmission to Lieben or De Forest's tube-type technology and the mass production of Fessenden's experimental procedure."[8] War, then, is either the inception or the puberty of new media technologies, their original breeding ground or the point when they come into their own.

Two circumstances inform this martial a priori. First, there is an obvious element of provocation. At times, the explanatory value of war as a determining agent in history is less important than its rhetorical shock value. In an attempt to explain to an American audience the very un-American origins of so-called German media theory (which in its earliest stage was a Freiburg media theory), Bernhard Siegert emphasized that when Kittler and those inspired by his work spoke of media, they did not have in mind the mass media located within the so-called public sphere. Nor were they interested in socially oriented content analysis, the politics of meaning, or the economics of media ownership. Instead, the focus was on "insignificant, unprepossessing technologies that underlie the constitution of meaning" and thus form an "abyss of non-meaning."[9] Siegert calls this abyss "war." It is a sinister entity; it conceals itself by providing the very means necessary for it to be overlooked and forgotten by those who draw on its resources. The abyss of nonmeaning enables the emergence of self-entitled, meaningful subjects who place themselves in the center of a sphere of enlightened communication, created by the users for the users, conceived in the spirit of liberty, and dedicated to the proposition that all users are or should be equal: "To invoke the 'public sphere' entailed ideas such as enlightened consciousness, self-determination, freedom, and so on, while to speak of 'war' implied an unconscious processed by symbolic media as well as the notion that 'freedom' was a kind of narcissism associated with the Lacanian mirror stage."[10]

War, then, is less opposed to peace than to all that is conjured up by emphatic or humanist notions of *communication*. Within the specific West German postwar context Siegert has in mind, war references everything that the canonized Frankfurt Critical Theory of Max Horkheimer and Theodor W. Adorno, Jürgen Habermas's *The Theory of Communicative Action*, and almost all media studies programs appeared unwilling to address. Any proper study of media and communication presupposes an analysis of the dirty matters and cold materialities those communication acts emerged

from. To phrase this confrontational redirection from human communication to technological communications in martial Kittlerese, if you don't want to talk about war, quit talking about media.

In retrospect, the attractiveness of this approach resembled the appeal of hard-core Marxist analyses from earlier decades. The similarities are too obvious to be coincidental. At the center was a radical reductionism that related pesky matters of culture, history, and ideology, all located within a self-important but ultimately derivative superstructure, to an underlying determining base characterized by escalating conflicts. In both cases, theory practitioners rejected bourgeois blather about peace and consensus to engage with the gritty and unsentimental operations of real life. In both cases, there was a secularized eschatology at work that pointed ahead to some (social) revolution or (technological) takeoff that would fundamentally change what it means to be human. At the core of these future events is a promise of sublation or at least dedifferentiation: just as social divisions will give way to a classless society, technical differentiations of storage, processes, and communication will be standardized and united in the digital machine. And in both cases a disproportionate number of discourse adopters were male.

Second, the foregrounding of war is a methodological move to address a basic quandary related to Kittler's update of Michel Foucault's *The Order of Things*, a book that was to Kittler (just like Thomas Pynchon's *Gravity's Rainbow*) a combination of revelation, playground, and toolbox—in short, a drug. The archaeological Foucault, a creature very different from the later genealogical, biopolitical, and ethical Foucaults that were of less appeal to Kittler, had traced a grand panorama of epistemic snapshots. Unconnected to each other, one epistemic regime after the other had taken control of European orders of speech by imposing distinct conditions of truthfulness. Foucault sliced the history of thought into discrete segments, which were then subjected to a cold "outside" gaze directed at their internal dynamics. Kittler was enchanted. All hegemonic continualist, gradualist, or progressivist notions of history were suspended. The usual grand subjects of Western historiography (progressive enlightenment, secularization, modernism, the working class, and all the other protagonists of Whiggish master narratives) were deprived of the opportunity to grow, mature, and occupy center stage. The ultimate target of Foucault's archaeology was, of course, Hegel's *Geist,* which consumes all of history in order to produce itself—unless, that is, you conceive of the Hegelian world spirit as a performance artist in the mold of David Bowie, who periodically reinvents himself from scratch.

Kittler grounded these Foucauldian epistemes in "discourse networks," defined as the "network of technologies and institutions that allow a given culture to select, store and process relevant data."[11] Not only was this an ingenious technological and infrastructural update designed to push Foucault's somewhat stuffy world of archives and libraries into the wired domain of circuits and data, but it also seemed to cure Foucauldian archaeology of its puzzling preference for immaculate conceptions. Foucault's orders of discourse are structures that drop in out of the blue; there is no rhyme or reason to the random ways in which they appear and disappear. Kittler had found the answer: epistemes change because the underlying discourse networks—composed of an infrastructure of media technologies, cultural techniques, and practices—change. But that, of course, is not really an answer; it merely serves to defer the question. If discursive orders change because discourse networks change, then what makes the latter change?[12] One answer is war.

To grasp what is at stake, we will briefly pursue a comparison that may be helpful because it appears so far-fetched. It is frequently pointed out that *The Order of Things*, first published in 1966, appeared only four years after Thomas Kuhn's *The Structure of Scientific Revolutions*. Temporal proximity indicates conceptual similarity: Foucault's epistemes and Kuhn's paradigms are not that distinct from each other. But there is a more intriguing comparison. Six years after the appearance of *The Order of Things*, paleontologists Niles Eldredge and Stephen Jay Gould published the first of many papers in which they argued for a revision of Darwinian evolutionary dynamics they called "punctuated equilibrium."[13] The evolution of species, they claimed, proceeded much like the proverbial life of a soldier, with long periods of boredom or "stasis" interrupted by short bursts of intense activity. Evolution is a branching river that runs through calm pools and brief turbulent rapids. A species can remain stable for a long time, but especially under stressful conditions nature presses her finger on the fast-forward button, and species transformation occurs at a rapid pace.

The similarities to Foucault/Kittler are intriguing. Indeed, it is an instance of convergent evolution, because just as taxonomically widely divergent marine predators like dolphins, sharks, and ichthyosaurs evolved deceptively similar body shapes while occupying similar habitats, widely different disciplines produce similar solutions when exposed to similar pressures. Up against the orthodoxy of uniformitarianism, which decreed that evolution is a slow, incremental process with no distinct change of pace or sudden large-scale transformations, Gould and Eldredge could not retreat

into discredited, old-style catastrophism, but they did the next best thing. They replaced singular, genetically indefensible macromutations—known to insiders as "hopeful monsters"—with the less scandalous acceleration of micromutations. *Natura non facit saltus* (nature does not jump), but it does go into sudden overdrive. Species transform and radiate at speeds that, when compared to the glacial pace at which they normally drift along, make these transformations appear almost like ruptures. And—an important corollary—how evolution works will be much more evident when studying these bursts of accelerated change.

This is how war tends to function in many of Kittler's texts. Wars are periods of intense acceleration of technological change that interrupt periods of relative stasis. They are not inexplicable or "catastrophist" Foucauldian ruptures, but they are the next best thing: periods of high-speed transformation that allow observers to detect technological continuities in what appear to be abrupt discontinuities. To exaggerate for the sake of clarity, war itself is a modern media technology because, like a sped-up film that shows the seasonal growing and withering of a plant in twenty seconds, it speeds up what normally progresses at a much slower rate, thus allowing us to observe what otherwise is widely dispersed across time and space. Modern war is, to use one of Kittler's favorite words, the "cleartext" of history because it reveals otherwise obscured technological dynamics. The underlying logic, which applies to paleontology as much as to media studies, is that acceleration may act as a conceptual replacement for catastrophes. But you do not have to study accelerationist manifestos to realize that once acceleration is the only thing left because there are no longer any periods of stasis and deceleration, acceleration itself *is* the catastrophe.

Wars, then, reveal how technologies engage each other in compressed time and independent of social surroundings. They appear to be increasingly closed systems in which systemic features react to each other rather than to external input. Kittler's telegraphy sequence, bits and pieces of which will surface in several of the following texts, including the weaponized second version of "Ottilie Hauptmann," may serve as an example. At the height of the Reign of Terror, while at war with most of Europe, the French Revolution installs the first mechanical telegraph, which just a few years later will enable Napoleon to coordinate his troop movements in ways that defy the communication abilities of his enemies. The advantage is short-lived, as the mechanical telegraph accelerates the development of superior electric telegraphy. Semaphores are superseded by wires and cables, which in combination with adjacent railroad tracks will allow the

Prussian Army to outmaneuver its Austrian and French opponents in 1866 and 1871, respectively. On the very first day of World War I, however, the British Navy will cut the German transatlantic cables. The vulnerability of physical cables, in turn, will force the military repurposing of early wireless tinkering, which in a further spiral will necessitate the design of increasingly sophisticated encryption and decryption technologies, until, as Kittler (quoting a British wiretapping agent) writes in "Playback," all parties intercept "pages of letters, letters in arbitrary sequence without rhyme or reason. That is the order of things. There is no plain text anywhere." Hot and cold war combatants will resort to transmitting noise and gibberish because they all know they will be intercepted. Ruptures and catastrophes are the social effects of accelerated military time that will allow technologically savvy observers to compress wars into each other and thus explain media change. While Kittler may not be subject to the aforementioned allure of the decisive battle, he does submit to the allure of the decisive technological clash. If the many accounts of war that focus on the gore and glory of combat have been described as a kind of historical pornography, Kittler indulges in a pornography of war technology.

But does this make war the motor of history? When read more closely, Kittler's war-centered narrative reveals a more moderate heuristic stance: "When the development of a media subsystem is analyzed in all its historical breadth . . . , the . . . suspicion arises that technical innovations—following the model of military escalation—only refer to and answer to each other, and the result of this proprietary development, which progresses completely independent of individual or even collective bodies of people, is an overwhelming impact on sense and organs in general."[14] Here, "military escalation" is a "model" rather than an empirical driver of history. Media are not "in truth and fact" propelled by war; they evolve *like* war. War is model and metaphor rather than causative agent. This modeling of media evolution on the history of war implies that media react to each other in an ongoing game of positioning or one-upmanship in much the same way that strategies, tactics, and weapons systems produce alternate strategies, countertactics, and superior weapons.

However, this moderating movement from motor to model serves to turn the martial a priori of media into its even darker opposite: *the medial a priori of war*. The media-technologically facilitated access to domains and bandwidths beyond the reach of normal human perception results in the emergence of new enemies or new ways of fighting old enemies. *Media evolution is first and foremost the expansion of war and enmity*. Antonie van

Leeuwenhoek invents a single-lens microscope, and what does he discover? All kinds of hostile microorganisms we need to combat or at least deploy against other microscope owners. We intercept radio waves, including those from outer space, and what do we really expect to hear? Hostile signals that need to be decoded. Or you can go all the way back to Oswald Spengler's *Man and Technics*. Humans developed the hand as a "weapon" with which they performed a hostile turn on nature. It is the twisted Caliban logic of media progress: we teach ourselves language, and we use it to curse.

As noted at the outset, constructs like the martial a priori of media, the medial a priori of war, or war as either the motor or the model of media history are at best heuristic devices with limited use value and shelf life. They are neither the building blocks of Kittler's theory nor the cornerstones of a critical analysis. Kittler was in many ways a nineteenth-century creature; that is, he was hardwired to ferret out the history and the determining logic of a diachronic sequence. It is advisable, therefore, to switch to a more historically oriented account of his martial musings. Once again, and despite the attempted domestication of Foucault's discursive catastrophism, the story will begin with a disaster.

Discourse Nation: Of Mobilized Men and Dismembered Women

For readers unfamiliar with German literature, this section may present a bit of a challenge. Suffice it to say that at the center of the following remarks is the maverick author Heinrich von Kleist (1777–1811). The scion of a well-known Pomeranian family that specialized in supplying officers to every possible regime in over three hundred years of Prusso-German history, Kleist is the great odd man out in German letters. Kleist knew war and, more important for our purposes, defeat in war. He served in the Prussian Army from 1792 to 1799, and his masterpiece *The Prince of Homburg* (unfortunately not discussed in any great detail by Kittler) is without a doubt the greatest military play ever written. Kleist also knew defeat in writing. His name was long overshadowed by the well-engineered profile of the more respectable authors who came to define the world of letters as much as Napoleon came to embody his age of war—most notably, the canonized classics Goethe and Schiller. Times and reputations have changed. Maybe the greatness of Schiller now rests in part on the fact that he produced material Kleist came to challenge.

In 1808 Kleist wrote *The Battle of Hermann*, a timely and topical play of grotesque martial frenzy. Flanked by Friedrich Schiller's *Wilhelm Tell* and

Thomas Pynchon's *Gravity's Rainbow*, it is the centerpiece of the literary triptych in Kittler's essay "De Nostalgia," chapter 15 in this volume, which explores the war-driven construction and "deconstruction" of *Heimat*, or homeland.[15] We will tackle Pynchon later; this section focuses on problems contained in the progress from *Tell* to *Hermann* within the context of the so-called German Wars of Liberation. The Schiller-Kleist sequence makes a lot of sense, for *Hermann* is a countertext, as it were, to *Tell*; it reads as if Schiller's play had been rewritten by Quentin Tarantino. *Tell* stages the well-known story of the iconic Swiss marksman who kills the tyrannical Habsburg stooge Gessler because the latter forced him to shoot an apple off his son's head. This private act of revenge takes place alongside a public uprising against the Austrian oppressors. The insurgency, or at least Schiller's version thereof, is a distinctly Swiss affair: clean, measured, orderly, and not sullied by undue violence and politicizing. In other words, it is not French. There are no guillotines, massacres, or predatory crusades in the alleged service of universal ideals. It is a sober, upright, and above all restorative rebellion carried out by a happy band of paleoconservative brothers. The Swiss simply want to oust their foreign oppressors and return to the old way of life. There is no talk of marching on Vienna, killing all Austrians, and establishing a Greater Helvetian Reich stretching from the Matterhorn to Moscow. The Swiss don't do that. Or rather, as Kittler reminds us, they only do it as homesick mercenaries in the employ of others.[16]

Kleist's *Hermann* is a different beast. The background story is as famous as the Swiss apple shot. In 9 CE a Roman army composed of three legions under the command of Publius Quinctilius Varus was ambushed and massacred by a motley coalition of Germanic tribes led by the Cherusci chieftain Arminius. So traumatic was the "Varian Disaster" that in a singular symbolic gesture the Roman Army—much like a hockey team bidding farewell to a star player by retiring his number and hanging his jersey from the rafters—never reconstituted the three annihilated legions XVII, XVIII, and XIX. Rome gave up on all plans to expand its empire eastward across the Rhine into Magna Germania, thus laying the groundwork for the continental Germanic-Romance divide and all the centuries of trouble that arose from it.

In the sixteenth century, Arminius was given the German name Hermann (which informally translates as "army guy"), and he rapidly mutated into a national German role model that could be reactivated under the most disparate historical circumstances. For Kleist, the historical parallels were obvious. The late reign of Augustus prefigures the tyranny of Napoleon; the year 9 is the year 1808 minus cannons and muskets. The

squabbling Germanic tribes subdued by the Romans correspond to the petty German dukedoms and kingdoms that have come under French rule, including Kleist's own Prussia; the Suevi under Marbod, with whom Hermann is keen to form an alliance, represent Austria (at this point not yet conquered by Napoleon); and the Romans themselves are the French under their Corsican Augustus. Things are not going well in Magna Germania. The Franco-Romans are pushing eastward, yet even if the bickering Germanic tribes get their act together, there will be little chance of military success. As Hermann bluntly tells his fellow chieftains, if they, "a rabble horde / emerging from the trees," were to pit themselves "against well-ordered cohorts / Accompanied wherever they go by that unfailing fighting spirit," German defeat would be assured.[17] This is why Hermann plans not to emerge from the trees in the first place but to lure the Romans into the woods and pounce on them in the dark. Not very heroic, to be sure, but effective. The tactical problem is solved, but how do you equip the tribes with the right "unfailing fighting spirit" to match that of the Romans?

Underneath its antique veneer Kleist's play is probing the problems and perils of collective mobilization, an issue of cardinal importance for Kittler's assessment of the cultural role and impact of modern war. As indicated by Kittler, Kleist's ruthless reflection on the new shape of war in the age of Napoleon is best illustrated by comparing his play to the tidy rebellion of *Wilhelm Tell*. No Swiss insurgent, empirical or thought up by Schiller, ever exhorted his countrymen to burn their villages to the ground, or bludgeon their cows to death with alphorns, in order to deprive the invaders of resources. But that is precisely what Hermann asks his fellow chieftains to do:

Melt all the gold and silver dishes
You possess, take your pearls and jewels
And sell them off or pawn them,
Lay waste to your lands, slaughter
Your cattle, set fire to your camps[18]

The idea does not catch on. "But, you madman," replies a perplexed chieftain, "these are the very things / That we are fighting this war to defend!" Hermann's laconic response: "Forgive me, I thought it was for your freedom."[19] Unlike his less committed peers, Hermann has taken Janis Joplin to heart: freedom's just another word for nothin' left to lose, so it is better to destroy all the material possessions that otherwise would keep you from gaining freedom.

Hermann realizes that his war must begin with words that divide and unite, sow doubt and enrage minds. To rile up his followers and create the right fighting spirit, he weaponizes communication in the shape of tactically deployed fake news. When he is informed by messengers that the Romans have plundered three settlements, he tells them to spread the word that they plundered seven. When messengers report that Roman legionnaires killed an infant, Hermann commands that it be known that the father was murdered as well. When word comes that the Romans mistakenly felled an oak sacred to Wotan, Hermann responds he "was told / That the Romans even forced their prisoners / To kneel in dust to Zeus, their dreadful god!"[20] The confused messengers fail to grasp why Hermann is ordering them to spread such exaggerations, so one of his henchmen has to pull them aside to explain the logic behind their leader's 8chan rhetoric. At times, the stressed Hermann voices his frustration that his followers are too thickheaded to understand his propaganda campaign: "What aurochs the Germans are!"[21]

The symbolic core event is act 4, scene 6. Hermann encounters the smith Teuthold ("gracious German"), who killed his daughter, Hally, because she was raped by Roman soldiers—allegedly, we must add, since the play keeps the door wide open for the possibility that Hally was raped by Germanic tribesmen ordered by Hermann to dress up as Romans and "scorch, burn and plunder," or maybe even by Hermann himself.[22] In any case, he issues a command to the father that will set the land ablaze with anti-Roman hatred. Since Germania comprises fifteen different tribes, Teuthold is told to cut his daughter's body into fifteen parts:

> Divide her body accordingly, and by fifteen messengers,
> I'll give you fifteen horses for this, send the parts
> To each of the fifteen tribes of Germany.
> Helping you to your revenge, the corpse will rouse
> Across Germany even the most inanimate elements.
> The storm winds howling through the woods
> Will shriek Revenge! And the sea beating
> The ribs of the coast will shout Freedom![23]

Kleist, who never came across an interesting idea he did not twist and throttle to squeeze out its most radical consequence, glimpsed the genocidal potential contained within the collective mobilization of negative affect. Enmity of this intensity cannot settle for expulsion; it will pursue extermination. While Schiller's Swiss patriots are content to evict the Austrians

from their home turf, Hermann's final words reveal his greater ambitions. If the Romans send us their rapists, we will send our death squads to Rome:

> We or our descendants, my brothers!
> Because the world will have no peace
> From this murderous brood
> Until we have fully destroyed the outlaw's lair,
> And nothing remains but a black flag
> Fluttering over its desolate ruins![24]

As Kittler points out in "De Nostalgia" and other essays, this is the world of Hitler, Joseph Goebbels, and Carl Schmitt. Hermann's insistence that his fellow tribesmen lay waste to their land anticipates Hitler's "Nero Decree" of March 19, 1945, ordering the wholesale destruction of the German industrial infrastructure in the face of the Allied advance. The snarling equation of freedom and revenge contains the core point of Goebbels's post-Stalingrad total-war rhetoric. Finally, to label Rome an "outlaw's lair" points to Schmitt's critique of the modern "discriminating concept of war."[25] At issue is not only the envisaged absolute destruction of a collective rather than of a mere army but also the fact that it is preceded by an act of universalist hypocrisy, which Kittler in his 2003 lecture "Of States and Their Terrorists" attributes to the post-9/11 government of George W. Bush. Hermann, whom the Romans no doubt view as a tribal terrorist, in turn declares Rome to be a *hostis humani generis*, an enemy of all humankind, or an "outlaw" state that has removed itself from the pale of humanity and hence does not deserve to be treated as a moral equal. The march on Rome will not be a symmetrical war but an exterminating police action, a war on Roman terror. *The Battle of Hermann* is the first text to spell out the ultimately genocidal paradox that the more people resolve in the spirit of freedom and self-determination to take control of their own wars, the more these wars will depend on the preemptive dehumanization of the enemy.

The play did not catch on until the late nineteenth century (and it enjoyed a good run in the Third Reich); the first, solitary performance took place more than twenty-five years after Kleist's suicide. But while it did not participate in the spiritual mobilization envisaged by its author, it lays out the main problems that inform Kittler's discourse-historical analyses. With *Hermann* in mind, we can move from fictional battles to real ones to show how the consequences of the latter were processed by the former.

On October 14, 1806, the Prussian Army was routed by the French at the twin Battle of Jena-Auerstedt. "I've never seen men so completely beaten,"

Napoleon gloated.[26] The vanquished agreed. Carl von Clausewitz, who would spend the rest of his life trying to assemble the traumatic friction of Napoleonic warfare into a theory of war, lamented that the Prussian Army, hamstrung by "the most extreme poverty of the imagination . . . , was ruined more completely than any army had ever been ruined on the battlefield."[27] How thoroughly Prussia had been defeated was best captured by Cornelia Vismann in her study *Files: Law and Media Technology*. Between Jena-Auerstedt and the humiliating Treaty of Tilsit, signed on July 9, 1807, the usually hyperproductive Prussian state archive produced a paltry twenty-one files.[28] Catastrophes *in mundo* cause atrophies *in actis*.

Vismann's reference to the precipitous decline in bureaucratic activities points to one of the great myths of Prussian history. The story goes that, following its defeat, Prussia was rebooted by a phalanx of farsighted civil and military officials. Nothing was left untouched as a slew of social, agricultural, financial, constitutional, administrative, educational, and military reforms gushed forth from the pens of Baron vom und zum Stein, Karl August von Hardenberg, Wilhelm von Humboldt, Gerhard von Scharnhorst, August Neidhart von Gneisenau, and other illustrious names that came to grace German boulevards and battle cruisers. Prussia emerged as the prime exhibit of bureaucratic efficiency. Its rise from the ashes of Napoleon to the glories of Otto von Bismarck and the elder Helmuth von Moltke appears to prove what many doubt: that civil servants can get things done.

Hans-Ulrich Wehler, the late doyen of German social history, warned that this "colossal gilt frame painting" has a very tenuous relationship to historical reality.[29] Christopher Clark, author of *Iron Kingdom*, voiced similar reservations. The notion that modern Prussia sprang Athena-like from the foreheads of illustrious civil servants in the wake of October 14, 1806, ignores that these reforms were just "one energetic episode within a *longue durée* of Prussian administrative change between the 1790s and the 1840s."[30] Other German states such as Baden, Württemberg, and Bavaria passed through similar periods of intensified bureaucratic reform with more substantial results, yet their bureaucrats have not ended up on the pedestal erected for the Prussian state intelligentsia.

There is an obvious reason for this skewed treatment. German historiography was long dominated by Prussian academic historians, who, as patriotic civil servants, were inclined to extol the achievements of other Prussian civil servants. But there is a deeper reason. The post-1806 Prussian *Verwaltungswunder*, or administrative miracle, which is as questionable a myth as the post-1945 German *Wirtschaftswunder*, or economic miracle,

seems to illustrate that it is possible to engineer all the benefits of a revolution without any of the political and social costs. Where the French took to the streets, the Prussians retreated to their offices. Catering to the old cliché that the Germans accomplish in theory what the French achieve in practice, bureaucratic master planning resulted in a "momentous revolution from above" with no less far-reaching consequences than the real revolution that had occurred on the other side of the Rhine.[31] Defeated by the French, the Prussians developed an almost French belief in the omnipotent ability of the state to bring about what the French themselves had been able to achieve only by destroying their system of government.

In German academese this is known as *Borussianismus*, an exaggerated appreciation of all things Prussian. Kittler, the Saxon, inherited his share, though his interest in the governmental revolution is highly selective. The social and economic domains—everything from agricultural reform and financial restructuring to administrative reorganization—are absent. He focuses, as in "Ottilie Hauptmann," on two areas, the military and educational, though the line that divides them is not always clear. The reason for this blurring is obvious: both are large-scale enterprises that increasingly depend on the mobilization of self-motivated subjects, be they soldiers or students—with the crucial addendum that in the case of the former the mobilized subjects are exclusively male, while in the latter a large, possibly determining portion of the mobilizing subjects are female. The two key issues are, first, the production of modern subjectivity (with all the attendant focus on initiative, self-reflexivity, autonomy, and "independent thought") and, second, the closely related production of gender differentiation.

First, the subject. Surveying the debris of Jena-Auerstedt, Prussian military planners realized the defeat could not be attributed solely to an unfortunate combination of superior French battlefield élan and Napoleon's military genius. The root cause was a catastrophic systems failure on the Prussian side, which demanded that the entire military apparatus be reshaped. There were a number of straightforward reforms, from adopting the Napoleonic corps system and allowing meritorious bourgeois to become officers to abolishing inhumane punishments like running the gauntlet and forming the famed Great General Staff, which occupies a privileged position in Kittler's personal pantheon and is granted cameo performances throughout this collection. But these measures are not sufficient, for they fail to address the cardinal problem: how Prussia and the Prussian Army can generate the effectiveness and motivational resources displayed by the French without undergoing the French social chaos—from a nation-building

revolution to a *levée en masse*—which would effectively destroy the very monarchy they were trying to liberate.

The answer is radical; it amounts to a revolution folded inward. For the purposes of modern war, traditional underling-subjects have to be refashioned into modern citizen-subjects. Kittler's basic idea is that military reforms stressing initiative, reflection, and self-guidance are not simply an effect of, but contemporaneous with, if not even a blueprint for, the rise of modern self-reflective subjectivity. This is one of the most intriguing aspects of his polemo-centrism. In essence, it revolves around the paradox "that just when the mass of civilian workers became cogs in a vast industrial machine, the military machine was rolling in the opposite direction. Just when the worker became a cog, the soldier was recognized as an independent thinking cell."[32] In the Prusso-German context, this cellular martial independence is frequently enshrined in the concept of *mission tactics* (*Auftragstaktik*). Subordinate leaders are commanded to be in command. Entrusted with a considerable degree of freedom, they are ordered to carry out tactical orders on their own, which requires that they are trained to think on their own, develop their own initiative, plan all tactical details on their own, and react to changing circumstances without relying on a new set of orders from above. Frederick the Great's machine-soldiers (who have other machine-soldiers in their back programmed to shoot at them if they refuse to march into battle) become Gneisenau's martial subjects.

A necessary sidebar on mission tactics. Like *blitzkrieg* (more on which later), it is a loaded term that comes to Kittler's texts in questionable shape. It normally refers to general mission orders issued to lower ranks that do not spell out specifics but call on the subordinate commander's initiative and insight to flesh out the details. A lieutenant in the German army is ordered: Take that hill by tomorrow morning at 4:00 a.m. How you achieve the objective is your business (we are not the British, French, or Russian Army; we do not micromanage). You know the terrain and the particular section of the enemy best, so you plan the mission, determine and obtain the appropriate resources, and get on your way—though always keep in mind that the self-reliance and initiative your tactical foray depends on is part of a general strategy from which you cannot deviate. (Rephrased as a martial Kantian categorical imperative: Act in such a way that the will guiding your tactical operations, if promoted to a general level, could amount to an overall strategy.) But as noted by the editors of the English translation of the 1933/34 *Truppenführung* (*Unit Command*) handbook, the definitive German military manual, adorned with the Sun Tzu–inspired title *On the German Art of War*,

this is a twentieth-century development: "Prior to World War I, the German Army operated under a principle known as *Weisungsführung* (leadership by directive), which was similar to *Auftragstaktik*, but only entrusted commanders down to the army level—or sometimes the corps—with broad discretionary powers in the execution their missions. *Auftragstaktik*, which was a post–World War I creation . . . extended that principle down to lowest squad leader and even, when necessary, to the individual soldier."[33]

It is a mistake, therefore, to assume that mission tactics—a term that did not even make it into the *German Art of War* manual—was applied to officers and soldiers of all ranks in the aftermath of Jena-Auerstedt. The older concept of Weisungsführung was limited to the very top, that is, to army or corps commanders, and in the traditional seventeenth- and eighteenth-century Prussian Army these were recruited from Junker nobility. Here, Kittler's determined neglect of social configurations misses out on something very interesting. Weisungsführung was not anything the army cooked up on its own; it was the military processing of a social division. The Junker nobility swore fealty to the king, who, in turn, granted them near-total dominance over their domain. "This relationship extended to the general's relationship with the troops under his command. Although they were not his property, they were bound to obey him, and he could launch them on any operation that he saw fit. For the king (or his deputy, the chief of his staff) to intervene in any detailed way in the military operations of his subordinate would have been to violate this arrangement and to call into question the sovereignty of the Prussian nobility."[34] This is a fascinating case of exchange between the social and the military. The army accepts a fundamental social configuration, which it then processes and, following Kittler, releases back into the social as a fundamental discursive reconfiguration.

Against the military background, then, reflexive subjectivity is the ability to perform under the paradoxical *command of a free will*. At his most war-centered, Kittler will not merely associate but in fact equate the psychic preconditions for mission tactics and related military reforms with the emergence of modern subjectivity. He does not even shy away from enlisting the help of a high-profile Prussian philosopher he normally disdains: Immanuel Kant. At one point the latter spelled out in distinctly military fashion the pivotal difference between lower-level *Verstand* (understanding), midlevel *Urteilskraft* (judgment), and upper-level *Vernunft* (reason): "The domestic or civil servant under orders needs only to have understanding. The officer, to whom only a general rule is prescribed, and who is then left on his own, needs judgement to decide for himself what should be done in a given case.

The general, who must consider potential future cases and who must think out rules on his own, must have Reason."[35] Exactly, Kittler responds in one of his most characteristic moves, this is true once we read *literally* what probably was intended as a helpful comparison. Kant's alignment of the hierarchies of the military order with the hierarchies of the cognitive apparatus is anything but a gratuitous association. As Kittler would have it, the former is, if not the actual origin, then at least a closely associated model of the latter. The martial a priori we encountered in all its blurred glory of motor and model in the technological domain reappears in the psycho-discursive domain. Maybe war did not simply create the modern subject, but the discursive orders necessitated by mobilization compress and make visible the discourse of subjection, just as war has compressed and rendered more visible the evolution of technology. War is the cleartext of our orders of speech.

Kittler's argument depends on a systematic blurring of war and mobilization, which serves to greatly extend the reach of war. Mobilization blurs the boundary between war and peace because it takes place in both. It blurs the boundary between the military and the civilian population because it affects one as much as the other. Finally, it blurs the boundary between material hardware and psychic software because it deals as much with the optimization of logistics, transport, and technology as with increasing mental preparedness and overall combat readiness. But what kind of human is most equipped (or least underequipped) to deal with the acceleration and incomprehensibility of modern war? What type of mind is able to make rapid, on-the-spot decisions or even make up new rules when no commanding authority is in sight? What has been programmed to fight with a free will? The modern subject.

One of the great problems for military reformers, however, was the threat that excessive mobilization could result in unchained subjects transgressing the social order they were mobilized to defend. As Kittler points out on several occasions, Prussia could in theory engineer an enlightened version of the guerrilla tactics used by Spanish and Tyrolean peasants in their struggle against French occupiers, but would the Prussian monarchy survive such martial anarchy? If you cry havoc and let loose the canine subjects of war, can you ever leash them again? Once again, we will briefly pursue a comparison that, like the link between paleontology and media evolution in the preceding section, may be of help because it is so counterintuitive: the similarities between *fighting and reading*.

Beginning in the second half of the eighteenth century and thus coinciding with Kittler's Discourse Network 1800, Germany underwent a so-

called *Leserevolution*, or reading revolution. The term, introduced in the 1960s by Rolf Engelsing, refers to a momentous switch from "intensive" to "extensive" reading practices.[36] Intensive reading is the repeated, frequently loud and communal reading of a small number of canonized texts (most notably, the Bible), which by virtue of their constant engagement come to be fully integrated into the lives of readers. By contrast, extensive reading is the predominantly silent and solitary reading of a wide array of texts spanning all possible genres. In more loaded terms, intensive reading is the incorporation of a few edifying texts; extensive reading is the consumption of many entertaining texts.

In the eyes of troubled guardians of virtue, the fact that more and more people were reading more and more books at ever faster rates came with two significant dangers. First, in a classic case of retrograde media usage, intensive reading practices could be applied to extensive reading material. Trashy texts—most notably, novels—could be read with the immersive commitment hitherto reserved for scripture. In the case of allegedly weak and susceptible readers, that is, young men and women of all ages, this spelled disaster. Not coincidentally, one of the most successful and canonized texts of that period, Goethe's *Sorrows of Young Werther*, is about the dangers of bad reading. The response involved the deployment and interiorization of a wide array of cultural techniques we now take for granted, ranging from the systematic exclusion of the body as a medium from the reading process to the fine-tuning of mental-focus adjustments, that is, the ability to instantaneously assess the fictionality status of a given text and adopt the corresponding level of engagement.[37]

In other words, there was a loosening of the intensive ties that had bound readers to texts. However, this contentious release of the reader conjured up the threat that extensive reading could proliferate into a cancerous anarchy of millions of uncoordinated and uncontrollable mental escapes with grave social consequences.[38] Rogue readers were free to interpret the truth content and moral underpinning of texts any which way they wanted. The Leserevolution threatened to turn into a Leser*revolution*, or revolution of the reader. Like soldiers in the new great wars, readers of new novels had been unchained; hence, the question arose how to rein them in without forfeiting the profitable energy produced by the release. This issue is at the very center of Kittler's Discourse Network 1800. It became necessary to create philosophically supervised hermeneutic reading practices and interpretation protocols that allowed for a delicate trade-off between fruitful autonomy and conformist standardization. Readers are

kites, free to rise and soar and explore all kinds of textual stratospheres, yet always tied to the ground by strings that are long but, hopefully, unbreakable.[39] Modern readers, then, are modern soldiers engaged in textual combat equipped with mental mission tactics. In much the same way as "the emptiness of the battlefield [*die Leere des Gefechtsfeldes*] requires soldiers who can think and act independently," the new confusion of texts lacking clear moral directives calls for new hermeneutic practices that, developed in accordance with new biopolitical imperatives to exploit the productivity of semiautonomous subjects, serve to advance the new frontiers of knowledge and conquer new territories of experience.[40]

The second major issue concerns the question of gender. Where are women and men located in the social and military circuits, and what input/output functions do they serve? Kittler's martial writings effectively weaponize the analysis of gender differentiation developed in *Discourse Networks*. What the latter—and related essays such as "Ottilie Hauptmann"—said about the position of women in the "network of technologies and institutions" that arose in the last third of the eighteenth century is now applied to the position women occupy in mobilization and war. In the shape of mothers and muses, women provided the input—that is, they "generate[d] the mass of words" that male authors take over and turn into works—while "philosophy rereads the entire output of this production as theory," which, in turn, is fed back into women in the shape of new educational protocols.[41] In much the same way, women provide the main input for affect mobilization, be it as empirical mothers and mates who nurture warriors present and future, or on a symbolic level as an increasingly feminized *patria*, Heimat, or homeland able to generate emotional attachments, including Hermann's "unfailing fighting spirit," in ways old absolutist states could not even dream of. As Kittler notes in "Operation Valhalla," chapter 7 of this volume, "without unconscious programming from the moment of birth, that is, without childhood, maternal womb, and female idol, there is no modern cannon fodder." Kleist, as usual, went overboard to assess in which murderous direction the ship was headed: a raped female body, representing a penetrated and fragmented Heimat, is cut into pieces and distributed across the land in the hope that the severed parts will be stitched together into a collective Frankenmother, otherwise known as a nation. But finally, if women are mobilized to mobilize men, there is always the danger that they may take matters into their own hands and join the fighting, which in the eyes of concerned male observers would be as detrimental to the social order as outright partisan warfare.

The issue is addressed in "Operation Valhalla," a martial reading of Richard Wagner's *The Ring of the Nibelung*. According to a memorable snarkasm attributed to Mark Twain, Wagner's music is better than it sounds. To appease Wagnerites, let us agree that Wagner's proto-cinematic soundscape, containing some of the most sensuous love music ever inspired by other men's wives, is in little need of improvement. His libretti are more problematic. As a lifelong Wagner devotee, Kittler joined a long list of luminaries intent on turning Wagner's ponderous verse into profound cultural analysis, but where others foregrounded questions of capitalism, alienation, aesthetics, and power, he focused on war and women. The "nomadic storm god" Wotan cheats on his wife, Fricka, and begets with Mother Earth nine maidens known as Valkyries. Half semidivine flight attendants, half army recruiters, they conduct slain warriors from the battlefields to Valhalla, where they join "43,000 men or three divisions" ("Operation Valhalla") on standby for *ragnarök*, the last of all battles. Only the dead will see the end of all war and then die once more, this time for good. So far, so Norse; but now Kittler gets down to business and translates Wotan's aria addressed to his daughter Brünnhilde in act 2, scene 2, of *The Valkyrie* into military cleartext. Brünnhilde's task is to "arouse brave men / to ruthless war," which is necessary because thus far Wotan's human helpers are "held . . . in bondage" and "bound in obedience" by "treacherous treaties [and] shameful agreements." Translation: The unmotivated, unthinking cannon fodder of cabinet wars are to be replaced by Gneisenau's and Kleist's motivated, self-reliant patriotic warriors, just as obsolete linear formations are to morph into new storm-trooper tactics. But Brünnhilde does more than merely arouse. She defies her father and actively interferes in the duel between Siegmund and Hunding, whereupon Wotan confines her to a burning circle, that is, to incinerating domesticity. Later on, her main role will be to produce lots of "poetry" to inspire Siegmund's son, Siegfried—precisely the type of poetry or "poetic attunement" Gneisenau had in mind when he advised Frederick Wilhelm III that "there is no uplifting of the spirit without poetic mood," for the "security of all thrones is built on poetry."[42]

Kittler's analysis is a war-centered take on Wagner's grand avalanche of guilt and violence that cascades with growing sound and fury down through history, or at least down to the end of the fourth night of the *Ring*. With his innumerable quirks, tics, and fetishes, Wagner is a late nineteenth-century creature; remove the magic rings and winged helmets, and you are in the middle of an Ibsen drama. The debates between Wotan and Fricka concerning the fate of Siegmund are a domestic squabble over how to best raise a child under cutthroat capitalist conditions. In an ultimate

act of potentially all-destructive mobilization, Wotan wants to create and enflame allegedly free men and revolutionaries like Siegmund and Siegfried to lay waste to a defiled world, while Fricka points out that such a "command of free will" contradicts the very idea of freedom it is designed to achieve. Wagner, who in Friedrich Nietzsche's maliciously perceptive words "believed in the Revolution as much as ever a Frenchman believed in it," also believed as fervently in the necessity of an *aesthetic replacement of the Revolution* as ever a German did.[43] Like the post-Jena administrative reforms composed by Prussian bureaucratic officials, music can act as a slightly less violent substitute. The question remains, however, whether any music—and Wagnerian music in particular—that aspires to replace revolution is so much like the revolution because it, too, is unable to control itself. Is Wagner's infinite melody not the equivalent of Trotsky's permanent revolution and Clausewitz's absolute war? When Robert Duvall a.k.a. Colonel Bill Kilgore blasts the "Ride of the Valkyries" from helicopter-mounted speakers for the air attack in *Apocalypse Now* to mobilize his men into action—"My boys love it!"—Bayreuth has become the battlefield it always wanted to be.

But whether or not mission tactics and other military subject-enhancing protocols were implemented in the post-Jena reforms, whether or not the Prussian martial reboot is just another gilt-framed myth, whether or not the underlying binary that pits the enthusiastic combatants of revolutionary armies fueled by patriotic fervor against sullen, apolitical old-regime soldiers driven by money or brutal discipline is historically valid, something did increase Prussian military efficiency.[44] Even Napoleon was impressed. Faced with the new and improved Prussian forces during the 1813 campaign, he admitted, "The animals have learned something."[45] Indeed they had. Starting out as animal cannon fodder, they became human and would well have been promoted to the status of sophisticated machines, had not the machines themselves evolved a superior degree of sophistication and taken over. For as we shall see in the section "Blitzkrieg Nation," war promotes the replaceability of human subjects by machines by enhancing the ability for self-guidance.

Postscript to Discourse Nation: Social Word Wars

"Due to inclement weather," noted the satirist Kurt Tucholsky in 1930, "the German revolution took place in music." Translation: All the German revolts and insurgencies in the wake of World War I, from the Bavarian

Soviet Republic of 1919 to the Hamburg Uprising of 1923, failed; instead, Comrade Arnold Schönberg invented the twelve-tone technique, just as Comrade Wagner had aspired to replace the failed revolution of 1848 with mobilizing total works of art.

Tucholsky's quip recycles a venerable meme launched two centuries ago by Heinrich Heine, who observed that "German philosophy is nothing but the dream of the French Revolution."[46] Kant's philosophical guillotine decapitating unwarranted metaphysical speculations is the less bloody, but no less brutal, equivalent of Maximilien Robespierre's guillotine decimating unwanted political opponents. The underlying story has been rehashed in countless comparative studies: while the British bourgeoisie set sail to create and exploit an empire, and its French counterpart took to the streets to stage a revolution, the atrophied and fragmented German middle class congregated in governmental offices and lecture halls to pursue empires and revolutions of the mind.

Leaving aside the question of whether this Franco-German binary can withstand sustained scrutiny, it is difficult to avoid the impression that Kittler is reentering it *within* the Germany of his student days. The alleged substitutional relationship between French political revolutions on the one hand and German governmental and/or philosophical revolutions on the other resembles the divide between the more political and activist currents of the German student movement, up to and including the terrorism of the Red Army Faction discussed in "Of States and Their Terrorists," and the more culturally and aesthetically inclined currents that, incidentally, were especially prevalent in Kittler's Freiburg. Ironically, Kittler, who later attributed his lack of political engagement in the late 1960s and early 1970s to "50% laziness and 50% conservatism," may have read too many French theorists to truly believe in French revolutions.[47] If, following Jacques Lacan, the human subject is, much like the fancy pattern of underwear hanging on a clothesline, the effect of an inscriptional construct strung along a chain of signifiers, then the status and potential efficacy of revolutionary subjects are severely diminished. What remains is the rigorous analysis of the protocols and practices that program human inscription surfaces to view themselves as (revolutionary) subjects in the first place.

But it goes deeper and darker. Both the French political revolution and the German administrative "antirevolution" are always already heading for war.[48] Kittler's martial a priori takes on the appearance of a martial telos. War is not only the potential ground or origin but perhaps also the goal or vanishing point of accelerated human-machine interactions. If Lacan was

right to refer the signifying operations that constitute subjects to a cybernetic paradigm (something Kittler never doubted), then it stands to reason that ever tighter and faster loops between connected humans and distributed cybernetic machines, combined with an ongoing mobilization of bodies, minds, and words, will generate violence. The principal players in this perfect information storm are known by the euphemism *social media*.

In February 2017 rumors spread online that German soldiers attached to a NATO unit stationed in Lithuania had raped a fifteen-year-old Russian girl.[49] The story was quickly discredited as part of a Russian disinformation campaign targeting the Baltics in an attempt to whip up pro-Russian sentiments by catering to collective memories of the Nazi occupation. Upon closer inspection, the story appeared to be an iteration of a rape meme that began a year earlier with reports of "Lisa," a thirteen-year-old Russian girl who had been raped by migrants in Germany; soon afterward, the story reappeared with Lithuanian military instructors raping a girl in Ukraine.

The incident recalls Hally's rape in Kleist's *Battle of Hermann*. The notion that *la patrie*, *die Heimat*, or the Mother Country is a virtuous female body in need of male protection is already at play in Livy's account of the rape of Lucretia, which led to the overthrow of Tarquinius Superbus and the establishment of the Roman Republic. But there is something else at stake here. We first need to fathom the virtually bottomless disdain Kittler had for social media. Indeed, to think of the media theorist Kittler surrounded by social media brings to mind a militant vegan forced to work in a meatpacking plant. The proliferation of social media promoted everything his take on media had tried to debunk, from the instrumentalist conceptualization of media as means of communication to their support of the petty narcissism of users, who, precisely because they remain ignorant of the degree to which they are subject to gadgets, are condemned to fill up their platform-enabled subject bubbles with tweets of hot air. Kittler, however, died before he could witness the full-scale weaponization of social media, when LinkedIn became RopedIn, Twitter turned into Trasher, and Facebook degenerated into Hatebook. What might he have said? Where does his body of work best connect? One thing is clear: when it comes to a bellicist analysis of social media, Kittler's hardware focus or information-theoretical materialism has less to offer than his earlier, less technological work. With the Kleistian discourse mobilization in mind, we can leapfrog from discourse analysis to social media analysis. Three closely related points anchored in a common premise are important:

To begin with the Kittlerian premise: social media are neither social nor media. They are not social because (as will be discussed in the following paragraphs) they appear to support the *full-scale attack of a communications infrastructure on a communication culture*, and they are not media in any conventional meaning of the word, be it obedient channels or neutral transmitters. They are, at best or worst, media in the more critical sense Kittler came to use the term, that is, mere interface effects at the outer perimeter of the great digital compound, designed to fob off easily manipulated users limited by inferior processing capabilities with an addictive diet of words, sounds, and images.

But—first point—of course social media do transmit something. Take one of the best of Kittler's flashy opening lines: "Let us say the function of literature and literary studies is to make transmittable the cohesiveness of the net in which everyday languages capture their subjects."[50] Or, if we update this statement from 1800 to 2000: the function of social media analysis is to make transmittable the cohesiveness of the grid in which digital signals charge and mobilize their subjects. The operative word is *mobilization*. In 2006 Audrey Kurth Cronin published "Cyber-Mobilization: The New *Levée en Masse*," a widely discussed paper that compared the levée en masse of the French Revolution with the "21st-century's *levée en masse*, a mass-networked mobilization that emerges from cyberspace with a direct impact on physical reality."[51] For our purposes, the most interesting point is the link between mobilization instances that both occur in critical times of accelerated proliferation of media ecologies—the compressed time of change alluded to in the section "Motor and Model." With regard to the original levée en masse, Cronin notes, "The French populace was reached, radicalized, educated and organized so as to save the revolution and participate in its wars. It is no accident that the rise of mass warfare coincided with a dramatic growth in the number of common publications such as journals, newspapers, pamphlets, and other short-lived forms of literature. No popular mobilization could have expanded in the absence of dramatically expanding popular communications."[52]

This only scratches the surface of the revolutionary media ecology, which included accelerated rituals of transcription and (re)oralization, Claude Chappe's telegraph, large-scale media events, and, as Jacques Guilhaumou showed in a fascinating study, dreams of early megaphones, mechanized banners, and movable chairs that could technologically implement revolutionary discourse.[53] What is happening now is seen as a "historical successor," with "21st-century mobilization . . . perpetuating a fractionation

of violence."[54] Bluntly put, the French Jacobins realized their universalist ambitions. The world is turning into one extended Paris suburb—however, not the Paris of the ancien régime or the belle epoque but that of 1794: a frenzied media cauldron filled with mobilized subjects that process incoming communication according to a strict us-versus-them code.

Second point: of course there are messages, but one great difference between the original levée en masse 1.0 and the cyber levée en masse 2.0 is that the former consisted primarily of unifying messages circulated within a state, whereas the latter is to a large extent composed of divisive messages originating on the outside. It is also well known—and denied only by disinformation profiteers a.k.a. politicians—that the goal of divisive messages in the new information warfare is to exacerbate and exploit preexisting social fault lines and create tribal communities on standby to receive further outside interpellation. It is as if Varus and a horde of Roman bots had pulled a reverse Hermann by spreading intertribal German hatred. This is not your parents' cold war: you no longer create solitary sleepers or Manchurian candidates who at one point will be activated for a specific purpose; instead, you create wide-awake networked mobs whose general purpose is to prevent the other side from jointly pursuing any agreed-upon single purpose.

Final point: Is the above a credible description? Is it war? Kittler would probably respond to both questions in the affirmative by appealing to a couple of supreme authorities. According to Clausewitz, war is *an act of force to compel our enemy to do our will.*[55] Clausewitz was far too imbued with the spirit of Hegelian feedback not to realize that the imposition of one's will is never a unilinear act. The action of one will always depend on the willed actions of the opponent, and vice versa: "Each side, therefore, compels its opponent to follow suit; a reciprocal action is started which must lead, in theory, to extremes."[56] But what if it were possible to prevent an enemy from developing an effective will in the first place? What if I can engineer my opponent to contain contradictory and ultimately crippling multitudes? If, for instance, a foreign government were to conduct a campaign of misinformation and division against another country with the goal of influencing a federal election, and if the result of that action were the election of a government more accommodating to the foreign influencers, or at least less capable of resisting their influence, would that constitute an act of war? Or of prewar? At the very least it would meet the approval of the other supreme authority, Sun Tzu: "To subdue the enemy without fighting is the acme of skill."[57]

Blitzkrieg Nation: German Ways of War and Theory

In 1934 a Berlin women's organization, eager to present Hitler with a welcoming bouquet, asked the Ministry of Propaganda to name the Führer's favorite flower. A flustered secretary contacted the Reich Chancellery and probed several of Hitler's aides, but without success. Hitler, it seems, had not clearly expressed himself in this matter. In his memoirs, *Inside the Third Reich*, Albert Speer, Hitler's architect and as of 1942 the Reich's minister of armaments and war production, recounts how the secretary took matters into his own hands: "He reflected for a while. 'What do you think, Speer? Shouldn't we say edelweiss? I think edelweiss sounds right. First of all it's rare and then it also comes from the Bavarian mountains. Let's simply say edelweiss!' From then on the edelweiss was officially 'the *Führer*'s favorite flower.' This incident shows how much liberty party propaganda sometimes took in shaping Hitler's image."[58] Trivial as the incident may be, it captures what some scholars identify as a key feature of the Third Reich. The edelweiss was no random choice. More exclusive than a tulip or daisy, it befitted the exalted status of the Führer, while also paying respect to Hitler's well-known fondness for alpine regions. The secretary's decision was a proactive, plausible speculation; he chose what Hitler himself may well have chosen had he felt the need to reveal his floral preferences. This comes close to what Ian Kershaw, recycling a phrase by a Prussian bureaucrat, has labeled "working towards the Führer."[59] The Third Reich was not a streamlined, top-down tyranny whose goose-stepping population was either made up of fanatical followers or kept in line by Gestapo terror, nor was it an unhinged polycracy over which Hitler as a structurally weak dictator had little control. Rather, Hitler operated at the center of a divisive mass of bodies and entities vying for access to the Führer by putting into concrete practice policies that Hitler himself had not clearly spelled out—or that he, in a conscious attempt to promote fitness-enhancing administrative struggles, had assigned to competing agencies. Nazism derived a significant part of its destructive energy from initiatives emanating from below, thereby unleashing a volatile dynamic in which competing proposals and initiatives became ever more radical. Bluntly put, the Third Reich was a system in which shit was programmed to rise to the top; it promoted ever more extreme political and administrative mission tactics in the service of military aggression and genocide.

However, at the conclusion of his memoirs, Speer, quoting his final statement at the Nuremberg trials, presents a very different image of the

Third Reich. For those interested in Kittler's view of World War II and of the grotesque regime responsible for its European portion, this particular statement, repeatedly referred to in his texts, is indispensable:

> Hitler's dictatorship was the first dictatorship of an industrial state in this age of modern technology, a dictatorship which employed to perfection the instruments of technology to dominate its own people. . . . By means of such instruments of technology as the radio and public-address systems, eighty million persons could be made subject to the will of one individual. Telephone, teletype, and radio made it possible to transmit the commands of the highest level directly to the lowest organs where because of their high authority they were executed uncritically. Thus many offices and squads received their evil commands in this direct manner. The instruments of technology made it possible to maintain a close watch over all citizens and to keep criminal operations shrouded in a high degree of secrecy. To the outsider this state apparatus may look like the seemingly wild tangle of cables in a telephone exchange; but like such an exchange it could be directed by a single will. Dictatorships of the past needed assistants of high quality in the lower ranks of leadership also—men who could think and act independently. The authoritarian system in the age of technology can do without such men. The means of communication alone enable it to mechanize the work of the lower leadership. Thus the type of uncritical receiver of orders is created.[60]

What is behind this diagnosis? First and foremost, a denial of responsibility. If media technology turns everybody into uncritical receivers of orders passed down from above, if a giant switchboard connects all to the domineering "will of one," then the responsibility even of a high-ranking official like Speer is drastically diminished. This is self-exculpatory instrumentalism at its most pathetic: the dictator-sender is in such full control of channels and messages that everybody hooked to the receiving end is as much an instrument as the connecting conduits. Tools can plead innocence because they are, after all, just tools.

While Kittler abstains from striking any critical note in his frequent references to Speer, he does not fully endorse the Nuremberg statement. Rather, his view of World War II and the military culture of the Third Reich oscillated between the two Speer quotes above—that is, between the focus on mobilization, speed, and initiative on the one hand and the focus on total control on the other—with the crucial caveat that this movement

takes place against a background that moved from the human toward the technological. Kittler—and here we are at the heart of his war-related writings—is engaged in a large-scale attempt to reconceptualize World War II along lines very different from those habitually invoked. Underneath the war between the Allies and the Axis, or democracy and fascism, there were other, potentially more decisive wars between fundamental technological imperatives, above all the struggles between speed and control, between initiative and oversight, and, by extension, between humans and machines. And since the wars between nations, empires, or ideologies do not align with the wars between technologies, media, and infrastructures, a different World War II emerges.

To probe this revision, it will once again be necessary to follow Kittler into military-historical arcana. We begin with a revealing embarrassment triggered by Kittler's high opinion of the German Wehrmacht:

> I am not one of those theorists who despise the German *Wehrmacht* and its military operations. There has, for example, been much talk recently of the brutality of the *Wehrmacht* in the Russian campaign during World War II and I understand that. Nonetheless, it is obvious . . . to me that the real riddle of World War II is how it was possible for Hitler's *Blitzkrieg* to conquer the whole of Europe, except Finland, in two years? This to me was an *incredible* event.[61]

Really? The whole of Europe? Including Spain, Portugal, Ireland, Scotland, England, Iceland, Sweden, and Switzerland, where no Wehrmacht jackboot ever set foot? (Besides, more than two years separated the conquests of Poland and France from the German occupation of several eastern European countries.) No doubt he knows better. Once again, enthused words outpace awkward facts, but rather than figuratively punch Kittler behind the ears—as he himself said he would if he came across such nonsense—it is more interesting to delve into historical circumstances that help explain these claims. What is "the real riddle" behind "the *incredible* event" of World War II?

First off, Kittler is appealing to a well-known phenomenon Robert M. Citino calls "the German way of war." Germany's (and Prussia's) military planning has always been dictated by its disadvantageous geostrategic location: "Crammed into an unfortunately tight spot in the heart of the continent, ringed by enemies and potential enemies, more often than not the chessboard on which other players played out their strategies, it had neither the resources nor the manpower to win long, drawn-out wars of

attrition."[62] Germany and Prussia thus are notoriously prone to "the short-war illusion."[63] They must win their wars quickly or not at all, hence the marked emphasis on speed, from the legendary sleigh drive that enabled the victory of Brandenburg's Great Elector, Frederick Wilhelm I, over the Swedes at the Battle of Fehrbellin (1675) to the panzer thrust into France in 1940; hence also the emphasis on front-loaded, no-holds-barred, and decision-seeking aggressiveness, from Frederick the Great's first Silesian campaign up to the Schlieffen Plan and Operation Barbarossa. None of this is essentially or uniquely German, but it is a military proclivity especially prominent in the German context: "Prussia-Germany tried to keep its wars short, winning a decisive battlefield victory in the briefest possible time. Although it might be argued that every warring party followed the same path, no other country took this trend to such extremes. No other country in European history sought victory so relentlessly through sudden or surprising military maneuver."[64]

Citino's use of *German* in "the German way of war" resembles the use of *German* in discussions of "German media theory." The latter designation likewise does not imply anything essentially or uniquely German; it serves to indicate that the recurrence of a certain set of assumptions, references, and associations in media-theoretical analyses has to be understood against the background of debates about technology, humanism, and individual as well as collective identity formation that over the course of the past two centuries emerged with particular acuity in the German-speaking countries. Juxtaposing "the German way of war" and "German media theory," though, is more than a superficial analogy. It contains a genealogical relationship in the sense that media theory inherits and reprocesses basic concerns and experiences that were also central to military thinking. So-called German media theory is the continuation of so-called German war on a different level.

Kittler's war-related texts focusing on the twentieth century are rooted in the premise that Germany must compensate for its inability to wage deep wars by means of coordinated speed and military hardware innovations. The former will allow for rapid and decisive engagements in the early stages of the war, while the deployment of more advanced weapons will make up for quantitative inferiority. However, accelerations at the tactical and operational levels as well as hardware innovations are, in essence, problems of media, which supports Kittler's confluence of war and media. This becomes even more obvious once we take into account that coordinated speed is a subset of hardware innovation, given that coordination at

greater speeds calls for improved communications technologies to control and coordinate—much as, for instance, the development of the railroad required telegraph lines to coordinate rail traffic. The second, closely related assumption is that improvisation and innovation increasingly move from the tactical to the technological. Once again, the martial a priori rears its head: war is not only, to quote the title of one of the darker essays in this collection, the constant improvement of "manners of death." By pushing the replacement of soldiers equipped with a "command of free will" with killing devices equipped with decision-making algorithms, such as killer drones, war paved the way for the general substitution of human subjects by machine subjects—a substitution that, as will be discussed in the next section, works so well because the two different subjects in question are not that different.[65] Here, we will focus on one phenomenon that captures most of the aspects under discussion and that also allows for a linkup with the previous section: blitzkrieg. With the caveat, however, that the word (like mission tactics) resembles Aladdin's lamp. Once the lamp has been rubbed, or the bottle uncorked, the escaping content is difficult to control.

The most revealing text is the conversation with Alexander Kluge (chapter 10, this volume), which in no small measure is due to Kluge's ability to tease out what Kittler really wants to say. (Think of their conversation as a Freudian talking cure: Kluge, the analyst, keeps feeding associations and prompters back into the patient to keep him talking.) Kittler recounts the well-known story of how German World War I storm-trooper tactics were developed to overcome the stalemate of the *Stellungskrieg* (static or position war) on the western front. The goal was to resuscitate the desired *Bewegungskrieg*, or war of movement. Instead of large frontal assaults by rifle-armed soldiers advancing through barbed wire toward enemy parapets and machine-gun nests, small, flexible, and highly mobile units equipped with a diversity of weapons would break through at specified points and fan out behind enemy lines. In the false peace between 1919 and 1939, when *peace* referred to periods of history in which Europeans took a break from killing each other in larger numbers, the German Army, eager to avoid another unwinnable Stellungskrieg, motorized and upgraded these tactics. What worked with men on a tactical level could work faster and even more decisively on an operational level with tanks. This was all the more urgent because due to the significant reduction of the German Army in the wake of the Treaty of Versailles it became even more necessary to compensate for the lack of men, matériel, and resources by means of speed and technological superiority.

Blitzkrieg, then, is the operational redeployment of a tactical innovation responding to a strategic imperative. More to the point, it was the name given to the operational implementations of tactical innovations in the campaigns against Poland and France, though it was a designation the German Army neither invented nor adopted. The rapid German victory in the West has added to the flashy mystique of the term as well as to the questionable perception, shared by Kittler, that it all went off exactly as conceived. Germany, so the story goes, planned its lightning wars with all the meticulous care it devotes to its manufacture of its cars, beer, and idealist philosophy. The Kipling admirer Kittler offers a Just So Blitzkrieg Story that revolves around one of the Wehrmacht's best-known senior generals and postwar self-promoters, Heinz Guderian. Based on his experiences in World War I, Guderian (who, as mentioned in "Free Ways," was a signals officer who witnessed firsthand the failure of the Schlieffen Plan) laid the groundwork for the accelerated mechanized warfare in the 1920s, planned the attack on France, and then, holding a general's rank, rode off into the raging blitzkrieg in his VHF radio–equipped tanks, to be immortalized twenty-five years later in a samba-like groove by the Rolling Stones. Discourse analysis's finest hour came another twenty years later when Kittler had "Sympathy for the Devil" implode into Guderian's blitzkrieg.[66]

As most military historians would argue, that is not quite what happened.[67] Indeed, the best indication that the "incredible" Wehrmacht did not fully understand its own success was its belief that said success could easily be repeated on a larger scale in Operation Barbarossa, the 1941 attack on the Soviet Union. It was a spectacular failure of imagination and foresight, based on the fallacy that blitzkrieg is a scale-invariant procedure. The procedure had worked on several different levels, so why not ratchet it up another notch? Thus Citino can answer, with amazing exactitude, the question at what point exactly German military planners realized the war was lost. On December 26, 1941, soon after German forces had dug in west of Moscow to stave off a Red Army counterattack, the semi-official *Militär-Wochenblatt* [Military weekly] featured the simple but fateful headline "Stellungskrieg in the East." The type of war Germany did not lose was over; the type of war it could not win had begun.[68]

But then again—and now we enter truly Kittlerian terrain—blitzkrieg is a protean beast that makes full use of the conceptual expansion of war into mobilization and speed. Take the at first glance facetious ending of the opening essay "Free Ways": "And every time summer comes around, as it did in 1939," Kittler rhapsodizes, German tourist divisions sally forth

until "Europe's borders capitulate." Technologically enhanced collective mobilization morphs into mass tourism, an annual conquest of seasonal lebensraum for entertainment purposes. The final verdict (as if Clausewitz had written a sequel to *On War* called *On Tourism*): "Peace is the continuation of war with the same means of transportation." Networked means of transportation, we should add, for it appears that cars are tanks, given that Guderian's VHF equipment, so indispensable for the coordination of lightning-strike maneuvers, reappears in the shape of car stereos, equally indispensable for the diversion of the occupants.

The martial a priori of the autobahn and of modern tourism ties in with the overall martial a priori of the entire modern entertainment industry, just as one Prussian century earlier, governmental and educational reforms were linked to mobilization efforts. The basic difference is that the primarily discursive mobilization of spirits, moods, and affects is replaced by the functionally equivalent, primarily technological mobilization of bodies, reflexes, and senses. "*Funkspiel,* VHF tank radio, vocoders, Magnetophones, submarine location technologies, air war radio beams etc. have released an abuse of army equipment that adapts ears and reaction speeds to World War $n+1$. Radio, the first abuse, led from World War I to World War II, rock music, the next abuse, from II to III."[69] The drill is so necessary because humans are so slow:

> In terms of motor skills, sensory perception, and intellectual acumen, people are evidently not designed to wage high-tech wars. Ever since World War I . . . speed and acceleration have mandated the creation of special training camps that teach new forms of perception to sluggish people and accustom them to man-machine synergies. This started in 1914 with the wristwatch, and it will not end with today's combat simulators. We can assume that in the interim period, when wars are not running in real time, rock concerts and discos function as boot camps for perceptions that undermine the thresholds of perception.[70]

One obvious extension is the internalization of technologies, the creation of augmented supersoldiers, which—as Kluge emphasizes—is the realization of old futurist dreams of the merging of flesh and steel. Kittler, however, is less interested in human-machine melds because they elide a more fundamental issue. On the battlefield, increasing speed may be as precarious as promoting independent initiatives. As in the case of the released reader, a too-vigorous deployment of the desired means threatens to destroy the overall purpose. In their conversation both Kittler and

Kluge strike an accelerationist note by talking about blitzkrieg enabling an escape velocity that would allow the combatants nothing less than an escape from *the state* (Kittler) or even from *war itself* (Kluge). The concrete historical referent is Erwin Rommel's Seventh Panzer Division, which during the French campaign advanced at such speeds that the German High Command lost track of it, whereupon it became known as the "Ghost Division"—an achievement some say was possible only by combining two types of speed, kinetic and pharmacological, that is, motorization and methamphetamines.[71]

Of course, Rommel had no intention of abandoning the war or his employer, but Kittler, probed by Kluge, is hinting at a more general point that is familiar terrain for military historians. Whether you pinpoint Moscow in late 1941 or the failure of the 1942 offensive in Stalingrad and the Caucasus, the end of the German war of movement coincides with a change in German military command culture, which effectively terminated the independence and initiative of the commanders so visibly on display in the early stages of the war. Assuming ever tighter control of military operations, Hitler's first decree as the new commander in chief was to order all higher commands to "report every detail, to provide plain answers to every question, and to state clearly when they had dialed to assigned orders."[72] In a word, Hitler put an end to all Auftragstaktik and started to micromanage a very un-German extended war of attrition and retreat.

Hitler's performance as a military commander has received its share of critique—part of it justified, part of it self-serving.[73] But as Citino emphasizes, it is necessary to go beyond a simple "Hitler did it" approach to the death of Auftragstaktik. In the age of the radio, the supreme commander now had virtually instantaneous access to each army group and army commander. There was nothing to stop him from directly accessing every link in the chain of command if he so desired.[74] This is exactly what Kittler, armed with Speer's Nuremberg quote, is aiming at. The very technology that allowed for the unleashing of coordinated mechanized speed now serves to subject all movement to tight control. In Deleuzian terms that are hovering at the edges of Kittler's rumination on nomads and terrorists (and on the metamorphosis of modern soldiers into high-tech nomads who resemble the nomadic terrorists they are fighting), the deterritorialization of blitzkrieg is countered by a massive reterritorialization in which the state once again assumes control over those who were on the verge of escaping its grip. Or, on an even more fundamental level, World War II is a pivotal juncture in the ongoing conflict between state and war. According

to Kittler, the modern mass-army wars that started with the French levée en masse "fizzled out" in the steppes of Astrakhan. There will be other masses fighting in the future, but they will not be wearing standardized uniforms, they will not fight for nations, and they may not even be composed of humans.

Postscript to Blitzkrieg Nation: Missile Subjects and the Final War

When was Nazism overcome? At what point did the militant German variant of fascism vanish from history? (Did it ever?) With Hitler's suicide? When Germany surrendered? On February 23, 1947, when the Allies officially abolished Prussia? But fascism, German or otherwise, cannot be defeated by military means alone, nor legislated out of history with the stroke of a pen. It sits too deep, hides too well, and for some may be too alluring to abandon.

In 2004 Klaus Theweleit, author of *Male Fantasies* and a fellow student of Kittler's in Freiburg, published a beautiful book on soccer in which he claimed that fascism was overcome in 1956/57, when German teenagers tuned in to the British Forces Network and encountered the top ten: from Buddy Holly to Chuck Berry, Petula Clark to Peggy Lee, Fats Domino to Elvis. If, as Theweleit had argued in *Male Fantasies*, one of the core features of fascism was the construction of hardened male bodies that project their inner chaos onto a world they feel compelled to destroy, then no combination of carpet bombing, denazification trials, and economic recovery plans could hope to eradicate fascism. It has to be danced off, as it were, exorcized from drilled bodies by new music in new media formats. Blues and early rock and roll freed desires and bodies from armored fascist constraints. When it came to severing the fascist mooring of German being, Buddy Holly and the Crickets had more to offer than Adorno and Horkheimer.[75]

Kittler, whose musical loyalties lay with the British invasion of the 1960s, would no doubt stress the psychedelic Wagnerian impact of the late Beatles and early Pink Floyd, but he would be skeptical about the alleged emancipatory potential.[76] If, as Paul Virilio argues in *War and Cinema*, the war that did not manage to end all wars in 1918 withdrew into cinema palaces, only to burst out into the open again in 1939, Kittler adds that after 1945 the war spread out in layers of psychophysical mobilization—a permanent drill experienced by many as an ongoing thrill. In classic Kittlerese (a line at odds with Theweleit's more positive appreciation of modern music), "our discos are preparing our youth for a retaliatory strike."[77] War appears to be everywhere

at all times. Kittler's work is part of a critical trend of the 1970s and 1980s that suggests we are subject to a critical flicker fusion rate of martial history, when the rising frequency of war and war-derived technologies makes it appear permanent.

As mentioned, Kittler was less interested in the increasing technologizing, enhancing, or upgrading of humans or warriors by the behavioral optimization, implants, or human-machine melds that had haunted futurist reveries. There are limits to human upgradeability that our species narcissism is happy to ignore. The obvious alternative is the replacement of underperforming humans by machines; the specifically Kittlerian twist is that this substitution is channeled through a weaponized Lacanianism.

To understand matters, we need to briefly return to the mobilization into self-reflexivity, which was booked under the heading of mission tactics. The mental faculties necessary to perform civic duties in the bewildering quagmire of a decentered, functionally differentiated modern society devoid of all-encompassing rules and guidelines is also what is needed to fight on the decentered modern battlefield. Upgraded subjects are soldiers who have learned to think on their own. Yet from Kittler's point of view, it is precisely the fact that modern subjects are self-directed agents capable of autocorrective reflection—that is, of reacting to unforeseen circumstances by rewriting the initial set of instructions without losing sight of the overall goal—that allows them to be replaced by modern weapons. Our philosophically embellished features of self-reflexivity are also present in nontrivial machine subjects. Because human neuronal networks and electronic hardware circuits are functionally equivalent inscription surfaces, there is not much difference between a self-directed human and a self-directed cruise missile. Kittler equips this equivalence with a Lacanian spin by emphasizing that the crucial feature that turns trivial machines into nontrivial machine subjects is the implementation of conditional jump instructions, or IF/THEN commands. Quoting Lacan, he insists that the difference between a straightforward mechanical command that determines exactly how an operation should be executed from beginning to end (which in Kant's illustration is the level of the simple servant or soldier) and a program that enables the operator to alter its behavior during the operation once or if certain conditions have been met (Kant's officer) is the same as the distinction between an animal code and a language involving human subjectivity:

> For example, the dance of bees, as it has been researched by [Karl] von Frisch, "is distinguished from language precisely by the fixed correlation

of its signs to the reality they signify." While the messages of one bee control the flight of another to blossoms and prey, these messages are not decoded and transmitted by the second bee. By contrast, "the form in which language is expressed . . . itself defines subjectivity. Language says: 'You will go here, and when you see this, you will turn off there.' In other words, it refers itself to the discourse of the other." In yet other words: bees are projectiles, and humans, cruise missiles. One is given objective data on angles and distances by a dance, the other, a command of free will.[78]

Subjective agency is conceived of as an operational reflexivity that, translated into the computational realm, takes on the shape of feedback commands. This allows Kittler to establish a functional equivalence between human operators and cruise missiles as machine subjects and to claim that the latter have ousted the former since they are able to receive, process, and execute incoming information in a superior fashion. It does not mean that computers are artificial human brains, nor that they digitally ape specifically human ways of thinking. Rather, they optimize certain patterns of information processing that earlier in history were also imposed on human beings but subsequently mistaken for innately human qualities. Human subjects—conceived of as projectiles equipped with upgraded internal processing capabilities—emerge from war only to be replaced by more efficient machine subjects that emerge in later wars.

This allows us to address a common misperception that associates Kittler's work with the oeuvre of Arnold Schwarzenegger. The meme was especially rampant when Kittler died. The headline of a post-mortem portrait in the *Guardian* says it all: "Friedrich Kittler and the rise of the machine"— which is both an homage to the title of the third *Terminator* movie and an attempt to summarize Kittler. In terms of atmosphere or zeitgeist, it is on target; otherwise, it is wrong. Like Martin Heidegger, Kittler was afflicted with an almost pathological intolerance of anthropocentrism. If philosophy, a notoriously anthropocentric endeavor, wanted to live up to its aspirations, it had to undergo a rigorous housecleaning regimen. It needed to fumigate its premises to eradicate its many debilitating humanist head games, first and foremost of which is the delusion that humans are the measure of all things—also and especially of the machines that are rising up to kill them. From Kittler's point of view, the *Terminator* scenario is nothing but a variation of the old Pinocchio fallacy. Humans labor under the conceit that their creations have got nothing better to do than to try

to become like them. And the last, melodramatic resort of human self-infatuation, the final pipedream of our eschatocene anthropocentrism, is to take pride in the fact that we are the grand target of our insurgent creations: *what a piece of work is man* that his creations are so set on obliterating him. But machines are no less literate; they can read to the end of Hamlet's speech: *Man delights not me*. Machines are not avengers, Kittler would have said; they prefer the cosmic indifferentism of H. P. Lovecraft's monsters. This last war was the one he did not talk about because it does not deserve the term. If our machines remove us, it will not be a Hermann-like uprising or a crusade to liberate oppressed gadgets; it will be either unintended collateral damage, the result of a genocidal glitch, or an apocalyptic accident. Or the machines, in a last gesture of ironic respect, will mimic our hypocrisy and speak of a police action or a hygienic measure.

Pynchon's Rocket: War as Accelerated Technology Transfer

There were no techno-subjects or computer-guided cruise missiles in World War II, but Germany produced the next best thing, the v-2 rocket. Developed at the Peenemünde Army Research Center on the Baltic island of Usedom and assembled at the underground Mittelwerk factory in Thuringia using slave labor from the Dora-Mittelbau concentration camp, the v-2 was the world's first liquid-propelled, long-range ballistic missile. It is a sleek, murderous oddity central to Kittler's war-related writings, and to a certain extent even to his life. Over the next two sections, it will allow us to draw together many strands and address the key aspects of Kittler's view of war and history as well as the question of motivation. What emotional liquid fuel propels his martial texts beyond the gravity of common history, common sense, and common ethics?

As a so-called *Wunderwaffe*, or miracle weapon, a last-ditch attempt to overcome the crushing superiority of the enemy with a weapon of unprecedented shock, speed, and awe, the v-2 represents the culmination of the "German way of war." It was the forty-day Schlieffen Plan compressed into four minutes, the forward escape of Rommel's Ghost Division accelerated to supersonic speed. Tactically and economically, however, it was a disaster. The total explosive load of all v-2s ever fired equaled that of a single large Allied air raid. Designed to be a quick ballistic fix, it turned out to be a crippling drain of resources. By drawing away roughly two billion Reichsmark from more effective weapons systems, the v-2 may indeed have shortened the war but not in the way the German side intended.[79] The most grue-

some statistic is that it is the only weapon in history that killed more people during its assembly than through its use. The roughly twenty thousand victims died under circumstances worse than in many other concentration camps. Dora-Mittelbau started out as a subcamp of Buchenwald; one survivor testified that in comparison to Dora, Buchenwald appeared like "heaven."[80]

The V-2 was a weapon out of time. Militarily, it arrived too late in the war to have any impact, yet it was so ineffective because, technologically, it arrived too early.[81] It lacked what only a decade later would render ballistic missiles the supreme weapon: the right warhead (bigger blast) and sophisticated electronics (better aim and the ability to self-correct). It was as if Wernher von Braun and his entourage, their minds still awash with the space-travel dreams of the 1920s, had reached out into the future to haphazardly grab whatever could be used to serve the present. This strange time compression is central to Kittler's argument: as the V-2s screamed across the sky toward London, they came loaded with dreams of the past, failures of the present, and threatening promises of the future.

Once again, it is best to begin with a blunder, arguably the most revealing in Kittler's rich cabinet of curious claims. In *Gramophone, Film, Typewriter*, he notes that Konrad Zuse's Z4, a programmable, relay-based electronic data-processing machine some consider to be the first real computer, was involved in "determining in the bunkers of the Harz the fate of the V2."[82] Zuse's Z4, so Kittler's story goes, was used to program the construction of the missile. Factually, this is a mistake. Kittler could have avoided it if he had really done what his bibliography claims he did, namely, read the whole of Zuse's memoirs. Zuse has a Pynchonesque story to tell. The Z4, the fourth machine assembled in his parents' apartment in Berlin, was also known as the V4. The *V* stood for *Versuchsmodell* (experimental model), and because V4 seemed close to V-2 (which, to add to the confusion, was initially known as the A4), one of his collaborators managed to persuade the authorities to order Zuse and his fellow workers to evacuate the Z4/V4 from Berlin to the Mittelbau ordnance factories where the V-2/A4 was being assembled. On their arrival the group took one look at the inhuman conditions and escaped to the South German Allgäu region—Hitler's edelweiss territory—to sit out the end of the war.[83] As a result, the first real digital service ever rendered on German soil had little to do with military endeavors but took place after the war in a less martial domain: Zuse programmed the Z4 to assist an alpine dairy in calculating milk yields and to help out with accounting.

To a certain extent, Kittler can be excused. He quoted an otherwise impeccable source, Andrew Hodges's magisterial biography of Alan Turing, the first edition of which claims that "Zuse calculators were used in the engineering of V2 rockets, and in 1945 Zuse himself was installed in the Dora underground factories."[84] Hodges has since acknowledged his mistake, but Kittler appears to have difficulties letting go of the idea. "Biogeography," the cryptic autobiographical martial musing near the end of this collection, mentions a brief exchange during his first visit to the Mittelbau-Dora concentration camp in July 1990: "When the last director of the museum was asked whether Konrad Zuse's world war computer had been used in Mittelbau, he observed: 'Zuse? Never heard of him.' Not for nothing did Stalin denounce all computer science as bourgeois deviation." While the incorrect Z4/V-2 linkup remains an option, the fact that nobody knows Zuse's name is blamed on totalitarian cyberphobia.

But why this obsession? *Because that is what the war was really about*. How does Kittler know this? Because he read *Gravity's Rainbow*. That is not to say that Kittler gained new insights from Pynchon's novel; he did not learn anything important he had not known or suspected before. Rather, *Gravity's Rainbow* acted as an incentive, a spur, a *drug* that swept away inhibitions. Kittler first read the novel during his 1982 sojourn in Berkeley—in the original, no less, which is quite a feat for someone whose main staple of anglophone literature up until then had been Raymond Chandler. The novel struck him as "a positive shockwave" that "lifted a kind of dark veil from my eyes concerning my own childhood experiences with V2s," provoking and answering questions that had been lurking in the background ever since the toddler witnessed the fires of Dresden.[85] An American author furnished a German theorist with a letter of marque to prey on the established narratives of the last German war, the ensuing German fate, and even his own German childhood.

First, the biographical level: In 1953, 1954, 1956, and 1958, the young Kittler spent his summer holidays on the island of Usedom, close to the former Peenemünde Army Research Center. Traveling through the province of Brandenburg, which in the intricate multiple exposure of "Biogeography" appears as both the last battleground of the past and the first combat zone of the next war, the Kittler family ends up in a site of picturesque destruction: "Concrete slabs with asphalt joints . . . thrown into cubist disarray by the bombs of the Royal Air Force during a long summer night." What "Biogeography" presents in esoteric allusions Kittler spelled out clearly in an interview:

From my early childhood, my mother often took me to the shore in East Germany where Hitler's V2 rockets were developed during World War II. However, what fascinated me most about these sites and rockets was the fact that no one said a word about them. And yet the traces of this particular aspect of the German military-industrial complex . . . were everywhere. And so I had to find my own explanation for this hidden part of history. But it was difficult to do so because it was almost forbidden to talk about the military-industrial complex in East Germany or even speak about the German side of the war effort more generally, and especially anything that touched upon the technological side.[86]

Traces without texts, scars without stories, and a socialist *damnatio memoriae* that keeps reminding people of what they have been ordered to forget. No wonder that smallness, both spatial and historical, is a leitmotif of "Biogeography." In the eyes of the young child (and the mature theorist), the German Democratic Republic, that puny country with its pompous name, fades in comparison to the "wild, great past" from which it emerged.[87] The veil of the foreign language through which Kittler first read *Gravity's Rainbow* comes to resemble the veil of obfuscation the GDR imposed on large portions of its immediate past. But the novel not only resonates with Kittler's unanswered memories but also exposes in amazing detail that the "technological side," concentrated in its sheerest essence in the V-2, is the defining mark of World War II. Reading Pynchon, Kittler realized that he had spent uncanny childhood vacations close to a world-historical ground zero where "our strategic present began."

For—to go from biography to hidden history—what kind of war emerges in *Gravity's Rainbow*? Who or what are the combatants? Nations? Ideologies? Nations are nothing but media in Kittler's jaded sense of the word, fancy interface constructs that supply networked users known as citizens with a diet of words, images, and sounds that produce identity effects and collective death wishes, while behind it all is a machinery that cares as much about the fate of nations as a hard drive does about the well-being of its human appendages. Ideologies, in turn, are prefabricated discursive deposits on standby, equipped with varying degrees of affective potential and developed when it was still necessary to mobilize people to "help History grow to its predestined shape"—which, of course, is no longer necessary once you can deploy nontrivial mechanized subjects that need neither sleep nor collective narratives.[88] The World War II Kittler glimpsed in *Gravity's Rainbow* has little to do with politics and ideology; it is not about living

spaces for master races or grand crusades to liberate oppressed continents, even if rewritten in a dark key as the prospect that "American Death has come to occupy Europe."[89] Whatever the human players may be dreaming of or dying for in Pynchon's novel, they are no more than disposable appurtenances in a story that operates on a very different level:

> This war was never political at all, the politics was all theatre, all just to keep the people distracted. . . . Secretly, it was being dictated instead by the needs of technology . . . by a conspiracy between human beings and techniques, by something that needed the energy-burst of war, crying, "Money be damned, the very life of [insert name of Nation] is at stake," but meaning, most likely, *dawn is nearly here, I need my night's blood, my funding, funding, ahh more, more.* . . . The real crises were crises of allocation and priority, not among firms—it was only staged to look that way—but among the different Technologies, Plastics, Electronics, Aircraft, and their needs which are understood only by the ruling elite.[90]

The paranoia of Pynchon's protagonists reappears in the paranoia of Kittler's historical analyses, to the extent that in some of his essays Kittler resorts to lining up one Pynchon quote after another as documentary evidence.[91] For example, leading up to the celebrated passage just quoted, Enzian, the half-Herero leader of the all-black *Schwarzkommando*, senses the secret arrangements between the German IG Farben conglomerate and Allied bombers. German industry set up temporary facilities that act as "come-ons to call down special tools in the form of the 8th AF bombers" and plotted in advance in such a way as "to bring *precisely tonight's wreck* into being."[92] An old adage has it that modern urban architecture is nothing but the continuation of carpet bombing with other means. For Kittler, this is no joke but the simple truth of his childhood war. The bombing of Germany was the premeditated early stage of its industrial and urban renewal. American bomber squadrons destroying IG Farben installations are participating in a tacitly agreed-upon merger of postwar German and American sciences and industries. The need to move German high-tech industries out of urban centers and into rural areas to protect them from Allied air raids was, therefore, only the first step in revitalizing the postwar manufacturing industry.[93] The alliances of corporate interests and the joint effort to secure future resources undercut the surface constellations of political enmity.

Yet the most important question is not what secret agenda is behind Allied air raids (ultimately, it is a crude form of urban and industrial reconstruction that comes with greater collateral damage) but why Germany is

firing off the V-2s. As noted, the rocket was marked by "complete short-term ineffectiveness *versus* profound long-term importance."[94] Its tactical value was negligible, its strategic potential immense. And this brings us to the very heart of the matter: as a weapon out of time, the V-2 is as much headed out of Germany as it is headed out of the war into a coming peace that will offer better conditions for the construction of the ultimate weapon. It is headed across the channel to Britain (and, in the final pages of *Gravity's Rainbow*, through time to the California of the early 1970s) to bring about the great merger of missile, computer, and atom bomb. To refer back to the second section of this introduction, which described ruptures and wars as instances of accelerated technological change, Kittler's World War II is a violent cataract in the flow of technological evolution. Its goal is nothing less than the unholy trinity of history's most destructive ménage à trois: the fusion of nuclear payload, computer-based self-directed guiding technology, and missile-based delivery system.

Replacing weapons with locations, the telos of the war is the merger of its three most important sites: Peenemünde, Bletchley Park, and Los Alamos (or Hiroshima). The war is an act of nuclear fusion; it compresses formerly distinct entities into one, a process that, if unchecked, releases a tremendous amount of destructive energy. This explains the wishful thinking behind Kittler's Z4/A4 gaffe. If Zuse's early computer had indeed been used to program the V-2, then a significant part of this techno-tectonic teleology would have taken place on Kittler's home ground. The gaffe, no doubt, comes with its share of Kittler's palpable "techno-patriotism."[95]

The rewriting of World War II as a primarily macrotechnological event "that devolved from humans and soldiers to machine subjects" has drawn considerable criticism (and caused some to part ways with Kittler).[96] Peenemünde, Bletchley Park, Los Alamos—sure, but where is Auschwitz? So much talk about the Wehrmacht and the war, so little mention of the Holocaust. There is no Hitler in Kittler's war, no war of aggression, no final solution, no complicity of military conquest and racial genocide, and subsequently no question of guilt and responsibility. For many, the truly offensive part of the quote cited at the beginning of the section "Blitzkrieg Nation" is not the sophomoric glorification of the Wehrmacht's "incredible" performance but the glib dismissal of its crimes. Of course, Kittler knew better. Tank expert that he was, he may even have known about the specific link between war crimes and the accelerated operational procedure of panzer-equipped units.[97] To take one of the most glaring examples, "Biogeography" and most of the essays dealing with Pynchon's *Gravity's*

Rainbow feature cameo performances by SS Brigadier General Hans Kammler, who in 1944 came to replace Walter Dornberger as the leader of the V-2 project. Readers learn that Kammler is in part behind the nefarious Captain Blicero in Pynchon's novel. They also learn that Kammler shares with Pynchon himself the "rare quality of having destroyed all his photographs," which makes for good reading but bad scholarship, for there is no shortage of photos.[98] The problem is what readers do *not* learn. Kammler is one of those shadowy figures who emerged in the final twilight of the war and who, endowed with the annihilationist mystique of the SS that tends to exert a certain fascination on some, graduated into the netherworld of pulp documentaries. He has also been awarded the ultimate honor bestowed on vanished Nazis, namely, ongoing doubts whether he really died at the end of the war.[99] Some of this is uncomfortably present in Kittler's texts. What readers do not learn is that Kammler was "one of the most capable, energetic, and vicious figures in [Heinrich] Himmler's entire murderous organization"; that he was one of the principal building inspectors for the SS Main Economic and Administrative Offices in the conquered East; and that many construction designs for the crematoria and gas chambers at Auschwitz come with his signature.[100]

Kittler would insist that his lack of interest in what he once referred to as the "Auschwitz-theoretical" understanding of the war constitutes a demotion rather than a downright denial.[101] The war has to be viewed differently; its very destructiveness has to be reconceptualized as a fundamentally technological event. "People meet their neighbors for the first time while watching their apartment houses burn down," Jerry Rubin remarked.[102] Likewise, technologies merge best when nations burn.

Conclusion: The Benefits of Defeat

"There is no escape from Kittler's technological singlemindedness," Amit Pinchevski notes. "His efforts to subordinate history to technology are nothing less than, well, obsessive."[103] Indeed, given the degree to which Kittler's childhood experience of the silencing of the war with all its uncanny scars and traces impacts his work, why not mobilize a concept that the modern critical industry has come to exploit as recklessly as other industries deplete fossil fuel: *trauma*? Yet we should hesitate to call trauma what may be no more than an unwillingness to speak out of shame, or the result of a political gag order, just as we should hesitate to call honesty what may be no more than the self-indulgent desire to speak in order to provoke others

who do not. And in any case Kittler is ahead of the critical game. He would pounce on the irony (which is in line with the aforementioned literal reading of Kant's military hierarchy of reason) that the Freudian concept potentially capable of explaining his obsession with war and technology is—just like so many other tools in Freud's psycho-military arsenal—*itself* an effect of a historically identifiable conjuncture of war, technology, and tactics.

"Last night I dreamed about Freud. What does that mean?" runs an aphorism by Stanisław Jerzy Lec.[104] Kittler's answer: War, what else? Freud told him so—in a dream, no less. In the mid-1980s, as he was touring German universities in search of a permanent appointment, Kittler spent a night at the house of his colleague Manfred Schneider, who in a recently published essay recounts that Kittler appeared at the breakfast table to announce that Freud had revealed to him in a dream the real, secret origin of psychoanalysis:

> The theory's guiding concepts *defense, fraying* (Bahnung), *occupation, projection, death drive, repression, resistance, final objective, force* are words of war. Not only do they name psychic dramas and conflicts, but there is an unconscious at work in them. They come with the semantic residues of commands and military tactics. Psychoanalysis speaks a soldier's language. Once again Friedrich opened our eyes to a hidden occidental history. Sure, we are appendages of letters, numbers, and tools, but this symbolic machinery was forged by the war-father of all things. Just look: Even the letters the mythical Cadmus brought to Thebes were dragons' teeth, but from them warriors sprung![105]

Indeed, what is Freud's weaponized account of trauma in *Beyond the Pleasure Principle*, with its barrages and bombardments, strikes and sentinels, overrun defenses and occupied territories, other than a military dispatch? Trauma is an experiential blitzkrieg on hapless subjects. Crashing into an inadequately guarded center of gravity, or *Schwerpunkt*, storm-trooping stimuli break through the Maginot Line of consciousness. The explosive attack outstrips the ability of shocked subjects to process and experience the breach. Alien elements rush into the hinter- or *unter*land of the psyche, bind forces no longer available for the routine operations of consciousness, and disrupt all psychic communication and supply lines.

To look at war through trauma, Kittler would argue, requires that you first look at trauma through war. No tactical innovations of modern warfare, no widely deployable trauma concept. As the dream of Freud revealed, the origins of the concepts that shed light on repression and repetition compulsion are themselves repressed, which is precisely why they work so

well. But this sidesteps the real issue. Kittler was not traumatized; he was a loser. His texts, especially those focusing on World War II, are a technologically refined twist on the *Besiegtentheorem*, or loser's theorem. Losers, so the story goes, are forced to develop a more profound understanding of history. Since events did not turn out as planned, losers are under greater pressure to understand the past than the victorious parties, who do not have to grapple with the unsettling discrepancy between expectation and experience. As a result, the old adage that winners write history becomes questionable. Maybe losers furnish more insightful accounts. Many of Kittler's World War II essays are, at rock bottom, attempts to unlose the war, or at the very least to lose it better than the other side won it by arriving at an allegedly more fundamental understanding.

In the German context, the loser urtext is a short essay written in 1948 by Carl Schmitt on French historian Alexis de Tocqueville.[106] Schmitt's personal agenda—his postwar mixture of artfully arranged resentment and ineluctable self-pity—need not concern us. What is at stake is the claim that Tocqueville's greatness as a historian emerges from his accumulation of defeats. He was a multiple loser: as an aristocrat, he was on the losing side of the French Revolution; as a liberal, he lost in 1830; as a Frenchman, he had to suffer the defeat of 1815; and as a European, he was one of the first to anticipate the future sandwiching of a demoted Europe between Russia and the United States. As Schmitt would have it, Tocqueville processed his defeats by withdrawing into a distanced view of history that eschewed the superficial narratives of myopic winners and instead explained events in terms of an overarching history of centralization and bureaucratization. He removed the sting of defeat by questioning the self-image of the victorious parties. Sure, this revolution or that war may have been won by this class or that nation, but their victories do not count for much because they had little to do with the actors' plans and intentions. This raises the questions: To what extent are you still a winner if you do not really understand why you won? And are you not less of a loser if you come to fully understand your defeat?

The loser's egg laid by Schmitt was hatched and bred into full maturity by his erstwhile intellectual scion Reinhart Koselleck in his famous essay "Transformations of Experience and Methodological Change." Koselleck honed Schmitt's incidental remarks into a veritable thesis: "The condition of being vanquished apparently contains an inexhaustible epistemological potential," especially when the defeated are forced to elaborate new methodological interpretations of history to account for the disturbing hiatus

between expectation (we will win) and experience (we lost).[107] Defeat is the ultimate defamiliarization exercise, a Brechtian V-effect with high casualty rates. If accepted and pondered, defeat will facilitate a new view of history. By contrast, victory breeds intellectual laziness, since it is liable to confirm established, self-serving historiographical narratives. The loser, thrown to the ground, is closer to the subterraneous movements of history than the winners strutting around on their victorious stilts.

Koselleck was careful to point out that the putative connection between unexpected experiences and viable, intellectually qualified methodological change by no means guarantees that "every history written by the vanquished is therefore more insightful."[108] To wit, many of the accounts written by German historians after the end of World War I are anything but. Yet on a psychological level, defeat certainly becomes more acceptable if the vanquished can show that the winners do not fully understand their victory. The prime exhibit is the success of Oswald Spengler's *Decline of the West*. As a historical analysis, it is questionable; as a communicative offer, irresistible. The unexpected "traumatic" defeat of 1918 is alleviated by administering a nation-sized dosage of prophetic opium: like a flower that grew, bloomed, and is now withering away, Western a.k.a. "Faustian" civilization is going down the drain of money and materialism, after which all historical energy will be spent. Does it really matter, then, who won or lost the war? Spengler wrote the first volume in anticipation of a German victory, but if Germany had indeed won World War I, his grand diagnosis would not have changed.

Furthermore, the very notion of defeat becomes questionable once you can show that what has occurred does not allow for a division into winners and losers because both sides are victims in a larger structural process, as in Tocqueville's grand narrative of governmental centralization or Spengler's morphological *missa solemnis*. War is, as it were, de-bellicized; military defeat is recast as civilizational catastrophe or historical rupture. This is also central to Kittler. As described in the preceding section, his Pynchonesque view transforms World War II into an accelerated techno-structural process marked by a tectonic shift that leads, in almost teleological fashion, to the fusion of hitherto separate technologies. As in the case of Spengler and World War I, the difference between a world in which Germany lost the war and an unrealized world in which the Third Reich was victorious pales in comparison to the difference between a world in which history was still conducted and processed by humans and one in which history, if that word still applies, operates on a machine level far removed from humans.

To conclude, readers of this collection will encounter a theorist engaged in a large-scale *polemodicy*, an attempt to do justice to war. Just as early modern theodicies tried to justify the goodness of God in the face of worldly (read: human) evil, polemodicies justify wars by showing the benefits, or at least the evolutionary necessity, of conflicts beyond all superficial (read: human) input. These conflicts were history as long as the struggles between human institutions and collectives corresponded to the struggles between media technologies. With the merging of the latter into the universal digital infrastructure, the histories of the former come to an end. "Media cross another in time that is no longer history."[109]

But deep down, buried under the notion of war as a giant "laboratory" of death and technology, there is a fleeting promise of freedom, though accompanied by a poignant sense of loss.[110] As Kittler is prone to do, he defers to quotes from *Gravity's Rainbow*. The uncanny quest into "the Zone," the destroyed Third Reich of 1945, is not only a descent into the German heart of darkness; it is also a pilgrimage into an anarchic, psychedelic realm full of dreams of "alternate histories," in which "this War—this incredible War—just for the moment has wiped out the proliferation of little states that's prevailed in Germany for a thousand years. Wiped it clean. *Opened it.*"[111] For a fleeting moment other Germanies seemed possible, maybe better Germanies than those that came to be. Here, Kittler's political stance resembles that of Heidegger and others who regretted the inability of Germany to pursue an alternate third way—neither West nor East—after 1945. Or, rather, an alternate second way, since the two smaller Germanies that existed for a while in hostile tandem seemed rather interchangeable. That, at least, is one of the messages of "Biogeography." In *Gravity's Rainbow*, these aspirations are still alive and flickering across the Zone—but only for a brief instance and with little chance of success, for other centralizing and connective forces are already at work that will soon do away with nations and politics to create a techno-ballistic globe: "Oh, a State begins to take form in the stateless German night, a State that spans oceans and surface politics, sovereign as the International or the Church of Rome, and the Rocket is its soul."[112]

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Editors' Preface

1 Kittler draws on a wide array of arcane German texts, many of which are not available in English. Unless noted otherwise, all translations are our own.

2 Kittler, *Platz der Luftbrücke*, 69.

3 Nietzsche, *Untimely Meditations*, 85.

4 Kittler, *Grammophon Film Typewriter*, 30, to name one instance.

5 "Kittler irrt recht oft, aber weil ihn etwas fasziniert." Kittler, letter to Geoffrey Winthrop-Young, July 5, 2006.

Introduction: The Wars of Friedrich Kittler

1 On this point see Nolan, *Allure of Battle*.

2 Armitage, "From Discourse Networks to Cultural Mathematics," 26.

3 Kittler, *Platz der Luftbrücke*, 63–64.

4 I am drawing on and extending material published elsewhere. See Winthrop-Young, *"De Bellis Germanicis"* and *Kittler and the Media*.

5 Kittler, "Gleichschaltungen," 256.

6 Kittler, *Gramophone, Film, Typewriter*, xxxix.

7 Kittler, "Synergie von Mensch und Maschine," 102.

8 Kittler, *Gramophone, Film, Typewriter*, 95.

9 Siegert, *Cultural Techniques*, 4.

10 Siegert, *Cultural Techniques*, 4.

11 Kittler, *Discourse Networks*, 368.

12 Note that the formula is *not:* Discursive orders change because *media* change. Though the switch to analog media was fundamental for the switch from the Discourse Network 1800 to the Discourse Network 1900, media technologies in the conventional sense of the word played no part in the preceding switch from Kittler's "Scholars' Republic" (Foucault's classical episteme) to the Discourse Network 1800 (Foucault's modern episteme). In terms of gadgetry and hardware, from writing utensils to printing equipment, people wrote and published in 1800 as they had in 1750. What fundamentally changed was the ways in which they learned to speak and write, including the ways in which they spoke and wrote about speaking and writing. While the technologies of writing were

more or less the same, their cultural construction as well as their legal encoding changed drastically. Kittler was never the media theorist he was said to be, and he certainly does not deserve the moniker *techno-determinist*. Even the frequently invoked term *materialities of communication* does not quite cut it. Kittler began and ended as a theorist of cultural techniques and increasingly technologized culture.

13 Eldredge and Gould, "Punctuated Equilibria." For a helpful philosophical take on punctuated equilibrium, see Turner, *Paleontology*, 37–57.

14 Kittler, *Optical Media*, 30.

15 Note that Kittler explicitly states in "De Nostalgia" that he uses the word *deconstruction* "for the first and last time" (chapter 15, this volume). So much for calling him the "Derrida of the digital age."

16 Kittler identifies the martial origins of nostalgia by tying it to Johannes Hofer's 1688 dissertation, which describes the homesickness of Swiss mercenaries (see Hofer, "Medical Dissertation"), but he leaves it at that. The analysis could be extended to the martial habitat of the later temporalization of nostalgia (looking back in time rather than looking home from abroad), since the latter is associated with the adjustment difficulties experienced by post-Waterloo veterans of Napoleon's Grande Armée. For a recent history see Dodman, *What Nostalgia Was*.

17 Kleist, *Battle of Herrmann*, 15, lines 287–90. All following quotes are cited by page and line number. Note that throughout this introduction the name *Herrmann* is rendered as the more established *Hermann*.

18 Kleist, *Battle of Herrmann*, 18, lines 377–81.

19 Kleist, *Battle of Herrmann*, 18, lines 386–88.

20 Kleist, *Battle of Herrmann*, 42, lines 932–34.

21 Kleist, *Battle of Herrmann*, 42, line 937.

22 The quote is from Kleist, *Battle of Herrmann*, 42, line 937.

23 Kleist, *Battle of Herrmann*, 75, lines 1613–20.

24 Kleist, *Battle of Herrmann*, 122, lines 2632–36.

25 See Schmitt, *Writings on War*, 30–74.

26 Quoted in Roberts, *Napoleon the Great*, 423.

27 Clausewitz, *On War*, 165.

28 Vismann, *Files*, 120.

29 Wehler, *Deutsche Gesellschaftsgeschichte*, 397.

30 Clark, *Iron Kingdom*, 338.

31 Clark, *Iron Kingdom*, 338.

32 Harari, *Ultimate Experience*, 193.

33 Condell and Zabecki, "Editors' Introduction," 4.

34 Citino, *German Way of War*, 308.

35 Kant, *Anthropology*, 92.

36 Engelsing, *Analphabetentum und Lektüre*.

37 On the exclusion of the body from reading, see Kittler's "Authorship and Love," which revolves around a Foucauldian contrast between the premodern, physical

reading intercourse in canto 5 of Dante's *Inferno* and the more spiritual joint reading communions in Goethe's *Sorrows of Young Werther*. First, texts hack and program bodies; then they hack and create souls. For a more detailed analysis, see Winthrop-Young, "On Friedrich Kittler's 'Authorship and Love.'"

38 The release of the reader is superseded by the release of the signifier, commonly associated with the work of Jacques Derrida, which gave rise to similar anxieties caused by the renewed prospect of a harmful untethering of meaning. Once again, Kittler is playing a different game and should not be associated with this variant of so-called poststructuralism (a term he rarely used). Regardless of how others may define discourse analysis, for Kittler it was an idiosyncratic variant of one of the twentieth century's great theory dreams: the quest to identify generative rules determining the production of larger texts and utterances as effectively and systematically as phonetic, lexical, and syntactic rules determine the production of sounds, words, and sentences. This is not a release but an information-theoretical containment of the signifier.

39 One powerful reader-domestication mechanism is the author function, which serves to attract and bind reading trajectories. Rogue reading is in part prevented by the new convention that the text has to be read mindful of authorial intention. The great trick, discussed in depth in Kittler's *Discourse Networks*, is the strange effect that every single reader among a potentially infinite number of readers can receive the messages personally, as if they were addressed to her in particular. Authorship, in other words, has a paranoid tinge: these messages, though written to all, appear to be *for me*. The extreme case, chillingly presented in Stephen King's *Misery*, is the reader who claims ownership over the messages and does not shrink from mutilating the author's body if the messages are not to her liking.

40 The quotation is from Citino, *German Way of War*, 18.

41 Kittler, *Platz der Luftbrücke*.

42 Quoted in Kittler, "De Nostalgia," this volume.

43 Nietzsche, "Case of Wagner," 619.

44 For a recent critique of the binary between revolutionary soldiers and old-regime soldiers, see Berkovich, *Motivation in War*.

45 Quoted in Roberts, *Napoleon the Great*, 643.

46 Heine, *Romantic School*, 246. Of course, the real originator is none other than Schiller, with his notion of replacing socially calamitous street-based uprisings with aesthetically and morally uplifting spectacles on theater stages. The weather was already bad around 1800 and revolutions had better take place indoors.

47 Kittler and Maresch, "Wenn die Freiheit wirklich existiert," 95.

48 "Antirevolution" is from Wehler, *Deutsche Gesellschaftsgeschichte*, 397.

49 Singer and Brooking, *Like War*, 206. See also Andriukaitis, "Russia Uses Fake Rape Stories."

50 Kittler, "Take-Off of the Operators," 70.

51 Cronin, "Cyber-Mobilization," 77. Note the use of the verb *emerge*. Mobilization, enmity, and war are not simply the result of deliberate manipulation and toxic

partisan communication; they are an emergent property, in much the same way as the eddies and swirls of a river, once the flow rate is increased, transform into turbulence.

52 Cronin, "Cyber-Mobilization," 79. In a similar feedback loop, as Lisa Gitelman has shown in her book *Scripts, Grooves, and Writing Machines*, Thomas Edison received thousands of so-called idea letters from an admiring public following the Civil War, thus in effect mobilizing the collective imagination of Americans interested and invested in technological advance and, in turn, envisioning the conditions of possibility for advanced forms of mass communication. Mapping a historically specific "climate of representation" (63), which would accrue in Edison's "Private Idea Notebook" (including "ink for the blind" and an "electrical pen" [72, 161]), Edison (and other members of the blue-ribbon Naval Consulting Board) eventually actively solicited input from the public about war technologies following America's entry into World War I. See Gitelman, *Scripts, Grooves, and Writing Machines*, esp. 62–81. Observes Gitelman: "During and after 1917 thousands of letters poured in with ideas for weaponry and other war *matériel*" (77).

53 Guilhaumou, *La langue politique*, 151–56.

54 Cronin, "Cyber-Mobilization," 81.

55 Clausewitz, *On War*, 75 (emphasis in the original).

56 Clausewitz, *On War*, 77.

57 Sun Tzu, *Art of War*, 79.

58 Speer, *Inside the Third Reich*, 56.

59 Kershaw, *Hitler*, 527–89.

60 Speer, *Inside the Third Reich*, 614–15.

61 Armitage, "From Discourse Networks to Cultural Mathematics," 27 (emphasis in the original).

62 Citino, *German Way of War*, xiii.

63 Nolan, *Allure of Battle*, 12.

64 Citino, *German Way of War*, 306.

65 On killer drones, with many nods to Kittler, see Karppi, Böhlen, and Granata, "Killer Robots"; also Packer and Reeves, *Killer Apps*.

66 See chapter 8, "When the Blitzkrieg Raged," in this collection.

67 For a thorough account see Frieser, *Blitzkrieg Legend*.

68 Citino, *German Way of War*, 305.

69 Kittler, *Gramophone, Film, Typewriter*, 111.

70 Kittler, "Synergie von Mensch und Maschine," 90.

71 On this point see Ohler, *Blitzed*, and Kamienski, *Shooting Up*, 104–16.

72 Citino, *German Way of War*, 302. For a different take, see the recent contribution by David Stahel, *Retreat from Moscow*. German frontline commanders retained a greater degree of independence than previously thought and were able to turn the Stellungskrieg against the advance of the Red Army in the winter of 1941/42 into a strategic German success.

73 It is impossible to discuss all this without lapsing into sarcasm. After 1945, German generals developed great expertise in writing winning books about the war

they lost. The basic message is: We could have won, and it's Hitler's fault that we didn't. As Citino remarks, blaming Hitler is safe and convenient: "He had the perfect credentials. He was dead, first of all, and therefore incapable of defending himself; and second, he was Hitler." Citino, *German Way of War*, 269. But this self-cleansing operation would not have worked so well had it not met with the approval of former enemies. The postwar "identification with the Wehrmacht on the Eastern front" (290), based on the expectation that NATO was about to take on the same Red Army, promoted a positive appreciation of those who had gained a lot of experience fighting the Soviet Union a decade earlier— an identification still at work in video games decades later. For an account of the Western romance of the eastern front, see Smelser and Davies, *Myth of the Eastern Front*; for a recent evaluation of Hitler's checkered performance as commander in chief, see Fritz, *First Soldier*.

74 Citino, *German Way of War*, 303.

75 Theweleit, *Tor zur Welt*, 56–58.

76 No doubt Kittler's veneration for Pink Floyd also relates to the way many songs foreground war as a historical, psychological, and technological ground that gives rise to rock music as an abuse of army equipment. In the case of Roger Waters, hailed in "When the Blitzkrieg Raged" as "Britain's greatest modern poet," the ties that bind war and rock allow for a poignant intergenerational switch, hinted at in some of the most famous lyrics in the most famous Pink Floyd song. Addressing himself, the son, Roger Waters, imprisoned in his fame, appears as the replacement of his father, Eric Fletcher Waters, killed in the Battle of Anzio in February 1944: "Did you exchange / A walk-on part in the war / For a lead role in a cage?" Pink Floyd, "Wish You Were Here."

77 Kittler, *Gramophone, Film, Typewriter*, 140.

78 Kittler, *Gramophone, Film, Typewriter*, 258–59.

79 Neufeld, *Rocket and the Reich*, 273–74.

80 Petersen, *Missiles for the Fatherland*, 171.

81 See Neufeld, *Rocket and the Reich*, 274–75.

82 Kittler, *Gramophone, Film, Typewriter*, 259.

83 Zuse, *Computer—My Life*, 91–94. That Zuse was forced to use his parents' basement because he was unable to procure any support from the German military or any other source has been used as an argument against Kittler's claim that war fuels technological advance. Peace would have been better for Zuse and the German computer.

84 Hodges, *Alan Turing*, 299.

85 Armitage, "From Discourse Networks," 26.

86 Armitage, "From Discourse Networks," 25–26. See also Kittler, *Platz der Luftbrücke*, 18–19.

87 Kittler, *Platz der Luftbrücke,* 19.

88 Pynchon, *Gravity's Rainbow*, 701.

89 Pynchon, *Gravity's Rainbow*, 722.

90 Pynchon, *Gravity's Rainbow*, 521 (emphasis in the original).

91 For example, in "De Nostalgia," there are two extensively commented-on quotes from one scene of Schiller's *Wilhelm Tell* and roughly ten quotes from selected scenes of Kleist's *Hermann*, while the whole last third of the essay is a veritable pastiche of Pynchon, with Kittler frequently briefly paraphrasing the many quotes. For an excellent summary of the (Lacanian) paranoia at work in Kittler's theory production, see Schmidgen, "Successful Paranoia."

92 Pynchon, *Gravity's Rainbow*, 520 (emphasis in the original).

93 Kittler, *Truth of the Technological World*, 199.

94 Neufeld, *Rocket and the Reich*, 274.

95 Gumbrecht, *Truth of the Technological World*, 406.

96 Kittler, *Gramophone, Film, Typewriter*, 259.

97 See Pöhlmann, *Panzer*, 491–504.

98 For instance, see Knaack, *Kunst-Schatz des Führers*.

99 There are no fewer than six contradictory accounts of Kammler's death, which has led some to assume that no single one can be trusted. Since at the end of the war nobody knew more about Germany's secret weapons production, speculations abound that Kammler struck a secret deal with the Americans, shared his knowledge with them, and died in captivity. See also Döbert and Karlsch, "Hans Kammler."

100 Petersen, *Missiles for the Fatherland*, 167. For Kammler's role as a building inspector, see the analysis of the "Kammler sequence" in Ingrao, *Promise of the East*, 139–55.

101 "Auschwitz-theoretical" is from Kittler, *Platz der Luftbrücke*, 22.

102 Rubin, *Do It*, 234.

103 Pinchevski, *Transmitted Wounds*, 63. In this context, Pinchevski's contribution is required reading. Making use of Kittler, it is the first study to pursue the historically shifting medial a priori of trauma concepts.

104 Quoted in Blumenberg, *Work on Myth*, 11.

105 Schneider, "Freud-Träume," 139 (emphasis in the original).

106 Schmitt, "Historiographia in Nuce."

107 Koselleck, "Transformations of Experience," 83.

108 Koselleck, "Transformations of Experience," 83.

109 Kittler 1999, *Gramophone, Film, Typewriter*, 115.

110 "Laboratory" is from Pynchon, *Gravity's Rainbow*, 49.

111 Pynchon, *Gravity's Rainbow*, 336, 265 (emphasis in the original).

112 Pynchon, *Gravity's Rainbow*, 566.

Chapter 1. Free Ways

1 [*Trans. note:* See Müller, *Explosions of a Memory,* 129 (translation amended). "Volokolamsk" refers, by way of Heiner Müller's poem "Volokolamsk Highway," which draws on Alexandr Bek's eponymous 1944 novel, to events that occurred during the failed German advance on Moscow in late 1941.]

2 Pynchon, *Gravity's Rainbow*, 755.