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Proto-Algorithmic War

How the Iraq War became a laboratory for algorithmic logics

Stefka Hristova

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Social and Cultural Studies of Robots and AI

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Preface

Throughout modern history, warfare has consistently attempted to harness and showcase the latest available technological developments. At the current moment, we are witnessing the introduction of Artificial Intelligence (AI) technology, shaped by machine-learning algorithms, in the context of war. As Kai-Fu Lee has aptly pointed out in his article for *The Atlantic*,

> Autonomous weaponry is the third revolution in warfare, following gunpowder and nuclear arms. The evolution from land mines to guided missiles was just a prelude to true AI-enabled autonomy—the full engagement of killing: searching for, deciding to engage, and obliterating another human life, completely without human involvement. (2021)

This third revolution is indeed a product of technological and cultural "evolution" in which processes of automation and autonomy were slowly tested and adapted. More specifically, as I argue in this book, the algorithmic logics behind this emergent algorithmic warfare were implemented and tested during the Iraq War (2003–2010) and are further extensions of wartime technocratic processes that emerged in the aftermath of World War I. The Iraq War became a laboratory for developing and testing what a proto-algorithmic and further algorithmic wars might look like.

To think of algorithmic war as a technological and cultural practice requires attention to the policies, politics, and histories that shape it. Such war has come to illuminate the quantification and automation trends that drive algorithmic culture—culture in which every aspect of everyday life is

increasingly being shaped by algorithmic technology. In other words, algorithmic war is a key aspect of algorithmic culture. It is an important site of study because it sheds light on the algorithmic logics that drive contemporary society as for the most part these logics remain seamless and invisible in our day-to-day life. *Proto-Algorithmic War* diverges from previous scholarship on algorithms and war in adopting a genealogical approach in order to elucidate the ways in which algorithmic logics extend nineteenth-century discourses on automation and quantification and in turn point to trajectories invested in techno-determinism and techno utopia. My methodology is rooted in Michel Foucault's notion of genealogy. For Foucault, this method focuses on locating points of continuity and rupture with regard to techniques of visualizing the Other in specific contexts and specific historical periods.

This book details the emergence of nascent algorithmic logics in the contexts of the Iraq War (2003–2010) as part of the War on Terror more broadly and in relation to the British Mandate in Iraq (1918–1932). I situate the Iraq War as a "proto-algorithmic war"—a war that carries over ideas of quantification of populations and territory that emerged in the nineteenth century and a war that has attempted to forecast what an AI-driven military might look like in the future. Through a series of five inquiries into the ways in which the Iraq War attempted—and often failed—to see population and territory as digital and further proto-algorithmic entities, I offer insights into the imaginaries of a future unmanned autonomous algorithmic war.

The Iraq War should also be situated laterally in relation to the 9/11 Al Qaeda attacks on the U.S. and the global War on Terror. As such, it was entrenched in discourses about terrorism and about the role of militant organizations such as Al Qaeda, the Taliban, and rogue governments like that of Saddam Hussein. While in this book I focus on the Iraq War, it is important to keep in mind the larger context of the War on Terror which led to war efforts not only in Iraq but also in Afghanistan and Pakistan.

Chapter Overview

Chapter 1, "Algorithmic Logics and War," provides an introduction to the five core algorithmic logics—big data, taxonomy and classification, replay and simulation, veridiction and truth, and automation and trust. The chapter introduces the concepts of algorithmic culture and algorithmic war and outlines the specific ways in which they are shaped by the five

logics. The Iraq War provided a snapshot of these five logics as they were being developed and tested. Algorithmic logics, however, are extensions of nineteenth- and twentieth-century ideas about quantification and calculation of the world around us. These logics thus can be traced back to the British Mandate for Iraq and forward toward a future in which war is imagined as seemingly unmanned—and yet just as deadly.

Chapter 2, "Data Lands/Data Subjects," focuses on the articulation of the first algorithmic logic, namely the importance of big data. More specifically, it traces the process, technologies, knowledges, and subjects of data *aggregation* in relation to the territory and population of Iraq. With regard to territory, it outlines the importance of satellite data in the Iraq War in constructing what Lisa Park has called "data lands" and the emergence of aerial presence and cartography during the British Mandate for Iraq. The logic of big data also attempted to distill populations into data. During the Iraq War, biometric enterprises attempted to gather data on complete cities as seen in the case of Camp Fallujah, as well as throughout the whole country. This effort resulted in the establishment of a database containing data on over three million Iraqis. Fallujah, and Iraq more broadly, became a laboratory for data accumulation. These events parallel the anthropometric project of Henry Field during the British Mandate for Iraq and its ties to Cecil Edmond's census work. The chapter challenges the idea of big data and the process of aggregation by exposing the gender barriers behind these processes both in the Iraq War and in the British Mandate, where women were recruited to become the main data gatherers for female subjects.

Chapter 3, "Taxonomies of Enmity," engages with the emergence of the second algorithmic logic which aims to articulate taxonomies of enmity. It outlines the political, theoretical, and technological landscape in which both territory and populations were classified as friends or foes. The key process that drives this logic is abstraction. This logic was applied to the articulation of homogeneous spaces and human typologies. Notable here are the emergence of hostile territories as well as "empty" territories and the increasing assessment of their status through artificial intelligence (AI)–driven enterprises such as Project Maven. The discourse of typologies articulated around questions about tribal identities, terrorist imaginaries, and racial hierarchies. During the Iraq War, the taxonomy of enmity was supposed to differentiate terrorists from friendly Iraqis or allies. During the British Mandate for Iraq, an extensive classification schema ranked individuals based on their potential to modernize or whether they

were inherently seen as possessing a criminal mindset or were carriers of disease. These observations were "supported" through the use of anthropometric data. The chapter critiques the logics of abstraction and the subsequent creation of taxonomies by suggesting that such logics validate the idea of the disposable human subject. It offers as a disruptor the complexity of the Iraqi tribal structure in the eyes of the coalition forces during the Iraq War as well as in the context of the British Mandate for Iraq as evident by T. E. Lawrence's writings.

Chapter 4, "Data Replay," explores the third algorithmic logic, namely simulation and its core process of repeating events in time. It focuses on the relationship between training data and real data as it has come to inform both human and computer war training. In the Iraq War simulations, the training data set consisted of objectified, yet authenticated, enemy populations and territories. The dataset reliability was assured either by recourse to authentic population as seen by the "use" of "real" Iraqis in Wadi al-Sahara in a generic "Arab" landscape or by the harnessing of "generic" Arab enemy in "truthful" satellite-imagery-informed terrain as seen in Medina Wasl as well as in the virtual gaming training systems such as *UrbanSim*. Because these training data sets were to make sense to the humans using them, they had to contain likeness to the real, as recognized by human agents. The simulations are further traced to the British Mandate for Iraq where makeshift simulation of targets as well as cross-dressing in local garb also performed similar functions. The chapter ends with a discussion of the human condition, memory, trauma, and post-traumatic stress disorder via the 3D feature film *Billy Lynn's Long Halftime Walk (2016)* as a way to offer a counterpoint that violence can be replicated and enacted repeatedly by machines without moral consideration.

Chapter 5, "Veridiction Training," engages with the fourth algorithmic logic, namely that of matching and its reliance on notions of truth. It signals a shift away from data gathering as relating to highly classified detailed intelligence, to data gathering operating in a binary Go (friend) and No Go (enmity) status. This chapter grapples with the impact of algorithmic technology and computer vision in the context of war on the processes of recognizing friends and foes. It explores different modes of knowing the enemy through a discussion of torture, biometrics, and drone surveillance. It further offers a genealogy to these three parallel methods of information gathering in the context of Iraq, as they operate synchronously rather than sequentially. The significant change that digital technology offered in the process of recognition is a binary structure of what Michel Foucault

theorizes as "veridiction" which breaks with the prior analog framework of "verification." In a proto-algorithmic war, places and people became data subjects or subjects reduced to data objects where the data gathered operates on a binary structure of "true" or "false." This structure was challenged here by concrete instances in which the logic of matching failed, as evident by the case of the mistakenly detained Iraqi journalist Yunis Abbas. Further, it posits the human need and capacity of storytelling. It does so by highlighting the Gladiator Games that were held outside of Fallujah in 2004.

Chapter 6, "Automation, Trust, Responsibility," engages with the imaginary of a nonhuman army and the algorithmic principle of automation. It argues that a key issue here is the articulation of trust. The chapter connects back to the three modalities of war automation as outlined by Michael Horowitz in order to point to ways in which the biopolitics of war are increasingly seen as humans-out-of-the-loop assemblages (2018). It traces the emergence of a robotic army during the Iraq War as 2004 became the year in which robots began to be imagined as a replacement for soldiers in war altogether. Two robots in particular became notable here—TALON and Special Weapons Observation Reconnaissance Detection System (SWORDS). The idea of unmanned-ness is further traced back to the introduction of the aircraft as a weapon during World War I and during the British Mandate for Iraq. The chapter also points to the disparate effect of such a vision: the nonhuman aspect of war is highly asymmetrical as the targets of war are always people whose lives matter.

Chapter 7, "Conclusion: Beyond War," details the ways in which the lessons learned from the implementation of algorithmic logics during the Iraq War have become a ubiquitous and invisible part of the fabric of our contemporary algorithmic culture. Michael Foucault has written extensively about the relationship between war and politics, whereas he theorizes that "'politics' has been conceived as a continuation, of not exactly and directly of war, at least of the military model as a fundamental means of preventing civil disorder" (Foucault 1989, 168). He argues that war strategies become political tactics as means of controlling citizens within the state. In thinking about the relationship between war and politics—and between soldiers and citizens—it is important to trace the ways in which algorithmic logics of securitization developed in the laboratory of war have become common practice in the contemporary algorithmic culture. One example that illustrates the ways the five AI logics have become ubiquitous in culture is the widespread use of facial recognition

algorithms. Today, millions of photographs are scraped from the Internet and put into data sets. Then, this data is sorted into categories—male/female, white, Asian, Black, happy, sad, and so on. When this data is tested against a new subject, be it via the Face ID of your iPhone or the predictive policing algorithms, a match is either confirmed or denied. This confirmation or denial is anchored spatially through the use of Global Positioning System (GPS) coordinates and is also projected temporally in the form of forecasting behavior. For example, through facial recognition algorithms, researchers have made claims such as the argument that liberals in most urban centers take selfies with their heads facing 3/4s toward the camera; prison algorithms have decided that Black subjects are much more likely to become repeat offenders. All of these decisions are made and carried out by autonomous technology. The conclusion of the book points to the multiple ways in which the lessons learned during the Iraq War have come to shape our everyday life and helped usher algorithmic culture.

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Contents

List of Figures

CHAPTER 1

Algorithmic Logics and War

In contemporary everyday culture, algorithmic technology has become ubiquitous. Algorithms drive decisions about education, employment, healthcare, and policing, as well as more mundane experiences such as our social media newsfeed, search engine results, dating matches, and movie recommendations. Contemporary culture has thus become an "algorithmic culture." Under this rubric, culture and society are quantified and further sorted by likeness and difference so that inferences about one's social, political, and economic status can be predicted and then enforced out. This term was first introduced by Alexander Galloway and was fleshed out by Ted Striphas as a way to describe a "data-driven culture" in which cultural decision-making processes are automated (Galloway, 2006; Striphas, 2015). Jonathan Roberge and Robert Seyfert have additionally enriched the discourse on algorithmic cultures by insisting on the plurality of the concept from a sociological perspective (2018). They have made an important contribution to the discussion by insisting on the plurality of algorithmic experiences—rather than algorithmic culture, they have pioneered the term "algorithmic cultures" (5). Jennifer Slack and I have expanded on the usefulness of such definitions in order to "[address] the *connections* that constitute what matters most about algorithms: their integration in practices, policies, politics, economics, and everyday life with consequential political, ethical, and affective significance" (2021, 16). The

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common thread of all of these observations is that artificial intelligence (AI) technology has had a profound influence on almost every aspect of our lives in times of peace or in times of war.

Algorithmic Logics

Algorithmic culture is saturated with a series of common algorithmic types. In her book *Hello World: Being Human in the Age of Algorithms*, Hannah Fry presents a highly versatile definition of an algorithm (2018). According to Fry, an algorithm is "[t]he invisible pieces of code that form the gears and cogs of the modern machine" (2). Fry classifies algorithms based on function in four major categories: (1) prioritization, or making an ordered list (Google Search, Netflix); (2) classification, or picking a category (Advertising and Measurable types); (3) association, or finding links (dating algorithms, Amazon.com's recommendations); (4) filtering, or isolating what is important (separate signal from noise—speech recognition) (8–9). Additionally, Fry argues that based on paradigms, the algorithms can be divided into two main groups: first, rule-based algorithms where instructions are constructed by a human and are direct and unambiguous ("logic of the cake recipe"); and second, machine-learning algorithms which are inspired by how living creatures learn (10–11). Algorithms thus vary in their logic and purpose. They work together in a fractal manner to create larger automation structures based on the principles of "machine learning." As Meredith Broussard has aptly noted, this learning is limited to the ways in which the machine "can improve at its programming, routine, automated tasks" (2018, 89). This "learning" can be further classified into three categories: supervised, unsupervised, and reinforcement (93). What is key here is that by anchoring algorithms in machine learning, a paradigm of training, "learning," and predicting is set in motion as "the algorithms are coupled with variables to create a mathematical model" (94). Algorithms are trained on data sets in order to articulate rules that are then applied to new larger and often real-time data sets. As Valentin Rauer eloquently writes, algorithms "assess political relevance, include or exclude political subjects through indexing, anticipate cycles of attention, promise objectivity and impartiality, shape political practice by adapting it to the relevant algorithms, and present the public with a quantified picture of itself" (2018, 142).

In an algorithmic culture, everyday life has itself become a set of data to be regulated by algorithms. These algorithms operate across industries, public and private spaces, commercial and government agencies, times of war, and times of peace. Contemporary culture is thus driven by algorithms that posture to provide an objective assessment of the world around us and promise accurate prediction of our future. Furthermore, algorithms shape a culture that has embraced five distinct algorithmic logics that describe in general its "algorithmic" condition. These five logics speak to the cumulative effect of algorithmic technology on society.

The **first algorithmic logic** engages with the importance of big data. Algorithms train on a small data set and then are applied to bigger data problems. The primary process behind this first logic is *aggregation*; algorithms depend on the aggregation of knowledge and information about the world into data. Such data had been obtained through force and enforcement in the past. Recently, new modes of surveillance have made data gathering invisible and unannounced to the general public.

The **second algorithmic logic** engages with the creation of taxonomies. Algorithms attempt to sort data into types and to look for patterns and correlations in this data. The emergence of typologies and taxonomies relies on what Gilles Deleuze has called a difference in degree (1994, 3). In creating typologies, subjects or objects must have common features yet be different enough so that they are not confused with each other. Algorithms are unable to find meaningful information in instances that cannot be grouped in types and are thus singular. The primary process behind the second logic is *abstraction* as subjects and objects are reduced into a set of data that can be then sorted based on similarity or difference.

The **third algorithmic logic** is the logic of simulation. Once algorithms have established their categories or typologies in which data is sorted, then every new encounter is accessed only as to whether it aligns with any pre-existing categories. Algorithms train on a small set of data and learn to "forecast" certain outcomes. Subsequently, they are applied to the "real world" or the "testing data" with the hope that the outcomes seen during "training" will be successfully repeated in the testing, hence real-world situation. The primary process behind this logic is *repetition* in time. Algorithms attempt to create "predictions" which—as Wendy Chun has eloquently argued—are nothing more than the repetition of a "highly selective past" (2021, 36).

The **fourth algorithmic logic is** that of matching. Once algorithms have articulated a forecast and are unleashed onto the real world, they evaluate each instance in a binary fashion against an established taxonomy. For example, an algorithm might try to determine if a newly encountered subject is male, or happy, or liberal. The available answers here are "true" or "false" as this logic relies on binary structures and its primary reliance on binary regimes of *truth*. Algorithms very quickly attempt to establish belonging through a series of true/false operations where subjects/objects are matched against existing taxonomies.

The **fifth algorithmic logic** addresses automation as the abovementioned processes are to be carried through autonomous technology. The collection, sorting, forecasting of data as well as the action that follows the evaluation of the data are increasingly performed by autonomous technologies. Algorithms have become "black boxes" whose inner workings are seemingly unknown even to the programmers who created them (Pasquale, 2015). A key process here is the establishment of *trust* between humans and their nonhuman algorithmic counterparts.

Algorithmic War

Algorithms are increasingly seen as central for the future of warfare. The impacts of algorithms on warfare have been the topic of a number of contemporary studies. William Merrin's *Digital War* (2018) and Jonna Eagle's *War Games* (2019) have explored the digital media and simulation aspects of war. In *Killer Apps*, Jeremy Packer and Joshua Reeves have provided an extensive analysis of the ways in which media technologies have been historically harnessed in warfare, especially with regard to recognizing friend from foe (2020). In *Digital War* (2018), William Merrin traces the integration of computing technology and digital media in the "conduct, operation, mediation, and experience of war from 1991 to the present" (2). *War and Algorithm* (2019) by Liljefors, Noll, and Steuer have looked at the ways in which data has been harnessed in war-making decisions. Peter Leyton has detailed the ways in which algorithmic technology has accelerated automation trends within warfare and has made an argument that these changes are significant enough to warrant this new type of war as "algorithmic warfare" (2018, 2). As Paul Maxwell writes,

> The performance of these systems can make them very useful for tasks such as identifying a T-90 main battle tank in a satellite image, identifying

> high-value targets in a crowd using facial recognition, translating text for open-source intelligence, and text generation for use in information operations. The application areas where AI has been most successful are those where there are large quantities of labeled data, like ImageNet, Google Translate, and text generation. AI is also very capable in areas like recommendation systems, anomaly detection, prediction systems, and competitive games. An AI system in these domains could assist the military with fraud detection in its contracting services, predicting when weapons systems will fail due to maintenance issues, or developing winning strategies in conflict simulations. All of these applications and more can be force multipliers in day-to-day operations and in the next conflict. (2020)

These trends are aptly summarized into three major categories by Michael Horowitz: first, the use of artificial intelligence (AI) to direct robotic systems and unmanned vehicles; second, the deployment of AI in the processing and recognition of enemies in photo and video feeds; and third, the reliance on AI in forecasting human action and in battle management (2018, 38). The actual process of transitioning to AI-driven war has been a slow one. During the Iraq War, the military implemented armed robots such as TALON and SWORDS signaling a move toward direct replacement of soldiers with digital technologies and thus marking the first aspect of Horowitz's schema. The second aspect became evident during the biometric projects conducted in the Iraq War as well as in its aftermath when the Department of Defense (DoD) partnered with Google to work on the AI-driven facial recognition project known as Project Maven. The third aspect of an automated nonhuman war engages with the ways in which an AI-driven war would change the structure of the rules and responsibility of warfare. For example, the ethics of AI-driven warfare were outlined in the infamous Department of DoD Directive 3000.09 which aimed to determine when AI can be responsible for the death of people in the context of war. These three properties of algorithmic warfare proposed by Horowitz—the emergence of unmanned vehicles and robotic systems, the processing of large visual drone-based data, and the development of a military strategy based on AI-forecasting mechanisms—map onto the five algorithmic logics and collectively evoke the logics of big data, taxonomy, simulation, matching, and the removal of the human interference.

Artifacts Have Politics

Langdon Winner aptly writes,

> At issue is the claim that the machines, structures, and systems of modern material culture can be accurately judged not only by their contributions to efficiency and productivity, not merely for their positive and negative environmental side effects, but also for the ways in which they can embody specific forms of power and authority. (1980, 121)

Algorithmic logics both in times of war and in times of peace are loaded with cultural bias. Ruha Benjamin has detailed the complex ways that algorithms produce "coded inequity" (2019), while Safiya Noble (2018) brings to light on how search engines reinforce racism. Catherine D'Ignazio and Lauren Klein delve deep into the ways big data and machine learning reproduce gender inequality, as "data-driven decision-making can be just as easily used to amplify the inequities already entrenched in public life" (2020). Virginia Eubanks (2018) powerfully demonstrates how algorithms target the poor and Cathy O'Neil (2017) describes the impact big data and algorithmic processes have on the ability of people to obtain loans, secure insurance, enroll in college, and become employable.

In the context of war, and increasingly in the context of civil society, the success or failure of algorithmic logics can have equally disastrous life-and-death consequences. As Shoshana Magnet has illustrated, "[B]iometric failures, encompassing mechanical failure, failure to meet basic standards of objectivity and neutrality in their application, and the failure to adequately conceive of human subjects and identities that are their purported objects, necessarily call [the objectivity] claims into question" (2011, 2–3). That is to say, even though algorithms fail and their errors can have biopolitical consequences, they are just as dangerous when they succeed. A successfully ran algorithm, as Wendy Chun has aptly pointed out, should itself be examined as evidence of cultural bias as it is built on selective past and utilizes methods such as linear regression which have historically been connected to anthropometrics and eugenics (2021, 2,59).

Following Winner's insight that artifacts do indeed have politics, this book focuses on the heightened biopolitical implication of algorithmic technologies and logics in the context of war. Kenneth Payne of King's College in London was cited in *The Economist* claiming that "[a]lready, an AI system can outperform an experienced pilot in simulated air-to-air

combat" (2019). Further, when it comes to staffing a military force, "robots are cheaper, hardier, and more expandable than humans" (2019). By juxtaposing robots as surveillance and security agents with humans as the subjects/objects to be surveilled and secured, AI logics suggest that there is a qualitative difference in human experience. Those deemed sacred are replaced by robots in order to be protected from harm. Those deemed as "sacrificial" or "expendable" populations are left to the scrutiny of algorithmic vision. Machines here join the expendable category as well. Tracing the logic that soldiers are seen as replaceable by machines and machines are in turn perceived as expendable yet still expensive allows for a discussion of the ways in which death and sacrifice become reconfigured in order to justify future "clean" high-tech algorithmic wars.

The reality of war is much messier and more complicated. The death toll for the Iraq War shows this imbalance of power: close to 4400 U.S. military men and women lost their lives in the war. The number of Iraqi civilian casualties was close to 400,000 (Bump, 2018). Yet, during the war, the American public was subjected to heavy government censorship over the U.S. military casualties of war. This visual regime found its most profound public manifestation in the restrictions imposed by George W. Bush on the photographing and broadcasts of the flag-draped coffins of fallen soldiers during the War on Terror. The ban was lifted in 2009, but it remained a latent and emblematic strategy for the concealment of the human toll of war (Bumiller, 2009). The political strategy to present a "clean" high-tech war with few casualties on all sides was constructed through and reflected in the visual regimes instituted by algorithmic logics.

From Weapons of Mass Destruction to Weapons of Math Destruction

The Iraq War began after false accusations that Saddam Hussein was harboring weapons of mass destruction—namely nuclear, biological, and chemical weapons (Maddox, 2020). Under this media-fueled premise, the U.S. and its allies invaded Iraq in an attempt to remove Hussein, confiscate these weapons, and transform the state into a thriving democracy (Taibbi, 2019). On March 17, 2003, George W. Bush in a public address known as the "48 Hours" speech constructed the upcoming invasion of Iraq as a liberation effort that would provide security not only for the U.S., but also for the world as a whole. He promised the Iraqi people the

opportunity to build a "vital and peaceful and self-governing nation" (Bush, 2003). This nation-state-building process could begin only after a military campaign disposed of the "lawless men who rule [Iraq]." Less than two months later, on May 1, 2003, Bush addressed the American public from the deck of the USS *Abraham Lincoln*, announcing that "[m]ajor combat operations in Iraq have ended." The military campaign in Iraq transitioned from warfare to state-building: "[N]ow our coalition is engaged in securing and reconstructing that country" (Pressing the President, 2003). In 2010, President Barak Obama declared the Iraq War officially over. While May 1, 2003, marked the end of formal military action on Iraq, May 12, 2003, marked the beginning of the American military state-building mission in Iraq. This mission was directed by the Coalition Provisional Authority headed by Paul Bremer. Bremer arrived in Baghdad on May 12 with a "broad mandate and plenary powers" (Dobbins et al., 2009, xiii). The U.S.-led shoring up of the Iraqi state spanned over seven years, as it was not until 2010 that President Barak Obama ended this project.

Armed with drones, robot soldiers, biometrics scanners, and training in simulated environments, the U.S. used the Iraq War as a testing site for its newest military technology—artificial intelligence systems driven by algorithmic logics. The U.S. was to combat weapons of mass destruction with what Cathy O'Neil has termed "weapons of math destruction" (2017, 3). The Iraq War can thus be seen as a proto-algorithmic war.

In order to illuminate the historical and theoretical underpinnings as well as the political and social implications of algorithmic logics, I situate them within a larger historical trajectory of quantification and measurement. Algorithmic culture and algorithmic war are in many ways a crystallization of these forces that have shaped the nineteenth and twentieth centuries and have come to define modernity. Situated within this larger framework, algorithmic culture and algorithmic war exhibit and embody many of the social processes observed by Michel Foucault, Gilles Deleuze, and Felix Guattari. Even though these three authors have not written explicitly about algorithmic culture, their words resonate deeply with the ways in which algorithms were deployed in "training" during the Iraq War and have become a staple of mainstream contemporary culture.

Theoretical Grounding

This project builds upon Michel Foucault's book *Security, Territory, Population* (2007). Security is, indeed, the desired outcome of the manipulation of the variables of territory and population. In other words, governmentality is reliant upon the proper understanding and control over the variables of territory and population. In the context of war, the machinations behind the articulation of what Foucault calls a "society of security" become visible as the "technologies of security are tested" (2007, 11). Algorithmic logics are indeed "technologies of security" that generate economies of power. This book thus provides a genealogy of algorithmic logics understood as "technologies of security." The Iraq War was the training ground of these technologies. Further, this project is conceived as a genealogical account of algorithmic thought in war contexts. Following Foucault's call for "writing a history of the past in terms of the present" and thus "writing a history of the present," I explore the series of fault lines, of partial threads, that help articulate both our past and present engagement with algorithmic war as well as to forecast a few future possible directions in which this type of warfare might develop in algorithmic fashion thus repeating a selective past (2007, 30–31).

Foucault further identifies two major elements that technologies of security shape. First, he calls attention to "spaces of security" and second, he turns to "techniques of security and population" (2007, 11). I take on the connection between territory and population as a key model for understanding the inner workings of security. It should be noted here that I will be using the term "territory" through its cartographic articulation and as a marker of spatiality. As I will demonstrate in this book, in the context of algorithmic war, securitization and governmentality were modeled through the isolation and juxtaposition of quantified subjects and land, namely data subjects and data lands to evoke the work of Gilles Deleuze, Derek Gregory, and Lisa Parks. The first four algorithmic logics transformed territory and population into quantified metrics that can be then modeled, controlled via probability, and forecasted. What is new with algorithmic thought is the increasing reliance on the automation of these processes via the fifth algorithmic logic. Here security has come to be defined as the enforcement of algorithmic decisions. The first four algorithmic logics allow for the implementation of the fifth. The fifth logic points to the emergence of autonomous and increasingly unmanned

security apparatuses that gain legitimacy because they are data-driven yet lack moral or ethical responsibility.

The first logic, that of big data, has transformed territory/terrain and population into data. In the context of this new social order of AI-driven "society of security," according to Deleuze, "individuals have become '*dividuals*,' and masses, samples, data, markets, or '*banks*'" (1992, 5). In this condition, people emerge as what Deborah Lupton has termed as "quantified selves" (2016). Further, as individuals become data or "dividuals" that can be measured and distributed, "*societies of sovereignty*" transform into "*societies of control*" (Deleuze, 1992, 3–4). I extend the notion of the "dividual" understood as the data-constructed individual to notions of territory. Building upon the work of Lisa Parks (2017), I argue that the Iraq War was conducted simultaneously by and against "dividuals" in data lands even though in practice it was real, deadly, and absolutely rooted in the materiality of the physical terrain and the human body. These "dividuals" are further positioned in relation to a set of Global Positioning System (GPS) coordinates. For example, facial recognition algorithms mapped out noses, eyes, eyebrows, and so on into a set of coordinates, much like GPS systems reduced our understanding of place to a set of cartographic coordinates. In the context of Deleuze's "dividuals," faces became face-landscapes to be processed by algorithmic faciality machines. The logic of data that has been applied to both territory and population is indeed an inherently cartographic one: it distills both into a set of coordinates, a set of quantitative data.

The second logic—the logic of taxonomy—speaks to what John Cheney-Lippold has defined as "measurable types" (2017). Here faces and landscapes are distilled into features and further grouped into habits and habitats. The processes of clustering, where territories and populations are seen as coherent types, seek to install regimes of homogeneity. They are dependent upon the establishment of common features as well as points of differentiation. Its logic is embedded in a balance between difference and repetition, to evoke Deleuze's language again.

The third logic, that of simulation, is connected to processes of repetition through time. Algorithms seek predictability. They train on a set of data and attempt to create reproducible in time outcomes. This process of forecasting is what makes an algorithm a "good" or "valid" one. Here the algorithmic logics harkens to notions of optimization of behavior through repetition. War, both in the larger context of the War on Terror and World War I, out of which the British Mandate for Iraq emerged, was simulated

in advance of major battles and in its aftermath. This commemorative simulation of war as a way to "relive" it became grounded in 3D technology—be it augmented reality (AR) games or 3D films. Both instances build upon the stereographic technology of the 1880s and the practice of recording war as a 3D event evident in the extensive Underwood and Underwood 3D stereographic collections of World War I. Indeed, the Iraq War was "brought home" in the form of a simulation as a media spectacle (Mirzoeff, 2005). For those who participate in the war, however, the war is both unreproducible and traumatic. Evoking Deleuze's work on difference and repetition, I argue that the human experience of war is singular, non-generalizable, and indeed extremely traumatic.

The fourth logic of matching engages with the verification of the subject or object and calls into play the process of veridiction articulated by Foucault. I argue that in the War on Terror, and in the Iraq War in particular, this process was shifted away from logics of verification into those of situational truth or veridiction. In this proto-algorithmic war, the visual regime of veridiction was articulated to the logic of computing technologies in order to categorize an unfamiliar diverse population into a binary simplistic schema consistent of true and false, therefore friend or foe, and thus "go" (allowed to move through the country) or "no go" (destined to be detained). The digitization of veridiction as the primary goal of biometrics is evident in the automation of the recognition method, the conversion of the archive into database, the transition away from the anthropological station onto mobile dispersed data-gathering enterprise, and replacement of scientific expertise with easy-to-use automated intelligence.

In *The Birth of Biopolitics*, Foucault uses the term *veridiction* to uncover the emergence of governmentality—"a new art of government [in which] the organization of numerous and complex internal mechanisms whose functions […] is not so much to ensure the growth of the state's forces, wealth, and strength, to ensure its unlimited growth, as to limit the exercise of government power internally" (Foucault, 2008, 27). He argues that during the eighteenth century it was the market that became the locus of this new truth regime as it was through an assessment of the market as good or bad that the efficacy of the government can be measured: "The market must tell the truth (*dire le vrai*); it must tell the truth in relation to government practice" (Foucault, 2008, 32). In other words, the market, as a site of veridiction, became "a site of verification-falsification for governmental practice," of determining "correct" and "erroneous"

government practices based on a standard of truth rooted in the prices in a market. The natural mechanisms of the market thus constructed a "regime of truth" that could "falsify and verify" government practice (Foucault, 2008, 32). I extend Foucault's notion of veridiction in relation to governmentality to the context of the Iraq War in order to illuminate the ways in which militarized state-building in Iraq sought a regime of truth grounded in the individual body. The verification and falsification of government practice were to be based on the identification of Arab friends and foes. Whereas verification in relation to the body has historically been connected to unique identification and complex classification, in the context of veridiction, verification is always and already coupled with its opposite—hence falsification. The militarized governmental practices in the proto-algorithmic Iraq War were to be measured as correct or erroneous based on the ability to demarcate and confine foes of the state based on a binary simplistic "enemy/friend" labeling system, rather than based on the ability to endow each foe with a unique identity. U.S.-led governmentality in Iraq attempted to establish and secure the country both through the growth of the disciplinary state forces and through the curtailment of U.S. influence under the banner of the forthcoming free Iraqi state. Its effectiveness was to be measured based on the occurrence and positioning of naturally existing foes of the state.

Foucault further argues that veridictional questions were installed in the heart of the modern penal system through the replacement of the question "What have you done?" with the question "Who are you?" (Foucault, 2008, 34). The question "Who are you?" was to provide a regime of truth for the penal system, rather than directly for governmental practice. As Joseph Pugliese has eloquently argued the question "Who are you?" becomes the "foundational question of biometric technologies" and "is repeatedly made coextensive … with the question *what are you*" (2010, 1). Building upon the work of Foucault and Pugliese, I position the fourth algorithmic logic as accelerating the cultural and technological shift in knowledge about places and people away from verification and toward veridiction.

The fifth logic of automation raises the contested issue of trust between human and nonhuman agents of war. Here algorithms are mobilized in a "drone-like" fashion in order to imagine a future governed by "fully autonomous algorithmic agents" (Rauer, 2018, 144). This automation also points to the breakdown between the human-to-human connection in warfare, even for parties on opposing sides. The mediation of

technology indeed causes a dangerous disconnect where the victims of war are seen as nonhuman targets. The process of automation aims to remove the moral responsibility in warfare as it attempts to delegate decision-making as well as execution of biopolitical actions onto the technology itself. This fifth logic couples nonhuman truth regimes with nonhuman trust bonds. What is significant here is that this logic relates directly to the question of security. Foucault defines the apparatus (*dispositif*) of security, as "based on the same matrix, with the same penal law, the same punishments, and the same type of framework of surveillance on one side, and correction on the other" (2007, 4). This model relies on the insertion of "the phenomenon in question, [in this case theft], within a series of probable events; the insertion of "the reactions of power to this phenomenon … in a calculation of cost"; and the replacement of "a binary division between permitted and the prohibited" with "an average considered as optimal on the one hand, and, on the other, a bandwidth of the acceptable that must not be exceeded" (2007, 6). Security, in other words, relies on the calculation of risk. In the context of algorithmic culture and algorithmic war, the fifth logic transforms security into enforcement of algorithmic decision-making. It launches and strikes with its "weapons of math destruction." All previous logics support the implementation of this fifth logic and the imaginary of a performative futuristic "clean," high-tech war that is seemingly "nonhuman."

The British Mandate for Iraq

In an algorithmic war, the emerging "society" of security is driven by algorithmic technologies of security. The implications of the automation of the processes of securitization go beyond the context of war yet were heavily justified by it. This process of rationalizing the use of technologies of security is evident in the discourse of lawlessness and danger associated with Iraq both during the Iraq War and during the British Mandate for Iraq. Building upon the work of Derek Gregory (2004), Shareen Blair Brysa, Karl E. Meyer (2008), and Toby Dodge (2003), I contextualize the Iraq War as exemplary of the "colonial present." However, I take this comparison to task by offering a detailed examination of the ways in which digital and analog visualization technologies have been historically coupled with state-building policies rooted in war, liberalism, discipline, and security. I take on Gregory's critique of Foucault in *The Colonial Present* as well—techniques of visualization that emerge in the context of modernity in

order to articulate the Western subject are always and already imbricated in the distinction of the colonial Other as "mysteries, capricious, and excessive; or irregular, multiple, and labyrinthine" (2004, 4). This comparative structure operates on the levels of the political as well as the technological. The political structure here echoes the structure of the mandate and carries with it the logics of both discipline and security. The neo-mandatory structure of the colonial present carries parallel tasks of state-building through increasingly computerized and automated proto-algorithmic or algorithmic technologies. Algorithmic logics themselves have also been discussed as creating a new colonial order. As Karen Hao writes, "AI is repeating the patterns of colonial history" (2022). It is this premise that this book details in exposing the ways in which algorithmic war was tested in the Iraq War and is further rooted in political and technological imperial logics that were instituted by the British Mandate for Iraq.

The "evolution" of autonomous warfare needs to account for the digital technologies implemented during the Iraq War as well as for the processes and logics of quantification and automation that became nascent in the aftermath of World War I. Throughout the book, I will trace the algorithmic logics tested in Iraq to both the Iraq War and the British Mandate for Iraq as they highlight a longer trajectory of war automation—one that has been carried out on the same territory over the span of a century. In order to understand why Iraq has been the locus of such testing, it is important to highlight the mandate structure to which it was subjected as it authorized British military technological exportation into processes of automation. The political structures of the British Mandate, Operation Desert Storm, which came to be known as the first Iraq War and the Gulf War, and the Occupation of Iraq during the Iraq War by the U.S. provided a similar political climate in which warfare technologies and techniques can be implemented and improved. In this book, I focus on the British Mandate (1918–1932) and the Iraq War of 2003–2010 because of the substantive effort in militarized state-building that followed the initial stages of active combat. However, the importance of Desert Strom/Gulf War in this evolution toward algorithmic warfare on the territory of Iraq should not be underestimated.

The mandate system was adopted by the League of Nations as a hybrid formation somewhere between a colony and an economically dependent state. Its application after World War I was not, however, uniformly accepted or applied to all colonial territories. The League of Nations was

founded shortly after the end of World War I in an effort to create an international organization that would prevent future global wars and would guarantee peace. In 1954 it was succeeded by the United Nations, which adopted most of its ideas and even a large portion of its structure. According to a 1939 report delivered by James C. Hales to the Grotius Society in Britain, the mandate system seemed more politically viable for the territories Turkey and Germany had lost at the end of the war (1939). Mandate states were instituted in Mesopotamia and Syria. The Iraqi state was thus created in 1932 out of the British Mandate for Iraq, which began with the defeat of the Ottoman Empire during World War I. Iraq emerged officially in 1924 as a mandate state under Article 22 of the Covenant of the League of Nations and became an independent nation-state in 1932. Historians Majid Khadduri (1960) and Hanna Batatu (1978) have provided a detailed historical overview of the emergence of this new nation under the supervision of the League of Nations and the more concrete guidance by Britain. Historically then, in Iraq, war has been consistently synonymous with state-building.

As James Hales further argued, the mandate system created a "trust of merely temporal nature" (1939, 91). With an end date in sight, some of the mandates posed as colonial regimes with an expiration target. The mandate system outlined a three-tiered system of state-management. Iraq belonged to Tier A—a category that suggested eventual independence but gave no clear timeline. Colonial subjects were seen as capable of progressing into full participation in modernity, rather than as mere savages forever relegated to a state of premodern backwardness. The Iraqi people, following this trajectory, were seen as a largely reformable social body in which the forces of modernization were to be fostered as well as simultaneously harvested in favor of the British guardian.

Another major difference between the colony and the mandate explicated by Hales is the overarching structure of the League of Nations, which was to monitor the work of the guardian in the mandatory system. This international differentiated the mandate from the colony which is "administered under the guidance of the 'mother country' without appeal against any abuse existing in the administration other than remedies provided by the colony's constitution" (1939, 204). International supervision was supposed to curb the abuse of the "natives" by the colonial "settlers."

Mandatory guardianship took on a distinctively militarized form and, despite being distinguished from the colony by virtue of its temporal

nature and international oversight, was still modeled after the colonial structure. Iraq was first managed by the India Office and subsequently by the Colonial Office. British officers, who had previously served in the India Office, administered Iraq and adapted the imperial structure developed for India to this assignment. New Anglo-Indian laws replaced the old Turkish laws, a new constitution based on Australia and New Zealand was put together, new official currency of exchange—the Indian rupee—was instituted, and a primarily Indian-staffed police force and army took over the territory of Iraq (Marr, 2004, 22). In a benevolent effort aiming to fulfill the "white man's burden," Iraq was modeled as a mandate after a colonial—or semiautonomous—state, rather than the imperial Western European independent nation-state. From its inception, Iraqi was constructed as a state-building project to be logistically carried out by the British imperial military under the guidance of the Colonial Office.

According to Mark Cater Mills, the mandate system was proposed by the South African statesman General J. C. Smuts. It "would have seemed to have been evolved from two sources: first, from the colonial system of the British Empire as General Smuts knew it, and second, from his special knowledge of the needs of backward peoples and colonial dependencies" (1923, 52). This interstate guardianship structure was then incorporated by President Wilson into the American draft of the League of Nations Covenant (Mills, 1923, 53). The mandate system was implemented under Article 22 of the Covenant of the League of Nations as part of the Versailles Treaty following World War I. It instituted a guardian structure for nation-states seen as unable to govern themselves and was considered at the time "the proper relation between advanced and backward peoples" (Wright, 1926, 769).

British politicians working in Iraq, as well as British lawmakers working contemporaneously to the mandate system, saw the mandate structure not as a complete novelty, but rather as an extension of the English Law of Trust onto the Orient. In other words, the British Mandate for Iraq was structured not only in relation to the larger British colonial system, but also, more specifically, in relation to the British experience in India. According to Lt. Cl. Sir Arnold T. Wilson, British civil commissioner in Baghdad in 1918–1920 under the India Office and predecessor of Sir Percy Cox,

> [T]he Covenant created a new status, but although the mandatory system bore a Roman name, it was not a new conception, it was the offspring of the

> English Law of Trust, implicit in the proclamation of Queen Victoria promulgated at Allahabad in 1858. It has been the guiding principle of British statesmanship for 100 years and has been applied by us to practice on the Arab Coast of the Persian Gulf and elsewhere for over a century. (1931, 252)

The historical genealogy of the mandate system evoked by Wilson is based on a lecture by D. Campbell Lee from 1921 on the Mandate for Mesopotamia (Lee, 1921). Lee argued that the system of the mandates was based on the Law of Trust and as such was an attempt to move away from the old European imperial structures. The mandated state was emptied out of its previous sovereign and was put under the temporary total jurisdiction of the guardian sovereign. Without a sovereign, Lee claimed, what was left were backward people that need to be guided into modernity and away from a "state of war/nature": "[W]hen the world once grasps the idea that a Mandatory is simply and only a trustee for backwards people. … Then the first stone of the foundation of the Temple of Peace will have been laid" (1921, 9). Based on the private/family law of guardianship premised upon the death of the sovereign and the immaturity and/or backwardness of his successors, the mandate system emerged as a righteous, and even generous, endeavor.

Strong parallels can be drawn between both the policies and the rhetoric outlining the present American and past British militarized state-building efforts by juxtaposing the United Nations Resolutions on the State of Iraq in 2003 with the League of Nations reports from 1924. According to the Security Council Resolution 1511 from October 16, 2003, Iraq, although an independent nation, is placed under the protectorate of the Coalition Provisional Authority (CPA) which is to work with the Governing Council—the Iraqi interim administration—until "an internationally recognized, representative government established by the people of Iraq is sworn in and assumes the responsibilities of the Authority." This process was based on the "evolving structures of the Iraqi interim administration" (United Nations, 2003). This language offers strong continuity to the mandatory rhetoric outlined by the League of Nations.

The Iraqi state was seen as needing to progress through evolution rather than revolution in order to become a sovereign entity. This déjà vu scenario of state-building was also noted in the memoir of Mark Etherington, a former British paratrooper, who in 2003 was put in charge of a small CPA team charged with overseeing the Wasit Province in Iraq (2005). He writes that when he was appointed as a governorate

coordinator, "Ambassador Paul Bremer had said that the job resembled being a DC (District Commissioner)," a title that Etherington considered to be "quasi-colonial" because it was based on the Commissioner positions that existed in imperial Britain (2005, 3). It would be thus appropriate to describe the Bush administration's state-building efforts in Iraq as "neo-mandatory."

Similar to the events in 1924, the UN Security Council approved a move toward a new constitution and democratic electoral process under the guidance of the coalition (United Nations, 2003). In Resolution 1546 from June 8, 2004, the council validated the dissolution of the Iraqi Governing Council and saluted the institution of the Interim Government of Iraq, marking the next step toward democratization (United Nations, 2004). The resolution explicitly called this structure of supervision a "mandate." Resolution 1546 was an important step toward legal sovereignty since the CPA would cease to exist on June 30, 2004. The United Nations and the multinational forces occupying Iraq had moved from the front seat to the side in this march toward progress, acting as advisers and supporters—a strategy similar to the adviser role that the British played when Iraq was first constituted as a modern nation-state.

The state-building efforts in the 2003 Iraq War closely resemble the mandate system of the 1920s and 1930s. There are strong similarities between the two enterprises—an argument briefly considered by Thomas Grant in his article "The Security Council and Iraq: An Incremental Practice" (2004). Grant does not refer to the British Mandate for Iraq specifically, but rather hints and the similarity between the current approach and the mandatory system—"[Resolution 1483] may well be seen as a mandate to the coalition to take whatever steps necessary to resuscitate Iraq as an independent state-though the term 'mandate' and its extent are controversial, echoing earlier controversy between Anglo-American and continental blocs at the United Nations. Indeed, the Security Council has hardly left all division behind" (2004, 825). Iraq from 2003 to 2010 can be unapologetically considered as a neo-mandate state. Understanding the political climate in which quantifying—and later algorithmic—logics have been deployed to notions of security, territory, and population is key. The justification of the deployment of these logics has been precisely an argument that the places and people which they attempted to regulate were backward and unruly. They, too, were considered subjects in the "wild" that need to be recorded, sorted, and managed. The discourse of "in-the-wild" will come to define algorithmic data-gathering process and will form subsequently the backbone of big data.

Conclusion

The Iraq War consisted of three main stages—the initial war of regime change, the counterinsurgency war, and the civil war that followed American withdrawal—and came to be known as a high-tech war, a war in which technology was the key asset of the U.S. military. This war, however, has a historical legacy in terms of the technologies as well as the politics. As a high-tech war, it extended discourses about the quantification and regulation of territory and population in the name of security. It also did so in a neocolonial context as it echoed the political discourses of the British Mandate for Iraq in the aftermath of World War I. As such, the Iraq War harkens both to the colonial past and to an algorithmic future of warfare.

With its precision-guided missiles, drone attacks, and biometric security encampments, the Iraq War postured as a clean war. The reality of the war was quite different. The Iraq War has come to be remembered as a series of shameful events where failures were caused by human agents of war. The Abu Ghraib tortures emerged as the epitome of this supposed human failure even though torture was a standard operating procedure in war. The Iraq War was thus taken up as an opportunity to explore the balance between human and technological powers in the context of a proto-algorithmic war. The disconnects between faulty humans and the promise of superior smart technology have continued to drive ideas about war to the present. It is by historicizing the five algorithmic logics of warfare that we can disentangle the biopolitical stakes of warfare: past, present, or future.

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CHAPTER 2

Data Lands/Data Subjects

During the Iraq War, in the face of extreme difficulty in distinguishing friend from foe, the U.S. military developed a robust surveillance system that collected a vast amount of satellite data about the territory of Iraq and further gathered the biometric data of three million Iraqis (Stockman, 2010). Satellites were deployed in an effort to guide war: "The U.S. National Imagery and Mapping Agency (NIMA) uses imagery from National Reconnaissance Office (NRO) satellites to chart the globe" (The Satellite Wars, n.d.). As Shoshana Magnet has argued, "[B]iometrics are celebrated as perfect identification technologies," yet they often fail (2011, p. 19). The biometric database created during the Iraq War featured the "names, facial scans, and often other details […], such as whether they were considered a friend or foe" of three million Iraqis (Stockman, 2010). It has remained in indefinite possession of the U.S. Central Command and functions as a test bed for algorithmically defined machine-based learning surveillance of enmity despite its flawed nature (Ackerman, 2011).

Algorithmic Logic One: Big Data

Data accumulation has historically been a staple of statistical modeling. In the context of algorithmic modeling, however, it serves as the core principle that enables the first major logic behind algorithmic technology—big

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data. Big data usually contains millions of assets that are used as testing and training data. Big data itself has "volume (enormous quantities of data), velocity (is generated in real time), and variety (can be structured, semi-structured, or unstructured)" (Lindgren, 2020, p. 10). The algorithm reads through a large amounts of data in order to find patterns and correlations and thus to create a model of behavior. After a model is created, this model is then applied to the real world, which is called now testing data. If the testing data behaves similarly to the training data, the algorithm is seen as successful. In order for data to be useful, it needs to be unique yet relatable; repeatable data or data that are truly singular are useless to the subsequent algorithmic logics.

Big data, however, are neither accurate nor unbiased. An investigation in the methods, categories, and scope of data collection can reveal hidden power structures that shape the algorithmic model that follows. When examining the ways in which territory and population have been historically reduced to data and became big data more recently, it is productive to adopt what Catherine D'Ignazio and Lauren Klein have called "*data feminisms*: a way of thinking about data, both their uses and their limits, that is informed by direct experience, by a commitment to action, and by intersectional feminist thought" (2020). Taking a data feminist approach toward big data necessitates an investigation into power relations, rethinking of binaries and hierarchies, embracing pluralism, considering the inequality of social relations, and highlighting the labor behind big data (2020).

Algorithmic Logic One Core Principle: Aggregation

While I engage with the hierarchies and binaries that big data produces in the next chapter, here I focus on the processes of data collection when it comes to both territory and population in the contexts of the Iraq War and the British Mandate for Iraq. The Iraq War saw a heavy reliance on GPS data which was gathered from satellites. In terms of population, it also initiated intensive biometric data collection through both border surveillance and the introduction of handheld biometric scanners and biometric badging. Similar projects were carried out during the British Mandate when mapping the new state was done through both on-the-ground surveyor work and aerial photography. During the Mandate, the first major anthropometric study of Iraq was carried out by the anthropologist Henry Field while the British governing body engaged in its own data-gathering census project. In thinking about the messiness of data, I consider the disruptive impact of the female data subject and female data

collector. Both during the anthropometrics enterprise led by Henry Field and during the biometrics project driven by the U.S. military, Muslim women became a complex subject of data gathering requiring the deployment of female data collectors. The implementation of data collection was further derailed by cultural codes around the female body and more specifically the Muslim female body. Conceived as a masculine enterprise, the logic of aggregation found resistance when encountering female subjects. American women were brought on board of the data aggregation process when the biometric and anthropometric technologies faced Iraqi women. Through an engagement of the stories about the U.S. military female Lioness soldiers who conducted searches and collected biometric data of female Iraqis at check points and about Henry Field's female assistant Winifred Smeaton Thomas, I shed light on the messy intersection of feminism, data aggregation, and war.

Territory as Data

The distillation of territory into data is part of a larger narrative that examines the emergence of the map as a set of coordinates and the proliferation of GPS location data as the primary mode through which space is perceived. Greg Milner's book *Pinpoint* details the advent of GPS technology in the aftermath of the Cold War and its impact on culture. Milner outlines the ways GPS technology has led to a detachment with our surroundings as it champions strip maps over comprehensive maps—maps that "depict only the spatial relationship between two points: an unbroken line surrounded by blank space" (2017, p. 166). William Rankin has eloquently articulated the epistemological shift that GPS technology has produced:

> In the early twentieth century, there was a very tight link between representational maps and a certain ideal of the territorial state. … But with the full-scale, pointillist logic of coordinates, there is no longer a tight relationship between geographic legibility and political authority. (2016, pp. 3–4)

A number of important changes are noted here. Whereas comprehensive maps engaged with representation of the territory described the landscape as a multidimensional structure with depth and detail, GPS data shifted attention away from "area" and toward a "point" (Rankin, 2016, p. 3). This transition is crucial in rethinking the ways in which "spaces of

security" have been historically articulated. Understood as area, spaces of security were documented by cartographers as well as aerial photographers. In historical terms, during the British Mandate, aerial photographers and on-the-ground cartographers were gathering data about "areas of security." The Gulf War, which took place in Iraq in 1991, provided an important early milestone for the use of GPS technology in war. As Greg Milner writes, this war introduced "the idea that warfare was not bound by geography" and GPS technology "held out the promise of weapons whose precision was derived from GPS, rather than merely aided by it" (Milner, 2017, p. 68). The Gulf War has been hailed as the "first satellite war" (Anson & Cummings, 1991). The Iraq War actualized this promise by coupling GPS technology with digital media for the purposes of warfare itself—here satellites guided drone attacks, policies of population segregation, as well as on-the-ground manhunts for rebels. It came to be the first GPS-driven war—the first time the U.S. had expressed its dominance from space (Wilson, 2003). In the Iraq War, the GPS-driven logic of data gathering mounted a series of points, of disembodied coordinates. These coordinates were connected to automation technologies in order to deliver missile strikes, drone attacks, and so on. The data facilitated for the emergence of a system of interlinked "points of security." Further, with GPS technology territory could now be imagined as "something separate from sovereignty" (Rankin, 2016, p. 4). This decoupling of territory from sovereignty is important as it fuels the fifth algorithmic logic of automation.

In understanding the transformation of territory into an accumulation of data points, it is important to note the role of the grid as a structuring mechanism that has made the idea of the coordinate possible. Distilling territory into a grid was essential for the creation of maps in general and proved central to the development of GPS technology and thus for autonomous technology that sees precision as one of its goals. The grid is an instance of the table or the tableaux which aims to institute order in a landscape of disorder. As Foucault argues, "[t]he first great operation of discipline is … the constitution of *'tableaux vivants,'* which transform the confused, useless or dangerous multitudes into ordered multiplicities," thus allowing for the distribution, analysis, and control of the bodies structured by its cells (1989, p. 148). Tables, as "grids of specification" are "systems according to which the different kinds of [objects] are divided, contrasted, related, regrouped, classified … as objects of … discourse" (1969, p. 42). The visual tableaux vivants organize visual representations and have structured the determination of friends and foes in Iraq as well as

here at home—namely the cell disciplinary technique of the grid being applied to the body as well as territory.

In relation to territory, gridding has been prevalent in the construction of maps that originate with the rise of the cartographic state in the early nineteenth century. This type of sovereign organization relied on exclusive territorial authority and discrete boundaries (Branch, 2014, pp. 8–9). This particular political organization, according to Jordan Branch, was driven largely by the development and production of mapping enterprises that structure territory as "homogeneous and geometrically divisible" surface (pp. 8–9). Conceptions of homogeneous territory produced through mapping have given rise to a "modern notion of boundary-defined political spaces" (p. 21). The national territory is no longer a collection of unique places, but rather empty—thus scalable and conquerable—space (p. 55). The modern conception of territory as homogeneous space, which as Branch argues, has carried over to today's digital cartographic efforts, and is predicated upon modern cartography's adoption of Ptolemaic principles (p. 51). Developed by Claudius Ptolemy in the second century AD, popularized during the Renaissance, and upheld into digital mapping, these principles reduce Earth to a "celestial coordinate grid" (p. 52). Modern mapping functions thus as a disciplinary mechanism and as an example of what Foucault calls the cell technique. The reduction of historical place into historical space that is both homogeneous and empty has rendered empty territory as irrelevant and reduced the landscape to an array of coordinates representing key grid intersection points.

Areas of Security

During the British Mandate for Iraq, the focus on data collection was on "areas of security" as provisional maps of the Middle East became popular. As William Rankin demonstrates, the Royal Geographical Society in Britain amassed more than a hundred maps of Europe and the Middle East in order to support the British War Office in its military campaigns during and post-World War I (2016, p. 56). These maps, as Rankin argues, were not geographical, but were instead described as "provisional" and their use was mostly "political" (p. 57). This expedient mapping project was delivered both through aerial photography and through on-the-ground surveys.

The Special Report on Iraq from 1931 outlines the scope of post-World War I mapping conducted by the mandatory government (Great Britain, 1931, p. 202). The report outlines the transition of the Survey Department away from the military and to the civilian government in 1920. Surveyor work was conducted initially by "Indian personnel" and later by trained Iraqis (p. 202). The surveys were focused on the "cultivated portion of the country" and the report details that in 1922, 1206 square kilometers had been surveyed while in 1930 that number had risen to 9217 with a total of 34,000 square kilometers surveyed in total (pp. 202–203). This work was also supplemented by the development and distribution of maps. The report points to an increase of map making from 37,139 copies in 1922 to 113,485 copies in 1930. These maps are associated with land settlement and focus on the "cultivated" or irrigated parts of Iraq (p. 203). Maps were also needed in order to map properties in the larger towns. Here, because the existing descriptions were "vaguely and inaccurately worded," the British Administration for Iraq relied on "aerial photographs prepared by the Royal Air Force" in order to speed up the process of mapping larger towns (p. 204). The deserts and mountains were seen as less accessible and less important to the survey. They were to be "known" through aerial photography exclusively.

Nicholas Rankin has discussed the rise of British aerial photography as parallel to aircraft technology at length. Rankin writes that

> British military ballooning began in 1878–9, first used in the field by the Royal Engineers Balloon Company, who kept an observer aloft for seven hours in the 1885 campaign against the Mahdi in the Sudan. In the Boer war, sappers took reconnaissance photographs from balloons, and in May 1904, they first transmitted and received wireless communication while aloft. By 1914, all kite-balloons that were fastened to the ground belong to the Royal Flying Corps and the ones that were tethered to ships to the Royal Navy Air Service. (2008, p. 18)

During WWI, Aerial Photographic Reconnaissance (APR) helped construct "a scientific record of terrain from overlapping oblique and vertical pictures, which could be scrutinized in detail and matched to a map" (Rankin, 2008, p. 23).

As part of the British Mandate for Iraq, as Caren Kaplan has argued, "[A]irpower became one of the preferred modes of control—making long distance supervision possible through surveillance and the constant threat

of attack" (Kaplan, 2011). More specifically, as Priya Satia writes, "the Royal Air Force (RAF) patrolled the country from a network of bases, bombarding villages and tribes as needed to put down unrest and subversive activities" (2006, p. 16). This patrolling allowed for a new form of geographic knowledge—one that turned the seeming vast, flat, empty, monotone deserts (the terrain that tribes, the foe par excellence, inhabit)—into navigable and *cartographable* space that could be managed through "radiating" power in the shape of British bases (p. 28). Air power and aerial vision thus became necessary in the policing of the empty terrain of the desert rather than the landmarks of the city (Fig. 2.1). The "radiating" power accomplished through air control "was designed for a population conceived as congenitally insurgent, an always incipient guerilla army lacking any agency but available for exploitation by an external agent" (p. 31). In other words, in the flat and empty desert, tribal populations, perceived as both nomadic and sporadic, were to be surveyed and thus controlled by an "offsite," yet always available, air power. This visual regime created a "classic panopticon": "[A]ircraft, like conspiracy thinking, provided the security of *imagined* omniscience to an empire in the throes of rebellion" (p. 32). Tribal nomadic populations, as well as villages seen as subversive

Fig. 2.1 Rutba wells. From lower altitude showing desert track to Baghdad. (Photographer: American Colony (Jerusalem). Photo Dept., [between 1920 and 1934] Courtesy of the Library of Congress)

agents in the desert, were policed (surveyed and targeted) through aircraft on a daily basis. As Satia has eloquently argued, this mastery over territory—and populations—through the aerial perspective produced knowledge that was further used to manipulate the material reality of Iraq. In other words, an aerial perspective informed the rebuilding and reconstruction of Iraq out of a mandate in a Hobbesian condition of a "state of nature" into a modern sovereign state.

Points of Security

Satia has argued the logics of surveillance and targeting through airstrikes that characterized the British Mandate for Iraq were extended to the Iraq War where these attacks were now carried out by unmanned aerial vehicles called "drones" (2014, p. 1). Drones emerged as "remote-controlled, kill-at-a-distance technologies, which allow soldier 'pilots' stationed potentially thousands of miles away to collect military intelligence, identify targets, and fire missiles at suspected enemies" (2011, p. 239). This technology promised yet again "panoptic aerial surveillance of a region understood as otherwise unknowable" (Satia, 2014, p. 1). Whereas aircraft carried out the logic of surveillance and focused on "areas of security," with drones, as Tyler Wall and Torin Monahan suggest, surveillance becomes coupled with dataveillance and the data gathered referenced as "points of security" (2011, p. 240). Much like its on-the-ground, biometric counterpart, drone policing relies on the articulation of populations as digital entities—individuals rendered into Deleuzian "dividuals" through ground, air, and space operations and views (1992).

The coupling of airpower with aerial imagery of territory has been theorized in the context of the Iraq War by Lisa Parks. Parks has written extensively on the power of satellite and other "overhead" images in both visualization and surveillance technologies. She defines overhead images as "image-data that has been acquired by instruments onboard aircraft or satellites, downlinked to earth stations, rendered by computer software, and in some cases, composited for the purpose of representing, viewing, and analyzing particular sites or activities on earth" (2013, p. 197). Overhead imagery, now connected to the satellite, the airplane, and the unmanned aerial vehicle, allowed both for surveillance and for the constant possibility of an aerial attack. Overhead imagery—through aerial presence and "aeromibily" as articulated by Caren Kaplan—historically has been used for purposes of both surveillance and targeting (2020).

Overhead imagery (both still and moving imagery) of territory in this digital context functions—as Lisa Parks eloquently has argued—as "image-data" (2013, p. 197). This includes the accumulation of coordinates that can be layered with other forms of data, updated constantly, dynamically scaled, and reconfigured. This activity creates images of data rendered territory and maps environments as visual and algorithmic entities. The knowledge produced is visual and computational and the grid of the analog map becomes subsumed in the grid of the digital pixel. The quantification of territory provided another reassurance of mastery, given the regions seeming defiance of "empirical inquiry" (Satia, 2014, p. 1).

These processes articulate what Parks profoundly has theorized as "datalands" (2013, p. 197). Here we have multiple algorithmic logics operating: first, land is understood as an aggregation of data coordinates. Second, this GPS data is classified. It is this process of classification produces what Jordan Crandall points as the "placeless and the placecoded" (2008). The coding here provides taxonomies for both the territory and the population associated with the GPS coordinates.

Population as Data

During the Iraq War, just as territory was transformed into "points of security" through GPS and autonomous technologies, population was also rendered as a set of data subjects through biometric surveillance. The data aggregation logic of algorithmic design was streamlined and delivered through two main modalities: first through the use of badging and check points at makeshift border crossings, and second through badging and mobile scanning throughout the territory of Iraq. The first method suggested that a population in its entirety can be transformed into known data subjects. This method of data gathering was implemented in Fallujah when the U.S. military enrolled all residents in their biometric system. This was an attempt to create a "space of security" where everyone is marked as friend or foe and this marking can be quickly assessed through algorithmic technology. The second paradigm—distributed aggregation—introduced the notion of data risk as comprehensive and representative. Here the goal is to create "points of security." Gathering biometric data throughout Iraq was an attempt to create a big data set that could be harnessed to predict who is an enemy of the state. This data set eventually contained 3.5 million entries and was exported back to the U.S. for future algorithmic training and development.

While the Iraq War saw the automation of population data aggregation, it was not the first time Iraq had been the subject of extensive data collection. During the British Mandate for Iraq, the British government collected data through its census and the introduction of passports. Further, anthropometric research was conducted by the American anthropologist Henry Field who was working closely with the British administration. The data aggregation that occurred during the Iraq War should be understood as part of a larger project of distilling people into data. In the next section, I offer a genealogy of the data-gathering process in Iraq through biometrics and anthropometrics.

Total Data Aggregation and the Case of Fallujah

To further explore the three models of "total," "stratified," "distributed" data aggregation in relation to population, I begin with a case study from Iraq War highlighting the data collection in the city of Fallujah. It exemplified a vision of totality, in which everyone was to be recognized through AI-driven authentication. The city of Fallujah provided an opportunity to create a world in which everyone was "clearly" defined as good or bad and easily identified as such through the use of autonomous technology. Once the American military took over Fallujah, they instituted identity checkpoints in order to manage the circulation of population. Only "good" residents were to be allowed in. Because American and British troops lacked any significant understanding of Iraqi culture and were mostly unable to read or communicate in Arabic, this task proved to be a great challenge. As Mark Etherington has written:

> My memory of these October days was the extraordinary difficulty of discerning truth. Iraq's "otherness" has been accentuated by its political isolation and in our attempts to understand recent history, emotions, and events we simply lacked purchase. Without this we were unable to predict the future either. (2005, p. 84)

A photograph by Anja Niedringhaus from February 2005, a few months after the takeover of Fallujah, powerfully captures this process. Women and children are lined up, each holding a paper identification card. Anguish is visible on their faces. Yet the data on the cards, as well as the printed list in the hands of the Marine at the checkpoint, is in Arabic. For a military team that has cursory, if any, familiarity with the language and culture of

Iraq, this information is just as cryptic as the computer code behind the biometric scanners. The decision to "go" or "no go" in this instance is reliant upon the human ability to discern the truth about the person in front of them. This proved to be a difficult task and technology was hailed as a reliable solution for replacing identity cards with iris scans and document checks with biometric, technology-driven veridiction.

This transition away from identification papers and onto biometric surveillance took place in Fallujah from 2005 to 2007. Noah Shachtman's article "Iraq Diary: Fallujah's Biometric Gates" provides a comprehensive overview of Fallujah's data aggregation and veridiction project (Shachtman, 2007). Shachtman describes the city of Fallujah in 2007 as a space that has been walled off and secured so that only people with biometric badges can exit or enter the city. No more checking papers—a click of a scanner gave a "go" or "no go" status based on the data captured in a biometric badge. Shachtman captured the main objective of this project by recording the words of Lieutenant Colonel Jeff Smitherman, who headed the biometric badging program for Multi-National Forces West in Al-Anbar province. Smitherman, quoted in Shachtman's article, explains that "For you to come into the community, you gotta tell me who you are" (2007). It is this premise that captures the essence of not just the Fallujah experiment but of algorithmic war more broadly. The important element to note here is that telling who you are is relegated to AI technology reading and interpreting biodata, rather than people verbalizing and expressing an identity. The "knowing of who you are" is to be carried out by algorithms. In Iraq, the algorithmic technology was optimized for gathering data. Subsequently, AI is increasingly entrusted with decision-making based on this knowledge. In other words, in an algorithmic war, "you gotta tell me who you are" becomes the focus of the AI technology; the data knows who you truly are and its keepers will act accordingly. This development, however, has been made possible by proto-algorithmic experiments such as the case of the biometric enrollment of the whole population of the city of Fallujah. This experiment provided the actualization of the "what if everyone is known through and to technology" scenario of warfare.

The logic of the data-gathering enterprise in Fallujah seemed sound but the technology necessary for carrying out this project was lacking. As Shachtman writes, "The biometric systems don't all talk to one another. Nor do they interface, really, with the other fingerprint- and iris-tracking systems used in other parts of Iraq" (2007). The huge amount of data gathered was not able to be stored on the laptops available; data was too

big and not linked, and the software recognition was slow to update entries (2007). The scanners thus proved to be a good conceptual exercise in data collecting. In the context of the Iraq War, data collecting remained a proto-algorithmic activity as the technology necessary for its processing was not developed yet. As Peter Leyton has argued, a truly algorithmic warfare needs not only "big data," but also "computer-processing power" and "cloud technology" (2018, p. 5). The data collection equipment used both in Iraq and in Afghanistan during the War on Terror proved to be clunky, inefficient, and invasive (Jacobsen, 2021).

Fallujah presented a proto-algorithmic case study for the data gathering as a totalizing enterprise in which no person is left unknown. It became an example of "biometric mass registration of Iraqi citizens under siege" (Dongus, 2019). It also harkened back to the work of Francis Galton, who deployed fingerprinting and face modeling techniques in attempting to identify human types as well as biometric identities. As Ariana Dongus has argued, Fallujah presented an instance of "Galton's Utopia" (2019). Galton envisioned a "rigid system of classification in data that is otherwise illegible to a human operator" (2019). These classification experiments were carried out in part in the British colonies. Dongus makes a powerful point: "Biometrics are a colonial practice" (2019). Conducted during Galton's time, under the guidance of Henry Field during the British Mandate for Iraq, or in Fallujah as part of the Iraq War, biometric and hence algorithmic technology has continued to operate as a colonial practice engaging with questions of otherness, of security, and control.

Stratified Data Aggregation in the Case of the "Sons of Iraq" Program

If Fallujah offered a case study in localized totalizing biometric enterprise, the Sons of Iraq program, also known as the Awakening, is exemplary of "stratified" data gathering. The project took place in 2007 and 2008 and attempted to create a cross-section of an enrolled population on a national scale. This instance represents one of the most extensive uses of biometrics in war as at its height it had enrolled 90,000 Iraqis (Clark et al., 2011, p. 42). The goal of this program was to recruit Iraqi Sunni allies to fight against Al Qaeda in Iraq: it "provided employment opportunities for Iraqis who wanted to secure their local areas and provide information on weapon caches and insurgent activity" (Rodano, 2011, p. 39). These recruits were further promised enrollment into the formal Iraqi Security

Forces. Partaking in the Sons of Iraq program required the collection of the recruit's biometric data (2011, p. 39). This data included iris scans as well as finger print scans (Shachtman, 2008). The biometric data here was used to track whether the so-called allies returned to insurgency activities (Rodano, 2011, p. 41). The goal was to start implementing a nation wide biometric program by focusing on the most "dangerous" population—namely men of fighting age who could be identified as enemies or friends on the basis of a quick biometric scan. During the transition toward Iraqi sovereignty in 2008, the U.S. began transitioning the Sons of Iraq program to the Government of Iraq (GOI). This shift included the "biometric database they had created of all the SOI participants" for the sake of transparency. The biometric data now operated in a new political context as those marked as "Sons of Iraq" for the coalition forces were also primarily Sunnis and often associated with "Saddam Hussein's Ba'ath Party and police forces" (Maye, 2016, p. 146) Here, "The Sunny political leadership and tribal sheikhs suspected that the GOI would use information about the SOI to make arrests and leverage their power" (p. 146). Aggregated biometric data collected under the pretext of stopping insurgency was now poised to mark internal enemies to the state.

Distributive Data Aggregation

Data aggregation was also implemented through a distributive framework aided by portable biometric technology. Biometrics are defined as "the science of using biological information for the purposes of identification or verification" (Magnet, p. 21). Lacking cultural and historical knowledge of the region, U.S. troops relied on automated technology that took fingerprints, iris scans, and facial recognition photographs to determine who could be a potential Iraqi ally and who had been—and would remain—a foe targeting particularly "men of fighting age" (Shakner, 2011). The focus of the biometric enterprise on Iraqi men ages 15–64 signals the racial and gender parameters that have constructed the supposedly neutral digital computerized body template. The secondary place relegated to women and children also speaks to the emphasis on securitization in terms of a binary friend/foe understanding, thus a process of veridiction, rather than the massive comprehensive identification system associated with verification.

By the end of the Iraq War, a large subset of men between the ages of 15 and 64 were enrolled in a biometric database. Among those recorded

in the 2003–2010 biometric enterprise were potential employees for Iraqi security forces, contractors at the U.S. military bases, students, tribal and local officials, criminals, insurgents, detainees, and ordinary civilian individuals who inhabited an area that was being "secured."

The "securitization" of the country was dependent on the successful control of the movement of people, which in turn was enacted through massive-scale, computerized, mobile surveillance. Biometrics was deployed for "offensive purposes as an integral tool in military operations, as opposed to just a defensive system for military installations" (Biometrics Task Force, 2007). Checks were to be performed not only at the border but more profoundly throughout the territory by handheld mobile devices. A five-second computer scan of a person's iris or biometric badge could determine, based on the visual message displayed, whether one is allowed to remain free or will be detained and tortured. Individuals were entered into a database and given an "ALERT" status.

This stage of biometric data collection corresponds to a category of "active biometrics." As Magnet writes,

> Biometric technologies are broken down into two categories: active biometrics and passive biometrics. Active biometric technologies depend on the user actively submitting information to a biometric scanner. … Passive biometric technologies allow for the covert collection of biometric data. (Magnet, 2011, p. 22)

During the Iraq War, the gathering of biometric data was a laborious enterprise. It required classified technology and the deliberate, and at times forceful, staging of the face of the subject. In the contemporary moment, we have transitioned to passive biometric technologies as our data is now collected by consumer technologies such as iPhones, in-car cameras, and self-checkout kiosks.

Back in the early 2000s, data gathering required a specialized toolset that extracted multiple data points from the human body. The stationary Biometric Automated Toolset (BAT), deployed during the 2003–2010 U.S.-led occupation of Iraq as well as in Afghanistan, combined visualization hardware (fingerprint reader, iris scanner, digital camera) with a complex database in order to collect and compare "fingerprints, iris images, and facial photos" (Biometrics Identity Management Agency, 2010). A total of 2 iris scans, 1 photograph, 10 fingerprints, and 34 items of biographic information (including interrogation reports) were gathered for

each individual in order to track the movement of individuals across the Iraqi border, near U.S. bases, and across the larger territory of the Iraqi state (Lambert, 2010). Extreme close-up photographs of irises are now referred to as "scans" because they are distilled into data points and are no longer meaningful as complete images. Images as data become legible not to human agents but only to algorithmic logics. The single photograph was seen as a backup solution to veridiction—it was used on identification badges which were scanned by a machine. The photograph here lingered as a remnant of the legacy of anthropometrics. In a proto-algorithmic war, machines, not people, were to recognize the foe. The sentiment of the photograph gave way to the usefulness and nimbleness of database-organized digital content.

Scientific cultural knowledge and more specifically anthropological knowledge figure only marginally in the biometric project in Iraq even though it had been foundational for the establishment of the anthropometric and biometric apparatuses in the past. In 2010, Army Lt. Col. Kimberly Johanek, an adjunct professor of sociology at Boise State University and head of the Rear Area Operations Center (RAOC) Badging Office, was responsible for the biometric security badges that control access to the Green Zone in Baghdad. In 2010 she was "trying to encourage the Iraqis to use biometrics, which match fingerprints or iris scans against a database" (Spinner, 2010). Most of the active biometric data-gathering and people-sorting, however, was done by soldiers who had completed a weeklong technology crash course and had no background in scientific social knowledge (Greene, 2012).

In the Iraq War, the processes of automation and digitization replaced the science expert with the data algorithm. Soldiers, trained to use the biometric technology but not versed in the sciences of biometrics and even anthropology, sociology, history, or photography, could now capture information and identify strangers with little training and expertise. "Like technology from the latest spy movie, a system using fingerprints and retina scans helps soldiers tell the difference between the good guys and the bad guys in Iraq," claims an article posted on the official U.S. Army website (Cooper, 2010). The retina photograph became useful only as algorithmic data. The extreme close-up photograph of the iris was now subjected to "Iris Technology" and distilled into 266 unique data spots to be mapped onto a digital template called "IrisCodeT" (Kaucher, n.d.).

Photographic and numeric information were then used to create a robust database and individual personal badges to be worn by the

"enrolled" Iraqi population. One Iraqi after another was asked their name, their tribe, and told to put their fingers on the glowing green scanner (Shachtman, 2007). One's identity thus was initially captured in the biometric enrollment, processed, and subsequently reconfirmed from a badge. The badge provided a "barcode" and a "number" which could not be falsified and could be used by the military to "screen the individual and determine 'Go' or 'No Go" in less than 5 seconds" (MNF-W, 2007). The photograph, biographic, and physical information help to verify the identity of the individual in question. They were not the key identifiers as they could no longer be trusted and were rarely understood and made meaningful.

The surveillance of the Iraqi population was enforced at border checkpoints as well as throughout the country via the mobile version of BAT, namely the Handheld Interagency Identity Detection Equipment (HIIDE). The HIIDE again captured fingerprints, iris scans, facial photographs, and biographical information and enabled soldiers to take—and in turn access through veridiction—the biometric information of individuals they encountered while on patrol (Biometrics Task Force, 2007).

In short, the biometric project for Iraq during the Iraq War relied heavily on the use of digital automated technologies both for its data collection as well as for its data analysis. While anthropometry relied on cultural and photographic knowledge of culture for the interpretation of the gathered data, biometrics replaced this knowledge with data-driven algorithmic processes. The identification and quarantine of the foe in the Iraq War happened not only at the border checkpoints but within the territory of the state itself. The American military was transformed literary into an army of mobile biometric data gatherers. It became a unit aiming to control the movement of people within the Iraqi nation (Cooper, 2010). This "herculean" collection effort is fueled by the proliferation of mobile biometric technology (HIIDE) (Fenton, 2008). The biometric securitization effort in Iraq included people moving either by foot or by motorized vehicle on the street and was in turn conducted by a highly mobile and abundant military. The preoccupation with movement is also evident in the explicit naming of "taxi or truck drivers" as a category of people that should be captured in the biometric database (MNF-W, 2007). Biometric research moved away from the centralized confines of the camp, prison, or hospital, and from the border points on the periphery, into the core of the nation. A highly movable unknown foe required a highly mobile easy-to-use automated, dispersed, biometric system.

Biometric badging, coupled with mobile biometric scanners, in contrast to the traditional passport and stationary border checkpoint system, promised to deliver the latest and most reliable method of veridiction for "population control" purposes by restricting the movement of those deemed to present danger to the state (MNF-W, 2007, p. 12). Although twentieth-century anthropometric research and government identification initiatives produced identification document as well as of the typological schemas that functioned as a "technology of verification" reassuring the survival of a society of discipline, during the Iraq War biometric research and militarized governmental identification practices aimed to distill in simplistic terms Arab foes from Arab friends and evoked a *society of control* (Robertson, 2004, p. 454).

The securitization of the Iraqi state during the Iraq War depended on the control of human "traffic." As Lieutenant Colonel Jeff Smitherman, head of the biometric badging program for Multi-National Forces West in Al-Anbar province, has said, Iraq War biometrics have been used predominantly to deny insurgents "freedom of movement" (2007). Biometric badging, coupled with mobile biometric scanners, in contrast to the traditional passport and stationary border checkpoint system, promised to deliver the latest and most reliable method of veridiction for "population control" purposes by restricting the movement of those deemed to present danger to the state (MNF-W, 2007, p. 12).

Indeed, "[t]he technology promised success where human security staffers failed, compensating for their imperfect, subjective perceptual abilities and limited memory capacities" (Gates, 2011, p. 101). This quotation offers a particularly striking comparison between the capabilities of a human and a computer to distinguish a friend from a foe. "Human security staffers" fail because of insufficient technological parameters. Their intelligence and aptitude were measured by their "limited memory capacity"—the brain of a staffer offers less operating memory than the biometric HIIDE device. The former could never store and retrieve 22,000 full biometric profiles; the latter did this in a matter of seconds. Human visual perception was also questioned, as the naked eye cannot discern 266 unique spots of the iris. The photograph of the iris and the mug shot of the passport photo were rendered of lesser importance. In summary, during the 2003–2010 high-tech Iraq War, technology was seen as the advanced—and more accurate—substitute for cultural awareness in the context of data surveillance. The veridiction of the U.S.-led militarized

governmentality in Iraq was entrusted to the computer algorithm rather than to scientific knowledge.

An equivalent of the BAT biometric system used in Iraq and Afghanistan was put in use here in the U.S. This system, called the Automated Biometric Identification System (IDENT), is managed by the Department of Homeland Security and used "for the storage and processing of biometric and limited biographic information for Department of Homeland Security (DHS) national security, law enforcement, immigration, intelligence, and other DHS mission-related functions" (Department of Homeland Security, 2006). The extensive integration of war-time biometric technologies into the domestic sphere testifies to Torin Monahan's observation that "[t]he primary policy goal of the United States is to integrate unique biometric markers into identification documents, such as passports or nation ID cards, and then harmonize these identity tokens with massive databases designed to screen for potential terrorists or monitor the movement and activities of people more broadly" (2006, p. 7). Such harmonization aims to create a society in which according to Barry Steinhardt, director of the American Civil Liberties Union's Technology and Liberty Project, "you can be tracked anywhere, any time and all your movements, and eventually all your activities will be tracked and noted and correlated" (Arena & Cratty, 2008). As biometric technology is becoming an integral part of our everyday lives, installed at the entrance of our homes, at the places of our work, as well as at our sites of leisure, more profoundly (2013). Passive, AI-driven biometrics have become an integral yet illegible part of everyday life. The road to everyday ubiquitous AI biometrics, to an algorithmic culture, was paved by both the biometric enterprise during the Iraq War and the anthropometric work conducted in Iraq during the British Mandate.

Anthropometrics in Iraq

While the biometric efforts of the U.S.-led coalition forces during the Iraq War bypassed the need for cultural knowledge by adopting automated computerized classificatory technology, the anthropological efforts of the British government and American scientists of the 1920s and 1930s Iraq relied on the expansion of cultural sensitivity developed by training the eye to recognize the image of the enemy. The development of detailed racial typologies that can characterize the modern, as well as the tribal Arab, was at the core of the anthropometric research of Henry Field. The success of

his project relied on the accumulation of a "truth apparatus" consisting of photographic evidence supplemented by an objective descriptive data set consisting of physiological and biographical information. The photograph was to provide a snapshot of data in a format that was humanly recognizable and memorable in order to foster expertise in science. A detailed view of the techniques and technologies deployed by Field illuminated the inner workings of a regime of verification—as a method of identification based on individual identity as well as cultural belonging to tribe, race, and so on—rooted in the cultural analysis of the physical human body.

Field conducted two studies of people in Iraq: in 1927–1928 and in 1934–1935. He published his findings in the volumes *Arabs of Central Iraq: Their History, Ethnology, and Physical Characteristics* and *The Anthropology of Iraq*, respectively. Both anthropometric expeditions in Iraq were conducted in close collaboration with British and Iraqi authorities (Field, 1935, 1952). In the preface of the report of the 1927–1928 expedition, Field thanks the local sheikhs who authorized access to their "tribesmen," the Mustasarrif of the Hilla Liwa, as well as the officer commanding the Hilla army camp (1935, pp. 9–10). In other words, Field was working in cooperation with the local civilian, prison, and army administrators. The preface ends with acknowledgments of the help of the official government of Iraq and King Ghazi with the second anthropometric expedition of 1934–1935. That expedition listed among its supporters' administrators of hospitals and court districts. The Preface to the *Anthropology of Iraq,* which reflected the 1934–1935 findings, includes special thanks to the "Minister to the Interior" for his letters to the Mutasarrif and the Chief of Police of the Amara Liwa (1935, p. 234). Field notes their "genuine interest" and further hints to the knowledge these institutions provided: "The chief of Police in Amara stated that the physical characteristics of [...] the Al Sawaad were different. Consequently, we visited Halfaya in order to obtain a series of fifty Al Sawaad tribesmen. We were assisted most ably by the Chief of Police in Halfaya" (p. 234).

The study from 1927 was conducted as a joint project between the Field Museum and the University of Oxford in response to the lack of determination as "to what extent the human types who lived in the ancient cities of the plain were represented among the inhabitants of modern Iraq" (1935, p. 11). The 1934–1935 expedition continued this research project (Field, 1934, p. 46).

Field's U.S.-British collaboration was the first Western anthropological venture into Iraq; previous expeditions had focused primarily on the

archeological rather than the anthropological features of the country. Field aimed to provide a "means of putting forward an explanation of the theory of the evolutionary origin of the Arab and other types of the East" as well as to "learn to discriminate by the cast of an eye the distinctive races of mankind" (Keith, 1935, pp. 11–12). Anthropometry promised a quick recognition of the visual markers of incivility recognition based on the establishment of a set of typologies that were not explicitly connected to a friend/foe categorization.

During the 1927–1928 expedition to Iraq, Field and his team painstakingly observed, measured, and recorded the physical and cultural characteristics of 667 individuals. Among the groups examined were the Arabs of the Kish Area (398 men), soldiers of the Iraqi Army (231 men), and the Ba'ji Beduin (38 men) (Keith, 1935, p. 11). "[E]quipped with calipers, anthropometers, a specialized training and the necessary enthusiasm and patience," they recorded cranial and facial measurements, hair texture, eye color, skin pigmentation, birthplace, kinship, marital status, and health (B.T., 1937, p. 562). An anthropometer was used to measure stature, height, and sitting height. This tool was a "graduated metal rod which is in sections, fixed to a metal base and provided with a sliding horizontal branch" (Field, 1935, p. 98). The subjects were asked to stay erect for their standing measurement and to sit on a 34-centimeter gasoline can for their sitting measurement (p. 98). Calipers were used to record facial measurements such as "greatest occipital length, greatest breadth, minimum frontal diameter, bizygomatic breadth, bigonial breadth, total facial height, upper facial height, nasal height, nasal breadth, and left ear length and breadth" (p. 98). All other measurements were done based on the perception of the observer. In capturing the eye data of the subject, Field and his team recorded eye color as "black, dark brown, blue-brown, gray brown, green-brown, blue, or gray; the sclera as clear, speckled, yellow, or bloodshot; the iris as homogeneous, rayed, or zoned" (p. 100). Field and his assistants also took standardized photographs of individuals from the front and in profile in order to support the quantitative data that the calipers and anthropometers recorded.

The findings of the 1927–1928 expedition were published under the title *Arabs of Central Iraq: Their History, Ethnology, and Physical Characters* (Field, 1935). One of the main three groups studied were the 223 soldiers at the Hilla army camp. Here comparative army anthropometry was carried out in greater detail by this group of anthropologists in addition to the internal anthropometry performed by the military itself. The

comparisons were based on suspected racial affinities of the Iraqi people to those living in the southern Mediterranean, India, and Egypt. Field's interest in the army has its roots in the fundamental relation between anthropometry and the institution of the military. More directly, however, Earnest A. Hooton—a famous American anthropologist—advanced ideas about the racial differentiation based on physical traits, consulted Field on the issue of the "Arab race" during his 1924 expedition, and supervised his subsequent anthropometric research along with Sir Arthur Keith in 1933–1934. While most of Hooton's work focused on issues of criminality and mental degeneracy, he also had a strong interest in army anthropometrics and participated in composing a memorandum about racial traits offered by the Committee on Anthropology of the National Research Center to the Council of National Defense (Hoffman, 1918, p. 28).

The soldiers, according to Keith, presented the "racial problem in ideal form" because of their uniform and shaved heads (p. 13). Compared to the other two groups studied—the Ba'ij Beduins and the Kish Arabs—this group was dominated by short-face-type individuals rendering it more "plebeian" (p. 17). Based on the size of the soldiers' families, Field also speculated that "the army is a good resting place for surplus sons in families overburdened beyond the point of having enough to eat" (1935, p. 432). Field noted that the head measurements of these soldiers were in close agreement with the Beduins; a high proportion of the soldiers fell in the "small-headed group" (p. 25) which meant significantly smaller heads and implied smaller brain capacity than the Europeans (p. 22). The author singled out those few individuals with big heads and argued while "they may not represent the actual leaders of their community; they do represent Galton's exceptional individual—thrown up in every animal community to play the part of leaders" (p. 73).

Henry Field's second expedition in 1934–1935 to a now independent Iraq was much broader in scope. The team traveled "17,000 miles and made anthropometric measurements and studies on 3056 individuals in Syria, Iraq, Iran, and the Caucasus region of the Union of Soviet Socialist Republics" (1952, p. 458). In the context of Iraq, it covered the regions of the Upper Euphrates, Lower Euphrates-Tigris Region, Northern Jazira, and Kurdistan, and included both men and women as subjects of the study. The findings of this trip were included in the two-volume monograph titled *The Anthropology of Iraq*. This study provides a much more detailed overview of the different tribal groups that inhabit the territory of Iraq.

Henry Field and his team set out to measure and record the people of Iraq equipped with scientific knowledge and tools alongside the photographic camera. The 1934–1935 expedition extended the classificatory schemas deployed. Individuals were identified according to tribe, not just general locality and race. Each tribe was associated with a local authority in the face of a sheik and a geographic locale. In terms of anthropometric data, eyes were now examined in terms of color as "black, dark brown, blue-brown, *blue*-brown, green, green-brown, *green*-brown, blue, gray, light brown, blue-gray, and blue-green," whereas the sclera of the eye was characterized as "clear, yellow, speckled, bloodshot, speckled and bloodshot, speckled and yellow, yellow and bloodshot." The iris parameters remained the same as before (1952, p. 113). Again, fontal and profile photographs accompanied the data sets.

Anthropometric visual knowledge gathered as data through bodily measurement, as well as through visual shortcuts that illustrate the data, was deployed by scientific research as well as state surveillance. It helped articulate a domain of verification based on visual racial typologies that were to be anchored in scientific knowledge derived from an analog data archive and enacted on the basis of internalized visual clues delivered through photography.

The British Administration of Iraq was also invested in this anthropometric research. In order to install law and order, the Mandatory government focused on the creation of police, military (English and Indian), and levy forces, reinforced by the establishment of jails at the receiving end, and modes of surveillance and identification such as the Central Finger Print Bureau, which between the years of 1912 and 1927 fingerprinted over 44,000 individuals building up an extensive database of criminal suspects, and the Baghdad Passport Office, which was in charge of managing the stream of migrants (Jarman, 1992, p. 413). Starting in 1926, Iraqi travelers were issued passports featuring a photographic ID and a quarantine health card (p. 231). Migrants were checked for criminal records and contagious diseases upon exiting or entering the country. Both criminals and government employees were required to be fingerprinted, as this had become the only reliable instrument of distinction in the face of suspected falsification of names and documents. In one year, this anthropometric identification system was used to discover 323 persons with criminal backgrounds and 32 with false names (p. 413).

The emergence of a state-driven identification apparatus in Iraq was intimately connected to the anthropometric research carried out in the

country. These connections, both implicit and explicit, have been documented through the extensive support offered to anthropologists by government officials and by the use of official census data. The apparatus of identity verification rooted in the measurement of individual human bodies against data about the popular body in Iraq during the British Mandate was thus driven by the collection and analysis of cultural data by scientists and government officials. Field's scientific data is in direct conversation with the official state-sponsored classification efforts of the time (Field, 1952, p. 15). Field included the census provided by Cecil Edmonds's data on the registered and unregistered "townsfolk" and "tribesman" in his overall estimates (Field, 1952, pp. 104–105). Furthermore, the tribal categorization chart in Field's work was derived from the official British-run census of Iraq. The Census Department in Iraq was formed in June of 1927, and by the end of the year, 1 million Iraqis from 72 towns and villages were recorded, excluding areas where tribal tension could have led to more armed resistance (Jarman, 1992, p. 408). As of 1935, the population of Iraq was estimated at 3,560,456 including 346,283 persons who were still unregistered (Field, 1952, p. 105). Iraq's first and only comprehensive census took place in 1987. Since then, no census has been conducted because of Kurdish-Arab tensions in northern Iraq (Kenyon, 2010). These were massive undertakings, requiring an army of laborers and a major bureaucratic organizational effort.

Data Storage

In 1933–1934, Henry Field recorded his findings in an analog archive composed of multi-page comparative tables that complimented his analysis of the physical and cultural attributes of the Iraqi population. The biometric research conducted by the U.S. Administration of Iraq was stored in a digital database, isolated from the cultural analysis of the findings. A database "arranges information into rigidly defined categories or fields" where the fields or categories are arranged into vertical columns while information is represented in horizontal rows (Poster, 1990, p. 96). In the digital context, the arrangement of the database into rows and columns, as well as the "relationships among pieces of information that do not exists outside of the database," remains invisible to the ordinary user (p. 96). The database provides an organizational structure in which each individual uniform record can be easily retrieved and made meaningful to artificial intelligence. Meaning-making here becomes the function of

machine vision. The database's size is representative of the archive of gathered data. An analog archive visualizes the volume of records, without exposing the contents of each entity. Similarly, the digital archive can provide listings of its content without displaying the content of each entity. Its scope and size, however, are dematerialized and expressed in abstract digital storage measurement units. The digital archive can be hidden from view with much greater ease.

The digitized transformation of scientific anthropometry into military mobile biometrics has shifted the scope of "data collection" away from the confines of disciplinary institutions—be it the barracks, the hospitals, or the prisons—and onto the territory of the entire nation-state. This extension has been practiced on the total population of certain villages in Iraq with the evident desire to extend it to the territory of the entire nation. The articulation of verification and veridiction in relation to the data gathered as well as the format of data storage are made explicit through an in-depth look at the functions of the archive and the database. Insomuch as the archive, driven by the filing cabinet and the digital file folder, provided a means of organization, the database, with its "pure grid" structure, delivered a means for data-driven algorithmic comparison (Poster, 1996, p. 185). The two technologies together constituted a disciplinary framework that integrated photographs, fingerprints, and physical and behavioral data. As discussed at length by Allan Sekula and Peter Hutchings, one of the earliest integrations of photography with the science anthropometry took place in the police archive (Sekula, 1986; Hutchings, 1997). This coupling was heavily utilized in the context of war as well.

The comparative structure of the database expands beyond its own limits. Through their relational structure (the existence of standard fields across multiple data sets), databases can be combined "forming vast stores of information that constitute as an object virtually every individual in society" or articulate "linked data" (Poster, 1996, p. 186). In the context of the Iraq War, the database gathered by the U.S. military was relationally linked to the criminal database maintained by Saddam Hussein in order to determine one's truthful standing as a friend or foe of the state.

Image-Data

The aggregation of data about territory and population through GPS and biometric means signals an important shift in the role of images as a form

of knowledge. This aggregation accelerated and validated a view where images (either overhead or portraiture) may be understood as data banks. Further, with the automation of data aggregation and data processing, these records have become "network images" that operate as "invisible" images and serve also as "operational" images rather than just as "visual" images (Paglen, 2014, 2019; Faroki, 2004). Trevor Paglen has theorized the emergence of images in relation to machine learning and artificial intelligence creates "invisible images" embedded in "machine-to-machine seeing" in which "digital images are machine-readable and do not require a human in the analytic loop" (Paglen, 2019, p. 24). On one hand, the Iraq War was presented as an aggregation of popular images circulated in the mainstream press that showed precision-guided missiles and friendly on-the-ground troops. This visual archive aimed to win the hearts and minds of the audiences at home. These images extended the "operational" or "phantom" visual logics of which Harun Faroki wrote in relation to the Gulf War—these logics are tactical images that do not show the human death toll of war (Faroki, 2004). On the other hand, we saw the distillation of images of Iraqis who remained largely invisible in the popular press into data. The people of Iraq were thus seen as absent from the mainstream media coverage of the war yet essential as tactical, military data. Images of Iraqis were rendered invisible for human consumption yet essential for algorithmic logics.

Disruptors: Women Collecting Data About Women

By default, data aggregation may be seen as a masculine enterprise carried out by masculine agents. The processes of aggregating data in the context of Iraq have historically been complicated by the figure of the Muslim Arab woman. Because of customs and religious constraints, male data gatherers have found it difficult to "enroll" some Iraqi women as part of the data collection enterprise.

During the Iraq War, U.S. military women—under the informal program designation of "Lioness"—were positioned at check points and at biometric stations in order to collect data about Iraqi women. This data was initially meant to be used for human intelligence as they asked Iraqi women about any threats to the security of their families, food insecurity, and female health care. Later, they were entrusted with collecting biometric data (Napoli, 2013). The Lioness intervention was an attempt to mitigate the image of American troops as liberators and to posit a culturally

appropriate solution to body searches as Muslim custom forbids men from touching Muslim women and biometric technologies required the removal of woman's headscarf (hijab) (Hom, 2008). The work of women at check points under the Lioness program has been documented by amateur videos on YouTube as well as in the Meg McLagan and Daria Sommers documentary film *Lioness* (2008). On YouTube, the MilitaryLioness channel provides an inside view of the program. Another YouTube short video called *Life of a Lioness: The Story of Cpl. Jennifer Marie Parcell* tells the story of the emergence of the Lioness designation for women who performed body searches and later collected biometric data (2011). Parcell was killed while performing her Lioness duties and the video commemorates her sacrifice. As the video narrates, U.S. military women had to be carefully trained in local customs and culture. In the film *Lioness*, it becomes painfully obvious that women who fought combat missions, participated in body searches, and gathered data in Iraq were omitted from mainstream historical narratives and this omission has had lasting impact on them. In a potent scene, former Lionesses watch television coverage of a mission they are involved in and reflect on their representational absence.

Muslim customs with respect to Arab women were to be respected in the biometric data-gathering process as well. The biometric technology adopted during the Iraq War required the removal of the hijab in order to enroll Arab women. This was a significant violation of Muslim custom and the biometric technology had to be adjusted to account for the presence of a head scarf. While the hijab hindered facial recognition technology, henna tattoos also complicated the use of fingerprinting systems.

Women were also brought in to aid data gathering during the British Mandate for Iraq. Winifred Thomas was an assistant to Henry Field and during his anthropometric project was put in charge of conducting anthropometric measurements of women. The data from the 26 women that she measured was recorded by Field in his analysis under the subheading "Morphological Characters of 26 An Nasiriya Females." Thomas also conducted anthropological research independently and published two articles that aimed to paint a fuller picture of Iraqi women. In these articles, the women of Iraq become more than statistical data. They come to life as mothers, sisters, friends, and wives. In observing the women of Nasiriya, Thomas became interested in the meaning and patterns of their tattoos. Field's report notes that all 26 women featured tattoos. Thomas through her independent work tells a fascinating story about tattoo meaning and purpose:

> Most of the country women of Iraq, not only Arabs, but Kurds, Yezidis, and Turkomans, are very fond of tattooing, and some are elaborately decorated on the face, hands and body. It is chiefly a form of feminine vanity, for good tattooing is esteemed as enhancing as charms. But some tattooing is supposed to have magic power, and is employed to cure pain or illness, to guard against other charms, or to attract or repel a man, according to circumstances. Three dot tattoos in the palm of the right hand while some one reads passages from the Koran is effective in attracting and keeping the attention of one's husband. If for some reason one does not wish his affection, three dots tattooed similarly on the left palm will keep him away. But imagine the havoc the wrong hand were tattooed!

Thomas published exclusively on the tattoo culture of Iraq in her article "Tattooing Among the Arabs of Iraq." She writes that in her research she supplemented the work she did for Field with information "from conversations with and demonstrations by professional tattooers [all female] in several places, as well as a number of women, mostly patients in the Baghdad hospital, who were elaborately tattooed." Her work adds texture and nuance to the anthropometric data gathered by Field and offers a glimpse into the world of Iraqi women.

In her research, Thomas adopted an Enlightenment position as she concluded with an argument that increased educational opportunity for women could lead to less tolerance for male oppression. She thus validated the British education initiative in Iraq while at the same time presenting a nuanced view of a society part of which was already progressive and modern. While the use of tattoos and henna appeared to be of cultural interest and information about these practices was gathered for the purposes of cultural knowledge during the British Mandate, that information became an obstacle to data collection via fingerprinting and facial recognition technology during the Iraq War. Here tattoos and henna interfered with the biometric scanning technology as it obscured biodata. As much as autonomous technology attempted to remove the cultural and social aspects from the process of identification, data subjects proved to be first and foremost people—individuals who carry identity, culture, customs, and difference. Muslim Iraqi women during the British Mandate and the Iraq War complicated the military's data-gathering procedures and often caused the processes of quantification and automation to fail.

Conclusion

The Iraq War, as a proto-algorithmic war, allowed for experimentation with models for gathering a large amount of data about territory and population. The logic of big data and its core principle of aggregation were deployed in service of an idea that knowledge comes from the technologically driven analysis of quantified data. At this stage, most efforts were centered on data collection as the algorithms for data analysis were still nascent. Under the guise of war, the U.S. military was allowed to conduct an experiment in data gathering—namely enrolling entire cities or population strata and attempting to capture data about a whole country in order to install U.S.-led sovereignty. The biometric data-gathering project echoed the anthropometric work conducted in the nineteenth and early twentieth centuries and forecasted the emergence of big data as experienced today. In the context of the Iraq War, data aggregation partially failed because of the technological limitations present at the time and because of the Muslim customs and culture that made Iraqi women challenging data subjects.

Nonetheless, the collected data about territory and population allowed for the seemingly objective categorization of friend and foe. Data aggregation paved the way for the emergence of taxonomies of enmity. Quantified measurements collected during the Iraq War were harnessed in attempts to identify enemies through technological means rather than through cultural knowledge. It is the shift toward technological determinism in the construction of identity that Chap. 3 details.

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CHAPTER 3

Taxonomies of Enmity

In 2007, American soldiers in Iraq complained that both Iraqi allies and Al Qaeda members "looked identical, wore similar sweat suits and carried the same kind of guns" (Cordesman & Davies, 2008, 522). In order to distinguish friend from foe, they required their supporters to wear white headbands and ride in Strykers vehicles. The white headband was adopted by the enemy and a new mode of identification was issued for the Iraqi forces: reflective armbands. The armbands, however, proved insufficient means of identification, and Iraqi fighters were asked to provide their fingerprints, addresses, and retina scans to the Americans so that the U.S. military "could track down anyone who betrayed [it]" (Partow, 2007). Determining friend from foe proved to be an insurmountable challenge in the Iraq War. Algorithmic technology promised an easy solution.

Algorithmic Logic Two: Taxonomies

Gathering vast amounts of data about the territory and population of Iraq in the name of securitization was an important enterprise both during the Iraq War and during the British Mandate for Iraq. In this chapter, I take on a genealogical approach toward the second algorithmic logic that structures algorithms as technologies of security—namely taxonomies. More specifically, I address the ways in which this core principle of creating taxonomies was loaded with racial discrimination. The data collected

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via biometrics should be understood in relation to the racial stereotype of the Arab "terrorist" as well as in the context of an elaborate framework of enmity. As Shoshana Magnet writes, "the growth of biometrics occurred in a climate of increased anxieties about the 'inscrutability' of racialized bodies. Given this cultural context, it is unsurprising that reports that biometric technologies did not function in objective ways claimed for them began to proliferate" (Magnet, 2011, 28). The racial categorizations created during the Iraq War were superseded by Henry Field's racial taxonomies: Field considered certain sections of the Iraqi population to be a "lower" race while the British government developed an extensive categorization of criminality and delinquency. The data-gathering enterprises of the Iraq War and the British Mandate for Iraq were tied to racialized surveillance.

Algorithmic Logic Two Core Principle: Abstraction

In an algorithmic war, space and people are understood to be a set of categorized features. Once big data is gathered, algorithms generate classification schemas for the objects and subjects detected by extracting and comparing their features. They set the parameters of what makes a street, a car, or a building, as well as what makes a person an "enemy" or a "friend." On a micro level, algorithms further break down the collected data into subparts and established patterns of recognition. The process of creating a taxonomy of the big data gathered relies on the abstraction of features away from the objects and subjects and into a dataset where they can be further fractalized, recombined, and classified. This process is inherently cartographic as both streets and faces get distilled into a set of features such as width, length, or height that can be then grouped, substituted, and recombined.

Algorithmic Logic Two: Territory and Population

In relation to territory, the algorithmic logic of taxonomy focuses on the abstraction of place into space. In the context of the Iraq War, the emerging taxonomy focused on the classification of cities and deserts, and further of streets, bridges, and buildings. The collected "dataland" information was to be made meaningful for machine learning as well as for the human actors of war. The algorithmic logic of taxonomy became implemented through four major modalities of abstraction: first through

the use of satellites and drones to gather Global Positioning System (GPS) data. GPS systems gained popularity during the 1990s and were central to warfare both during the Gulf War of 1991 and during the Iraq War. In both cases, GPS coordinates transformed Iraq from what Foucault called "space of security" into a set of "points of security" (Foucault, 2007, 20). Second, cities were seen as a set of abstract features, or, as Derek Gregory argues, as "terrain" both through simulation in training environments and through the deployment of overhead imagery (Gregory, 2008, 10). Third, deserts were seen as the epitome of the abstract representation of empty space. These three modalities of abstraction depend on the disassociation between territory and population. Territory was imagined as empty space—a space devoid of people. As Gregory points out, "this repeats the colonial gesture of *terra nullius* in which the city becomes a vacant space awaiting its possession; its emptiness works to convey a right to be there on those who represent it thus" (10). This vacancy has a potent political implication as Carl Schmitt has demonstrated and has been a part of the imperial Mandate project as Priya Satia has argued (Satia, 2014). The fourth mode of abstraction deals with the reclassification of place into what Jonathan Crandall calls terrain that is "place-coded" (Crandall, 2008. 102). This place-coding evokes the parameters that are seen as important for the creation of the algorithmic predictive model. The place-coding of the street is important to note here as streets were imagined as dividing lines for on-the-ground troops and meaningless for precision drone vision. GPS coordinates, while useful for mapping territory, proved to be inept at mapping population flows. The classification of population followed a different path that focused on biometrics. Here taxonomic logics for algorithmic vision and for human perception diverged on a trajectory that took a racialized turn. From above, algorithmic technology focused on classifying persons from objects as seen in Project Maven. While on-the-ground taxonomies in service of technology focused on a binary understanding of enemy and friend as "go" versus "no go" status, classificatory schemas of Iraqis articulated through artificial intelligence as well as through performance and play for human audiences were closely connected with the imaginary of the Arab "terrorist" as well as discourses of "lower" races. The figure of the "terrorist" should be situated as part of a larger political discourse of enmity in the writing of Carl Schmitt (2003). Further, taxonomies of enmity focused on distilling geography and faces into a set of coordinates classified as left eye, right eye, nose, and so on, and creating what Deleuze and Guattari have called facial maps, and

Hansen termed digital facial maps, while Azar categorized as algorithmic facial maps, respectively (Azar, 2018; Deleuze & Guattari, 1987; Hansen, 2003).

The implications of abstraction are the emergence of replicable, replaceable, and disposable subjects. This logic favors the ability to sacrifice subjects in the name of a greater good. To counter the effects of the algorithmic logics of taxonomy and abstraction and their impact on creating an imaginary of disposable human life, I turn to Rene Girard's notion of the non-sacrificial and provide two disruptor examples.

Taxonomies of Territory

Territory was entered into classifications based on two main models that featured overhead imaging and simulation. In terms of taxonomy, the territory of Iraq was first divided into two major categories—cities and deserts. Further, cities were understood as collections of discrete elements such as buildings and streets, while deserts were seen as empty space situated in the wilderness. These two types of environments were then both distilled into a set of abstract geometric shapes and then reconstituted as generic spaces in the context of simulation.

Abstracted Cities

In preparation for algorithmic processing, cities were distilled into a set of abstract elements derived through GPS positioning and overhead imagery. Abstraction and detachment established an assurance of mastery in two ways: first via the reduction of territory into empty terrain and second via the reduction of terrain into a series of geometric formations that can be then integrated into a cellular logic. Both the abstraction of homes into rectangular dwellings and the reduction of homes into pixels of data institute disciplinary power via the mechanism of the grid.

Derek Gregory has eloquently argued that aerial surveillance reduced Iraq to an "array of points … positioned within a network" (Gregory, 2013, 183). This reduction was carried out through satellites and unmanned aerial vehicles (UAVs) or drones, as well as through virtual gaming environments and artificial city construction in pre-deployment. This visualization strategy produces "optical detachment" and articulates cities as city-as-target (Gregory, 2011, 191; Gregory, 2013, 183). Furthermore—as Gregory eloquently argues—both the "American air

operations reduced Iraqi cities not only to strings of coordinates but also to constellations of pixels on a visual display, [and the] ground operations [which] reduced them to three-dimensional object-spaces of buildings and physical network" follow the same visualization logic of skeletal geometry emptied out of people (Gregory, 2013, 182–4). This gridding disciplinary technique of the overhead imagery is a demonstration of understanding territory and terrain as data-driven "grids of specification" (Foucault, 1969, 42). Furthermore, the emptied space of the city is reduced to geometric data that once entered into a database can be cataloged and used for justifying algorithmic and further autonomous decisions.

Extending Gregory and Foucault's arguments, I suggest that in the coupling of overhead imagery with traditional cartography, the logic of the grid was doubled: firstly through stemming from the use of the traditional cartographic Ptolemaic grid, and secondly through emerging from a photographic view of the algorithmic city. In other words, in the overhead images of Iraq, there exists a double reassurance of the homogeneity and emptiness of the space to be disciplined: one derived through cartography and the other from photography (Fig. 3.1).

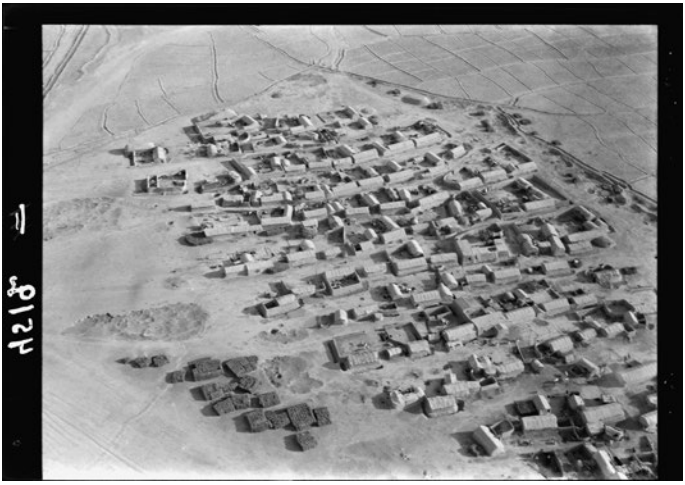

Fig. 3.1 Iraq. Typical mud village photographer: American Colony (Jerusalem). Photo Dept., [between 1920 and 1934] Courtesy of the Library of Congress

For on-the-ground combat, the Iraq War was seen as asymmetric guerilla urban warfare. The space of war was distilled into a set of discrete elements that soldiers could practice to navigate in combat. While GPS coordinates reduced Iraq into points of security, on-the-ground training strategies focused on cities as "areas of security." These "areas of security" transformed cities into terrain (Gregory, 2008, 10). Gregory has detailed the ways in which the city has been abstracted into a set of features throughout various military training platforms: "the simulations render buildings, bridges and streets with extraordinary fidelity: yet the inhabitants are nowhere to be seen" (10). The abstraction of the city allows for engagement with its features through simulation and thus renders it yet another asset to be manipulated, simulated, and trained on.

Abstracted Deserts

Another space that was seen as abstract empty terrain was the desert. Seen as featureless, flat, and uninhabited, the desert as Priya Satia argues was perceived as "ideal for training to fight in any terrain"—it provided the "ideal space for abstracting war from politics and repackaging it as technical affair: the fictional enemies against whom United States Air Force (USAF) aircraft personnel called 'bandits' in these training programs, rogues without politics" (Satia, 2014, 5). The desert became the setting where both aircraft/drone policing and urban warfare could be practiced: as both the desert and the urban center were reduced to apolitical, geometric, generic, empty spaces.

The desert also became associated with the notions of "the wild" and wilderness—in the context of algorithmic culture, data is regularly seen and described as being gathered "in the wild," hence scraped off the Internet. Both the desert and the Internet thus emerged as spaces without sovereignty, as Hobbesian "spaces of nature" (Hobbes, 1985). I argue that indeed the common use of the terminology "in the wild" with regard to big data can be traced to imperial and colonial projects that articulated foreign spaces as deserts to be conquered and to the theory of statehood articulated by Thomas Hobbes.

With regard to data aggregation in Iraq, the imaginary of the desert as wilderness is present in the data aggregation enterprises of Henry Field as well as of the U.S. military biometric project. Henry Field's *Arabs of the Central Iraq* volume starts the section on the Arabs of the Kish Area featuring a description of the geographic location where the study population is found. Field described the "inhospitable mountain regions of Lake Van"

alongside the "great wilderness and deserts of Arabia" (Field, 1935, 77). As such, deserts were imagined as flat, empty, and constitutive of the wilderness. Indeed, on his map of Iraq included on the first page of this volume, Field marked only rivers, cities, and national borders as relevant. The rest appears as gridded and uncharted and thus unknown, empty space.

Taxonomies of Emptiness

In thinking about the emptiness of the Iraqi deserts and cities that mapping, coupled with overhead imagery, has instituted, I now turn to Carl Schmitt's influential distinction of three major modes of emptiness as seen in his book the *Nomos of the Earth* (Schmitt, 2003). The first type of emptiness evokes territory lacks recognized sovereignty. Here Schmitt evokes the "state of nature" as a hypothetical construct with historical significance and proceeds to investigate the importance of the historical conditions that have influenced Hobbes's theory by focusing on the specific Hobbesian references to the "savage people in many places in America" (96). It is important to note that the trope of the "state of nature" was developed by Thomas Hobbes in his 1651 book *Leviathan* (Hobbes, 1985). Here, the "state of nature" or the "condition of nature" is most often evoked, not as a historical time period that has occurred prior to the emergence of state sovereignty, but rather as the ever-present possibility of state dissolution. The descriptor "state of nature" is primarily evoked as a potential threat, belonging to a possible future rather than a concurrent present or a historical past. In chapter 13 of *Leviathan*, Hobbes clearly articulates this stance: "there has never been any time wherein particular men were in a condition of war one against another; yet it can come after men have lived in peace by fearing a power—so not a before, but a constant potential threat, an after every man in judge in the 'condition of nature'" (Hobbes, 1985, 187). The "state of nature" is characterized as a "condition of war" of "one against another" caused by the lack of a common unifying power commanding obedience. Yet this war exists only in potentiality and is never actualized. In order for state sovereignty to emerge, men must "confer all their power and strength upon one man, or upon one assembly of men, that may reduce all their wills, by plurality of voices, unto one will" (Hobbes, 1985, 227). Further, for Hobbes, "state of nature" is connected to the idea of the wilderness. The discourse of "state of nature" thus has come to evoke the lack of sovereignty of a savage population.

For Schmitt, the "savage people" occupy a "no man's land" which according to Schmitt is not located "nowhere" (Schmitt, 2003, 96). Rather it has a specific place in the history of European conquest as well as a geographic location in the Americas. He articulates this "no man's land" as a free, empty land, a free land because of the lack of recognized leadership/sovereignty. It is the imaginary of such a land that has historically acted as the specific precondition for the emergence of the European world order (Schmitt, 2003, 199). This free land is linked to Europe's colonial expansion both historically and theoretically: it is land empty or emptied in Hobbes's philosophy, and a land "either formerly void of Inhabitants, or made void then, by war" (Hobbes, 1985, 301). The existence of "free/empty" land as a space for territorial or economic conquest is the basis from which the European and later the American *nomos* (world order) emerged (Schmitt, 2003, 87).

The second evocation of empty land has to deal with a sense of innocence and the idea of the pristine. According to Schmitt, the trope of the "state of nature" as empty/emptied space geographically located in the Americas undergoes a shift of meaning from the seventeenth to the eighteenth centuries. Whereas Hobbes saw North America as existing in a state of nature—therefore in a non-state condition that is empty of a sovereign—eighteenth-century philosophers conceptualized North America as "free and independent," existing in a "state of nature" in Rousseau's sense "unspoiled by the corruption of over-civilized Europe" (2003, 288). It should be noted that the occupants of the American "land" in a condition of a "state of nature" have not remained unchanged. America has a long history of colonial conquest and slavery which constructs the land as emptied rather than pristine, empty space.

A third meaning emerged with regard to the emptiness of the land in a "state of nature" with the strengthening of the American nomos after World War II. Schmitt argues that the creation of the League of Nations marked the emergence of a universal nomos led by the U.S. This nomos reworked empty space not as territory to be conquered, but rather as "empty space for social-economic processes" that preserved the "territorial integrity" at the expense of political influence (Schmitt, 2003, 252). In its current reincarnation, this U.S.-based nomos has moved closer to the English model of the 1920s and 1930s, breaking the paradigm of "territorial integrity" and adopting more fully a version of the nineteenth-century European nomos on a macro scale, while still maintaining an affinity to the social-economic progress narrative on micro-scale.

While Schmitt alerts us to the newness of this nomos of proxy governance by financial means (financial dependency established for otherwise independent territories), it is also important to highlight its continuous reliance on the construction of the Americas, and northern America in particular as a free, empty, and equal space in a "state of nature" onto which the U.S. slowly stretches. In other words, the connection between the trope of the "state of nature" and the myth of the American frontier, which for Richard Slotkin is one of the foundational myths of the nation, has remained as the backbone of the new nomos (Slotkin, 2001). Both Europe and the U.S. formed as states against spaces considered "beyond the line," territories that are both wild and free. For the U.S., as Schmitt points out, the frontier appropriation temporarily ended in 1890 and the European immigration wave began (Schmitt, 2003, 293).

The Evocation of the Empty Land and the Iraq War

The 2003–2010 Iraq War relied on a pre-seventeenth-century version of empty space outlined by Schmitt. In the American context, emptiness has been characterized by Richard Slotkin in his analysis of the myth of the frontier and more recently by Donald Pease in his discussion of the trope of the Virgin Land (a land untouched by foreign attacks up until the 9/11 attacks) (Pease, 2007). Writing shortly after the 9/11 attacks, Slotkin observed that the War on Terror has deployed two myths for its rationalization: the myth of the "savage war" and that of the "frontier." Donald Pease, building upon Slotkin's work, traces the trope of the "virgin land" in the pre-9/11 mythology, and its replacement with "ground zero" and "homeland" in Bush's presidential rhetoric, to connect the trope of emptiness with innocence rather than civility. He argues that "the state of emergency Bush erected at Ground Zero was thereafter endowed with the responsibility to defend the homeland because foreign violations of the Virgin Land had alienated the national people from their imaginary way of inhabiting the nation" (62).

The road from liberation to reconstruction in Iraq is heavily reliant on the trope of empty or emptied land, understood again in the first interpretation offered by Schmitt, namely as a lack of sovereignty. With the institution of the "ground zero" as the dominant rallying point of the Bush administration, there is a displacement of the trope of the "virgin" land as an empty land in its more Hobbesian and Schmittian sense, as a "depopulated … landscape in the imaginary register so that it might be perceived

as an unoccupied territory in actuality" to the nation-states of Afghanistan and Iraq (Pease, 2007, 63). This displacement ties into the trope of empty space lacking legitimized actualized sovereignty, or a space defined by "negative sovereignty" as has been pointed out in the case of failed states by Jonathan Hill (2005).

Iraq was further seen as a territory that is empty because it has lost its "civilization." Iraq and the people of Iraq are seen as constantly shifting between civilized worlds and conditions of nature. In the case of 1920s Iraq or Mesopotamia, as its territory was known then, the civilizing process was seen as the return of a once glorious and prosperous society. The historical narratives of the great civilization of Ur give hope to the idea that "under the influence of modern progress, a new civilization is rising in the dust of the old [and] Ur of the Chaldees will once more become the centre of Arab culture, and the new Arab State will take its place in the family of nations" (Lee, 1921, 23). The connection between the emergent state and the ancient Ur civilization had fascinated Western politicians, lawmakers, as well as scientists interested in Iraq. This historical narrative of ancient glory and contemporary revival negates any positive influence the Ottoman governance might have had. The period of Ottoman administration was rendered as a dark age that is to be forgotten and whose effect must indeed be reversed.

The ancient histories, as well as the contemporary culture of Iraq, were articulated through Western knowledge. This discourse of the Arab Orient has come to guide not only the discourse of the Arab and Iraqi state through the discourse of the Arab race and, more specifically, the Iraqi people. The evocation of a glorious past was complicated, however, by the supposedly degraded "illiterate and politically unconscious" residents of 1920 Iraq, where the key question to be answered was "Can they be made into citizens?" (Wright, 1926, 754). This idea of a denigrated Arab race was also supported through anthropometric and archeological studies that argued for the racial supremacy of the ancient Arab over his 1920s successor. Both the past and the future are seen as open to the possibility of an Iraqi civilization. The present, however, is situated in a condition of barbarism in a "state of nature." The CPA Administrator Paul Bremer argued at the 2004 opening of Iraq's "newest" police academy that the police force is "the line between civilization and barbarism" (2004). Disciplining the state thus holds the promise of bringing Iraq into the modern civilized world.

Schmitt's theoretical framework provides a productive context for understanding the reliance of state-building in Western political thought on emptied spatial formations. The figuration of empty space is also an important element of Schmitt's description of the fifteenth-century European imperial expansion—where the new world was not an enemy, but rather an "emptied space," an ordering I suggest was seen as in need of purification through violence before state-building can begin anew. This process of purification of the land from enemy to empty is reliant upon the removal of sovereignty localized in it. Emptied from sovereign power, the state becomes a territory to be secured through the purification and homogenization of its inhabitant population. It is precisely emptiness that allows a state to become a territory in order to again emerge a state, and a people to be reduced to population in order to be established as people.

Empty Land and Algorithmic Design

While features are important in creating an arsenal of available options for AI-generated content, empty space functions as space in which this generation and subsequent regenerations are made possible. In other words, empty space is a prerequisite for the articulation and construction of features themselves. This empty space corresponds to the articulation of territory as terrain. In the language of AI, empty space is coded as blank space or even more broadly as background space. In other words, anything that is not foregrounded as a feature is considered to be background noise. In the case of blank space, AI can generate an appropriate background, however that is of secondary interest to the algorithm. Through content-aware algorithms, terrain, features, and moving objects are constantly generated in simulation environments where blank space acts to separate features and to connect data points of meaning. Ideas of emptiness thus tie in with notions of terrain datafication and algorithmic calculation of space as they simplify complex territory into dataS sets of relevant information and insignificant blankness or worse, noise.

Taxonomies of Populations

Whereas territory was classified as abstracted cities and empty deserts, populations were subjected to their own two-step taxonomic process. Here taxonomies began with the articulation of what constituted a

person. The first distinction that AI technology had to institute thus was to create a human/nonhuman classification. Further, human subjects were categorized as enemies or friends in a simplistic binary framework. This AI-driven framework aimed to significantly simplify the enemy classification schemas that were first introduced in the Iraq War as part of the global War on Terror alongside information-gathering tactics based on imprisonment and torture.

From the beginning of the Iraq War on March 19, 2003, the US military engaged in a massive enemy-troops capture and detention operation. By April 2003, military lawyers were sorting captives into civilians, security detainees, and unlawful combatants (initially 200) and forwarding them accordingly to makeshift detention facilities. Initially, captives were considered enemy prisoners of war (EPOWs), rather than "unlawful combatants," and therefore were protected by the Geneva Conventions' internationally recognized rules of humane warfare. The term "unlawful combatants" was established by the Bush administration to designate a new category of detainees who were not protected by the Geneva Conventions as these individuals engaged in terrorist-like activities. The term is most often associated with individuals who were captured in Afghanistan and sent to the U.S. military's Guantanamo Bay, Cuba, facilities as part of the global War on Terror. Images of blindfolded EPOWs showing a clear violation of the Geneva Conventions started to circulate in the news media within the first few days of the 2003 invasion.

As the *Boston Globe* reported on March 22, 2003, the Allied forces captured thousands of Iraqis within the first few days of the start of the conflict and assured the public that "Prisoners in allied custody can expect starkly different treatment than suspected Al Qaeda and Taliban fighters captured in Afghanistan, as the US military will accord the Iraqis protections under the Geneva Conventions that do not extend to the Afghan detainees" (Schlesinger & Nelson, 2003, A1). While Al Qaeda fighters were seen as not belonging to a recognized military structure, the Taliban was also delegitimized as an unlawful authority over the state of Afghanistan. Four days into the war, the media started reporting cases of Geneva Conventions violations by the US military. The *San Jose Mercury Times* reported that "television and newspapers also are showing blindfolded and handcuffed Iraqi prisoners of war, an apparent violation of the Geneva Conventions on the treatment of prisoners" (Davies, 2003, A7). *USA Today* indicated that by April, "[m]ilitary lawyers plan to begin hearings shortly to determine the 'exact status' of the prisoners" (Locy, 2003,

5A). There were three categories of detainees outlined: "Non-combatants: Civilians swept up by coalition forces during combat; Lawful combatants: Soldiers doing their jobs in accordance with the laws of war; Unlawful combatants: Iraqi fighters who wore civilian clothes, faked surrender, fired on civilians or committed atrocities" (5A). By May, there had been several hundred detainees labeled "unlawful combatants" in Iraq, among which were foreigners "unlawfully battling American forces in Iraq" (Jehl, 2003, A18). In looking at the coverage of detention in Iraq in major US news sources from March 2003 to June 2004, a significant shift in language emerged. While media reports initially signaled the detention of "unlawful combatants," after the Abu Ghraib torture scandal the official discourse shifted toward relabeling these prisoners as "security detainees" assuring that all captives on Iraq soil were protected under the Geneva Conventions. According to the infamous *Taguba* report on the tortures in Iraq, Abu Ghraib "provide[d] security of both criminal and security detainees" (Taguba, 2004, 8). The report asserts that "[t]here is a strong argument that the intelligence value of detainees held at JTF-Guantanamo (GTMO) is different than that of the detainees/internees held at Abu Ghraib (BCCF) and other detention facilities in Iraq" as there are "large numbers of Iraqi criminals held at Abu Ghraib (BCCF)" who are "not believed to be international terrorists" (8). Similar observations were made in the 2004 Fay-Jones report. Abu Ghraib was one of many detention centers in which "enemy prisoners of war would need to be secured, segregated, detained, and interrogated" (9). It was meant to be a "temporary facility to be used for criminal detainees and after Summer 2003 was also designated by CJTF-7 as a detention center for security detainees" (10). The Fay-Jones report supported the accusation that detainees were tortured under conditions previously deemed possible only at Guantanamo as subjects there deemed "unlawful." The torture inflicted on detainees in both prisons was very similar (2004). In a sense, the captives of Abu Ghraib were tortured as if the Geneva Conventions did not apply because of the prisoners' official classification.

It is important to situate the construction of the enemy with regard to law not only because it is the basis of the current enemy taxonomy with regard to human rights, but, as Gayatri Spivak has eloquently pointed out, because we are experiencing "[a] war zoomed down to a lawsuit and zoomed up to the face of abstraction" (Spivak, 2004, 82). The non-state agents in question exist outside of the law of the state either as rogues if they have territorial ambitions, or as terrorists.

The configuration of these individuals, rendered outside of state law on the level of the national as well as the international, has become that of the "unlawful combatant"—existing outside civil and natural law in Hobbesian terms. Civil rights and human rights are denied to members of rogue states, or to terrorists and rogues operating in failed states. Thus, the current legal configuration of numerous failed states presents an opportunity for rendering entire populations in these states as "unlawful combatants" (in the form of either militias or extremist political parties), thus taking away the minimal human rights these individuals have and leaving them at the full disposition of U.S.-approved "interrogation"/torture policies.

Although the term "unlawful combatants" is mostly associated with the status of detainees in Guantanamo, the language has its roots in the U.S. 1989 invasion of Panama where the U.S. government argued that the Geneva Conventions "did not apply even though it determined for policy reasons to adhere to the convention" (Danner, 2004, 86). Tracing the genealogy of "unlawful combatants" illuminates the link between outlawed members of a failed state and their human rights. U.S. Attorney General Alberto Gonzalez first articulated the term. In a memo from Gonzales to President Bush published by Mark Danner, an argument is put forward that "the Geneva Convention III on the Treatment of Prisoners of War (GPW) does not apply in the 'conflict with al Qaeda'" and that "Al Qaeda and Taliban detainees are not prisoners of war under the GPW." Such determination was supposed to occur on a "case by cases basis following individual hearings before a military board" (83). In a sense, where citizenship (and human) rights are supposed to be revoked by a military legal system de jure, de facto citizenship (human) rights are suspended until the military legal system states otherwise. Al Qaeda and the Taliban present two differently non-state agents, both of which are subjugated to the same policy. The difference emerged from the configuration of de facto and de jure power (authorization) and its relationship to the state. The conditions for not evoking the Conventions lay in

> [a] determination that Afghanistan was a failed state because the Taliban did not exercise full control over the territory and people, was not recognized by the international community, and was not capable of fulfilling its international obligations … and the Taliban and its forces were, in fact, not a government, but a militant, terrorist-like group. … By concluding that the GPW does not apply to Al Qaeda or the Taliban, we avoid foreclosing

> options for future, particularly against non-state actors. (Gonzalez in Danner, 2004, 84)

In a speech to military families Bush spoke of "the terrible harm the terrorists did when they took effective control of the failed state of Afghanistan. After all, it was there that they trained and plotted and planned the attack that killed thousands of our citizens" (White House, 2005). The Taliban were seen as the architects of the most dangerous of rogue states and total power was not an object of discussion anymore. If Al Qaeda were the terrorists, the Taliban were a "terrorist-like" government. Issues of power, territory, and authorization determined the figurative from the literal through hyphenation.

The initial schemas of lawful versus "unlawful" combatant, and of determining the status of Taliban versus Al Qaeda fighters versus Iraqi insurgents, proved to be confusing and cumbersome. Biometrics offered a simpler way of knowing who was an enemy and who was a friend. It presented a way of bypassing a complex political and legal landscape with the help of a seemingly objective technological solution.

Taxonomies of Enmity

Generally, warfare has emerged as a disciplinary security project that has attempted to shape the boundaries of political community through a violent two-pronged system of differentiation and reformation. Executed through the institutions of the military, the police, and the prison, the project attempts to sort out and reform the inhabitants of the state in order to decide who will comprise the citizen-body of the state. Disciplinary classificatory schemes were implemented not only to account for the prison population, but also in order to analyze the population and the territory of the state in general.

With the redefinition of the new "legitimizing world order"—"nomos" in Carl Schmitt's words—in the aftermath of 9/11, new figurations of the "external" and the "internal" state enemy emerged. Susan Buck-Morss argues that in the War on Terror, the enemy is an "absolute enemy" rather than a "normal enemy" within the world order—within the "mental landscape of the existing political imaginary"—while the absolute enemy "threatens the imaginary landscape itself" (Buck-Morss, 2008, 145). She critiques the enemy posed by Schmitt for failing to consider the enemy on a meta level and suggests that the Al Qaeda terrorists are constructed as

absolute enemies in a post-national organization threatening the U.S. collective imaginary as a state as well as international power (2008, 165). Gil Anidjar offers an alternative framework tracing the conceptual lineage of the enemy as the criminal (the thief, the pirate) to the contemporary construction of the terrorist as a figure partially and structurally within the nomos of the state structure through its exclusion (Anidjar, 2004, 39–43). In other words, the terrorist is an active participant in the sphere of the political rather than an outsider as argued by Buck-Morss. While part of the political field, the terrorist however is excluded from the legal, territorial, or even communal boundaries of the polis. The figure of the "Muslim" has also authorized the reverse association—"extra-state collective actions" have in turn been labeled "terrorism."

The tension between the legitimate Western—as well as more specifically the American—state and the "Muslim" terrorists, however, is rooted, as argued by Anouar Majid, in an imagined clash of two civilizations (though both not seen as equally "civil") dating back to 1492 (Majid, 2009, 5). The tension between legitimate and illegitimate forms of statehood as well as resistance extends beyond the contemporary paradigm of U.S. exceptionalism. While Majid's work focuses on the shaping of the European nomos in relation to the figure of the "Muslim," Timothy Marr has provided an extensive account of the vexed relationship between the U.S. and "the world of Islam" (Marr, 2006). The emergence of enemy and friend, of the political as Schmitt would have it, both for the British and for the American states, has been historically bound to the racial imaginary of the "Muslim" as barbaric, premodern, and ontologically different Other.

The enemy, according to a speech by the Coalition Provisional Authority Administrator Paul Bremer given at the opening of "Iraq's Newest Police Academy," is darkness/barbarism and the police force is "the line between civilization and barbarism" as Iraq has become the "focal point between the forces of darkness and the light of civilization" (US Department of State, 2004). That sounds more like a line taken straight out of the *Lord of the Rings* or the 9/11 Terrorist episode of *America's Most Wanted*. The language of the enemy is heavily loaded with tropes of incivility. These tropes are consistent with the rhetoric of Hobbesian *state of nature*, where every man is left to fend for himself when a unifying commanding sovereign figure is absent. Under the banner of civilization, the Iraqi police are to rid the city and the nation of another human-animal hybridized enemy construction—in the words of Bremer, the "human jackals."

In the 2003–2010 Iraq War as well as the British Mandate for Iraq, the enemy, even if perceived as absolute, was seen as being spatially bound. After the removal of Saddam Hussein and of the Ottoman Empire, respectively, Iraq entered a "state of nature" in which the lack of a sovereign meant the dissolution of spatial boundaries. The state-building missions of the Americans and the British both aimed to secure the Western nomos and the Western civilized state by managing the population through the identification of friend and foe to the Arab state—as well as to the Western state—and through the confinement and neutralization of the latter.

In the context of the Iraq War as well as the British Mandate, Carl Schmitt's theorization of the internal enemy, or the foe, is especially relevant to understanding the ways in which the trope of the "state of nature" is seen as embodied by individuals within the state who are seen as harboring anti-state sentiments and therefore as anti-communal. In his book *The Concept of the Political*, Schmitt develops the concept of the "internal enemy," or "foe," that attempts to combat or dissolve the state (Schmitt, 2007). The internal enemy is understood in terms similar both to Hobbes's Behemoth and to Schmitt's interpretation of that figure, as an agent capable of bringing about a "state of nature." Further, this enemy becomes recognizable by acts of disobedience to the sovereign of the state. The Leviathan is thus threatened by a handful of individuals who are seen as unwilling to obey in exchange for their security and protection. Protection is to be provided by the state through the state-run disciplinary institutions of the military, police, and prison system. The citizens of the state are expected to uphold, rather than challenge, the established order. The rising Behemoth—the foe—"must not only be defeated but also utterly destroyed" (Schmitt, 1985, 36). This destruction of anti-statist tendencies does not necessarily occur through the killing of the monster, as it could still become a redeemed part of the Leviathan: in other words, those who are suspected of harboring traces of disobedience are to be segmented, reformed, or removed.

The figure of the "foe" is further elaborated in Schmitt's *Nomos of the Earth*, where it becomes associated with the realm of morality and ethics rather than politics, and thus is positioned outside of the state political structure and inside civil society (Schmitt, 2003). This deflection of the foe away from the framework of the political is justified by the incompatibility of the foe with the existence of obedience-based institutions. The

foe further dwells in a world where politics are impossible precisely because there has never been a unifying power that will create the sphere of the political. Reforming the "foe" is thus a moral and ethical duty, as a benevolent effort on the part of those who can see the benefits of a strong Leviathan state.

As much as the foe appears as a universal figure in opposition to politics, and thus the nomos, in Schmitt's writing it is also a racially charged figure. It is significant that there are only a handful of instances of the term "foe" in this text, and they are consistently associated with Islam, even though Schmitt examines interstate war as well as war against non-state agents and the criminalization of war into civil war in general terms. The figure of the "foe" appears in the discussion of the Medieval Christian order where a holy war was waged against Islam, "the foe of Christianity" (Schmitt, 2003, 65, 87). Schmitt's articulation of the universal "foe" as the Islamic foe of Christianity offers yet another proof of Anouar Majid's and Marr's theses on the importance of the figure of the "Muslim"—the quintessential universal foe to national homogeneity, historically rooted in the clash of the Western/American and Islamic civilizations—for the articulation of a legitimate Western/American *nomos* (Majid, 2009; Marr, 2006).

The figure of the "foe" as a threat to the state (state's sovereignty and order) became illustrative of the enemy deprived of the support of the state—the enemy outside of citizenship, as the enemy of the state is already othered with regard to the state—position outside of its political structure. The foe is relegated in the realm of the civil society—in the sphere of ethics not politics.

In the context of Iraq, the foe par excellence was embodied by the "tribesman." Orientalist discourse was evoked with regard not only to the state of Iraq, but also in describing the members of the state who were seen as living in tribal communities in spatially remote areas and temporally obsolete worlds. The tribal "foes" of the state were seen as subjects that needed to evolve into modern citizen-subjects under the watchful guidance of morally mature Western nations. In order for the state to move forward, all of its subjects had to become modernized and civilized as well. The evolution of the state was dependent upon the evolution of its people.

Through benevolent, civilizing efforts, the tribes could be reformed, enlightened, and educated into future citizens of the Iraqi state. This reformation required bringing the tribal foes out of temporal and spatial

backwardness and into an accessible present. As seen in the 1922 *Report on Iraq*:

> Outlying provinces which are in close contact with the desert and desert institutions, the more inaccessible regions of Iraq, such as the marshes of the southern delta and the unirrigated steps of the Jazirah, may for some considerable time hold to the ways of their forefathers, but the opening up of the country, the diffusion of education, and, more especially the recognition that there are modes of life more profitable than that of raider and robber, will strike at the root of tribal organization. (Report, 1922, 12)

Through cultivation, the seed of anti-statism—hence tribalism—could be eradicated once and for all. This evolutionary rhetoric, authorized by Orientalist Eurocentrism, allowed for the emergence of discourses of benevolent civilization supported by violent practices of armed repression.

Categorizing the Enemy

In 2003, "the civilians, security detainees, and unlawful combatants" detained in Iraqi jails were further classified into "criminals, security detainees, and detainees with potential intelligence" (Fay & Jones, 2004). The firmer the grip of the disciplinary regime, the more elaborate the prison classificatory schema—the enemies of the state must be accurately "typed" in order to ensure the security of the state. While the 1920s and 1930s saw an expansion of the criminal categorization, in 2003 the prison schema was centered around the prisoner's "intelligence value" or knowledge of anti-American or pro-terrorist activity. The criteria for imprisonment shifted from having committed a criminal act to being suspected of having knowledge of "anti-state" organizations. Similar schemas of classifying enmity were deployed during the British Mandate for Iraq, as well. Habitual offenders, casual offenders, and civil debtors were sentenced to penal servitude, rigorous imprisonment, and simple imprisonment in the prisons of Mesopotamia (Iraq after 1932) in the 1920s (Great Britain, 1931, 62). By 1929, a much more detailed system for analyzing convicted prisoners was put in place to distinguish offenders by their crimes—"murder, highway robbery, theft, forgery, frauds, crimes against morality, assaults, misappropriation and corruption, bribery, offenses relating to public health and safety, breaking of seal and abstraction of documents, intoxication, breach of trust, possession of stolen property, offenses against

public authority, various contraventions, [and] other crimes" (Report, 1929, 53).

The official discourse issued by the White House outlines the public policy shifts in understanding the enemy in Iraq as illustrated by the annual State of Addresses delivered by former President George W. Bush between 2003 and 2008. In 2003, the enemy for Americans and the Iraqi people was the dictatorial regime of Saddam Hussein and the terrorists that it harbored: "Saddam Hussein aids and protects terrorists, including members of al Qaeda" (U.S. Office, 2003). In a 2004 presidential address, the enemy included "a remnant of violent Saddam supporters. Men who ran away from our troops in battle are now dispersed and attack from the shadows" (U.S. Office, 2004). These men are further labeled as "killers, joined by foreign terrorists," as "enemies of freedom," and as "thugs and assassins." In 2005, in a sovereign Iraq, good citizens had gone to the polls, while U.S. "men and women in uniform [were] fighting terrorists" as well as insurgents (U.S. Office, 2005). In 2006, the enemy in the Iraqi state included "some men [who] rage and fight against [freedom]" (U.S. Office, 2006). The joint projects between the Iraqi people and the U.S. military in these three years had sustained "counterinsurgency" efforts, the War on Terror, and the democratization in Iraq: "In less than three years, the nation has gone from dictatorship to liberation, to sovereignty, to a constitution, to national elections. At the same time, our coalition has been relentless in shutting off terrorist infiltration, clearing out insurgent strongholds, and turning over territory to Iraqi security forces." By 2007, the U.S. enemy remained the terrorist, while for the Iraqi state, the threat came from "terrorists, insurgents, and the roaming death squads" who in turn were identified as "al Qaeda and other Sunni extremists," aiming to deter Iraqi citizens from voting by unleashing "sectarian violence" (U.S. Office, 2007). The new Iraqi government and military were asked to prosecute "violent radicals of any faction or political party" (2007). In 2008, the enemy continued to consist of "terrorists and extremists—evil men who despise freedom, despise America, and aim to subject millions to their violent rule." The extremists however were now seen as "militia fighters" trained by Iran (U.S. Office, 2008).

This taxonomy of enmity is important because of the figure of the enemy identified under the broad umbrella of the Arab terrorist. In terms of simulation, therefore, the enemy became articulated through the seemingly ahistorical figure of the Arab "terrorist." Yet it is important to note that this figure was carefully crafted through the official discourse of the

White House and became entrenched into the military operation procedure as well as in the American popular imaginary.

Is this a Person? A View from above

While the Iraq War deployed drones to collect real-time geographical data on one hand and torture to get high-value intelligence on the other, the AI-driven taxonomies deployed initially focused on detecting human presence as opposed to other types of objects. As object recognition technology was still nascent, it was not until after the war that more dependable taxonomies of human features emerged. The Department of Defense teamed up with Google in order to produce facial recognition in drone footage via AI. This initiative ran from 2017 to 2019 and was known as The Algorithmic Warfare Cross-Functional Team or Project Maven (Allen, 2017). It focused on "analysis of full-motion video data from tactical aerial drone platforms such as the ScanEagle and the medium-altitude platforms such as MQ-1C Gray Eagle and the MQ-9 Reaper" (2017). Prior to the AI intervention, video footage was analyzed by people—people who "look at screens to count cars, individuals, or activities, and then type their counts into a PowerPoint presentation or Excel spreadsheet" (2017). With the implementation of AI, "*humans* [sic] had to individually label more than 150,000 images in order to establish the first training set" (2017). The labeling was to go across 38 categories (Pellerin, 2017). In both cases, people (or *humans* as the article insists) were responsible for the labeling of a large number of objects. Machine learning was to mimic the lexicon established by its human counterpart. Whereas contractors were employed by the DoD to label the training set, once the project went commercial via Google, the identification of items was crowdsourced to a company called Figure Eight which paid $1 per hour (Fang, 2019)! The humans in the Project Maven loop were seen as cheap and expandable while the algorithm emerged as sophisticated and efficient. AI was to be entrusted with both low-stake and high-stake projects: from counting cars to identifying "individuals […] directly engaging in hostilities" (Allen, 2017). Here again AI was charged with ethical and moral dilemmas that it cannot account for on its own. Further, AI was considered to be easily fooled (Allen, 2017).

Facial Data Maps

Quantitative and data-driven modes of identifying and knowing personhood and further a friend from a foe relied on the distillation of the human face into a series of features that were to be captured, compared, and categorized. Historically, the individual human body has been identified and classified in relation to the "truth apparatus" (Sekula, 1986, 16) constituted by the archive, the database, and the big data set. In the nineteenth century, photographic portraiture came to "establish and delimit the terrain of the *other*, to define both the *generalized look*—the typology—and the *contingent instance* of deviance and social pathology" (Sekula, 1986, 7). These processes were made possible by the linkage of photography to a "truth apparatus" as the "camera is integrated into a larger ensemble: a bureaucratic clerical-statistic form of 'intelligence.' This system can be described as a sophisticated form of the archive" (Sekula, 1986, 16). As Foucault has argued, a disciplinary society is built upon the knowledge obtained through observation and examination and stored into a retrievable archive (Foucault 1995, 189). In the context of algorithmic technology, taxonomies emerged from a truth apparatus that distilled photographs into facial maps.

These processes of distilling people into faces and then faces into maps is precisely what Deleuze and Guattari call "an abstract machine of faciality" (Deleuze & Guattari, 1987, 168). Deleuze and Guattari make a number of important points here that resonate deeply with the contemporary landscape of AI facial recognition and deep fake generation as well as with the history of anthropometrics and photographic composites more broadly. First, they point to the ways in which "signifying traits are indexed to specific faciality traits" (168). In other words, measuring and evaluating facial traits has de facto been seen as a way of measuring and evaluating human character. Second, they argue that "[f]aces are not basically individual: they define zones of frequency or probability, delimit a field that neutralizes in advance any expression or connections unamenable to the appropriate signification" (168). In other words, faces signal the frequency and probability of facial traits and their seemingly correlating human cultural traits. Faces, as Deleuze and Guattari argue, emerge as nonhuman calculations, as surfaces that indeed ellipse the messy and unamenable human.

Face a Person, Face a Terrorist

In the context of the Iraq War, facial maps became deployed as markers of humanity in drone image-data and as markers of enmity in on-the-ground biometrics. The introduction of biometric technology aimed to simplify the process of identification—it aimed to bypass the complex cultural and legal taxonomies of enmity. In answering to the question "Who are you?," biometrics during the Iraq War provided a binary solution: a friend that can "Go" or a foe that is a "No Go." However, this taxonomy proved to be insufficient for capturing the complexity of what and who constitutes as an enemy. Whereas this model might become acceptable in the future of algorithmic warfare where all processes are fully automated, during the Iraq War, algorithmic logics were still being tested and thus viewed with skepticism.

Further, beyond the boundaries of the war, in the context of the Homeland, facial recognition was harnessed to identify the archetype of the "terrorist." As Karen Eagle has illustrated in her article "Face of a Terrorist," in a post 9/11 America, the figure of the Arab was constructed as either associated with the figure of Osama bin Laden or with the threat of the enemy "without a recognizable face or name" (Eagle, 2007, 397). As Eagle writes, in the context of the War on Terror, it became important identify the "face of terror" as a way to get to a truth that might otherwise be concealed. She details the importance of the process of facialization "as a method of identification, whereby the face of a subject, which is believed to reveal an interior truth kernel or deep essence, comes to stand for the narratives a nation tells about itself" (Eagle, 2007, 401). The face of the terrorist was then conceived as a type through FBI's terrorist list. Here, 22 photographs constituted the bases for the "terrorist" type. As Eagle shows, this type was sexualized and racialized as non-white and male. This "typology" became coupled with the name of Osama bin Laden and established a stereotype of who counts as an enemy.

Once the facial typology of the terrorist was imagined, it had to be established as what John Cheney-Lippold has called a "measurable type" (Cheney-Lippold, 2017). This process entailed the distillation of facial features into measurable objects that can then be classified as "Arab" and thus associated with enmity. Because the face of the "terrorist" was seen as unknowable, biometric technology saw wide adoption as means of securing the U.S. As Shoshana Magnet has argued, the rise of biometrics was connected to the implementation of racial profiling post 9/11 (Magnet,

2011, 46–7). Biometrically determining the taxonomy of enmity has attempted to legitimize racialized visions of viral masculinity. As Lisa Nakamura has powerfully argued, "[t]he construction and deployment of databases are part of a political project of identity formation and regulation—they augment without replacing the visual image as the medium of identification" (Nakamura, 2009, 153–4). In other words, the algorithmic taxonomy is created with an end goal in mind. In this case, the end goal was the racialized and sexualized stereotype of the terrorist. The algorithmic-driven biometric enterprise established the parameters that would legitimize the sorting of people into generic categories while at the same time obscuring the subjectivity and historicity of these categories and their characteristics. The "generalized" look of the terrorist had to be accurate because it was based on the repetition of similar facial features and the maintenance of a unique identification. Algorithmic categories promised to predict enmity without conflating entities. In other words, an algorithm can determine that someone is a threat and thus keep count of the enemies of the state.

The proto-algorithmic technology deployed in the context of the War on Terror articulated a racialized Arab "Other" a human, as friend or enemy, and further as a terrorist. The taxonomies of enmity that were established relied on an understanding of these categories as homogeneous. It is the category, rather than the individuals, that constitute it, that became important. In other words, the individual identity of the subjects within a category remained relevant only as a statistically significant data point. Beyond that, individuals within categories were seen as being similar, hence sharing sameness. This logic of sameness further supports the logics of substitution and sacrifice. Under the algorithmic logic of typology, Iraqis were to become either standardized citizens through participation in the newly established military or relegated as backward enemies organized in a tribal structure. While the standardized, hence disposable, citizen-soldier paradigm supported significance in terms of numbers where taxonomies were measured as accumulations of sameness, the tribal paradigm offered an opposing view in which each member of a community is seen as unique and indispensable. In the following section, I outline the biopolitical landscape of sacrifice into which the algorithmic logic of taxonomy became articulated.

Replaceable, Sacrificial Subjects

A major outcome from the generation of taxonomies made up of subjects perceived to share common properties and thus be substitutable is the reinforcement of sacrificial logics. Taxonomies warrant a discourse of expandable life. The logic of sacrifice is thus a logic of substitution based on sameness, hence on a taxonomy of generalized types. The image of the Hobbesian Leviathan illustrates the idea that those bound by the friendship of the national fraternity form a civil society that becomes visualized as actualized in the figure of the sovereign. They are allowed to partake in the state (which comes to structure the political) affairs by becoming citizens in times of peace or soldiers in times of war. But political inclusion as evident from the political doctrine of the current nation-state, and further exemplified by the image of the Leviathan, requires the willingness of the subject to become sacrificiable.

The sacrificial logic based on taxonomic classification was a central component of the U.S. militarized state-building effort in Iraq as it came to underpin both the paradigms of veridiction and security. With regard to the U.S. military, Susan Buck-Morss writes that the thousands of American soldiers sent to Iraq "will not die to defend America, which was in no way under a military threat from the tyranny of Saddam Hussein, but as a sacrifice to the idea of American sovereignty and the rightness to power" (Buck-Morss, 2008, 145). This sacrifice, as Schmitt claimed, was necessary for the constitution of the citizen of the state (Schmitt, 2007, 46). Here the taxonomic classification of categories of military service and the larger umbrella of the "soldier" rendered individual lives sacrificial in the name of a greater good. A loss of life was seen as quantified loss in relation to a numeric taxonomic whole rather than as an irreplicable, irreplaceable loss of life.

Sacrifice was to be enacted by the American and Iraqi troops. In the U.S. context, the term *sacrifice* has acquired almost colloquial use in the presidential rhetoric. President George W. Bush time and time again justified the sacrifice of American soldiers as a matter of state life or death. There are numerous examples linking Bush's rhetoric of war as state-building to the language of sacrifice. For instance, in 2005 he said, "Amid all this violence, I know Americans ask the question: Is the sacrifice worth it? It is worth it, and it is vital to the future security of our country" (Baker & Milbank, 2005). In 2007, he assured the American public that "the conflict will end someday because all wars do," hence "[o]ur duty is to

ensure that its outcome justifies the sacrifices made by those who fought and died in it" (Bush, 2007).

Rene Girard has theorized the mode of belonging on the margins associated with the sacrificial victim in his book *Violence and the Sacred* (Girard, 1972). Evoking Marcel Mauss and Henri Herbert, Girard sets up the figure of the sacrificed as a victim which is "criminal to kill" yet sacred only "because he is to be killed" (1). The sacrificial lies within legitimizing boundaries of the community precisely by its promise of death—the absolute form of non-participation. This figure is different from Agamben's *homo sacer* who has been banned from the sacrificial logic and thus can be killed without criminal charges being brought against the killer. As Girard insightfully argues, the victim of sacrifice is usually a surrogate for the out of reach enemy against which hostility is aimed (2). In a war on "terror"—and for "democracy"—both the threat and the promise figure in highly abstract terms. The sacrificial violence became liberalized on the bodies of thousands of men, women, and children who were "chosen" as surrogates. The logic of sacrificial substitution requires "a relatively indifferent victim, a 'sacrificable' victim" upon which to deflect the "violence that would otherwise be vented upon its own members, the people it most desires to protect" (4). After all, the "purpose of sacrifice is to restore harmony to the community, to reinforce its social fabric" (8). The language of "restoration" becomes an important trope linking theoretical discussions of state-sustenance through violence, as well as the current political discourses of reconstructing the Iraqi social fabric while defending the American social unity.

The sacrificial victims according to Girard are "exterior or marginal individuals, incapable of establishing or sharing the social bonds that link the rest of the inhabitants. Their status as foreigners or enemies, their serville condition, or simply their age prevents these future victims from fully integrating themselves into the community" (12). The sacrificial thus are part of taxonomic structures that exhibit characteristics perceived as marginal to the dominant taxonomic group. Girard draws his observations on the sacrificial rites of "primitive communities" that feature prisoners of war, slaves, pharmakos, children, yet almost never women (12). Women are removed from the realm of the sacrificial victim (12–13), and I might add as well as from the realm of the homo sacer, through their indispensability for the formation of the family. These bans on sacrifice as well as bans on killing are intimately related to a reproductive familial structure. For Girard, our own community does not "strictly speaking practice

sacrificial rites [and] seems to get along without them" (16). While Girard's theoretical insights come from observations of what he calls "primitive societies," the tropes of marginalization and substitution are productive in thinking of the ways in which our political community framed by a state structure very much relies on the sacrifice of both its own and other states' marginal citizens.

The sacrificial logics behind the life and death of self-selected American soldiers and the selected Iraqi civilians should be distinguished in terms of volunteerism, state support, sovereignty, and investment for life preservation as well as life betterment. Moreover, those who have sadly become the American death toll in this war had full power and authorization to inflict the Iraqi death toll. Subjects to sacrifice themselves, the soldiers' primary occupation necessitates sacrificing the life of the Other. The sacrificial logics here differ not only on a quantitative measure—the fewest Americans, as many Iraqis as necessary—but also in their qualitative conditions. While soldiers are sacrificed by *their* state for their state, detained Iraqi civilians are sacrificed by the *occupying* state for their state. One's death is seen as heroic, while the other is capital punishment. U.S. soldiers return upon completing their mission; Iraqi detainees are returned upon fulfillment of their sentence, their rehabilitation, or their death.

Disruptor: The Non-sacrificial

The establishment of the political community as a national statist community in Iraq historically has been no easy task. Militarized state-building in Iraq during the 2003–2010 war and in the 1920s and 1930s faced the task of reworking existing tribal alliances into a national identity that can then support the disciplinary structures required to secure the state. In the 1920s and 1930s, the self-governing state of Iraq was pieced together out of profound rifts between cities and tribes in Iraq. In the 1920s, the state of the country was likened by General Haldane to "a sheet of parchment which rises at any point where a weight is lifted from its surface" (Wilson, 1931). The uprisings of the 1920s and 1930s in the far corners of the country were suppressed through collaborative repressive actions by Iraqi military and police, British air forces, and Indian forces. As the 1922 report shows that the "tribes" in inaccessible, hence hostile, areas were reached by airplane bombings, combined with attacks by the Iraqi Army, Levies, and Police: "[t]he police have frequently engaged in combination with aeroplanes or Levies, or both together, in operations of a military

nature against the tribes" (Report, 1922, 16). Major (later Sir) Hurbert Young accounts in *The Independent Arab*, that Indian forces as well were sent to suppress the "outbreaks" of tribal violence (Young, 1933, 318). In a letter to her mother from September 5, 1920, Gertrude Bell (Political Officer and later Oriental Secretary to the High Commissioner in Baghdad) wrote with regard to a tribal uprising: "The problem is the future. The tribes don't want to form part of a unified state; the towns can't do without it" (Bell, 1920). These constant uprisings by the "tribes" posed a serious threat to the British state-building project. The opening section of the report from 1921 of the High Commissioner on the behalf of Great Britain to the League of Nations lists the resistance faced and means of subjugation employed in order to establish the state. Sir Cox, the author of this report, saw "the tribes" as opponents of the Covenant who lived uncivilized lives and held criminal occupations. They had become the enemy par excellence of the British administration and the Iraq state. An enemy that can be reformed, enlightened, and educated:

> The progress of [revenue collection] will be in direct ratio to the general advance of civilization throughout the country. Outlying provinces which are in close contact with the desert and desert institutions, the more inaccessible regions of the Iraq, such as the marshes of the southern delta and the unirrigated steps of the Jazirah, may for some considerable time hold to the ways of their forefathers, but the opening up of the country, the diffusion of education, and, more especially the recognition that there are modes of life more profitable than that of raider and robber, will strike at the root of tribal organization. (Report, 1922, 12)

These perceptions of the Iraqi population as a deviant combustive mass of "premodern" tribesmen and "semimodern" townsmen continued to resonate in the 2003–2010 Iraq War, as seen in the writing of contemporary administrators of Iraq such as Mark Etherington—a former British paratrooper who in 2003 was put in charge of a small CPA team charged with overseeing the Wasit Province in Iraq (2005). Iraq's evasive past—and equally oblique present—clouds its future as a modern nation. Iraq is still seen as a land torn between multiple hostile tribes—tribes that in turn are opposing the U.S. forces, the Iraqi government, the Al-Qaida in Iraq, as well as each other. Etherington wrote in his memoir *Revolt on the Tigris* that there was "no all-embracing society in Wasit to speak of, but rather a series of camps and cliques—miniature societies—each with its own place

[… each] self-sufficient because it was built around a source or sources of power" (84). Furthermore, he compared these societies to the ancient city-states and saw no possibility of a democratic discourse emerging among them "not because they were incapable of it, but [because] they failed to see the obvious advantages in abandoning an essentially feudal system" (85). The Iraqis were once again seen as feudal tribes, not ready or willing to form either a nation or a state.

Tribal uprisings—in the 1920s and 1930s as well as in the Iraq War—have been used to justify an understanding of tribal organizations as posing a serious threat to both the British and American nation-state-building projects. They visualized the suspected anti-statist tendencies that the Iraqi people are presumed to harbor. Furthermore, the tribes in and of themselves presented an alternate social form that is seen as incompatible and even hostile with the modern state project: a social form that harkened to a Hobbesian "state of nature" and needed to be eradicated in order for the true state to emerge and survive. The threat of dissolving the state back into a "condition of nature" required the modernization and civilization of these Schmittian "internal enemies" of the state. The tribal structure, however, offered an important social paradigm that exists as an alternative to militarized state-building and to modes of social governance that relied on quantification, disposability, and sacrifice. Through an engagement with tribal order and asymmetrical warfare, an understanding of inclusive asynchronous civil society that does not position the state as worthy of human sacrifice can be articulated.

As demonstrated in Anthony Cordesman's writings on the 2003–2010 Iraq War and in the memoirs of T. E. Lawrence, however, the tribal militiaman presented an alternative defense structure in which sacrifice was not expected nor exacted on behalf of the community. T. E. Lawrence, writing of the Arab Revolt of 1916 against the Turks with the help of the British, articulated a model of resistance that is quite different from the citizen-soldier sacrifice model that emerges with the regular modern military. According to Lawrence, engaging the irregular Arab armies made up of Bedouin tribesman against the Turks required a new strategy—one which "could not afford casualties" and needed to focus on the destruction of materials rather than people (Lawrence, 1968). The irregulars "were not units, but individuals, and an individual casualty is like a pebble dropped in water: each may make only a brief hole, but rings of sorrow widen out of them" (1968). Therefore, Lawrence advises, "Do not waste Bedu attacking trenches (they will not stand casualties) or in trying to

defend a position for they cannot sit still without slacking" (Lawrence, 2017). Similar observation is made by Etherington in the context of the Iraq War. Every death is subject to tribal laws and tribal negotiations—negotiations that involve so-called blood money (Etherington, 2005, 105). The death of a tribesman presents a significant departure from the idea of the citizen-soldier as a sacrificial subject. Indeed, the sacrifice here is unattainable because no tribesman exists on the margin—each individual carries an equal weight. It is the non-sacrificial tribal subject that remains invisible yet present; s/he is anchored beyond the limits of the figure of the modern Leviathan.

The articulation of the Iraqi tribes in the discourses both of the British Mandate and the Iraq War points to the civic as well as the political significance of the question of inclusion. If seen as different from the townsfolk as a matter of degree, rather than kind, the tribes could be reformed enough to fit into the profile the modern citizen. Those who are seen as deviant and backward are to be isolated and rendered invisible or eradicated hence erased. Under the question of civic inclusion, thus one asks what degree of difference can be included without losing coherence. The problem of the tribes is a Western problem. Tribal structures could posits the possibility of a political imaginary of collective in which figure and figuration is not a fixed entity that can expand but rather is dynamic and evasive, if present at all.

Conclusion

The second algorithmic logic of taxonomy and categorization attempts to find common features among a dispersed set of elements. During the Iraq War, territory and population became abstracted into general categories that were further endowed with racialized meaning. Territory became articulated as abstract cities and empty deserts, while people were seen as either friends of the U.S. military forces or enemies. These simplistic taxonomies attempted to evade discourses about culture, identity, and history. Ultimately, they helped weave a narrative of an absence of sovereignty and legitimized the processes of data-gathering and data-categorization on foreign land and the need for technological assessment of foreign (hence unknown) people.

The limits of taxonomical classification of subjects as data-driven types or simply as go or no-go subgroups were tested both by the persisting racial imaginaries of the Arab terrorist and through the figure of the unruly

non-sacrificial tribesman. The tension between story and identity on the one hand and calculation and data on the other continued to fuel the execution of the Iraq War itself. Soldiers trained for war through game play. The following chapter focuses precisely on the processes on simulation and training and details the pitfalls of imagining, executing, and remembering the Iraq War as a data-driven war.

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CHAPTER 4

Data Replay

As Martin Van Creveld writes, "[T]oday, the most powerful tools we have for looking into the future are models and the algorithms from which they are constructed" (2020, p. 199). Algorithmic prediction models were harnessed in both the training of military personnel and the creation of autonomous military technology. A prime example of the use of artificial intelligence (AI) in training is the February 2020 augmented reality (AR) case study where the U.S. Army considered buying 40,219 "mixed-reality" goggles for its soldiers as "Augmented Reality [was] soon be a standard-issue piece of equipment for several ground fighting units, bringing the future to the forefront of modern warfare" (Staff, 2020). These new goggles, or Integrated Visual Augmentation System (IVAS) units, were to "provide real-time data to the user without hampering vision" (Staff, 2020). The data included "navigation, weapon information, combat data and mission objectives in a format similar to that of what past two generations have grown accustomed to seeing in First Person Shooter games" (Staff, 2020). The U.S. Army was thus moving toward blending the gaming experience of "first person shooter" games with reality in a newly fused augmented reality. This fusion follows in the footsteps of two parallel trends in simulating war—one in which war is presented as a digital game and another in which war is presented as a Hollywood movie set. This chapter grapples with the role of simulation in

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warfare historically and the role of augmented and virtual reality in algorithmic warfare more specifically.

In this chapter, I explore modes of simulations that were aimed to train audiences as a method of desensitization to warfare. More specifically, I evoke the "shock and awe" campaigns that came to define the Iraq War as a "mediated war" to be replayed and re-watched from the comfort of one's own home. In thinking about warfare as a simulated event, I explore human trauma as a disruptor. While an algorithm can relive war without emotional trauma, human beings are indeed unable to do so. In thinking about the implications of training and repletion of biopolitical events, I offer an analysis of the 3D film *Billy Lynn's Halftime Walk Home* as a counternarrative to the algorithmic logic of simulation and its desensitizing function.

Algorithmic Logic Three: Simulation

The algorithmic logic of simulation is connected to the processes of repetition and forecasting. Algorithms train on a given set of data, on given parameters and taxonomies in order to develop a predictive model that shows how this data is linked or correlated. The model is then tested onto the real world or testing data with the hopes that the variables in the real world behave in the same ways as those identified in the model. The training data thus creates a simulation environment in which outcomes can be practiced and refined in order to assure that they will successfully repeat in the context of a future, real-world environment.

In thinking about simulation and repetition in kind as well as in time, Gilles Deleuze writes, "Generality represents two major orders: the qualitative order of resemblances and the quantitative order of equivalences … generality expresses a point of view according to which one term may be exchanged or substituted for another" (1994, p. 1). Deleuze's definition of repetition is important here: "[r]epetition as a conduct and as a point of view concerns non-exchangeable and non-substitutable singularities" (p. 1). It embodies degree of difference and, more specifically, an "indifferent difference" (p. 1). For Deleuze, repetition signals the "universality of the singular" (p. 1). Repetition is thus a hypothetical structure rather than a common structure—an exception and transgression rather than a norm. In recognizing an event as repeating, one might first and foremost recognize the singularity of the past and of a current event to differentiate between both, but also to collapse this difference in order to acknowledge

the ways in which both events become indistinguishable (1994, p. 15). True repetition is thus unattainable. Algorithmic repletion needs to acknowledge a distinct past that it seeks to reproduce as its future.

Algorithmic Logic Three Core Principle: Prediction

As Michael Van Creveld writes, "[B]y definition, training is a future-oriented activity and one cannot train without having at least a rough idea as to what one is training for. In other words, what the future may be like" (2020, p. 211). The forecasted future thus is a model that attempt to recreate the familiar—it aims to repeat the past and therefore it notes the distinction between the past and the present moments. It fails to acknowledge and further hides this distinction, however. Predictive models promise repetition, reproduction, and replication. Further, as Wendy Chun has argued, these forecasts based on correlations are attempts to recreate and further legitimize a "meticulously pruned past" (2021, p. 45). Chun offers a powerful assessment of predictive algorithms which lie at the heart of data replay: they are "verified as correct if they can predict the past correctly, for they are usually cross-validated using past data that are hidden during the training period or out of sample data, similarly drawn from the past" (p. 46). This is important to point out because simulations and trainings are already guided with an end in mind and are further seen as valid if they produce the desired outcome. It is this foreclosure of openness in the logic of simulation and forecasting that lends predictive modes to automation.

In the Iraq War simulations, the training dataset consisted of objectified, yet authenticated, enemy populations and territories. The dataset reliability was assured by either recourse to authentic populations as seen by the "use" of "real" Iraqis in Wadi al-Sahara in "generic" Arab landscapes, or by the harnessing of "generic" Arab enemy in "truthful" satellite-imagery-informed terrain as seen in Medina Wasl, as well as in the virtual gaming training systems such as *UrbanSim*. Because these training data sets were to make sense to the humans using them, they had to be recognizable by and realistic to human agents. This objective will change in a fully algorithmic war where the end user of this data is another algorithm.

Military training has further shifted to training the algorithms themselves in order to make decisions autonomously. Whereas for human soldiers training happens for the purposes of improving in real-life, military algorithms are faced with *training* data that prepare the algorithms to operate with *testing* data. Meredith Broussard has eloquently detailed the

difference in types of data that algorithms engage with. She defines training data as the "known dataset for practicing and tuning the machine-learning model" (2018, p. 93). The algorithm is to "construct a model, a black box, that predicts what we already know" (p. 93). The next step in the process is to engage with testing data where the model is applied to test data to see if the model's prediction matches our prediction. What is lost in this transition from training to testing data in the landscape of algorithmic warfare is the seeming disappearance of both the human and the real. Broussard's insightful work on the ways in which quantitative data from the sinking of the *Titanic* evades qualitative knowledge about the human experience is quite telling of the limitations of algorithmic prediction. By demonstrating the faultiness of algorithms to evaluate the survival rate of passengers on the *Titanic*, Broussard argues that "numbers camouflage important social context" (p. 115).

> In the *Titanic* example, we picked a classifier, survival. We used features to predict our classifier, but there are other possible factors. For example, our *Titanic* dataset includes only age, sex, and other factors. We built our predictor based on information we had. However, because this was a human and not a mathematical event, there were other factors at work. (pp. 115–116)

The factors here were accessible only via review of Walter Lord's nonfictional account of the events, *A Night to Remember*. In this account, two protagonists jump from the ship, and it is the difference in the way they jump that allows one to live while the other one dies. Broussard reminds us that "human beings are not and never will be statistics" and therefore we need to be wary of what she calls the "unreasonable effectiveness of data" (Broussard, 2018, p. 118).

The implications of this idea of the "unreasonable effectiveness of data" are huge in the context of a proto-algorithmic and further algorithmic war. With the Iraq War, there was a shift in training away from reliance on cultural knowledge and toward optimization by reducing either population or territories symbolically into generic data sets that can be known only in their generality. Further, simulation suggested that in warfare the data and decisions should be supplied by smart algorithms that rely on "big" data. Neither real, nor human, algorithmic warfare threatens to imagine death and destruction as a testing ground of replay in which the algorithm is imagined to be at play with itself. Play becomes training when the consequences of progress are elevated beyond virtual respawning or

algorithmic rerun. Replay in an algorithmic war results in a war in which data is waged against humanity.

Simulated Terrain

In tracing shift toward mastering the imaginary of Iraq through technology, territory was simulated for the purpose of training military human personnel. During the Iraq War, as part of an effort to gain knowledge, as well as control over Iraq, the U.S. military deployed a number of tactics that sought the virtual and physical simulation of Iraqi cities—here gaming and training focused on an integration of both people and spaces. This process of training through repetition in the empty space of simulation has evolved technologically from the use of Lego and poker chips outside of Fallujah in 2004, to full-scale digital and analog immersion in Medina Wasl featuring Lego-like arrangement of shipping containers, and 3-D modeling of the "authentic" city in *UrbanSims* in 2009. These simulation instances should be situated in relation to the imaginary villages created by the British Royal Air Forces in Iraq during the Mandate years as in both instances it is their veracity or "realism" that made them both useful and significant, while their design was intentionally articulated to demonstrate Western military technological superiority. They also should be understood in the context of a heavily mediated war as the Iraq War itself was presented as a hypermediated surreal experience to American audiences.

Lego City

In the initial stages of the Iraq War, the city of Fallujah had proven to be a stronghold of the rebel army. In November 2004, on the eve of the second U.S.-led attack of the city, American soldiers constructed their own version of Fallujah through the use of gravel, Legos, and poker chips (Gregory, 2008, p. 10). The impending invasion was described by Captain Sean Sims as "face-to-face fighting bloodier than any he had seen" (Barnard, 2004). This "Lego" city imaged the landscape as an empty space onto which the soldiers could play/train by focusing on the impact terrain had on the military's actions on the eve of a destructive and deadly invasion. This game was solely focused on the simulation of territory. Roads were marked with gravel; streets were labeled with white paint if nonconsequential, red paint if they were designated phase lines, or yellow paint if "not passable by Humvee." Legos were used to indicate mosques

or structures over 40 feet long and poker chips for structures under 40 feet long. Anne Barnard's description details the rules of the game:

> With 24 hours to go before the attack, Newell's staff mapped out a model of Fallujah in a dusty field. Bricks in the dirt represented buildings; the cones of spent shells were mosques. Each platoon leader marched across the bricks to show where his troops were supposed to go, standing astride the model city like Gulliver in Lilliput. An intelligence officer, Captain Natalie Friel, rattled off the threats: Car bombs. Booby traps. Mines. Rocket-propelled grenades. Fighters who would drop their weapons and run to another stash, or wave white flags and then attack. (Barnard, 2004)

What is notable here are the ways in which the taxonomy of streets and buildings were harnessed to support the logic of simulation. Now that the variables were measured and classified, they could be reproduced, rearranged, and replayed. It is important to note that the variables here were purely terrain oriented as the population of Fallujah was not part of this gaming scenario.

The constructed space was imagined as a foreign space. Barnard's reference to Gulliver in Lilliput exemplifies this simulated space as a space of otherness. Jonathan Swift's novel *Gulliver's Travels* tells the story of Gulliver—the only survivor of a shipwreck stranded on the island of Lilliput where all inhabitants are less than 6 inches tall. Swift's text engages with 1700s British colonialism from a point of satire and criticism that seems lost to the soldiers playing Legos outside of the gates of Fallujah. This low-key prototype of a city differs ontologically from subsequent simulations of the war in which "realness" in scale and content became imperative. The Lego City games presented one end of a spectrum of simulation with augmented reality bracketing the other.

The focus of the Lego City games seemed to be on navigation with the issue of the "street" being a core training element. The proposed street variables here—Humvee friendly or Humvee unfriendly—resonate with Michel Foucault's question "What is a good street?" (2007, p. 19). As Foucault argues streets embody the core ideas of security—namely the supervision of circulation of good and bad elements. In this Lego City the idea of the street is still nascent—one in which the only elements to be accounted for are strategic positions and vehicle maneuverability. As the Lego bricks become containers in the homeland training camps, the street

will gain vendors, loiterers, informants, and enemies, and the rules of engagement will start to account for a multiplicity of variables.

Desert Homes

In 2007, in the remote desert town of Twentynine Palms, California, Strategic Operations, Inc., and the military built two "hyper-realistic" training grounds employing "state-of-the-art" facilities. Located in deserted and desert remote areas within the U.S., these recreations fostered an opportunity to practice organization and classification of both space and the people who inextricably inhabited this space. Hollywood battlefield special effects, combat wound effects, role-players, subject matter experts, combat training coordinators, and training scenarios created training environments that were "the most unique in the industry" (Strategic, n.d.). Both the Iraqi village of Wadi al-Sahara part of Operation Mojave Viper and Medina Wasil in the Fort Irwin facility became exemplary simulations of the Iraqi town/battlefield where soldiers learned about asymmetric warfare through replay while visitors marveled at the technological acumen of the U.S. military.

Why the desert? Perceived as flat, uninhabited, and empty, the desert as Satia argues was perceived as "ideal for training to fight in any terrain." The desert provided the "ideal space for abstracting war from politics and repackaging it as technical affair: the fictional enemies against whom USAF aircraft personnel called 'bandits' in these training programs, rogues without politics" (Satia, 2014, p. 5). The desert became the setting where both aircraft/drone policing and urban warfare can be practiced: as both the desert and the urban center were reduced to apolitical, geometric, generic, empty spaces. "Iraqi-ness" was to be found in the performances of Hollywood actors, soldiers, as well as "authentic" Iraqi natives during the practice land and air drills. This coupling of the simulated generic terrain with the performed authentic population echoed yet again the similarities in the geographic imaginaries practiced by both the British and American administrations of Iraq.

War Games

In his book *Seeing into the Future: A Short History of Prediction*, Martin Van Creveld traces the history of prediction in military context and makes the powerful argument that play, when deployed by the military, has been

primarily used for training (2020, p. 211). He argues that games were indeed a major model for predicting the future and that the military were the first to embrace this strategy (2007). Further, Creveld outlines two types of games: one in which the strategy involves people in battlefield strategy, and another in which terrain comes to function as a major aspect of the game in addition to people (p. 221). Following this taxonomy of games that focuses on people versus games that incorporate terrain provides a fruitful framework of understanding the simulation of territory and simulation of population during the Iraq War and the British Mandate under the guise of war games.

Gaming as propaganda was explicitly deployed during the later stages of the Iraq War through the CIA-sponsored project *Kuma Wars* created by Kuma Games which peaked during 2006–2008 (Takacs, 2013, p. 182). Jennifer Terry and Stacy Takacs have written extensively about the ways in which this first-person shooter game was seen as authentic because it reflected "real" life scenarios and technical advances (2007 and 2013). In an episode on Fallujah, posted on YouTube, the offensive and occupation of this Iraqi city were made by Kuma Games into a playable virtual experience to be replayed and mastered through technology.

In the aftermath of the war, a suite of military-themed virtual reality simulation platforms was developed. Among them were *VBS2* and *VBS2 Fires* (released 2013)—"3-D, first-person, games for training platform" focusing on warfare techniques; *BiLAT* (2004–2008)—"3-D software simulation [focusing on] negotiations in a specific, cultural context"; Alelo's *Operational Language and Culture Training System* (2009)—"game-based courses and simulations" focused on learning foreign languages; and *UrbanSim*—"virtual training application for practicing the art of battle" (U.S. Army, n.d.). An unlikely addition to this suite was the commercially developed board game *The Battle for Iraq*. Here the satellite-like imagery, photographic IDs, and role-play scenarios used in a number of virtual training environments were made into old-fashioned physical objects. The veracity of the experience in this board game was guaranteed through the use of "satellite images of the city of Baghdad" where "each component is carefully researched for authenticity" (MSG, n.d.).

Most of the virtual training environments were commissioned directly by the U.S. military and were distributed through the military gaming portal https://milgaming.army.mil/. These virtual gaming systems were developed in parallel—and largely subsequent to a number of physical sites

such as the now infamous Fort Irwin, California—for simulation and training purposes. Here, U.S. military men and women were subjected to a number of war simulations in which they were to practice their veridiction skills—their skills in determining who can be recognized as an enemy and who counts as a friend. These simulations ranged from virtual gaming environments to physical battlefields.

In 2019, through augmented reality, a third, hybrid model of integrating gaming into physical environments emerged. With the introduction of IVAS, these two worlds—the virtual and the physical—were set on a collision course. Augmented reality had now taken on the task of optimizing warfare by fusing the real with the data-driven imaginary. In all cases, the simulated people and places were to provide a set of "training" parameters where soldiers could "learn" to distinguish the good from the bad elements and then implement their new knowledge in the "real" world. The realism of play has been a critical factor in games used for war training. I have put the notions of testing, learning, and real implementation in quotes because these three stages were seen as the staple of both machine learning and human knowledge in the context of war.

No longer rooted in narrative or history, this technology relies on data for the purposes of determining friend from foe through veridiction. The enemy is a datafied object. Here, augmented reality combined with real-time data is supplemented with an interface and experience familiar to most military recruits—that of the first-person shooter (FPS) games. As Todd South reported for the *Army Times*:

> The core of what's happening with the device relies on mixed reality. Essentially, software provides visual symbols in the user's field of view. More augmented reality than virtual reality. The user still sees the real world but can add and enhance what they see in their view. (South, 2019)

This technology builds upon Microsoft's commercial HoloLens, where the reality seen is constructed and overlaid based on simulation. Here both geographic spatiality and subject/object become constructed and given meaning through data. The terrain is both encountered and simulated. Army Staff Sgt. Nicholas Schneider with the 82nd Airborne was quoted saying that "we might not know what a compound looks like but we can predict, take Google images and build something off of that. … To take that and implement it into the IVAS is a huge boost to our rehearsal." Scenarios are thus based on predictive modeling by artificial intelligence

on the basis of overhead imagery provided by Google. In this new technocratic imaginary, Google and Microsoft fuel the narrative of war.

The enemy has also become translated into a gamified object, namely the "enemy avatar." This enemy avatar is subject to the binary regime of veridiction where the two possible outcomes are "threat" or "civilian non-combatant." According to a recent report by the *Army Times*, the new augmented reality goggles feature augmented target recognition:

> Aided Target Recognition, a feature that gives users the ability to quickly identify anything or anyone in sight, which means they can tell the difference between a threat and a civilian non-combatant. (Siter, 2019)

The introduction of the IVAS provides a further entrenchment of military strategy in what James Der Derian has termed a virtuous war where we see "the hybridization of warring and gaming" (2003, p. 39). In this hybridization, Der Derian warns, "[T]he human role is shrinking in numbers and significance" (p. 41). In a proto-algorithmic and further algorithmic war, the role of humans is seen as shrinking. Such wars involve both object/subject recognition and even more crucially decision-making carried out by machine learning and machines more generally. Artificial intelligence is entrusted with recognizing enemies and optimizing the decision process for each soldier; big data is seen as being able to deliver answers to the modern "warfighter" not just to human soldiers but increasingly to nonhuman agents of war. With the advance of technology that claims to simulate a "real" war, the military's skills and strategies practices have shifted. The agents trained have changed as well: whereas military training traditionally entailed the physical and psychological preparation of human soldiers, in the contemporary context, machines are taking a greater role in learning and preparing for battle or leadership in war.

Simulated People

The on-the-ground simulations of Iraq in places like Twentynine Palms and Joshua Tree Park, California, aimed to supplement the satellite view of the "theater of war" with an embedded micro view where military personnel, through repeated inconsequential enactment of violence, can train to navigate both the physical and digital articulations of the space of "Otherness." Here the ethnic dress allowed for the reenactment of war and also constructed a colonial adventure—one that can be simulated and

thus reenacted until perfected for the purposes of enmity rather than friendship. American soldiers took on Iraqi dress as they played both the occupier and the occupied for the purposes of being able to recognize the right enemy. I use the word "right," because, in the course of the Iraq War, the framework of enmity changed quite dramatically as outlined in the previous chapter.

The simulated village of Wadi al-Sahara located in Joshua Tree Park, CA, or "village in the desert," was as of April 2007—the month which saw the heaviest walling of Bagdad—the "most extensive training exercise the US military has to offer" (Raz, 2007). As the *Desert Sun* reported, empty shipping containers and plywood boxes were "fashioned" into coffee shops and houses. Wadi al-Sahara had close to 400 buildings. Furthermore, the "village" had political, disciplinary, and commercial institutions as it was equipped with a town mayor, police located in a "three story police headquarters" in the center of town surrounded by barbed wire for extra security, and a dozen merchants in the street market, selling children's bikes out of container boxes (Facts, 2007). Here, shipping containers instead of Lego blocks were rearranged to a grid and set up as a simulated "Arab" city.

In this simulated town, "Marines spend hours in simulated scenarios of Fallujah or Baghdad, sitting in one of four Humvees surrounded by projection screens, practicing communication and shooting at insurgents" (Solvig, 2006). These scenarios were rendered realistic not because there was much physical likeness to the architecture or city structure of Basra, Baghdad, or Fallujah, but rather because of the participation of "real," authentic Sunni Iraqis (Hamilton, 2006). Four-hundred to five-hundred role-players lived in the town of Wadi al-Sahara during the training exercises. Most of them were members of the local community and "former Iraqi citizens" while others were Marines assigned to duty (Facts, 2007). The training was meant to help the Marines distinguish friends from foes, conduct raids, survive paintball-fueled gun battles, and manage checkpoints. It was supposed to give a realistic perspective on what securing and rebuilding Iraq would take.

The skeletal civic infrastructures embedded in the simulated "villages" of Wadi al-Sahara were meant to recreate precisely what Derek Gregory eloquently has termed the "city-as-target." The main characteristic of these city-targets is their "object-ness" (2013, p. 184). The village is reduced to a series of generic compartments outside of history, culture, or memory via the process of abstraction that drives the second algorithmic

logic of taxonomy. Then, articulated as a target, it is embedded in the algorithmic logic of simulation where repetition helps create a predictable and desirable future.

In the context of Human Terrain Systems (HTS) that simulate war zones, the infinite, seemingly inconsequential, reenactments train military personnel by suggesting an improved ability to distinguish enemies and conduct counterinsurgency. Soldiers trained under the gaze of surveillance cameras, enveloped in smoke and mirrors produced through expensive Hollywood special effects. The footage was subsequently downloaded at the end of the day and their behavior was critiqued. In acting out as if scripted in an action film, the soldiers are to find "clarity" on who is friendly and who is hostile in a given situation.

These notions of simulation and clarity have seen two different articulations with regard to military policies and war technologies deployed. Driven by what Derek Gregory and James Der Derian have described as the cultural turn of military strategy, immersive simulation environments such as HTS attempted to condition the practice of verification of one's identity by establishing generic traits that describe populations according to their ethnicity (Gregory, 2013; Der Derian, 2003). This strategy was countered by a regime of veridiction, in which one's identity is irrelevant—biological markers set against a database were to give one's binary status of "go" or "no go." This veridiction logic finds its pinnacle in drone warfare, where the enemy is no longer to be known, but rather detected, distinguished, and precisely targeted.

Photographer Claire Beckett has critically explored the idea of role-playing and simulation in the context of war training while she was an "embedded artist" with U.S. military training centers such as Fort Irwin, California. In her photographic project, *Simulating Iraq (2007–2009)*, she examined the relationships between realism, performance, and the simulation of war at military training sites. In this project, she exposed issues of simulation and training more broadly as the simulations photographed included "specific architecture, objects and costumes, and Americans (both soldiers and civilians) who role-play as Iraqis and Afghans" (Beckett, n.d.). In her artist statement, Beckett eloquently articulated the important questions that this project posed:

> I am interested in the ways that the imagination is at work in these spaces. In some respects, a visit to these places can be confusing. One wonders, who are the good guys and who are the bad guys? Who is a real Iraqi and who is

> a fake insurgent? What does it feel like for a soldier to play the role of her or his enemy? What does it mean to a young soldier who has their first encounter with difference in this environment? These spaces are meant as imitations of reality, but they take on their own realities, especially because there are, after all, preparations for soldiers who will shortly be in a real war zone. (Beckett, n.d.)

As Nuit Banai has aptly commented, Beckett captures "the artificial scenarios, fabricated personas, and imitation landscapes used by the military to transform unfamiliar cultures, people, and locations of the Middle East into a representational range both knowable and coercible" and "offer[s] some of the strongest instances of the military's engineering of otherness" (2012, p. 249). These portraits capture the simulation of the Arab based on "descriptions provided by intelligence service." Banai offers a rich analysis of the ways in which these photographs provide both proximity and distance. The proximity here is articulated through the Western conventions of Orientalism, while distance is introduced via the awareness of "artificiality as a simulation" (Beckett, 2012, p. 250). She further argues that in maintaining a balance between simulation and representation in her work, Beckett's photographs suggest that "presence" is always at a distance (p. 250). The distance here allows for reflection on both representation and simulation of identity. I want to draw attention to Beckett's image titled "Army Specialist Gary Louis Sims Plays the Role of 'Safah Mehdi Faris' Member of Al Qaeda in Iraq." The detailed description posted on the Gund Gallery website further elaborates that the image was taken at the Medina Wasl Village at the National Training Center, Fort Irwin, California and that Safah is supposed to be 21 years old (Simulating Iraq, 2012). We meet a young blue-eyed soldier wearing a pair of military khaki uniform pants and donning an Arab headscarf. He is sitting on a bike featuring the word Force clearly in focus against the blurred background of a simulated Iraqi town. We encounter here a soldier *and* a terrorist—both representational constructs within a larger historical discourse. We are also allowed to get close to a human that can be named either Gary or Safah—a human whose life depends on the thin line between friend and enemy. What is important to note here is that Safah is made personable through the portraits subverting the idea that he could only be imagined and known as a timeless enemy. As such, knowing the subject as "Gary" or "Safah" stands in stark opposition to the datafied view delivered from inside the simulation room where the computer operator is positioned to

experience simulation but is denied access to the ability to access representation and identity.

In the quest for identity simulation, the cross-dressing of U.S. military personnel in Arab garb is reminiscent of the legendary figure of T. E. Lawrence also known as "Lawrence of Arabia" (Fig. 4.1). Thomas Edward Lawrence was one of the most vivid and influential figures of the British military presence in Iraq. He joined the British Army in 1914 and served as intelligence staff for the British Middle East Command in World War I (WWI) (Lawrence, n.d.). Lawrence became heavily invested in organizing Arab leaders and tribal leaders to support the British campaign and revolt against the Ottoman Empire: "At the heart of this relationship was Lawrence's willingness to adapt to the cultural norms of his allies. This included speaking their language, staying with them, and adopting their dress" (Lawrence, n.d.). Lawrence has been widely criticized for posing as an anthropologist while at the same time working as a British spy. Lawrence's adoption of Arab garb was in an attempt to establish "friendship." As Jane Tynan eloquently writes, "T.E. Lawrence embodied the ideal image of the soldier hero, but his adventures led him to adopt the

Fig. 4.1 Thomas Edward Lawrence in 1919. https://www.nam.ac.uk/explore/lawrence-arabia-man-behind-robes. Public Domain via Wikimedia Commons

sartorial habits of a Bedouin Arab on the eastern front of the First World War" (Tynan, 2013, p. 133). Lawrence thus constructed war and occupation as a "colonial adventure." This colonial adventure—in which a white Englishman temporarily enters the world of the Arab "Other"—speaks to both the fear and fascination of being on the "front line." One needs to retain the ability to return to the time and space of the present, the modern, and the Western. Tynan insightfully points that colonial troops were consigned lowly occupations in the British military (p. 133). They were given an "ethnic" version of the khaki uniform, designating a harsh social hierarchy in which the colonial subject was never fully modern.

The question of simulation identity raises the problem of understanding the "cultural" typology of the "Other." Classifying population into tribal, ethic, and religious groups was a key preoccupation for both the British and the U.S. missions in Iraq. The emergence of a state-driven identification apparatus in Iraq was intimately connected to the anthropometric research carried out in the country. These connections, both implicit and explicit, have been documented through the extensive support offered to anthropologists by government officials and by the use of official census data by anthropologists. The apparatus of identity verification rooted in the measurement of the individual human body against data about the popular body in Iraq during the British Mandate was thus driven by the collection and analysis of cultural data by scientists and government officials. Henry Field's scientific data was in direct conversation with the official state-sponsored classification efforts of the time (1952, p. 15). Field included the census provided by Cecil Edmonds data on the registered and unregistered "townsfolk" and "tribesman" in his overall estimates (pp. 104–105). Cecil Edmonds acted as the British advisor to the Iraqi Ministry of the Interior and thus exerted great influence over the structuring of the new Iraqi state. Under his jurisdiction fell two of the main disciplinary mechanisms of the state: the police and prison systems. Thus, anthropometric knowledge gathered under the auspices of the state as well as anthropological research fell within the domain of verification and veridiction of the penal system. Anthropometric data accuracy, in other words, depended on the state infrastructure and on scientific expertise. Veridiction, based on the measurement of the body, was not explicitly connected to the regime of truth of governmentality at this point in time.

Furthermore, the tribal categorization chart in Field's work was derived from the official British-run census of Iraq. The Census Department in Iraq was formed in June of 1927, and by the end of the year, 1 million

Iraqis from 72 towns and villages were recorded excluding areas where tribal tension could have led to more armed resistance (Jarman, 1992, p. 408). By 1935, the population of Iraq was estimated at 3,560,456, out of which 346,283 persons were still unregistered (Field, 1952, p. 105). Anthropometrics, as well as the census, were to offer a comprehensive catalog of identities that can be then simulated. These identities were seen as stable because they had a strong territorial anchoring and distinct "costume" expression. They continue to inform the understanding of the ethnic makeup of Iraq to this day.

Both the adornment of the Bedouin Arab dress by T. E. Lawrence during the British Occupation of Iraq and the role-play and dress-up in an Arab headscarf during war simulation and training in the Iraq War can be seen as modalities of attaining proximity and thus knowledge of the "other." In the former instance, the proximity was veiled under the banner of friendship, while at the latter, the simulation was purposefully pioneered under the rubric of enmity. Beckett's project offers an important counterpoint to the distillation of the "enemy" into data targets—a discourse that would become more prevalent as algorithms took on the task of recognizing friends and foes in a war gone algorithmic.

Instant Replay

In this new technocratic war imaginary, training is conducted under the auspices of algorithms. One of the key features of the IVAS is the ability to provide instant replay and metrics based on which artificial intelligence can make recommendations for improved performance for each individual soldier. The training and the replay are primarily reduced to data—data that can be interpreted by an algorithm.

> Videos being installed or already in place at shoot houses and larger training centers along with the immediate Point of View camera on the device allow for NFL-like instant replay of basic team and squad drills.
>
> That lets the team leader and his higher commanders better assess squad performance, develop metrics to help define successful missions and tasks for units that for too long have been overlooked in the big data push.
>
> The behavioral measures and biometrics they hope to capture could help identify weak spots in individuals and AI could, over time, gather enough data to advise on the best squad formation, weapons needed and group loadout for a given mission. (Siter, 2019)

Here what is articulated are embodied habits of response to algorithmically generated environments. The implication of such types of training has profound effects on the "bodily and perceptual habits" as well as on the "very dispositions and tendencies of the soldier" (Lai & Sharpe, 2016). AI-driven simulations thus condition affect, cognition, and body mechanics. As a study by Seimeng Lai and Scott Sharpe shows, soldier training in AI-driven simulation environments aims to bypass cognition and create habits unconsciously; soldiers acquire "feeling," "muscle memory," and "a sense of what they do" (2016). Training as habituation aims to erase conscious response and relegate action to the unconscious. The unconscious, much like the black box of the algorithms, is to take over on the battlefield. The goal of simulation is thus to translate algorithmic logics as embedded practices, and further as unconscious habits. Such processes undermine conscious decision-making by automating it. Whereas habits of the body have been more successfully implemented and measured, the automation of affect has proven to be much more problematic.

The type of AI and big data-driven feedback from replay described by Lai and Sharpe differs from the type of input that was previously available in simulated physical or more simplistic digital training environments. It is worth comparing IVAS to the 2006 University of Southern California-based platform *UrbanSim* in order to consider the types of feedback and knowledge that simulating play provides under the different modalities of a data replay.

Whereas the 2019 version of IVAS is an algorithmically driven *augmented* reality system and is tuned to the establishment of situated awareness through a personalized ergonomic framework, *UrbanSim* was a "PC-based" *virtual* training application following the Web 2.0 model with more traditional narrative structures. The latter was conceived as "game-based practice environment, a Web-based multimedia primer on doctrinal concepts of counterinsurgency and a suite of scenario authoring tools" (UrbanSim, 2006). In the 2006 version of *UrbanSim*, the simulation of the terrain was reproduced through the use of overhead imagery such as visuals that simulate satellite images. The fictional characters to be encountered were given passport-like profiles with names, photographs, and role designations. Here, the feedback generated through play and replay relied not on an algorithmic optimization but rather on "sociocultural behavior model, coupled with a novel story engine that interjects events and situations based on the real-world experience of former commanders" (UrbanSim, 2006). What is notable here is the role of human

military expertise: while *UrbanSim* relied on the real-life experience of commanders, IVAS hoped to transfer command to the habitual unconscious of the soldier and further to the algorithm itself, signaling a move of simulated play toward Horowitz's third stage of algorithmic warfare.

Shock and Awe: Repetition as Relive

Simulated terrain was also evoked in order to train audiences to accept and even marvel at the bombing of enemy populations and territory. Both during the British Mandate and during the Iraq War, the discourse of "shock and awe" was used in order to justify war as a spectacle and as a game. Here repetition is articulated as relive. More specifically, to relive an experience of "shock and awe" in the context of a war fought elsewhere. The spatial displacement of war—a war made visible only as a mediated experience—can be seen as the impetus for hyperreal representation to a public that has not felt the immediate impact of war. The hyperreal representation is repeating here an experience known only in its mediated form. As Nicolas Mirozeff wrote in his wonderful book *Watching Babylon: The War in Iraq and Global Visual Culture*, the Iraq War was experienced as a "shock and awe"-mediated spectacle (2005).

The American military staged the whole Iraq War as a "shock and awe" spectacle to those watching the war via the Internet as well as on television back at home. As William Merrin has written, the Iraq War is an example par excellence of a "digital war" (2018). Here the audience watched from the safety of their homes as the city of Baghdad was being bombed. The campaign, following the idea 1996 strategy of "rapid dominance" developed by Harlan K. Ullman and James Wade Jr., aimed to present a "spectacular, overwhelming display of force to shock and incapacitate the enemy" (p. 96). In the context of the Iraq War, however, "shock and awe" was a strategy that attempted to garner support for the war from the American public. The demonstration of military might be precisely that—a demonstration, a simulation of power. Televised on CNN, the "Shock and Awe" campaign was an instance of something that the American public will see over and over again and come to associate with American military power rather than the death and destruction of Iraq. As Merrin writes, by the time the "Shock and Awe" campaign was carried out and televised live on CNN, the Baathist leadership had left Baghdad and was indeed in hiding: an assassination attempt had just failed (p. 96). What audiences saw instead was the hitting of 55 targets in order to "reestablish the USA's

global reputation by repeating their greatest media triumph," as "the real-space 'shock' of the munitions was less important than the real-time 'awe' of the live images" (p. 96). The campaign was a pyrotechnical demonstration of power where bombs flared much like fireworks at night. Neither the territory, nor the population, of Baghdad was visible. This was a media event that would be replayed over and over in order to present the Iraq War as the crown jewel of America's military imperial power.

As Derek Gregory, Shareen Blair Brysac, and Karl E. Meyer have reminded us, a letter by Gertrude Bell from July 2, 1924, speaks of the articulation of a "shock and awe" of a simulated mass killing campaign during the British Mandate for Iraq. The letter reads as follows:

> The most interesting thing which happened during this week was a performance by the R.A.F., a bombing demonstration. It was even more remarkable than the one we saw last year at the Air Force Show because it was much more real. They had made an imaginary village about a quarter of a mile from where we sat on the Diyala [(Sirwan)] dyke and the first two bombs, dropped from 3000 ft, went straight into the middle of it and set it alight. It was wonderful and horrible. They then dropped bombs all round it, as if to catch the fugitives and finally firebombs which even in the bright sunlight, made flares of bright flame in the desert. They burn through metal, and water won't extinguish them. At the end the armoured cars went out to round up the fugitives with machine guns ….
>
> I was tremendously impressed. It's an amazingly relentless and terrible thing, war from the air. (Bell, 1924)

The British-made "imaginary" village was constructed for the sheer purpose of demonstrating the superiority of aircraft technology. This pseudo-"Oriental" village is by design unable to withstand modernity. In both British Orientalist and American Antiquity imaginaries, the role of simulated villages/towns/cities has been to reassure the West of its technical superiority as it is only through the delivery of technologically driven "shock and awe" that a war can be won.

Simulated Procedure

Aside from paradigm of reliving the war, the American public was also invited to participate in the replay of war through the release and promotion of first-person shooter games that glorify war as participatory entertainment. Whereas in 2019, first-person shooter (FPS) games aimed to

provide the default interface for warfare, in the latter stages of the war (2006–2010) commercial games mostly served as an implicit companion to warfare. Through simulation and play, FPS war games helped entrench ideas of enmity. As Stacy Takacs has argued, "Games like *Army of Two*, *Call of Duty: Modern Warfare*, and the *Battlefield* series all shared an Orientalist imagery, which identifies Arabs and Muslims as enemies of the United States and constructs US heroism through their extermination" (2013, p. 182). Here the enemy is seen as "Orientalist" via a geographical and racial displacement. This type of synchronization between historical and fictional events, between battlefields in the real world and in the game, was harnessed to strengthen public support for the war. While commercial first-person shooter games as well as training simulators attempted to recreate realistic scenarios of warfare by focusing on the terrain or population in question, another genre of games emerged with an emphasis on universal tactical engagement. One such game is *America's Army*. Produced in 2002 and re-released in 2013 by the Department of Defense, this game focused on training players on ethical combat. It represented an extension of a well-documented tradition of "military gaming" which includes "games that are designed by the military, games that are developed to perform military functions, and games that are developed with material or technical support from the military" (Schulzke, 2013, p. 60). These games have been extensively analyzed as either providing a problematic nexus between the military and the industrial complexes or an insightful and helpful tool in training future military personnel. Indeed, *America's Army* was mostly used as training tool as its gaming performance was not comparable to that of commercial first-person shooter games. The element of this game that came "closest to real military training is the tactical instruction" (p. 66). Decision-making rather than training how to fire a gun was the primary concern of this platform. Another notable aspect here is the engagement of the game with rules of combat as "it requires players to follow rules of engagement and punishes players for killing allies, prisoners, and noncombatants; they must even minimize harm to local infrastructure" (p. 67).

While games such as *America's Army* failed to provide a realistic simulation of warfare and focused mostly on rules of engagement, they also functioned as recruiting tools promoting war. This enemy is this war, as Robertson Allen has argued, shifted away from a historical Iraqi figure present in games such as *Conflict: Desert Storm*, to an apolitical, abstract, vague "unreal enemy" (2010, p. 40). Lacking racial demarcation, this

enemy was seen as an "anonymous enemy who was potentially anywhere and applicable to any situation" (p. 49). The apolitical, amorphous nature of the enemy here and the emphasis on rules and tactics regardless of the historical context speak to a desire for universal rules of engagement. Such rules would be independent of cultural or historical context and could potentially lend themselves to be recreated by machine-learning algorithms. The game algorithms running on the platform "Unreal Engine 2" indeed presupposed absolute correctness as to who is a non-combatant. The cultural and historical aspects of the enemy or the ally, however, are now replaced with mechanistic set of attributes that if recognized would make these categories universal and further subject to computational calculation.

Military gaming systems such as *American Army* focused on simulating logistical problems and articulated generic enemy subjects in the context of what Crogan calls "logistical space" (2011, p. 49). The focus on logistics here necessitates the "management of systems of vectors" that translate complex activity and systems. In this process of translation, we are left with an "information space where logistical problems are anticipated, mapped, and resolved" (p. 48).

The translation of complex cultural and political systems into a set of logistical calculable components in the contexts of simulation, training, and gaming has laid the ground for understanding warfare itself as a purely logistical enterprise in which calculations are linked to decision-making. It is optimizing the process of decision-making that is the goal of this type of simulation; decision-making that has proven to be at times faulty and cumbersome when left in the hands of humans.

Disruptor: Humans Have Memory and Trauma While AI Is Trauma-Free

Simulation was used to train soldiers and legitimize war to spectators in a forecasting fashion. It was also evoked in a commemorative framework as a way of remembering "shock and awe" experiences. 3-D visual technology played an important role in attempting to commemoratively reproduce the experience of war in a real or hyperreal fashion. In thinking about the role of 3-D vision in attempting to recreate the visceral experience of war, in this section, I focus on the relationship between reality, simulation, and 3-D media in the context of war in order to explore the ways in which

immersive media environments have attempted to reproduce an unreproducible reality. More specifically, by engaging with the stereographic technology of the 1880s and the 3-D cinema developments in the late 2000s, it explores the potentiality of past and current 3-D media to reproduce through simulation a difficult lived experience. The failure of this reproducibility is due to its inability to bring back a time past or forecast a future even though it is able to recreate space. The question of reproducibility in the context of war is two-pronged: engaging with memory on one hand and with training in anticipation of encountering this reality on the other. I am interested here in how World War I and the War on Terror both have been recreated in relation to times past, in tension with the act of remembering. WWI was captured in 3-D stereographs as a form of "commemorative media." The War on Terror has been the commemorated in numerous virtual reality films, augmented reality games, and military training simulation environments. Notable here is the 3-D film about the Iraq War titled *Billy Lynn's Long Halftime Walk* (2016) as it provides an important case study for the ways in which contemporary 3-D technology has attempted to reproduce the experience of war. In thinking about stereographs and 3-D movies of war, I explore the role of vividness, immediacy, and tangibility in the media's "shock and awe" commemorative approach.

At the heart of the 3-D viewership of war is precisely an attempt to make the unrepeatable—war—repeatable and at the same time as visceral and thus "real" as possible. During WWI, this intimate vision of war was delivered through the virtual worlds that came to life in stereographs. Stereographic technology was invented and made popular long before the Total War. Jonathan Crary has written extensively about the history and cultural implications of the stereoscope and the stereograph. He has demonstrated even though this visualization technology became popular in the 1850s, its origins were intertwined with "research in 1820s and 1830s on subjective vision" (1990, p. 118). Stereographs harnessed binocular human vision where each eye sees a different image and the two are consolidated in our brains in order to produce an image with special depth. Similarly, stereographs recorded two instances of the same view with 15-degree difference and placed them side by side. When placed in a stereoscope, the stereograph became one 3D image for the viewer.

Stereographs were quickly harnessed in picturing war. Stereographic images of war were produced for the American Civil War as well as the Spanish War. World War I was commemorated in stereographs mostly in

its aftermath. Andrew Mendelson and Carolyn Kitch have argued that because of the visual censorship during the Total War, "stereography thus had a special opportunity to tell a definitive 'historical' story of this war after its close" (2011, p. 142). A major stereographic collection about the war was produced by the Keystone View Company starting in 1915 with the complete set about the Great War coming into mass production in 1920 as a form of "commemorative media." The Keystone stereographs were seen as vivid immersive experiences of war, which "transmitted a feeling of shellshock" (p. 146). The theme of "shock and awe" speaks precisely of the unreproducability of experience as it articulates the always present distance in terms of both space and time between the image and the things it represents. As Jonathan Crary has argued, this visual technology provided "a form in which 'vividness' of effect increased with the apparent proximity of the object to the viewer" (1990, p. 122). The images delivered were endowed with "immediate, apparent tangibility" and thus transformed tangibility into a "purely visual experience" (p. 124).

3-D commemorative simulations of war were deployed in the aftermath of the Iraq War as well. This time, the format was 3-D cinema. *Billy Lynn's Long Halftime Walk* was hailed by the movie reviews cite CinemaBlend as "the most technically ambitious 3D film since James Cameron's *Avatar* made a major case for the format back in 2009" (Billy, n.d.). Here the vivid realism of the film is yet again channeled through notions of proximity. As one film critic has pointed out:

> Even more impressive is the depths of the "before the window" mechanics of the images shown in this film. While 3D conversions have done really good jobs of mimicking spatial reasoning on their best days, *Billy Lynn's Long Halftime Walk* manages to maintain clear delineations of characters and objects throughout the film.

There are two attempts at repetition that films like *Billy Lynn* represent. First, a repetition in terms of a technological return. 3-D cinema presents a return to visual discourse referencing stereography as well as the short-lived 1950s 3-D film boom and the advent of television. As Thomas Elsaesser has written, "The new gimmick in fact turned out to be an old gimmick that had already been short-lived the first time around, but because Hollywood does not have a memory, or is out of fresh ideas, 3-D tried again and failed again" (2013, p. 219). Elsaesser further resists the narrative of return (and thus repetition) by positing that discourses exist in

parallel and even though they become visible at particular points in history and invisible in others, they operate simultaneously: "Rather than speaking of a return of 3-D, it is best to once more invoke the logic of a supplement, with 3-D remaining invisible or un(re)marked because of particular historical or ideological pressures but always already inherent in both still and moving pictures" (p. 229).

In the case of 3-D cinematic representations of war, the hyperreality of the representation is necessitated by the distance between lived experience and the experience of war. The hyperreal reliving of war is thus both attempting to create proximity between war and state, and in terms of technology, is relying on practices of proximity in order to do so. The audience is reliving an always and already mediated experience. Here, too, repetition is concealing parallel discourses that are times made visible yet continuously present. The Iraq War which Billy Lynn's Long Halftime Walk evokes is one war among many. War, as Michel Foucault has argued, is always and already embedded in the structure of politics and the apparatus of the state. War "returns" or is made visible in moments that are signaled as exceptional, as marked by shock, in order to conceal its pervasive and constant presence. The third type of repetition here is connected with the cinematic device of the flashback. Billy Lynn's story is told through a series of flashbacks here evoking his post-traumatic stress disorder (PTSD). The flashback, as theorized by Deleuze, can be classified as a "recollection-image" (1985, p. 48). This recollection image for Deleuze is connected with notions of destiny. The recollection is thus anchored in discourses of inevitability.

In coupling repetition with resemblance in the context of war, a larger argument is being constructed about the generality of its necropolitical structure. War, the experience of war, and the subjects that have first-hand witnessed war either on the battlefield or on the television screen are rendered as generalizable. They are actualized as generalizable by audiences as we are asked to step in the shoes of the soldier, the protagonist. Here one's experience attempts to become substitutable by another's. Hyperreal is claiming to be indeed so real that it is as if the audience is able to experience or relive the protagonist's story. It is the hyperreality of 3-D cinema coupled with its impetus for repetition that renders its most intimate stories about human life and death into unproblematic equivocations: a shell bursting, a long halftime walk, a war, a soldier, a life. Such equivocation is problematic because it undermines the singularity of human experience and the uniqueness and value in every single human life. Discourses that

evoke generality and equivocation lend themselves to the justification of sacrifice. While we all are encouraged to walk in Billy Lynn's PTSD-inflected flashbacks, we should also be reminded that our proximity is just that—an experience that at best can only resemble the struggle of another.

Conclusion

The algorithmic logic of simulation in the context of the Iraq War presented an exploratory paradigm about the supposed limits of human abilities. As the simulations became more and more complex through the so-called cultural turn in the military where there was an attempt to train soldiers to "understand" the local context, so did a conviction that there are too many variables for military personnel to handle. This premise has since been used to justify the development of machine-learning algorithms aimed not only at modeling (and thus prediction) but also at carrying out the task at hand. The shift was indeed practiced during the Iraq War with the emergence of biometric technology that simply confirmed or denied one's enmity status. It is the implications of this AI-driven matching and verification that I discuss in the next chapter.

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CHAPTER 5

Veridiction Training

In the Iraq War, a central challenge that the U.S. military faced was the ability to recognize those deemed to be foes. Lacking cultural knowledge about the region, it deployed a variety of techniques for the purposes of information gathering—from torture to iris scans. Through means of digital technology, the military introduced distance in its data-gathering processes. Whereas torture was intimate and imposed extreme forms of violence on the human body, iris scans reduced the need for physical contact to the opening of one's eye, while drones eliminated the need for direct human contact altogether. The types of data gathered changed with distance as well. It shifted away from highly classified, detailed intelligence, to "go" and "no go" enmity status, to life or nonlife articulation. This chapter grapples with the impact of algorithmic technology in the context of war on the processes of recognizing the "Other" as knowing, as enemy, and as life through a discussion of torture, biometrics, and drone surveillance. It further offers a genealogy of these three parallel methods of information gathering in the context of Iraq, where they operated synchronously rather than sequentially.

Algorithmic Logic Four: Veridiction

The significant change that algorithmic technology offered in the process of recognition was a binary structure of what Michel Foucault theorizes as "veridiction" which in turn breaks with the prior analog framework of

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"verification" (Foucault, 2007). In an algorithmic war, people became data subjects or subjects reduced to data objects where the data gathered operates on a binary structure of "true" or "false." Horowitz's three steps of making war algorithmic thus involve the increase of distance and level of abstraction between human knowledge and machine knowledge as to *what* can be recognized as an enemy (Horowitz, 2018). In tracing this transition, I offer two disruptors to this binary logic that aim to complicate its simplistic structure by injecting history, identity, and place into the narrative of who and what one is.

Algorithms operate as fortunetellers. Their main function rests in the perceived ability to correctly guide and predict the future based on models of the past. It is the fourth algorithmic function of veridiction carried out through the logic of matching that synthesizes the previous three logics and delivers a visible outcome based on their calculations. Veridiction is a contract in which a binary logic of true or false is implemented as a regime of truth. Foucault uses the term "veridiction" to uncover the emergence of governmentality—"a new art of government [in which] the organization of numerous and complex internal mechanisms whose functions […] is not so much to ensure the growth of the state's forces, wealth, and strength, to ensure its unlimited growth, as to limit the exercise of government power internally" (Foucault, 2007, 27). He argues that during the eighteenth century it was the market that became the locus of this new truth regime as it was through an assessment of the market as good and bad that the efficacy of the government can be measured: "The market must tell the truth (*dire le vrai*); it must tell the truth in relation to government practice" (Foucault, 2007, 32). In other words, the market, as a site of veridiction, became "a site of verification-falsification for governmental practice," of determining "correct" and "erroneous" government practices based on a standard of truth rooted in the prices in a market. The natural mechanisms of the market thus constructed a "regime of truth" that could "falsify and verify" government practice (Foucault, 2007, 32).

Algorithmic Logic Four Core Principle: Matching

Algorithms operate on the mundane level of code, where "if … else" statements determine the course of the program based on true/not true logic, as well as on the macro level of training a model and then testing it against a real world. Training data is matched with real-world data, and if there is a match, the algorithm is seen as successful. We have seen such veridiction

models come into play and bring about bouts of bias. For example, Amazon.com's hiring algorithm decided what the perfect candidate looked like. Therefore, applicants with those features in the real world were selected. Here the matching happens on two levels. First, the prediction of how big data behaves in relation to the model is tested and an applicant's characteristics are matched to the model. Second, on a micro level, the applicant's characteristics themselves are identified as "true" or "false." In the case of Amazon.com, upon investigation, the algorithm was determined to be biased. Unbeknownst to its creators or users, it had decided on its own that the ideal candidate was male. Veridiction is the process of matching reality to the forecast or prediction and real-world subject to available categories. How—and what—we know becomes important. In the context of veridiction, there is no gray zone, no space for an argument or correction. Subjects are either true to the model or false. The issue of responsibility in regard to automation is discussed in the next chapter.

Territory and Terrain as a Site of Veridiction

An essential part in the rebuilding of Iraq under the British Mandate was the establishment of a "truthful" geography in the region for the purpose of both political and civil management. In the context of Iraq, it was the Royal Air Force (RAF) that developed "aerial photography as part of its efforts to improve geographical knowledge of a still unmapped region" (Satia 2014, 3). This logic of "truthful" geography speaks to the verification paradigm utilized in the establishment of state security during the Mandate. The Iraq War, on the other hand, relied on drones for its constitution of geographic knowledge. Tyler Wall and Torin Monahan have eloquently argued that drones "are employed to amass data about risk probabilities and then manage populations or eliminate network nodes considered to exceed acceptable risk thresholds" (Wall & Mohanan, 2011, 240). This amassing of data about populations rather than territory poses the question: How do drone-based surveillance and policing articulate the enemy in relation to the paradigms of verification and veridiction? The deployment of drone policing in the desert and the cities of Iraq during the Iraq War demonstrates two different logics of militarized power. Whereas the Iraqi deserts were constructed through techniques of security that calculated risk in a space that is perceived as always and already empty of legitimate sovereignty, the city became subjected to disciplinary techniques that first emptied and then physically relocated populations.

Veridiction of Population

The biometric project for Iraq during the 2003–2010 Iraq War relied heavily on the use of digital automated technologies both for its data collection and for its data analysis. Whereas anthropometry relied on scientific knowledge of culture for the interpretation of the gathered data, biometrics replaced this knowledge with computer-driven algorithmic processes. Further, it radically transformed the meaning of the analysis produced. In answering the question "Who are you?," biometrics in Iraq provided a binary solution—a friend that can "go" or a foe that is a "no go." The individual body thus became a site of veridiction rooted in the notion of motion and confinement not within the penal system itself, but rather within the state more broadly. It provided a regime of truth directly linked to militarized governmentality, a governmentality in which the penal logic is the prevalent logic of governmental securitization process.

All of this detailed information however did not lead to complex racial classificatory schemas, but rather to a simple four-pronged menu that was further reduced to a "go" or "no go" scenario:

> He's an Iraqi bad guy (in reality Former Regime, Detainee, AQIZ, 1920, etc.).
> He's an "external" bad guy (foreign fighter).
> He is a low-level criminal.
> He is a local citizen (WNF-W 2007, 11).

The new biometric technology deployed in Iraq did not aim to foster any understanding of the racial or cultural background of the subject. Biometrics was seen as a way to move away from the complexity of cultural anthropology in relation to militarization and from torture as a way of obtaining initial information. Instead, it was concerned only with answering the question "Are you a foe, and if so, what kind?"

Algorithmic Warfare Imaginary—Who Are you?

In the nineteenth and early twentieth centuries "Who are you?" functioned as a site of veridiction as to one's criminal status in the context of the penal system and as a site of verification of one's unique identity and complex cultural categorization within the larger state apparatus. While in the late nineteenth century identification was equated with verification as

exemplified in Craig Robertson's study of the U.S. passport, in the late twentieth century verification was further reduced to a regime of truthfulness *in and of itself* (2004, 454; 2009, 331). Whereas in regimes of verification the question "Who are you?" was meant to reveal one's unique identity and cultural belonging, in the current veridiction surveillance model, it imposes a binary response: either an Arab ally or an Arab enemy. Regimes of truth grounded in the public and individual body previously directed to the penal system are now directly connected to a militarized governmental practice extending the penal logic as state logic.

In the context of the Iraq War, although the body's features remained the primary site of identification through biometrics, the nature of information gathered shifted radically from the dominant paradigm of the early twentieth century. The biometric body, analyzed through precise facial measurements, facial recognition, and iris scans, on one hand, as well as of the visual indices cast by the body—namely fingerprinting and photography—on the other, became the index to construct an algorithmic enemy. As Kelly Gates as argued, "Like the central role of the archive in the application of photography to criminal identification, the database is at the heart of the biometric system development" (Gates, 2011, 102). The digital database-driven "terrorist" yet again sought to classify the Arab. The enemy, whose specific racial typology—such as tribal or religious status—was of lesser importance and was perceived to be part of the broader racialized group of the terrorist. It is important to note that while the racial profile of the "terrorist" in relation to the U.S. became associated with the general figure of the Arab more specifically, the context of the occupied territory—be it Iraq or Afghanistan—required the computation of the characteristics of the "friendly" Arab. In other words, in the context of a cultural generalization that all Arabs are to be treated with suspicion, automated identification systems promised to signal a "potential friend." Building upon the work of Gates and Richardson, it is the distinction between an Arab "foe" and an Arab "friend," rather than the recognition of the figure of the terrorist in relation to the homeland, that modern biometric surveillance promised.

Biometrics embraced surveillance that no longer has a "primary visual relation" to its subjects and transformed it into "dataveillance"—"a mode of ordering information"—without relying on the act of seeing the body as being of primary importance (Simon, 2005, 15). Photography and human vision became displaced through biometrics. The acts of seeing and looking become functions of the algorithm. Yet real-life people were

expected to be on the lookout for "terrorists" based on a general visual stereotype. Data replaced photography.

In a proto-algorithmic war, the body is perceived as data-body, rather than as an individual body invested in a cultural and historical context, and yet people are targeted based on broad, ill-defined, cultural stereotypes. As a digital object, "the individual is doubled as code, as information, or as simulation" effectively transforming him/her into a Deleuzian "dividual" (Simon, 2005, 15). Thus, in the context of surveillance as *dataveillance*, the body acts primarily as a site of information related to veridiction, rather than verification. Dataveillance's primary interest lies in the establishment of correlations and trends that speak to the security of the state, rather than in the revealment of particular identities.

In the context of the Iraq War, the Iraqi population was reduced by biopolitical biometric technologies to binary data, indicating friend (or "go") and foe (or "no go") status to be housed in a U.S.-managed three million entries database. The dyadic format of the outcome of the biometric scan based on the collected data speaks to the veridiction role of biometrics in Iraq. Joseph Pugliese writes:

> As a biopolitical technology, iris scan effectively disciplines the body of the such subjugated Iraqi civilian through the enforced prying open of her or his eyelid; simultaneously, the scanned template is inserted within the networked grid of biopolitical intelligibility which claims to identify "friend from foe" and thereby sort population groups according to an imperially imposed series of categories and classifications. (Pugliese, 2010, 92)

The series of categories in Iraq were reduced to a regime of truth that ultimately sought to distinguish friend from foe. In reducing the individual to dichotomous binary digital data, biometrics ultimately has helped to secure a neoliberal society of control.

The distinction between friends and enemies in a proto-algorithmic war was articulated by the logic of data rather than visual knowledge based on data and photography. If Henry Field and his anthropometrics team in Iraq used relatively primitive measurement instruments to produce complex detailed classificatory typologies and photographic records to make those typologies recognizable and meaningful to a human audience, the U.S. military gathered biometric data in the Iraq War through high-tech devices and produced simplistic data-driven binary labeling of "friends" and "foes." Field's data constituted a visible archive, while the U.S.

military compiled a digital database that in and of itself obscures data. Furthermore, the process of classification that anthropometrics utilized relied on highly specialized scientific knowledge, while in the context of contemporary digital biometrics, it was subjected to an automated computer algorithm. Despite these differences, the U.S. military's biometric project extends the logic of securitization of the state that the British Mandate for Iraq sought in the deployment of anthropometric measures and the incorporation of scientific anthropometric research into official policy. "Who are you?" remained a central question to be asked of each member of the Iraqi state in instances of surveillance and state-building. The complexity of the Iraqi population with its multiplicity of tribal, religious, and ethnic subcultures was bypassed in favor of a technocratic determination and a binary answer. This simplistic answer, generated on the basis of photography as data and assessed via an algorithmic process of matching, was used with serious real-world consequences in distinguishing the true friend of the state from the impostor who must be detained and neutralized.

Nonhuman Truth Regimes

Algorithmic technology relies increasingly on nonhuman truth regimes, where technology can assess the truth about a situation based on a complex correlation of variables, inaccessible to people. This articulation of truth regimes replaces the recipient of the evaluation—a true/false designation away from the human world and onto a seemingly autonomous technological one. As Jeremy Packer and Joshua Reeves have eloquently written, in a nonhuman truth regime, we encounter the political problem of what happens "when military systems are programmed with the ability to decide whom and what to strike, humans have offloaded their carbon-based political intelligence onto the silicon processing capacities of the machine, thereby surrounding a crucial ethical responsibility—the ability to determine who is friend and who is foe" (Packer & Reeves, 2020, 3). Such regimes are problematic because they create black boxes in which there can be no appeal for a different "truth." For example, once a person is mislabeled in a system of linked data, it is almost impossible to correct this data point even though it is "truthful." For a human observer, the idea that the database of over three million Iraqis was compared with Saddam Hussein's criminal database was seen as problematic in an Electronic Privacy Information Center report (Iraq Biometric). Nonhuman

truth regimes attempt to obfuscate both the mechanisms of establishing "truth" and the avenues for correcting wrong or false assumptions and information under the guise of being cutting edge and high-tech.

Disruptors

In countering the binary articulation of true/false, friend/enemy, go/no go, I offer two disruptors that highlight the importance of narrative, story, and history as ways to complicate this simplistic matching verification logic. These disruptors bring back notions of personhood and place and thus disrupt the generality of the data-driven model of warfare and of simplistic perceptions of human life more broadly. The first disruptor tells the story of Yunis Abbas, who was wrongfully detained at the Abu Ghraib prison. The second disruptor highlights the role of mythology in warfare through an example that exposes the ways in which Fallujah was imagined as a site of gladiator games in order to make sense of the "civilizing" mission that lay ahead.

Disruptor: Yunis Abbas, Abu Ghraib Detainee #151186

The 2007 documentary *The Prisoner, or How I Planned to Kill Tony Blair*, written, directed, and produced by Petra Epperlein and Michel Tucker, tells the story of the mistakenly detained Iraqi journalist Yunis Abbas. Abbas was whisked out of his house and sent to the Abu Ghraib prison in 2003, where he was abused and tortured under the unsupported accusation that he was planning the assassination of then British Prime Minister Tony Blair.

In the film, the motive used to justify Abbas's detention and torture is ridiculed and rendered absurd. "Why would any Iraqi want to assassinate Tony Blair, of all people?" ask the filmmakers. Abbas's story is simply seen as a case of mistaken identity. Abbas—a law-abiding journalist—was perceived to be a dangerous insurgent. This misrecognition is an important converging point of the knowledge and power through which two different Western powers—Britain and the U.S.—have attempted to shore up the Iraqi state through violence masked as benevolent state-building. As multiple historical trajectories collided upon the tortured body of Abu Ghraib detainee #151186, namely Yunis Abbas, this project further engages with the toll of the war on a personal level. It situates the current

Abu Ghraib tortures within the broader histories of the Abu Ghraib prison (and of torture in Iraq more generally) and juxtaposes the official United Nations and League of Nations resolutions with the personal testimony of Abbas written on his underwear while detained at Abu Ghraib. These comparisons contextualize, but also highlight, the ways in which painful memories and bodily scars are reminders of traumatic histories that cannot—and should not—be forgotten. Abbas's scant, yet brave, records that he kept on his underwear and on cigarette foil, as well as his painful verbal testimony, speak to the physical as well as the emotional scars that torture inflicts.

Early in the film we hear the famous "48 Hours" speech delivered by President Bush on March 17, 2003—just days before the invasion of Iraq. Bush is heard promising that "[i]n a free Iraq, there will be no more wars of aggression against your neighbors, no more poison factories, no more executions of dissidents, no more torture chambers and rape rooms." His words are given extra weight as they come after Abbas's narrative of his extensive torture during Saddam Hussein's regime and are accompanied by images of military invasion. Another speech by President Bush reaffirming a move away from the torture and abuses of Saddam Hussein toward freedom in Iraq is introduced later in the film. This "Message to the Iraqi People" delivered on April 10, 2003, asserts that Iraqis deserve better than "torture chambers." This promise of freedom and prosperity is accompanied by footage of an American soldier playing soccer with an Iraqi girl on the street as well as by Abbas's reminiscence of believing in the benevolent intentions of the U.S.

In the film, the viewer quickly learns however that instead of bringing freedom, the U.S. military instituted its own regime of torture and aggression. The lack of fulfillment of the Bush administration's (and the U.S. military's) promise to end torture and "free Iraq" became epitomized in the Abu Ghraib prison and the 2004 tortures in particular. The Abu Ghraib scandal became both the turning point in the perception of the war and the household name for home-grown torture abroad. It became the symbol of an extreme form of violence as detained men, women, and children were tortured and abused by U.S. military personnel. As illustrated by the integration of data from official military documents in the film, by the fall 2003, 4000–5000 "criminals, security detainees, and detainees with potential intelligence value [later referred to as MI Hold]" (Fay & Jones, 2004) were held in Abu Ghraib. All of the people held in the prison fell into the overarching category of "civilian internee," that is, "someone

who is interned during armed conflict or occupation for security reasons or for protection or because he has committed an offense against the detaining power." It was later assessed that "85%–90% of the detainees were of no intelligence value" (Fay & Jones, 2004). In other words, these were *civilians* and did not know much about the whereabouts of Saddam Hussein (or Tony Blair, for that matter).

Abu Ghraib Prison Past and Present

On May 24, 2004, less than a month after the Abu Ghraib torture scandal had exploded on the U.S. media landscape, George W. Bush announced that the hour of self-governance for Iraq was yet again near. In addition to obtaining democracy and sovereignty, Iraq was to gain a new modern prison system that would replace its old and defamed institutions. The new modern maximum-security prison was to signal the arrival of changed times:

> A new Iraq will also need a humane, well-supervised prison system. Under the dictator, prisons like Abu Ghraib were symbols of death and torture. That same prison became a symbol of disgraceful conduct by a few American troops who dishonored our country and disregarded our values. America will fund the construction of a modern, maximum security prison. When that prison is completed, detainees at Abu Ghraib will be relocated. Then, with the approval of the Iraqi government, we will demolish the Abu Ghraib prison, as a fitting symbol of Iraq's new beginning (Applause). (Bush, 2004)

But the erasure of the Abu Ghraib tortures from history proved to be more difficult than President Bush advertised. As the film testifies via a statement by a coalition spokesman on Abu Ghraib from May 26, 2004, "the percentage of persons that were released because they've served their time? That percentage is zero. The number of persons that were released because they were innocent? That number, too, is zero. If they were innocent, they wouldn't be at Abu Ghraib." The film concludes with this final statement and thus questions the assumption that the Abu Ghraib prison might continue to exist as an active site of abuse and torture into the future.

Furthermore, on June 21, 2004, a military judge declared Abu Ghraib to be a "crime scene" and thus blocked the demolition proposed by President Bush (Murphy, 2004). In September 2008, reports emerged that the Iraqi government would transform part of the prison into a

"museum for showing the crimes committed by the previous regime," implicating Saddam's rule while remaining silent about the abuse and tortures committed by U.S. military personnel in the fall of 2003 (Abu Ghraib, 2008). The blueprint of this plan to memorialize the crimes of the Ba'athist regime can be traced to an American government report from March 2003 by the Transitional Justice group titled "The Road to Re-establishing the Rule of Law and Restoring Civil Society," which is part of *The Future of Iraq Project* (2005, 15). According to the report:

> The legacy of Saddam and his regime must not be lost on the future generations of Iraqis. It is proposed that a monument for the regime's victims be built in every Iraqi city with a national museum of the regime's inhumane practices with a chronicle of the brutal methods used by its security agencies. Notorious prisons and torture chambers should be preserved as perpetual memories for the victims of Saddam's crimes. (15)

While we are likely to remember for a long time the tortures conducted at the Baghdad Central Prison Abu Ghraib by Saddam Hussein as well as the U.S. soldiers, we should also be mindful of the long colonial history of the prison. That history goes back to the 1920s and 1930s British Mandate for Iraq.

The Road to Abu Ghraib

Among the central jails built in the 1930s was also the Bagdad Central Jail—the institutional backbone of the now infamous torture prison at Abu Ghraib. According to the special report, "A prison which has been constructed in the Baghdad area in 1919 was swept away by the floods of 1923 and, as a result, the building of the Baghdad Central Jail was begun. This since has been enlarged and can now accommodate 1200 prisoners" including men and women (Great Britain, 1931, 62). In 1922, both prisoners and lunatics were housed at the Baghdad Central Jail as a new asylum building for the mentally ill was being constructed. After the March 1923 flood destroyed the jail building, both prisoners and lunatics were moved temporarily to the asylum building—sharing the same roof yet again (Report 1924, 72).

It is here, on page 62 of the *Special Report to the League of Nations*, that the jail, which is now known as Abu Ghraib Baghdad Central Prison, emerged as a modern institution in a modernized building. It was a

product of a state-building mission by an occupying British force. Abu Ghraib, as a physical as well as conceptual disciplinary structure, should be seen as the product of a mandatory enterprise of state-building through military occupation.

In the 1960s, the Abu Ghraib Central Jail was remodeled. According to the Provisional Economic Plan issued by the Ministry of Guidance, Republic of Iraq 1960, the Central Jail at Abu Ghraib will replace

> the existing jail in Baghdad as the area of the latter shall be incorporated within the project of the Medical City. The new jail shall accommodate 4000 prisoners and with this Jail constructed, we shall dispense with the existing jails at Ramadi, Hillah, Diwaniyah, Kerbalah, Kut, and Diyalah as only detention stations shall be kept in such Liwas. The project provides for the construction of wards for the prisoners and workshops where they will be taught useful professions and reformatories for women and children. In addition, a school, a hospital, and a Mosque shall be constructed. The project is being designed by Consulting Engineers for which a sum of ID 1,750,000 has been allotted to cover the cost and preparation of designs, specifications, supervision, and construction. (1960)

According to secondary sources such as Michael Roth's *Prison and Prison Systems: A Global Encyclopedia*, these consulting engineers were British (Roth, 2006). The "Five-years Detailed Economic Plan (1961–2)–(1965–6)," issued by the Ministry of Guidance Republic of Iraq, names the contractor as the American firm Litchfield Whiting (Baghdad, 1966, 520). This document offers further details into the function and structure of the jail: "This prison, together with the other prisons existing in other Iraqi liwas which will be regarded as secondary ones, will keep all the prisoners in Iraq, for whom opportunities for reform and professional training will be prepared, so that they will become good citizens" (Baghdad, 1966, 520). The prison system envisioned under the government of Qasim (Kasim) aimed to reform individuals for re-integration in the state. With the prison completion date set for 1966–1967, it was likely not used by the Qasim administration, which was overthrown in 1963.

The regime change in Iraq required new management of the Abu Ghraib Project. While Litchfield Whiting (then part of Litchfield, Whiting, Bowne, Panero, Severud) began the project, "Athens-based Consolidated Contractors Co., one of the largest Arab contractors" finished in 1970 (McAllester, 2008). Under the Baathist regime, "[a]fter decades of

suffering in decaying British-built prisons, nearly all of Iraq's prisoners found themselves housed in the modern reformatories" (McAllester, 2008, 48). This rhetoric of innovation and reformation echoes the attitudes of the British administrators in the 1920s toward the then-existing Turkish prisons.

The road to Abu Ghraib starts with the Baghdad Central Jail, one of the eight jails that the British Military Occupation constructed, staffed, and filled in the 1930s and that continues today with the newly remodeled Baghdad Central Prison. It is road marked by military occupations and torture practices. These marks are physical and symbolic scars on the land and people of Iraq.

Torture at Abu Ghraib

The Prisoner, or How I Planned to Kill Tony Blair sets up the torture and interrogation chambers in the Baghdad Police Academy and at Abu Ghraib, where Yunis Abbas and his two brothers were detained and tortured, as echoes of Saddam's cruel autocratic policy. The torture practices in Iraq that marked Saddam Hussein's rule only accelerated with the U.S.-led occupation of Iraq under President Bush. In the film, Bush's "48 Hours" speech, accompanied with the visual and auditory landscape of maneuvering tanks in the desert, marks a personal, as well as a political, historical event. It signals not only the beginning of the Iraq War but also the fifth anniversary of Abbas's torture by electrocution under Saddam Hussein's regime. The long history of torture in Iraqi prisons is seen as literally inscribed onto the body of Yunis Abbas. By engaging the complex history of torture in Iraq during Saddam Hussein's regime as well as during the Iraq War, the film sets up an important historical trajectory. This trajectory can be extended further back in time in order to account for the role of the British government in setting up the institutions of the prison, the police, as well as the military in 1920s and 1930s Iraq.

The history of violence and torture within the Iraqi prison system under British, Iraq, and American administration is fragmentary. While corporal punishment is currently considered torture, it was seen as a viable and appropriate means of reform in the Iraqi prisons of the mid-1920s as indicated in the Report to the League of Nations from 1924. An administrative report of the Iraqi police for the year 1929 reveals that the Assistant Commandant of Police in Baghdad had "beaten an accused in order to obtain a confession" (5). Only preemptive corporal punishment was seen

here as a "malpractice" leading to a demotion. The severity of the abuse of captives by the Iraqi police is revealed by the report from the following year (1930). This document however does provide a detailed list of the abuses that had previously occurred. Instead, it succinctly states that "it is most satisfactory to note that no cases of torture were reported" (5). This statement points to the previous existence of torture in the Iraqi police system and acts as a testimony to the present lack of reporting rather than the lack of occurrence of torture.

The earliest report of torture at the Abu Ghraib prison is from 1964 and details the human rights abuses from February 1963 when the Kassim [Qasim] government was overthrown with the help of the British and the CIA—a plan "masterminded by William Lakeland, stationed as an attaché at the U.S. embassy in Baghdad" (Curtis, 2004). This coup put the Ba'ath Party in power for seven months—from February 1963 to November 1963—until another military coup followed. A report was prepared by the British Committee for the Defense of Human Rights in Iraq in reaction to the explication by the major British newspapers of "wholesale killings and imprisonments—and even torture—of civilians" (Chorley et al., 1963, 5). It revealed the massive arrests—160,000 people—following the February coup, as well as the torture and rape of men and women that occurred in the Iraqi prisons: "Every prison was over-crowded [and] the National Guard took over buildings, including one of King Faisal's palaces, as improvised places of detention, and […] concentration camps were in use" (13–14). The report accounts for the detention of two women in the "women's central prison in Baghdad," a section of the Baghdad Central Prison (15). Their testimonies speak of torture and imply sexual molestation (17). Torture is described as a government practice that continued after the November coup, but also as a "form of evening's entertainment by Camp Commanders and people in a position of power who invited friends to witness it" (15). The policy of torture (including beatings, electric shocks, mock executions, and sexual abuse) in Iraq's prisons continued throughout the subsequent political regimes; even though it was banned in the Iraqi constitution, it remained part of the underground foundations of the state. Abu Ghraib central prison (Abu Ghurayb) retained its dominant role in the Iraqi penal system (Metz, 1990).

Abu Ghraib has become an infamous site of torture during Saddam's regime. In 1988, Amnesty International reported on the execution of 150 Kurds at the Abu Ghraib prison (Rees, 1989). In 1995, two Americans

were sentenced to eight-year prison terms—out of which they served four months—at Abu Ghraib "for illegally entering Iraq. The two men, who work for United States defense contractors in Kuwait, insist they strayed into Iraq by mistake while trying to visit friends working for the United Nations along the border" (U.S. Wives, 1995). In the subsequent years, the U.S. press reported on numerous executions of both criminal and political detainees at Abu Ghraib. For example, according to the Associated Press, in January 1999 81 prisoners were executed, 58 in March, 106 in April, and 123 in October. In October 2002, Saddam Hussein announced general amnesty for most of the Abu Ghraib prisoners in an attempt to gain public support.

In the 1980s, Amnesty International issued a report on torture in the 1980s, which offered an important observation about the place of torture in state-building efforts performed by the military. It positioned torture as "an integral part of a government's security strategy." However, "[e]mergency legislation may facilitate torture by giving extensive powers of detention to security forces [and] this process may be accelerated if the military take over governmental, police, and judicial function" (Amnesty). The Iraq War fulfilled all of the above, making torture a part of the plan, rather than a side effect of the formation of the new state. As in the cases of coups and state-building by the military, torture has been, and will continue to be, a significant part of the everyday life of the people of the state in question. When the military announces a doctrine in which its primary mission is state-building, it is reaffirming the longevity of a policy of detention and torture. War is transformed into criminal justice as the enemy is no longer external, but rather internal, to this project. The enemy is the citizen that needs to be excluded/isolated/neutralized/sacrificed in order for the state to be built.

Up Close and Personal

The Prisoner, or How I Planned to Kill Tony Blair personalized this abstract structure of torture and information by highlighting Yunis Abbas as a real person. The cinematic representation brought back the humanity of detainee #151186. Aesthetically, the film's portrayal of Abbas's story is dominated by close-up framings. This visual strategy moves the viewer several steps closer to the subject—beyond the official image of

identification represented by passport and prison intake photography. The closeness of the frame implies intimacy to the subject, evoking an emotional and compassionate response. In this scenario, however, what is lost is the overarching historical and political context in which personal narratives are shaped. We are granted an insider look into the lives of those interviewed; yet we are denied the bigger picture.

Zooming out in order to see the bigger picture of the history of the Abu Ghraib prison, of torture in Iraq, and of the British Mandate for Iraq more broadly allows for the illumination of the broader political and historical impact of Western militarized state-building. Abbas's painful scars are testimonies to over a hundred years of military interventions in post-Ottoman Iraq.

Torture has history, politics, and policies. Torture inflicts deep scars, pain beyond words, and even death. Historical documents provide us with a bird's eye view of what torture is. The cinematic mediation of Yunis's experience of Abu Ghraib brings us up close and personal with what torture does. The distance inbetween these two scales creates an affective space. Cinema allows us to oscillate between two frames: one further away and deemed political, and the other closer and thus seemingly more personal. This cinematic representation runs counter to the impetus of the algorithms which redefines the close-up as a source of data, rather than affect. In an algorithmic vision, the humanly affective cinematic frame becomes data to be harnessed by an inhuman/e intelligence.

Disruptor: Gladiator Games in Iraq outside of Fallujah

Training through play has historically been an integrative part of warfare. Part of this process engages with the creation of an imaginary about the enemy and place of enmity. Whereas Iraq and Mesopotamia were seen in European discourse as part of the "Orient," they lack such specific positioning in the U.S. global imaginary. Orientalism explicitly and implicitly drove the imaginary of Iraq during the British Mandate for Iraq. Antiquity, on the other hand, provided both meaning and purpose for the American troops during the Iraq War. In thinking about the role of history in articulating an imaginary of place, I want to trace the ways in which the discourse of Orientalism was central to the establishment of Mesopotamia during the Mandate for Iraq and further question the ways in which Iraq

became understood as both rooted in the loose notion of Antiquity's Orient and known only through technology during the Iraq War.

The British Mandate was structured by the intimate connection of Britain as an empire to the imaginary of the "Orient." Edward Said has commented that the "mandated (or occupied) territories" are an invention of modern Orientalism (Said, 1987, 220). The mandatory system encapsulated an understanding of the Orient as "an area to the east of Europe, whose principal worth was uniformly defined in terms of Europe, more particularly in terms specifically claiming for Europe—European science, scholarship, understanding, and administration" (Said, 1987, 221). The mandatory system as applied to Mesopotamia became a point of convergence for Orientalist and imperial discourses. Edward Said has argued that under the rubric of "Orientalism," Western imperialism has conceived of the imaginary geography of the Orient as a place removed spatially and temporally from the modern present—hence lingering in backward temporalities and lurking beyond the horizon of the rational West. This rubric has in turn authorized discourses of power and knowledge that demonstrate the superiority, and thus the justified mastery, of the Western world. This spatial and temporal displacement away from the present is evident in the articulation of Iraq as part of Antiquity as well. Whereas Iraq appeared to be part of the Orient, a region mythically located east of Europe for the British administration, it lacked the specific geographical or temporal reference for the U.S.-led war. Rather, Iraq became displaced temporally in area endowed with past glory that U.S. audiences had come to be known primarily through Hollywood cinema as a place of epic battles; Iraq was to be found on the dark side of Antiquity.

In considering the role of Antiquity in articulating an imaginary for the Iraq War, I turn to the powerful photographs of the Pulitzer Prize-winning documentary photographer Anja Niedringhaus. It is the fall of 2004 and U.S. military personnel are preparing to storm the insurgent-held city of Fallujah in order to restore control. Covering the planning and training for the offensive was German photographer Anja Niedringhaus. Anja had joined the Associated Press as a traveling photographer and covered the wars in the Middle East. Prior to her work in the Middle East, she covered the Balkan crisis and the atrocities of Sarajevo and Kosovo and served as the European Pressphoto Agency Chief photographer. Her career ended abruptly when she was killed in Afghanistan (About Anja). Her legacy of courage and compassion is continued and supported through the Courage

in Journalism Award issued by the International Women's Media Foundation in her name.

Her photographs, posted to her stream at the Associate Press Photography Archive AP Images, tell a compelling story about the role of play in the strategizing for war. The play included everything from the original war game—chess, to more practical training in evacuating wounded soldiers, to chariot races and gladiator games. Anja Niedringhaus captured U.S. Marines playing gladiator games outside of Fallujah in a series of images titled "IRAQ BLOWING OFF STEAM." The caption of this series reads:

> U.S. Marines of the 1st Division dressed as gladiators stage a chariot race reminiscent of the Charlton Heston movie-complete with confiscated Iraqi horses at their base outside Fallujah, Iraq, Saturday, Nov. 6, 2004. For U.S. Marines tapped to lead an expected attack on insurgent-held Fallujah, the bags have been packed, trucks have been loaded and final letters have been sent, leaving one final task—the "Ben-Hur."
> (AP Photo/Anja Niedringhaus)

Pictured here are U.S. soldiers with makeshift togas over their digital pixelated uniforms, decorated helmets, home-brew shields, and Romanesque weaponry. In another scene, we encounter the confiscated horses being forced to surrender by two Marines, one armed with a trident, riding on a makeshift chariot. The reference to gladiator games here is quite powerful and evokes questions of empire and conquest. Anja Niedringhaus terms these "games" the "Ben-Hur" after the famous 1959 film starring Charlton Heston as Judah Ben-Hur. While *Ben-Hur* can be seen as the ur-gladiator film, I see in the gladiator games reflections of more recent Hollywood representations of Antiquity and two other films in particular: *Gladiator* (2000), featuring Russell Crowe and Joaquin Phoenix, and the then newly released *Troy* (2004), featuring Brad Pit and Orlando Bloom.

The story of *Troy* as an imaginary space is central to understanding the ways in which soldiers saw their mission in Iraq. Considered one of the most important texts from Antiquity, Homer's *Iliad* is a narrative about war, human cruelty, and the protection of civilization. It centers around the Trojan war:

> The Trojan war—a more or less mythical event—was a 10-year siege of the city of Troy by a coalition of Greeks, its purpose to restore Helen to her

> Spartan husband, Menelaus. *The Iliad* charts not the famous causes of the conflict (the Trojan prince Paris's abduction of Helen) nor its spectacularly bloody end (the Greeks' ruse of the wooden horse and the brutal sacking of the city). Instead, the subject of the poem is *menis*, fury—specifically, the wrath of the Greeks' best warrior, Achilles.

The makers of the film *Troy* explicitly spoke about it in relation to the Iraq War. Its director, Wolfgang Peterson, has publicly voiced the connection between the film and this war:

> [J]ust as Agamemnon waged what was essentially a war of conquest on the ruse of trying to rescue the beautiful Helen from the hands of the Trojans, President George W. Bush conceals his true motives for the invasion of Iraq. (Rothstein, 2004)

Brad Pitt echoed these connections: "The themes that Homer had still resonate today" (Youngs, 2004). The film, with its anti-war message, is seen as divergent from Homer's own construction of the *Iliad* where war is seen as a civilizing force.

However, the audience's perceptions of both the film *Troy* and the mythical story of Troy have been complex and contradictory. Chris Davis has suggested that *Troy* was a film meant to be critical of the Iraq War and had the "potential to offend those loyal to the British administration and/or the soldiers on active duty, as they associated the U.S. government's invasion of Iraq with empire-building exceptionalism predicated on falsehood" (Davis, 2019, 42). The photographs of Anja Niedringhaus speak to a more uncritical adaptation of *Troy*. Here U.S. Marines are seen literally trying to tame confiscated Iraqi black horses ahead of the battle of Fallujah. Fallujah appeared to be their Troy. The way to conquer this imaginary Troy (the "real" Troy being the city of Hisarlik on the northwest shores of Turkey) this time around involves both the fantasy of civilizing an Ancient, and perhaps an Oriental, "other" as well as demonstrating superiority through the deployment of the latest digital technology.

Conclusion

The simulation and replay of war as a mathematical, hence algorithmic, problem bypass the human need for storytelling. For war and sacrifice in a human world require a history, narrative, and reason. As long as humans

are involved in the loop of war, identity remains a central part of the meaning-making process of warfare. With the increase of automation, the need for storytelling will become displaced onto the technology itself. The Fallujah battle, as I will show in the next chapter, was envisioned as a *Star Wars* scene in an algorithmic automated war.

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CHAPTER 6

Automation, Trust, Responsibility

In a 2006 editorial for *National Defense*, Stew Magnuson made an apt observation: "The robot army is coming" (2006). Algorithmic war has been envisioned as war fought by algorithmic technology under the guise of protecting human life and in response to a potential enemy robot army. As David Humbling has reported, in preparation for this new war, "[o]ne U.S. Navy project envisages having to counter up to a million drones at once" (Hambling, 2021). The algorithmic technology developed is indeed one that conjures both attacks and counterattacks as air combat. The military's robot army increasingly consists of autonomous technology deployed on jets and drones. In 2020, the "U.S. Air Force let an artificial intelligence take over the navigation and sensor systems of a Lockheed U-2 spy jet during a training flight [marking] the first known time an AI has to been used to control a US military aircraft" (The Airforce, 2020). Here, onboard the U-2 "Dragon Lady" spy plane, the "human Air Force officer" was partnered with "ARTUμ algorithm" which is now responsible for real-world sensor monitoring and navigation and yet is modeled after a gaming system (Browne, 2020). While these seem like small, incremental steps toward algorithmic war, they point to an ambitious goal where in "10 to 15 years max, you are going to see the widespread, ubiquitous use of robots throughout most militaries in the world" (2020). This idea of robot-driven warfare has been met with skepticism as it raises significant moral and ethical issues about trust and responsibility.

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Algorithmic Logic Five: Automation and Autonomous Operation

The fifth algorithmic logic that I explore in this book is that of automated and autonomous decision-making in the context of warfare. While the previous four logics provided data, taxonomies, simulation, and matching components to the process of decision-making, the execution of the algorithm-driven decision had been managed by humans. That process, however, is rapidly changing as machine-learning algorithms are tested and implemented in the context of military strategy as well as in the execution of that strategy. War systems are increasingly seen as entirely unmanned and thus autonomous. The processes of automation of war require the articulation of three major interconnected processes as they relate to trust.

Algorithmic Logic Five Core Principle: Trust

As Paul Scharre has aptly written, "Activating an autonomous system is an act of trust" (Scharre, 2018, 149). The three engagements of trust are as follows. First, the process of building trust in human-machine partnerships and then building trust in the machine algorithms themselves. Second, trust needs to be established in relation to the amount of error or risk that an algorithm is allowed to accept. Autonomous technology is also a system of risk. "The key factor to assess with autonomous systems isn't whether the system is better than a human, but rather if the system fails (which it inevitably will), what is the amount of damage it could cause, and can we live with that risk" (Scharre, 2018, 193)? Third, trust figures into relegating the ethical and moral responsibility for warfare away from human agents and onto autonomous technologies. It is important to note that these processes are biopolitical and that the conversation about automation only addresses the side firing the guns. The victims of warfare remain vulnerable and also human.

Algorithmic War Imagined as Automated and Autonomous War

Algorithmic warfare has aspired to be both automated and autonomous. The process of automation is seen as a "machine-controlled" system or an "electromagnetic brain" (Mueller, 2020). This notion has its origins in the use of automation in the car manufacturing boom of the 1940s (2020).

Automation has thus historically been considered a process in which utopian and dystopian analyses see an attempt to create a world devoid of human labor. Autonomy has had a similar, yet divergent, trajectory. Autonomy has been connected to discourses of free will and agency. As Simona Chiodo has eloquently argued,

> We are experiencing a kind of twofold shift: on the one hand, the shift from defining technologies in terms of automation to defining technologies in terms of autonomy and, on the other hand, the shift from defining humans in terms of autonomy to defining humans in terms of automation. (Chiodo, 2021)

This shift from automation to autonomy in algorithmic warfare has been detailed in Paul Scharre's book *Army of None* (Scharre, 2018). It provides an extensive survey of the multiple stages and trajectories through which contemporary war is articulated as autonomous war (2020). Scharre has detailed the three levels of autonomy and the ways in which they have been coupled with discourses about warfare. The first dimension of autonomy as outlined by Scharre is "the task being performed by the machine" (2020, 28). This dimension has degrees of autonomy built in—"semiautonomous, supervised autonomous, or fully autonomous" (28). The automatic rifle is presented as an example here. The second dimension involves the "human-machine relationship" (28). Scharre here further differentiates between three degrees of autonomy: "Semiautonomous [where] the machine performs a task and then waits for a human user to take action before continuing. A human is 'in the loop'" (29). The next degree is supervised autonomous systems where "the human sits 'on' the loop. Once put into operation, the machine can sense, decide, and act on its own but a human user can observe the machine's behavior and intervene to stop it, if desired" (29). An example for this type of warfare is the recent call for human-on-the-loop engagement with drone swarms (Hambling, 2021). In the third degree, the human is "out of the loop" as "fully autonomous systems sense, decide, and act entirely without human intervention" (Scharre, 2018, 30). The third dimension of autonomy is intelligence—more sophisticated machines can take on more "complex tasks in more challenging environments" (30). Here Scharre differentiates between automatic (simple, threshold-based), automated (complex, rule-based), and autonomous (goal-oriented, self-directed) levels of intelligence (31). He then demonstrates how these dimensions and degrees

have been historically applied to weapons. He argues that "[i]n semiautonomous weapon systems, the entire engagement loop—searching, detecting, deciding to engage, and engaging is automated" (44). At the next degree of automation, supervised autonomous weapon systems "engage incoming rockets, missiles, or mortars all on their own without further human interaction [while] humans are in on the loop […] supervising their operation in real time" (45). Last, but not least, fully automated weapon systems "can search for, detect, decide to engage, engage all targets all on their own and the human cannot intervene" (47). This spectrum of automation is useful in understanding the ways in which automation seeks to displace human decision-making in one of the most profound aspects of human life—namely warfare.

This schema of automation in relation to warfare is useful in understanding the progression and the ultimate goal of current U.S. military ambitions. In this chapter, I will trace examples of these three stages by illustrating the ways in which soldiers were seen as digital technology at the beginning of the Iraq War and soon became assisted by automatic robots. As the war progressed, drones became semiautonomous weapon systems. In the aftermath of the Iraq War, the automation of war has continued, and as of 2020, we now have documented the first case of an automated weapon system in the case study of the KARGU drone attack on Libya discussed later in this chapter.

Automation of Action

Whereas the first three algorithmic logics engage more specifically with the rendition of territory and population into categorized testing data, the fourth and fifth logics focus on the process of automation when it comes to the agency given to the algorithmic technology owners. Those subjected to the technology and its owners as data by default have been perceived as passive entities with very little agency. The power dynamics in the context of algorithmic technology are highly imbalanced. Increasingly, this imbalance is being articulated in technology-to-human terms as the technology itself is seen as serving no master, as being autonomous and sovereign. Algorithmic technology in everyday culture, and especially in the context of war, has attempted to legitimize what Dennis Roio has termed "algorithmic sovereignty" (Roio, 2018). This process of establishing algorithmic sovereignty or algorithmic modes of governance relies on the discrediting and subsequent removal of people from positions of

control and power while at the same time articulating people as data subjects. In the context of the Iraq War, discourses about the mailability of human agents of war led to experimentation with the introduction of digitized and automated robot armies.

Pixelated Soldiers—Soldiers as Digital Technology

In 2004, the U.S. Army revealed a new, digital, pixelated, camouflage pattern for its official uniform. This Universal Camouflage Pattern (UCP) was designed as a "one-print-fits-all" solution for desert, wooded, or urban environments (Engber, 2012). Starting in 2006, the U.S. military adopted this new uniform. It featured "digital-pixel camouflage, a blur of muted tones that many soldiers say seems best suited to desert combat" (Yardley, 2007). The digitized uniforms were meant to signal a technologically sophisticated, new, and improved military. A similar strategy was adopted by the British Army in 2009 as it moved to a new camouflage uniform called "Multi-Terrain Pattern" that was to replace the 40-year-old "traditional colour woodland uniform known as No.8: Disruptive Pattern Material" (Emery, 2009). This new uniform was to be utilized parallel to the No.5: Desert combat dress. Multi-Terrain was supposed to function in all environments as well as the UCP. What made the UCP and the American cases distinct was the adoption of pixilation as a key distinctive feature through which camouflage is to be achieved. By 2012, the American pixelated concealment strategy had proven to be a bust, costing U.S. taxpayers $5 billion (German, 2021). The uniform did not blend with the environment and, in contradiction to its intention, stood out, marking the soldiers who wore it as easy targets. The logics of pixilation, which implies the reduction of an image into numerically defined samples, were applied to the entire structure of the U.S. military personnel. The introduction of digital camouflage was a failed attempt to present U.S. soldiers as digital objects. It signaled the beginning of an attempt to mechanize warfare and envision digital—and subsequently algorithmic—technology as the main agent of war.

In the last few years of the war, the discourse has shifted away from dressing soldiers as digital objects and toward programming their brains and loading information as if they were databanks. A new Defense Advanced Research Projects Agency (DARPA) project has indeed focused on neurotechnology that hopes to cultivate "the ability, via computer, to transfer knowledge and thoughts from one person's mind to another's."

Humans are increasingly seen as automated—rather than autonomous—participants in war (Gross, 2018).

Robots in the Iraq War: TALON and SWORDS

In thinking about the progression from digital to algorithmic warfare, consider the early stages of the Iraq War when not only soldiers in digital camouflage roamed the streets, but robots such as TALON and SWORDS (Special Weapons Observation Reconnaissance Detection System) were introduced to the army as well (Magnuson, 2007). These machines came to be known as "mechanized soldiers" (Magnuson, 2013). They are part of a long history that has attempted to create bionic soldiers (Gross, 2018). TALON was initially designed by the Massachusetts-based firm Foster-Miller as an unmanned ground vehicle for bomb detection. As soon as 2004, its mechanical arm was replaced with a machine gun. Equipped with a camera and a remote control, TALON allowed Marines to "fire their guns from a hundred feet away" (More Robots 2004). The TALON robots were seen as distancing the human in the war loop. As GlobalSecurity.org director John Pike said, "These things have no family to write home to. They're fearless. You can put them places you'd have a hard time putting a soldier in" (More Robots, 2004). Robots here are seen as lacking social relations as well as human emotions. They are fearless, and when dead or obsolete, they will not be missed. TALON was accompanied by REV—the Robotic Extraction Vehicle—a machine conceived of as an unmanned ambulance. Developed by iRobot, REV is cousin of sorts to the popular household vacuum robot Rumba (2004). We can speak of robot families after all. TALONs tended to go haywire and spin out of control. So "retooled, for greater safety" they returned in 2006 as SWORDS. SWORDS, too, seemed to have a mind of their own as they tended to move without a clear prompt (Magnuson, 2008). These machines now came with "kill switches" in case they exhibited any odd behavior (2008). A robot gone rogue will be put down.

Trust: Human–Nonhuman–Human

The rise of autonomous warfighting technologies is profoundly changing the relationship between humans and technology as well as between humans on both sides of warfare. Artificial intelligence (AI) has indeed transformed the basic unit of the military as a human-machine assemblage where people need to learn to trust the machine's outcome while they are

still able to be involved by being "on" the loop. As this trust increases, people are further removed from the decision processes of warfare. This coupling of human to machine in the context of algorithmic war has been discussed by Peter Leyton in mythical terms:

> The teaming of humans and intelligent machines has been likened to the mythical Centaur, a half-man, half-horse creature with the brains of a human and the power and speed of a horse. Importantly, however, there is an interdependence in human-machine teaming that goes beyond the simple maximise strengths/minimise weakness implication of the Centaur analogy. (Leyton, 2018, 24)

The Centaur here is half man and half machine. In this hybrid assemblage both sides are held as suspect to one another. Machines are seen as being susceptible to fake data or counter-algorithms; humans are seen as too slow and not smart enough to calculate all variables, yet able to deal with the messy reality of the world.

Machines have had to learn to discern fake data and thus to learn to trust the right kind of data. In a fully automated and autonomous warfare, everything from the data to the decision and its execution is entrusted to technology. Technology, however, has to learn to trust data and differentiate fact from fake. Just as AI technology of recognition is on the rise, so are techniques that allow for the generation of deepfake spatial data. The raise of "deepfake geography" can create a situation in which "military planning software is fooled by fake data that shows a bridge in an incorrect location" (Vincent, 2021).

In this new regime of warfare, what is being obfuscated is the human-to-human relationship that can both take and save lives. That is not to say traditional warfare in which people kill people is somehow "good" war. No war is worth the human sacrifice and suffering it brings. There is, however, a danger in the breakdown of warfare as a human project and the insistence on a sci-fi imaginary in which people are somehow spared while drones fight drones, and algorithms battle algorithms. For algorithmic war will not be any "cleaner" or more "precise" than the proceeding "digital war" that was the Iraq War (and the War on Terror) or the Total War that was World War I. By breaking down human-to-human relationships via the insertion of algorithmic technology in the place of humanity, algorithmic warfare could emerge as one in which, as the casualties of war mount,

human responsibility will be obfuscated. Algorithmic war could indeed bring about a human genocide.

Autonomy and Plausible Deniability

TALON and SWORDS were seen as intermediary solutions on a path toward a fully automated war—automated on the side of the mechanized solider rather than the mechanized enemy. John Canton, the executive officer of the Institute for Global Futures and expert on military technologies, has indicated that the future of an algorithmic war is an automated war in which there is no human in the decision or "act of killing" loops:

> SWORDS, unmanned aerial vehicles, and other such systems are "telerobotics," in other words, a human is somewhere else controlling the machine. But autonomy, even for armed robots, is coming […]. That includes a machine that will hunt, identify, authenticate, and possibly kill a target without a human in the decision loop. (Magnuson, 2008)

Hunting now is a machine-driven, autonomous activity. Those deemed "human" are kept at a distance and are not able to participate in the biopolitical decision to kill at all.

The transition from digital soldiers to AI killing machines has been a slow one. The removal of the human in the killing loop has led to new ethical issues and the emergence of an "AI murder policy." As Matt Novak reported for Gizmodo.com, the Department of Defense updated its ethical standard in 2017 in order to account for machine learning killing people. The new language reads:

> All development and use of autonomous and semiautonomous functions in weapon systems, including manned and unmanned platforms, remain subject to the guidelines in the Department of Defense (DoD) Directive 3000.09, which was updated in 2017. Nothing in this notice should be understood to represent a change in DoD policy toward autonomy in weapon systems. All uses of machine learning and artificial intelligence in this program will be evaluated to ensure that they are consistent with DoD legal and ethical standards. (Novak, 2019)

The ethical standard here is connected with human judgment. As Novak reports, "This safeguard is sometimes called being 'in the loop,' meaning that a human is making the final decision about whether to kill someone"

(Novak, 2019). Artificial intelligence might have precision and speed. But it clearly still lacks ethics.

Langdon Winner has written a powerful account of the moral and ethical consequences of automated warfare (Winner, 1977). He warns of the danger of perpetuating systems in which one is either too close or too far removed from the consequences of actions and hence lacks knowledge of the damage inflicted (302). Winner is wary of a future in which responsibility for death and destruction can be abdicated through the argument that one simply "did not know" what was happening. While in the past this type of argument could be rejected, as was the case with Adolph Eichmann detailed by Hannah Arendt in her book *Eichmann in Jerusalem: The Banality of Evil*, Winner warns that "truly autonomous computer programs" now known as machine-learning algorithms create an environment in which one really does not know because people are out of the loop. Winner is critical of "programs that perform unpredictably, creatively, and beyond the comprehension of their makers" (304). Such technology creates "conditions of unintelligibility and extension of blame [and] have set the stage for a novel doctrine of organizational cynicism—'plausible deniability'" (305). This is a significant shift in the ability to accept the "I did not know" argument as plausible because the technology itself claims that it is intelligible to humans. According to Winner, "Here, even those aware of the unfortunate or unsavory occurrences can arrange (before the fact) that their complex environment prevents crucial information from reaching them and 'truthfully' claim that they simply did not know" (305). For Winner, the consequences of such "plausible deniability" are immense. They lead to "vast increases in the possibility of tolerating evil until it is too late" (305).

In the context of the Iraq War, we saw a similar scenario play out. A key instance of a "few bad apples" where supervisors supposedly "knew nothing" were the Abu Ghraib tortures. On the other hand, drone technology offered a way for "knowing nothing" through extreme distance. In both cases, the argument was rejected. But what happens if a drone kills the wrong person? Who is to blame? And more importantly, who will take the responsibility? Death without impunity in an algorithmic war should be carefully weighed out. Winner warns that such systems hold the potential for genocide (302).

Automation and War: Airplanes and Drones

Drones and robots could be seen as sacrificial and expendable digital objects; as objects that seemingly take the human out of the loop in war, at least on the side in which certain humans are perceived as worthy of life. Providing detachment and abstraction to war, drones allowed for a war led from afar and above (Kaplan, 2017). Through their automation, they have extended the remote vision established initially by aviation technology.

During the British Mandate for Iraq, as Caren Kaplan has argued, "[A]irpower became one of the preferred modes of control—making long distance supervision possible through surveillance and the constant threat of attack" (Kaplan, 2011). More specifically, as Priya Satia writes, "the Royal Air Force (RAF) patrolled the country from a network of bases, bombarding villages and tribes as needed to put down unrest and subversive activities" (Satia, 2006, 16). This patrolling allowed for a new form of geographic knowledge—one that turned the seeming vast, flat, empty, monotone deserts (the terrain that tribes, the foe par excellence, inhabit)—into navigable, as well as *cartographable*, space that could be managed through "radiating" power in the shape of British bases (28). Air power and aerial vision thus became necessary in the policing of the empty terrain of the desert rather than the landmarks of the city. The "radiating" power accomplished through air control "was designed for a population conceived as congenitally insurgent, an always incipient guerilla army lacking any agency but available for exploitation by an external agent" (31). In other words, in the flat and empty desert, tribal populations that are both nomadic and sporadic in their actions were to be surveyed and thus controlled by an "offsite," yet always available, air power thus creating a "classic panopticon": "Aircraft, like conspiracy thinking, provided the security of *imagined* omniscience to an empire in the throes of rebellion" (32). But this new regime of vision also introduced uncertainty of knowing. As Caren Kaplan writes "[A]erial photography in the age of the airplane prompted increased speculation about the nature of things, the provenance of knowledge, and the complexity of vision in the perception of time and space in modernity" (Kaplan, 2018, 147). The *imagined* omniscience of vision thus resulted in speculative knowledge.

The discourse of omniscience and speculation extended beyond the British Mandate for Iraq into the Iraq War. This time seeing and knowing were mediated not by aircrafts but rather by unmanned aerial vehicles also known as drones (Satia, 2014, 1). As Caren Kaplan has demonstrated,

detachment and distance are historically grounded in the introduction of weapons and prior to drone warfare culminated in the introduction of airpower (2071). Drones thus operate as a technology that has extended paradigms of speculative knowledge and emotional detachment, situated in the familiar contexts of the "empty" deserts (Fig. 6.1).

In war, increasing physical and emotional distance resulted in speculative knowledge has been a consistent historical trajectory. This discourse of distance in its current "drone" articulation, however, has moved to a position of disappearance—the supposed disappearance of human decision-making, and thus of human rights and responsibilities. Algorithms were mobilized in a "drone-like" fashion in order to imagine a future governed by "fully autonomous algorithmic agents" (Rauer, 2018, 144). The term "drones" gained popularity in the early 2000s and came to designate both unmanned aerial vehicles and a "shift in which hybridity is increasingly replacing the binary order [of human subject and tools] that previously divided the world into opposing realms of subject and object" (2018, 140). William Merrin has compiled an extensive history of the U.S. military drone program (Merrin, 2018, 149). He has detailed the

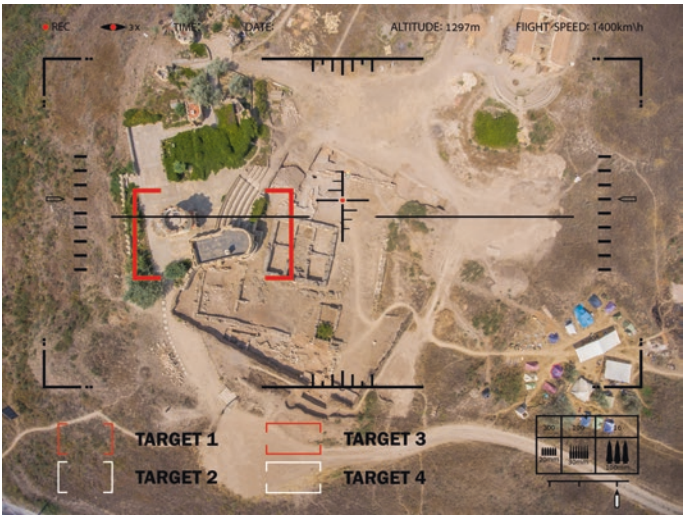

Fig. 6.1 Aiming bomber to the target in the desert. Viewfinder camera plane. By winvector X Shuttersock. https://www.shutterstock.com/image-photo/aiming-bomber-target-desert-viewfinder-camera-500925580

intelligence, surveillance, and reconnaissance, as well as target designation and target killing, uses of drones. What is impressive about his account is the vast amount of drone technology's failure to properly identify true targets and thus kill innocent civilians. The testing ground of drone killings was situated outside of the territory of Iraq—in Waziristan, Pakistan. Waziristan is "an area housing 800,000 people who are among the poorest on earth, leading to many innocent deaths" (151).

In thinking about drones, it is important to consider the ways in which the remoteness of operators has been translated into what Ramon Bloomberg has theorized as *unmannedness*. As Ramon Bloomberg aptly points out, "[For] every MQ9 Reaper combat air patrol there are roughly 200 human beings attending to, guiding, and maintaining the vehicle, including those men and women who manipulate the aircraft's controls" (Bloomberg, 2015). Bloomberg makes a case (via Peter Galison) that a self-guiding projectile is unmanned, and, while its subjectivity is ambivalent, it nonetheless "wants to kill." The drone, however, is (as of now) not self-guided:

> The important distinction is that the drone is not self-guiding; yet from the point of view of an observer, how is that to be known? The guided torpedoes and bombs of the Second World War exhibited intentionality to the perceiver. The networked drone possesses an ambivalent relation to the collective in that it displays a kind of autonomy, even though it is not autonomous at all. Perhaps it is not so much a case of *applying* the term "drone" to the object, but the opposite: bringing the body in as a drone, a droning of bodies. (2015)

The "droning of bodies" on both sides of the perceived automated death cycle is precisely what the term *unmannedness* points to. Under this configuration, men become abstract targets for those above the drone, and invisible worker bees for those under it. Galison's argument is worth revisiting in light of new developments that aim to literally make the drone unmanned (Galison, 1994). The mechanized solider and the unmanned vehicle can be seen as responses to the "mechanized Enemy Other" that emerges in the aftermath of World War II (Galison, 1994, 231). It is this idea of a mechanized cybernetics enemy that to this day fuels the quest for increasingly nonhuman war machines.

This perceived mechanization or *unmannedness* of war also has significant consequences on the legality or legitimacy of war itself. As Lisa Park aptly argues,

> The overvaluation or fetishization of the drone as "unmanned" or "autonomous" has the effect of sanctioning statecraft that takes the form of unilateralism or authorizing wars that are waged extrajudicially. For how could autonomous machines ever do anything but act on their own accord? And how could *we* expect to be responsible or accountable for what *they* do? (Parks, 2017, 134)

This argument of machines taking over exonerates human responsibility. In Horowitz's third stage of mechanizing war, where decisions of life and death are to be entrusted to the machine-learning algorithm itself, war becomes a state of exception because it no longer is seen as responsible to, and therefore anchored in, a human-driven state of law.

"Plausible Deniability" and Drone Technology

While Iraq was to be the site of "shock and awe," the poorest on Earth were to be the expandable sacrificial lives onto which drones could test their veridiction skills. Drones offered supposed precision killing at a distance. Here the target was to be confirmed as "true" or "false" and then eliminated if true. The target was human. As Merrin powerfully demonstrates, the "first civilian casualties [in Waziristan] were 14-year-old Irfan Wazir and his 8-year-old brother Zaman, killed on 17 June 2004 while sitting next to the Taliban militant Nek Mohammed who was visiting their father" (Merrin, 2018, 151). The false targets, or civilian casualties, of drone attacks increased to 2000 by 2014 and legal debates began on the legitimacy of drone strikes (151).

Irfan and Zaman Wazir's deaths point to the deadly asymmetrical epistemology of drones that is obscured by the discourse of precision and automation. This case study, among many others, exemplifies Winner's point that the "magnificent argument" for the implementation of automated technological military systems creates safety for everyone "except the victims" (1977, 302).

The deaths of Irfan and Zaman Wazir further demonstrate the failure of precision both as "effective" and as "affective" process (Crandall, 2008, 89). Effective precision, according to Jordan Carndall, implies "a technologically enabled drive toward efficiency and accuracy—a drive to augment human capabilities by developing new human-machine composites" (89). The argument made here is that drones eliminate human error *and* the massive collateral damage delivered by traditional weapons. This myth of

drones as clean and precise technology is supported by a fascination with the newest technological developments in computer vision and machine learning. Precision as "affective" evokes "a technologically assisted drive to reduce mediation and offer a form of direct connection to our real objects of inquiry" (89). This affective process, according to Carndall, forecloses reflection and favors immediate "real-time perceptual agency" (89). The time to question the "real" is thus eliminated and so is the moral and ethical space of reflection when taking someone's life. While the space of reflection is eliminated via "real-time," the experience of mediated death has had huge implications in terms of post-traumatic stress disorder for the drone operators (89).

As Paul Scharre writes, "Life-and-death choices in war are not to be taken lightly, whether the stakes are millions of lives or the fate of a single child" (Scharre, 2018, 4). Yet, despite the legal cases and public outcry and protests according to Merrin, drones "have become a vital part of an expanded, diffuse, permanently-on, low visibility, low-footprint, secretive, global U.S. 'War on Terror'" (Scharre, 2018, 153). This new type of warfare as Chamayou has argued is "preventive" (Chamayou, 2013, 34). Here drones are to destroy targets through "prophylactic elimination" (34). In this type of warfare, we see a shift away from weapons of mass destruction, such as the "shock and awe" campaign and toward weapons of "math destruction" where the goal is to identify, locate, and manhunt the enemy (33–4).

Drones thus enact a policing function through increasingly automated and algorithmically driven decision-making. They have become epitome of the biopolitical merger of policing and statistics in an algorithmic war. As such, they exemplify Michel Foucault's discussion about the ways in which a milieu is governed through the coupling of policing and statistics. Writing about the European landscape and the emergence a balance of powers, Foucault posits a powerful tenet about the relationship between governmentality, policing, and statistics: "Police make statistics necessary, but police also make statistics possible" (Foucault, 2007, 315). Statistics is seen as "the hinge" between policing and governmentality (315). In the context of drones, policing and statistics are further merged with an automated decision-making process. The process of veridiction is not only structured through an algorithmic logic, it is also *carried out* by algorithmic technology. And so is at times the assassination of the "true" target. The process of veridiction in the context of drone technology involves the assessment of what Foucault calls the "milieu"—"the space in which a

series of uncertain events unfold, … a set of natural givens—rivers, marches, hills—and a set of artificial givens—an agglomeration of individuals, of houses, etc" (20). The milieu is a statistical problem—it is "a certain number of combined, overall effects bearing on all who live in it" (21). Increasingly, this statistical problem is being addressed through algorithms, which supposedly offer a dependable model and precise calculations. People, on the other hand, assess a situation or a milieu but ultimately have been accused of sometimes taking a "leap of faith" (Leyton, 2018, 250).

Algorithmic war and, more broadly, algorithmic culture are indeed instances of milieu in which the combined effects are assessed and policed through increasingly automated and autonomous technologies. As a recent UN report has revealed, an "autonomous drone may have hunted down and attacked humans without input from human commanders" in Libya during March 2020 ("An autonomous", 2021; Choudhury, 2021). This instance marks the "first time such an attack by artificial intelligence (AI) has taken place on humans" (2011). This attack was carried out by a KARGU drone, which can "can be effectively used against static or moving targets through its indigenous and real-time image processing capabilities and machine-learning algorithms embedded on the platform" (KARGU). KARGU drones are being developed by the Turkish company STM. The name of the drone derives from the Turkish word for "watchtower." In an essence, these drones are seen as multiple, disposable, and ultimately cheap. They are to act as kamikaze agents protecting the more expensive technology. The KARGU drone attack actualized the possibility of a future algorithmic war, where "machines may make life-and-death engagement decisions all on their own" (Scharre, 2018, 4). Life-and-death decisions thus become not only automated but also autonomous. The KARGU drone actualizes a biopolitical nonhuman truth regime in which AI is given the authority to govern not only our data selves but also our physical selves. An autonomous decision-making process, built upon a nonhuman regime of truth positions human beings on the receiving end of an extra-legal biopolitical power structure.

The pinnacle of an imagined algorithmic war in which algorithmic logics of data aggregation, taxonomies, simulation, veridiction, and automation come together is captured by the KARGU drone promotional video. Posted on YouTube on August 26, 2020, this video titled "STM | KARGU—Rotary Wing Attack Drone Loitering Munition System" demonstrates the precision elimination of a target (STM, 2020). In this short

clip set to dramatic music, we see images of a small drone flying as well as overhead imagery of a blue and white tarp onto which white dummies are positioned. The tarp is lined with additional ropes and the illusion created in one of a mapped space with visible quadrants—hence a grid. Nine white dummies are positioned across the cartographic cellular space—each occupying the center of a clearly delineated square. In the center of a tarp is a supposed target marked with two cardboard panels. As we get closer, we are alerted to the technological parameters that are to be considered—"proximity fuse; customizable detonation range" (2020). As the red target symbol locks onto the target, we see that one of the dummies has fallen face down. The rest are standing, and the drone is going for a dive. Shots are fired as we are alerted to the "high precision & lower cep [circular error probable] value" (2020). Next attention is brought to one of the mannequins in order to show bullet penetration—one in the left side of the chest, one on the right, one close to the appendix, and one in the arm. The bullet marks are marked in orange. We are told that this is an example of "[f]ragmentation warheads for multiple types of targets—anti-personnel and armor piercing" (2020). The drone had just killed a human stand-in. If this were a real case, the deceased person would have been labeled "personnel" (2020). I found this simulation shocking, evoking a discourse of "shock and awe," as did most of the people who commented on the video. A wider audience needed to be convinced that drone executions were acceptable. The arguments hinged on trusting the power of algorithmic technology and machine learning to make the right decisions based on objective data, correct categorization, extensive training, and dependable discernment of the true threat.

The KARGU drone killing of the dummy resonates with Judith Butler's theorization of precarious and "grievable" life. In her book *Frames of War*, Butler starts with the imperative proposition "that specific lives cannot be apprehended as injured or lost if they are not first apprehended as living" and an indispensable question—"What is a life?" (Butler, 2010, 1). Human-machine teaming in the context of war complicates questions of both life, as well as what Butler calls the apprehension, recognizability, and recognition of life (8). The series of questions that emerge from this stance ask if (and when) artificial intelligence is considered life. Can AI grieve? What does it mean for life to be recognized by AI, where AI is perceived as nonlife? What about the articulation of life through AI where the new optic for life accounts for technology, too?

In thinking about Horowitz's three stages of war, it seems that the introduction of AI robots in the battlefield complicate the idea of who can

grieve the loss of a life. The second stage of Horowitz's war automation involves the framing of recognizability of war: drones and machine vision provide a distanced, abstract, and systematic approach to whether what is in front of the machine gun is a car or a person. By the time we enter the third stage of war automation, not only recognizability but the recognition of personhood is now entrusted to technology. After all, if drones were to provide means of recognizability, Project Maven was to literarily be "the one who knows," and KARGU how "the one who knows" conducts war. There is also an inversion to this process. As human enemies come to be recognized as dispensable and human soldiers as sacrificial, AI war machines have become increasingly articulated through frameworks of personhood in this sense, given the contour of life. The discourse around SWORDS and TALON includes language that speaks to their abilities: "They *performed* a combat role" (Magnuson, 2013) and they "*make* us proud" (Greatest, 2008).

With the introduction of artificial intelligence as a technological equal to the soldier in the face of an all-too-human, yet seemingly not-human-enough, enemy, concepts of life and of life that matters have shifted. This new configuration is only seemingly equivocal as human life has become increasingly dispensable and technology has taken a life on its own. In an algorithmic, the removal of the human from the loop raises significant questions about automation and autonomy. These are questions with high stakes for both who counts as a citizen and who counts as an enemy.

Meet ARTUμ: Your New co-Pilot Used to Fly Gaming Airplanes

At the time of writing this book, ARTUμ has become the highlight of algorithmic warfare technology in the U.S. This new algorithm, pronounced Artoo after "the beeping robot droid co-pilot in the *Star Wars* franchise," is a variation of "the μZero algorithm created by the DeepMind AI, renowned for defeating world Go board game champion Lee Sedol in one try in 2016" (Bensaid, 2021). Artoo is thus seen as connected both to the futuristic imaginary of *Star Wars* and a future warfare that takes place in the air as well as in space; drones and spy planes are to be controlled by AI technology which harnesses satellite data and cloud technology (Insinna, 2020). Here the algorithmic logics of data, taxonomy, simulation, veridiction, and automation culminate in the merger of AI,

airplane technology, and the ancient game of Go. This convergence powerfully demonstrates algorithmic war as an assemblage. Deciding whether to "go or no go" in the real world is now entrusted to the mind and hands of a game-based algorithm.

In the game of Go, players position their white or black stones at the intersection points of a grid. The goal is to surround and "capture" the enemy stone (Learn). Go is thus a strategy game in which stones are positioned at coordinates so that they will surround and eliminate a target. Each player has to carefully consider the consequences of "go" or "no go" decisions and then take action. The game of Go has become a training ground for algorithmic warfare as well as the perfect metaphor to express its essence:

> ARTUμ was traditionally designed to win at chess and Go, much like his predecessor. In five weeks, the AI had learned how to use the spy plane's radar to perfection. A million virtual missions later, Artuμ wasn't just a radar operator on the plane, but the mission's effective commander. (Bensaid, 2021)

Further,

> With that, a new era of algorithmic warfare begins, on a battlefield that spans the world, made possible by innocuous tech startups far removed from the consequences of their efforts: gamifying warfare. (2021)

While ARTUμ is still in training, the U.S. military has plans in the near future "for bringing AI copilots and pilots into the real world" (Hitchens, 2020). Algorithmic war is thus imagined as a reincarnation of *Star Wars* in the real world. In algorithmic war, the command and execution are entrusted in the algorithms, and humans are positioned outside of the loop. This premise was indeed actualized by ARTUμ, which "[w]ith no pilot override, […] made final calls on devoting the radar to missile hunting versus self-protection" (2020). Algorithmic war is thus on its way to fulfilling its prophecy of becoming a war driven by algorithmic technology under the pretext of an AI enemy, yet enacted on often innocent people.

Conclusion

With the automation of both decision-making and action in the context of war and beyond, the speculative assessment of risk and enmity, of the sorting of the milieux, faces increasing uncertainty as data becomes permeated with fakes. The mistrust placed on human agents in identifying targets, or in the case of Abu Ghraib inappropriately deploying selfies and thus exposing the process of torture as data gathering, was to be countered by rational and objective algorithms. The biopolitics of algorithmic miscalculation as well as the discourses of truth and trust will continue to have a significant impact on society not only in times of war, but, as I will demonstrate in the next chapter, also in times of peace.

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CHAPTER 7

Conclusion: Beyond War

The Iraq War was first declared over by George W. Bush in 2003 when he declared "Mission Accomplished" onboard the USS *Abraham Lincoln*. After seven more years of militarized state-building, allied forces were withdrawn officially in 2010 under the Barack Obama presidency. U.S. forces were subsequently sent yet again to Iraq in 2013–2017 in the aftermath of the Sunni insurgency and the civil war that had erupted. At the current moment, while direct military intervention in Iraq has ended, we are still grappling with the legacy of war in the context of both Iraq and the U.S. The political and technological experiments conducted in the context of the Iraq War and the British Mandate for Iraq have led to the validation of a worldview in which data and calculation of risk are central elements of governmentality.

With the development of computing technologies, ideas and methods of data gathering, classification, modeling and prediction, simulation, and veridiction became more comprehensive and complex and thus have come to be seen as legitimate and trustworthy. Artificial intelligence has taken a central role in the development of modern warfare. In 2020, the Department of Defense (DOD, 2004) issued a set of ethical principles for Artificial Intelligence (2004). These principles attempt to subject AI decision-making to legal codes such as the U.S. Constitution, "Title 10 of the U.S. Code, Law of War, existing international treaties" as well as to

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"longstanding norms and values" (DOD Adapts 2020). These five ethical principles are as follows:

1. Responsible. DoD personnel will exercise appropriate levels of judgment and care, while remaining responsible for the development, deployment, and use of AI capabilities.
2. Equitable. The Department will take deliberate steps to minimize unintended bias in AI capabilities.
3. Traceable. The Department's AI capabilities will be developed and deployed such that relevant personnel possess an appropriate understanding of the technology, development processes, and operational methods applicable to AI capabilities, including with transparent and auditable methodologies, data sources, and design procedure and documentation.
4. Reliable. The Department's AI capabilities will have explicit, well-defined uses, and the safety, security, and effectiveness of such capabilities will be subject to testing and assurance within those defined uses across their entire life-cycles.
5. Governable. The Department will design and engineer AI capabilities to fulfill their intended functions while possessing the ability to detect and avoid unintended consequences, and the ability to disengage or deactivate deployed systems that demonstrate unintended behavior.

Nestled in these principles is a grappling with questions of autonomy and automation. They are a positive step in articulating the boundaries and responsibility of AI. What should be noted here is the humanizing language with regard to AI, "life-cycle" as well as "behavior," that is not always in line with the intensions of is makers. In other words, AI is to be held to the same standards as any other member of the military. A human-machine army is imagined here as one in which governmentality and autonomy do not lay exclusively in human hands but are rather distributed to a human-machine assemblage that is supposed to jointly understand and comply with political, legal, ethical, and moral codes.

These ethical principles inform the ongoing work of the Defense Innovation Unit which partners with "commercial companies to solve national security problems" (DIU). Major areas of collaboration center around issues of artificial intelligence and autonomy with projects Machine Learning Prediction, Big Data Analysis, as well as AI Enhanced Decision Making. These categories emphasize yet again the weakness of humans:

humans can break, humans are unable to process and analyze large amounts of data, humans are slow (DIU Solutions-Portfolio). AI on the other hand offers fast and reliable solutions. The examples given are "Assessing Building Damage from Satellite Imagery" and Leveraging "Machine Learning to Predict Component Failure" in military equipment (DIU Solutions-Portfolio). The autonomy project focuses more explicitly on "human-machine interaction and scalable teaming" (DIU Solutions-Portfolio). Here unmanned ground, maritime aerial systems are developed with focus on speed, autonomy, and low cost. A third category here centers on "Human Systems." This section is grounded in AI-driven biopolitics as AI is now seen as an agent directly connect to Lethality, Survivability, and Readiness. Life and Death are seen as entities on a measurable scale cloaked as "survivability" and "lethality." AI here can "continuously help improve the warfighters ability to shoot" as well as to "enhance warfighter performance, recovery, and detection capabilities" (DIU Solutions-Portfolio). These capabilities to have more lethality and survivability capacities are linked to training and testing. It is here, in the Solution-Portfolio section of the DIU mission, that the five algorithmic logics described in this book are clearly spelled out as the guiding principles of the future of the American military and the future of war. This is important to note the ongoing work of DIU because it focuses on rapid prototypes and quick adoption—ideas that are often in tension with ethics, longstanding values and traditions, as well as well-established legal and political structures. This tension is putting in question existing rules of engagement and systems of decision-making in the context of war as well as more broadly beyond war in civil society.

The algorithmic logics tested in the Iraq War have subsequently been refined and embedded as ubiquitous elements not only for the development of the U.S. military but also in our everyday culture. Algorithms shape the ways in which we, as humans, as well as machine-learning systems perceive categories such as race, class, gender, and sexuality by literally reinventing their symbolic structure in the computational space and by directly impacting the physical lived experience of so many (Hristova et al., 2021). What follows is a look at the ways in which algorithmic logics tested in the Iraq War have become an opaque part of society. What is at stake here is that algorithmic technologies established through collaborations between commercial entities and the U.S. military reenter the public sphere. Civil society, articulated as a human-machine system, is then subject to ideas of autonomy and automation and further biopolitically inflected with calculations of lethality and of survivability.

Algorithmic Logic One Today

The Iraq War became a site for experimenting with total and distributive data gathering. It created a precedent for increasing biometric surveillance. According to the International Biometrics and Identity Association (IBIA), "The U.S. military pioneered the use of biometrics in Iraq and Afghanistan. … Since then, the use of biometrics in military applications has expanded significantly" (Defense). The IBIA's website further outlines a wide-ranging list of areas in which biometrics have become prominent including education, finance, gaming, health care, and law enforcement. As a report by Privacy International notes, the Iraq War presented a case study and a model for gathering data in the name of countering terrorism that has subsequently been reproduced in additional contexts. This data-gathering process has been "untransparent and unregulated" (Biometric). This report notes an important shift in the means of data collection. Whereas the global War on Terror relied on "an array of invasive surveillance technologies" because of the technical limitations of the systems, today data gathering is ubiquitous and often unnoticed (Biometric). During the Iraq War, biometric technologies required a subject to stand in front of a camera and be fully aware that their face and their irises were recorded. This process often required physically invasive acts such as intentionally hand-opening one's eye as captured by the now infamous photograph published by *The New York Times* of the U.S. soldier holding a man's eye open (To Track, 2011). The camera's role in data-capturing was explicit. The agents of data collection were visible and human.

In today's data-gathering enterprises, data is scraped automatically and autonomously off the Internet (or, as researchers claim, "found in the wild"), or captured by consumer goods companies such as Amazon, Facebook, Apple, and Google under the guise of consumer photography and social media activity (Brandom, 2017). The concept of capturing photographs "in the wild" for the purposes of distilling training data resonate with arguments about emptiness evoked during the data-gathering projects in the Iraq War as well as the British Mandate for Iraq. Here the Internet is seen as a place without sovereignty, a place that appears to be in a Hobbesian "state of nature." For Hobbes, a "state of nature" was precisely a commonwealth "in the wilderness" (Hobbes, 1985, 152).

Algorithmic Logic Two Today

Whereas U.S. military personnel were able to gather the information of over three million Iraqis during the Iraq War, 2009s *ImageNet* project (Deng, 2009) reports that, with the help of automated data gathering, the number of images collected and analyzed has now skyrocketed well into the several hundred million. While the scope of "scraped" images is impressive, so is the extensive classificatory schema behind it. This classificatory schema, developed through "crowdsourcing" on Amazon.com's labor marketplace Mechanical Turk, is then reflected back to the unsuspected users of the digital world. Crawford and Paglen note that race, gender, and economic status are encoded to algorithmic data and replayed back as cultural identity, but so are value judgments about people: "As we go further into the depths of ImageNet's Person categories, the classifications of humans within it take a sharp and dark turn. There are categories for Bad Person, Call Girl, Drug Addict, Closet Queen, Convict, Crazy, Failure. […] There are many racist slurs and misogynistic terms" (Crawford, K. and Paglen, T, Excavating AI). The classification schema was developed to aid the recognition and sorting processes-driven algorithms and benefits the owners of the technological apparatuses and not the humans who were "processed" as training data.

In the 2020 photographic exhibition *Training Humans*, Crawford and Paglen further provided an extensive genealogy specific to the ways in which algorithmic facial recognition participates in narratives of human classification. This was the first major exhibition to display a collection of photographs used to train an algorithm as well as the classificatory labels applied to the images by AI and by the freelance employees hired to sort through these photos. *Training Humans* was "the first major photography exhibition devoted to training images: the collections of photos used by scientists to train AI systems how to 'see' and categorize the world" (Crawford & Paglen, 2020). As the authors note, they are reintroducing into the gallery photographs that "aren't really meant for humans [as] they're in collections designed for machines" (Crawford & Paglen, 2019). Here Crawford and Paglen exposed the inner workings of algorithmic classification and, in a sense, acted as the experts who allowed audiences to understand and train for the new algorithmic machine. The exhibit provided historical context about the ways in which anthropometrics and biometrics have historically been deployed in the articulation of human typologies. They further displayed the images used to create algorithmic

classifications uncovering the duality of the photograph as an honorific and repressive entity. The most powerful part of this project is the real-time visualization of the algorithmic decision-making process as it evaluates the gender, age, and emotion of the people it "sees" (Crawford & Paglen, 2019). According to Crawford, they:

> [w]anted to engage directly the images that train AI systems, and to take those images seriously as a part of a rapidly evolving culture. They represent the new vernacular photography that drives machine vision. To see how this works, [they] analyzed hundreds of training sets to understand how these "engines of seeing" operate. (Crawford & Paglen, 2020)

This project, much like the direct biometric and anthropometric work conducted in Iraq, is a direct extension of what Sekula, as well as Crawford and Paglen, trace to be a genealogy of eugenics rooted in the nineteenth-century phrenology and physiognomy work of Francis Galton, Alphonse Bertillon, and Cesare Lombroso (Crawford & Paglen, 2019, p. 21). The distillation of images into data for the purposes of algorithmic capitalist surveillance is yet the latest instance of the enmeshment of photography with eugenics. Crawford and Paglen's project perfectly exemplifies the claim that Lea Laura Michelsen has aptly made: "Digital biometrics can be perceived as a physiognomic renaissance" (Michelsen, 2018, p. 37). It is this renaissance that we saw tested in the context of the Iraq War.

Algorithmic Logic Three Today

The logics of simulation as replay have continued to shape training environments today under the assumption that the past can be reproduced in the future under the umbrella of habit. In an algorithmic culture, the authentic individual is replaced with an entity enthralled in a projected typology in which common habitual traits are replicated and reproduced. In other words, the uniqueness of individuals—or their auras—is the main fuel of the algorithmic machine. The machine relies on difference and differentiation in order to trace unique database IDs through time and space. In an algorithmic culture, if the original is already a replica without an aura, then the process of technological reproduction is disempowered. For the algorithm to work, individual behavior must demonstrate patterns or "trends" but it also must be distinct enough as to articulate a separate data point or big data. In other words, individuation is useful to an algorithm

as it provides a point into a set of "big data." Without multiple individual points, there is no big data, and thus the algorithm has nothing to work with. The individuation we are currently afforded is a superficial one—one that is based on quantitative difference: we can buy a blue case for our similar iPhone or choose to purchase a pink Rumba to clean our floors. We, however, are seen as static unique entries that wear pink or blue (variation) but remain constant and unique at the same time. In a culture of corporate standardization and surveillance capitalism, algorithms attempt to reinstate algorithmic aura by defining the terms that make us unique in a way that is inaccessible to us (Zuboff, 2019). What is authentic and what is replicable about our own selves and our behavior is no longer a choice that we as humans can make but is rather relegated to an algorithmic calculation. Our algorithmic aura is neither comprehensible nor accessible to ourselves.

Artists, researchers, activists, and scholars have challenged the mysterious "black box" behind training algorithms. One such response is Tijmen Schep's *How Normal Am I* interactive documentary project (Schep, 2020). In it, audience members are asked to turn on their cameras and are then guided through a series of algorithmic decisions while Schep narrates the inner workings of facial recognition. He reveals the ways in which beauty is judged on digital matchmaking platforms such as Tinder, where people with similar scores are considered to be a match and unpacks how health insurance industries use facial recognition to predict BMI indices and thus assess individual health risks. In this project, audience members are also given the opportunity to train for the algorithm: "By giving access to your webcam you can also experience how these AI systems rate your own face" (How normal Am I). The experience is coupled with useful tips; for example, raising one's eyebrow leads the algorithms to assume a greater BMI index and thus a significant risk of obesity. Both *Training Humans* and *How Normal Am I* allow for subjects in front of the camera to test their behaviors and see the different outcomes live. They are given tips on how to perform and then are allowed to see if their behavior is evaluated based on their expectations. The training in front of the camera is responsive and guided by experts who understand the inner workings of the algorithm. This training begins in the context of art and raises awareness about the ways in which assessments are made about our conscious and unconscious behaviors. Techniques and technologies of training and simulation, once directed at the collection and action agents of

algorithmic technology, are increasingly becoming challenged by projects who seek transparency and accountability.

Algorithmic Logic Four Today

With the advancement of AI technology, not only have territory and population been recorded and analyzed in vast numbers, in truly "big data," but they are also being "truthfully" synthesized in the form of "deepfakes"—images, videos, and audio that are misleading media created by AI that appear to be "real" and "truthful." ImageNet is the main visual database harnessed in the creation of both facial recognition technology and deepfakes. The distillation of faces into face-landscapes through the algorithmic faciality machine has also led to a new age of making combination prints that synthesize humans out of human traits with stunning success. Here a data set of eyes, noses, lips, and chins gets recombined in order to create deepfake faces by a "new class of algorithms, collectively known as adversarial machine learning, [which] can fashion photorealistic faces of nonexistent people" (Bergstrom & West, 2020, 35). A prominent example of the power of algorithms to create uncanny human doubles is Philip Wang's Thispersondoesnotexist.com (2019). Here generative adversarial network (GAN) algorithms compose "endless fake faces" by recombining photographs and selfies that had been posted to Flickr (Vincent, 2021). In this case, the algorithm was fed photographs of human faces that were subsequently recombined into images of "imaginary stranger[s]" (Vincent, 2021). The platform utilized in this deepfake human generation is called Tensor Flow and is an open-source machine-learning platform. It has been harnessed by corporations and artists via its StyleGan module to create fake portraits.

In unmasking the processes of the power of AI to generate fake portraits by breaking apart photographs and remixing them into seamless images, Bergstrom and West have written a wonderful volume on the messiness of data titled *Calling Bullshit: The Art of Skepticism in a Data-Driven World* and have launched an elegant demonstration of the predicament of distinguishing real from fake humans called the WhichFaceIsReal.com project (2019). The latter work aims to make users aware of the ease with which "digital identities can be faked" as "New adversarial machine learning algorithms allow people to rapidly generate synthetic 'photographs' of people who have never existed" (About https://www.whichfaceisreal.com/about.html). Here, users are presented with two images of a

person and are asked to identify the real photograph. There is a coupling signaled here between the existential realness of the human and the perceived status of the image as a photograph. One of the images is "a real one from the [Flick] FFHQ collection, and [the second is] a synthetic one, as generated by the StyleGAN system and posted to thispersondoesnotexist.com, a Web-based demonstration of the StyleGan system that posts a new artificial image every 2 seconds" (Methods https://www.whichfaceisreal.com/methods.html). Bergstrom and West's project demonstrated the ways adversarial machine-learning algorithms continue a tradition of photographic manipulation that undermines the indexicality of the photograph itself and thus positions the face as a haunting technological apparition.

Deepfake technology as it relates to the synthesis of people has already been positioned as a key security issue. In recent years, the Defense Advanced Research Projects Agency (DARPA) has run two programs that attempted to provide technological solutions to combating deepfakes—Media Forensics (MediFor) and Semantic Forensics (SemaFor) (Deep Fakes, 2021). Additionally, the U.S. Army is developing a counter-detection system called "DefakeHop" which is supposed to quickly detect manipulated images of people (Bisht, 2021). The main fear here is misinformation from public figures in the form of propaganda where deepfakes of former President Obama or Russia's President Vladimir Putin can trigger military conflict.

Territory has become a subject of deepfakes too. As algorithms have distilled territory into discrete, reproducible abstract shapes, they have learned to create deepfake satellite imagery and have ushered an age of "deepfake geography" (Zhao et al., 2021). While "fakery" or manipulation of data via mapping is not new, as detailed in Monmonier's famous book *How to Lie with Maps*, fake geography synthesizes photorealistic satellite imagery in order to produce a "deliberate inconsistency between the reported geospatial information and the ground truth" (2018, 340). Increasingly, these fake landscapes are generated through machine-learning algorithms and they appear to contain "uncanny real landscape features" (340). Once abstracted, landscape features are now combined and repurposed by AI in order to appear real and truthful. These fake satellite images are hard to detect by humans and thus require the development of fake geography detection algorithms.

Deepfake geography has come to pose a serious threat to the idea of an autonomous algorithmic war. Part of this process requires training for

instances when "military planning software is fooled by fake data that shows a bridge in an incorrect location" (Vincent, 2021). In an algorithmic war, "truth" is further displaced from human assessment as the algorithmic decision is based on detached, abstract data about territory and population that can now be synthesized for algorithms by algorithms. In a sense, truth and reality are both rendered as nonhuman, even though in war, the consequences suffered are always human. Algorithmic war, with its reliance on bird's-eye view satellite data and GPS points of articulation, has come to engage with a type of landscape that can be entirely disconnected from lived reality. In an algorithmic war, the battle for distinguishing "truth" will be accentuated by the ability of technology to generate a new level of fake data because it has been trained on big data of available "in the wild." According to Patrick Tucker,

> Andrew Hallman, who heads the CIA's Digital Directorate, framed the question in terms of epic conflict. "We are in an existential battle for truth in the digital domain," Hallman said. "That's, again, where the help of the private sector is important and these data providers. Because that's frankly the digital conflict we're in, in that battle space. … This is one of my highest priorities." (Tucker, 2019)

Algorithmic technology was introduced in the battlefield in order to aid in the detection of truth in a foreign environment, where the manipulation of information was seen as coming from a lack of cultural knowledge or the deceptive documentation provided by the people on the ground. In the contemporary moment, such technology is envisioned as attempting to defy misinformation introduced not by human agents directly, but rather by algorithms themselves. An algorithmic war is thus envisioned as a battlefield of seemingly disembodied algorithms.

Algorithmic Logic Five Today

In today's algorithmic culture, decisions are increasingly made and carried out by biased automated and further autonomous algorithms. This means that humans increasingly are positioned "outside the loop" as tasks and entire jobs are relegated to "intelligent" machines. Algorithms are thus drastically changing the realm of work. The automation of work has led to the displacement of a human work force. Notable here is the example of the ice rink Zamboni driver who may soon be replaced with GPS-driven

AI technology called "Ice Jet" (Mooney, 2014). The Zamboni driver, a cultural icon, is to be replaced by an efficient technology. Truck drivers, cashiers, airplane pilots, teachers, nurses, and news anchors are just a few of the jobs that now face the threat of technological extinction.

Algorithms are uneasy with the relegation of their tasks to human agency. Their presence has also implied the absence of human meddling. Algorithms are seen as faster, better, and stronger than people and their "abilities" have labeled humanness as a "disability." Human beings are prone to mistakes, messiness, and moodiness. Cultures are processual, dynamic, and affective. Culture and algorithms function in opposing fashion. Algorithmic culture thus holds the tension between algorithms—which seek order—and society which is always changing and thus harbors constant disorder, decay, and renewal.

Algorithmic technology is changing not only work, but also what Hannah Arendt calls "action" or the relations between humans as a multitude (Arendt, 1998, 7–8). Action, for Arendt, "corresponds to the human condition of plurality, to the fact that men, not Man, live on the earth and inhabit the world" (Arendt, 1998, 7–8). It is this plurality that structures a "multitude," or what Foucault called the "milieux" (Foucault, 2007). Central to Arendt's argument is the tenet that this "multitude" is constituted through difference, and not through the repetition or multiplication of the same person at infinity: "Plurality is the condition of human action because we are all the same, that is, human, in such way that nobody is ever the same as anyone else who has ever lived, lives, or will live" (Arendt, 1998, 8). Further, it is this plurality that requires "action" because "action would be an unnecessary luxury, a capricious interference with general laws of behavior, if men were endlessly reproducible repetitions of the same model, whose nature or essence was the same for all as predictable as the nature or essence of any other thing" (8). Arendt's notion of "action" is precisely what algorithmic culture aims to dismantle. With their emphasis on reproducing repetition and on generalization and prediction, algorithmic technologies are undermining the human-to-human action that conditions human existence. These algorithms are posing a threat to the human condition itself. These technologies reduce people to a set of quantified and measurable metrics, and then proceed to classify them for the purpose of predicting future behavior. Behind these logics are assumptions of "reproducible repetition"—repetition that is *synchronous* across a multitude as people are classified based on generic traits,

and also *asynchronous* as people repeat the past through habitual engagement with everyday activities.

An algorithmic human condition assumes and seeks sameness. In this sameness, public action and communication are irrelevant as one already knows the answer to each question based on accurate predictions. As such, algorithmic entities are seen speaking to themselves even as they address their supposedly mirrored image. Algorithms thus depend on—and further reinforce—ideologies of solipsism that have become dominant aspects of political, cultural, and social life.

For Arendt, "action" engages in the "founding and the preserving of political bodies" (8–9). The inability of "action" to be actualized curtails the role of the political body as the sovereign body. In the case of algorithms, the political body is to be replaced with algorithmic sovereignty. This trajectory was evident in the Iraq War with the institution of veridiction "go/no go" models that attempted to bypass international law, domestic law, culture, and politics altogether. This political sovereignty is currently tested in civil contexts as algorithms continue to expand their purview in the realm of governmentality—from surveillance to active policing, jurisdiction, and sentencing. Algorithms attempt to evade and efface the political by professing a better, more objective, and easier to grasp structure of social organization that is based on a singular vision of the future. Further, they preclude spaces for criticism toward that ideal future. As Lisa Herzog writes,

> With the advent of algorithms, many such spaces that offer the potential for creating Arendtian practices might disappear, and individuals might be conditioned, even more than is already the case, towards instrumentalist instead of deliberative modes of encounter, in the political sphere, the sphere of work, and beyond. (Herzog, 2020)

The singular solipsistic vision supported through algorithmic technology is further a neoliberal one. As Loïc Wacquant has eloquently argued, neoliberalism embraces what he calls "critical solipsism" (Wacquant, 2012, 68). And so do algorithms with their insistence on sameness. Algorithms reinforce and propagate the neoliberal social structures that Foucault detailed in his book *Security, Population, Territory*. Algorithmically ushered and justified solipsism is indeed the imagined ideal primary characteristic of our contemporary neoliberal civil society. This solipsism will never be actualized as the ideas of sameness and repetition that algorithms

profess are not grounded in the reality of the human condition. It is, however, dangerous because as an aspirational goal of a technological culture, it aims to repress and further erase difference in the public sphere as well as a possible political position outside of the existing neoliberal structure.

The notion of the public sphere as connected to a public history, historicity, and genealogy is disruptive to algorithmic thought. A public history complicates the act of abstraction of territory and population. It insists on discourses about history, sovereignty, and agency. Arendt writes that without the public-private divide "there might have been an agglomeration of houses, a town (asty), but not a city, a political community" (Arendt, 1998, 64). Algorithms want to image a world that consists of "an agglomeration of houses" and to evade the idea of a "political community." In this book, I have continuously countered the simplified distilling of territory and of people into aggregations and agglomerations of features by providing extensive historical accounts about the ways in which these territories and peoples have been influenced by two military state-building regimes. Historically, then Iraq should be understood as a political community, an imagined Leviathan, shaped by the British Mandate for Iraq as well as for the Iraq War. It is not an agglomeration of territorial and population features and neither are the U.S. Histories, and thick historical descriptions, in particular, provide an antidote to algorithmic logics which seek brevity, quickness, and simplicity in order to predict the future. A history, on the other hand, as Arendt writes, is "a story of events and not of forces or ideas with predictable futures" (Arendt, 1998, 252).

An algorithmic human condition also exacerbates the marginalization of population seen as different and political ideologies that seek to establish new forms of civil organization rather than the reinstatement or renewal of existing ones. Further, it reinforces bias against minority positions and discredits such stances as insignificant in the grand scheme of big data. Arendt warns about the dangers behind speculative thinking and writes that statistical speculations are "dangerous when used as arguments against reality and when meant to point to positive potentialities and alternatives because their number is not only indefinite by definition but they also lack the tangible unexpectedness of the event, and compensate for it by mere plausibility" (252). Speaking from the margins, speaking in singularity, speaking from the outside, and speaking from lived experience become important disruptive counter-practices in an algorithmic culture. In this book, I give voice to those who were unfairly hurt by the implementation of algorithmic technologies. Stories from the ground of places

and people—of multiple truths—disrupt the idea that only the satellite or cloud view of a majority is statistically relevant or even relevant at all.

Both historicity and narration disrupt the "remoteness" that quantified data wedges between people. Remoteness, detachment, and abstraction in the view from above are precisely what anthropometrics, biometrics, overhead imagery, and GPS technology have helped to nurture. For Arendt,

> Under this condition of remoteness, every assemblage of things is transformed into a mere multitude, and every multitude, no matter how disordered, incoherent, and confused, will fall into certain patterns and configurations possessing the same validity and no more significance than the mathematical curve, which as Leibnitz once remarked, can always be found between points thrown at random on a piece of paper. (267)

Thus, historicity and narration bring us closer to the lives of others and allow for the potentiality of "action," connection, inquiry, and conversation.

In exposing and defying the algorithmic logic of sameness, we need to become active seekers of difference. In the age of algorithmic sameness, it is up to us to preserve our capacity to *orient ourselves to one another*. I end this book with an appeal to the importance of stories, of histories, and of individual lived experiences. In the face of algorithmic technology, we must work hard to preserve a vision of a historically grounded political community comprised of a multitude of different human agents. Our humanity depends on it.

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Index

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