

HOSTILE GROUND: TERRAIN, FORCE, AND CONTROL
IN THE ROMAN EMPIRE

Gabriel Moss

A dissertation submitted to the faculty at the University of North Carolina at Chapel Hill in
partial fulfillment of the requirements for the degree of Doctor of Philosophy in the
Department of History.

Chapel Hill
2020

Approved by:

Richard Talbert

Wayne Lee

Jon Lendon

Fred Naiden

S. Thomas Parker

© 2020
Gabriel Moss
ALL RIGHTS RESERVED

ABSTRACT

Gabriel Moss: *Hostile Ground: Terrain, Force, and Control in the Roman Empire*
(Under the direction of Richard Talbert)

This dissertation fuses traditional military history and modern Geographic Information Systems (GIS) technology to study the relationship between terrain, military force, and imperial control in the Roman world. Drawing on ancient authors' general antipathy towards warfare on "broken ground," I argue that Rome's army struggled to wage war efficiently and effectively in mountainous territory. Using GIS technology and open-access data developed by natural scientists, we can map such rugged terrain in the ancient world on a larger scale than ever before, and integrate military topography into broader discussions of imperial power dynamics.

The dissertation offers three case studies which demonstrate the potential use of GIS analysis for histories of Roman imperialism. The first, on the Spanish wars of the late 3rd and early 2nd century BCE, considers how rugged terrain shaped Rome's conquest of foreign territory. While Rome was initially hesitant to extend its forces into the Iberian highlands, it was compelled to adjust its strategy when the concentration of force in river valleys and coastal plains failed to quell widespread resistance in the hills. The second case study examines the Jewish revolt between 66 and 73 CE, in which the defensive terrain of Judaea and Galilee helped turn local discontent into outright rebellion. The third and final case study reconstructs the Romans' northeastern frontier during the first two centuries CE, considering how Rome deployed its garrisons in response to the challenges of the eastern Anatolian mountains. In this exceptionally rugged region, the empire struck a careful balance between its primary mission—

intermittent, large-scale warfare with the Parthians—and the necessity of addressing small-scale, endemic brigandage within the frontier zone.

Overall, this dissertation highlights Rome's fundamental pragmatism in response to environmental challenges; the longevity of Rome's rule depended, to a large extent, on its willingness to balance the costs and rewards of imperial control, and to govern by compromise where it could not efficiently dominate by force. The dissertation also suggests the importance of GIS tools and training within the historian's toolkit, and outlines a flexible methodology for studying the relationship between pre-modern states and their physical contexts.

To Sara

ACKNOWLEDGEMENTS

This dissertation would not have been possible without the support of numerous people. Thanks are due, first and foremost, to my advisor Richard Talbert, who guided me through graduate school with kindness and humor. I could not have asked for a better mentor. Jon Lendon went above and beyond the call of duty in providing advice and support throughout the writing process, and the dissertation has benefited tremendously from his knowledge and generosity. Wayne Lee, Thomas Parker, and Fred Naiden all provided valuable feedback on drafts, and their perceptive input on the dissertation prospectus helped set this project on a workable path.

I am grateful for the support of the UNC Digital Innovation Lab (whose Digital Dissertation Fellowship supported research in Summer 2018), as well as the university's Ancient World Mapping Center and Digital History Lab. Ryan Horne and Philip McDaniel provided GIS support at crucial junctures. My thanks as well to my many colleagues in the UNC History Department who have provided advice and commiseration over the years: I was lucky to land in so collegial an environment.

I would like to thank my friends and family for their love and encouragement. I thank my writing partner, Max, for his company and support. Finally, I thank my wonderful wife, Sara, for her love and for her patience. I could not have done this without you.

ABBREVIATIONS AND TRANSLATIONS

Abbreviations are as listed in *Oxford Classical Dictionary* (5th ed.). All translations of Greek and Latin derive from the Loeb Classical Library, when available, with modifications where necessary.

TABLE OF CONTENTS

LIST OF FIGURES.....	x
LIST OF MAPS.....	xi
LIST OF TABLES.....	xiii
INTRODUCTION.....	1
Section One: Force, Control, and Military Imperialism.....	2
Section Two: Space and the Environment.....	6
Section Three: Locating Broken Ground: GIS and Historical Geography.....	9
Section Four: Structure and Argument.....	12
CHAPTER ONE: BROKEN GROUND AND ROMAN WARFARE.....	17
Section One: “Descending to the Plain” and Roman Ideas of the Battlefield.....	24
Section Two: Broken Ground, Heavy Infantry, and the Roman Way of War.....	31
Section Three: Home Field Advantage: Broken Ground and Evening the Odds.....	40
Section Four: Refuge: Broken Ground, Survival, and Imperial Control.....	56
Conclusion.....	68
CHAPTER TWO: TAKING CONTROL: BROKEN GROUND IN THE ROMAN CONQUEST OF SPAIN (218-179 BCE).....	70
Section One: Sources and Challenges.....	76

Section Two: The Spanish Front During the Second Punic War (218-206 BCE).....	82
Section Three: The First Generation of Roman Spain (205-179).....	106
Section Four: Sequels and Implications.....	121
CHAPTER THREE: LOSING CONTROL: TERRAIN AND RESISTANCE IN THE FIRST JEWISH REVOLT (66-73 CE).....	141
Section One: Beth Horon and the Topographical Advantages of Jerusalem.....	147
Section Two: The War in Galilee.....	160
Conclusion.....	176
CHAPTER FOUR: HOLDING CONTROL: THE ROMAN FRONTIER IN EASTERN ASIA MINOR.....	187
Section One: The Historical Development and Strategic Context of the Northeastern Frontier.....	193
Section Two: The Geography of the Northeastern Frontier.....	210
Sector One: Samosata to Melitene.....	214
Sector Two: Melitene to Zimara.....	227
Sector Three: Zimara-Nicopolis-Satala.....	231
Sector Four: Satala to Trapezus.....	242
Section Three: The Purpose of the Northeastern Frontier.....	248
CONCLUSION.....	287
BIBLIOGRAPHY.....	297

LIST OF FIGURES

Figure 1: Two Examples of TRI Calculation.....	16
--	----

LIST OF MAPS

Map 2.1: Spain TRI Overview.....	127
Map 2.2: Spain Elevation Overview.....	128
Map 2.3: Carthaginian Force Projection, 237-218 BCE.....	129
Map 2.4: Roman Force Projection, 218-211 BCE.....	130
Map 2.5: Roman Force Projection, 210-206 BCE.....	131
Map 2.6: Roman Force Projection, 205-190 BCE.....	132
Map 2.7: Roman Force Projection, 189-179 BCE.....	133
Map 3.1: Cestius Gallus' March Towards Jerusalem.....	179
Map 3.2: Cestius Gallus' Retreat From Jerusalem.....	180
Map 3.3: Judaeian Plateau TRI Overview.....	181
Map 3.4: Least-Cost Path Analysis of Cestius Gallus' March.....	182
Map 3.5: Josephus' Centers of Jewish Resistance in Galilee.....	183
Map 3.6: Notable Sites Omitted from Josephus' Fortification List.....	184
Map 4.1: Northeastern Frontier TRI Overview.....	256
Map 4.2: Sector One TRI.....	257
Map 4.3: Sector One TRI (Generalized).....	258
Map 4.4: Sector One Elevation.....	259
Map 4.5: Sector One Viewshed.....	260
Map 4.6: Alternative Routes and Local Strongholds in Sector One.....	261
Map 4.7: Sector Two TRI.....	262
Map 4.8: Sector Two TRI (Generalized).....	263
Map 4.9: Sector Two Elevation.....	264

Map 4.10: Sector Two Viewshed..... 265

Map 4.11: Sector Three TRI..... 266

Map 4.12: Sector Three TRI (Generalized)..... 267

Map 4.13: Sector Three Elevation..... 268

Map 4.14: Sector Three Viewshed..... 269

Map 4.15: Sector Three Schematic..... 270

Map 4.16: Least-Cost Path Analysis of Sector Three..... 271

Map 4.17: Sector Four TRI..... 272

Map 4.18: Sector Four TRI (Generalized)..... 273

Map 4.19: Sector Four Elevation..... 274

Map 4.20: Sector Four Viewshed..... 275

Map 4.21: Slope and Agricultural Suitability, Sectors One and Two..... 276

Map 4.22: Slope and Agricultural Suitability, Sectors Three and Four..... 277

Map 4.23: Modern Ground Cover, Sectors One and Two..... 278

Map 4.24: Modern Ground Cover, Sectors Three and Four..... 279

LIST OF TABLES

Table 2.1: Sites of Carthaginian Force Projection, 237-218 BCE.....	134
Table 2.2: Regions of Carthaginian Force Projection, 237-218 BCE.....	134
Table 2.3: Sites of Roman Force Projection, 218-211 BCE.....	135
Table 2.4: Regions of Roman Force Projection, 218-211 BCE.....	135
Table 2.5: Sites of Roman Force Projection, 210-206 BCE.....	136
Table 2.6: Regions of Roman Force Projection, 210-206 BCE.....	136
Table 2.7: Sites of Roman Force Projection, 205-190 BCE.....	137
Table 2.8: Regions of Roman Force Projection, 205-190 BCE.....	138
Table 2.9: Sites of Roman Force Projection, 189-179 BCE.....	139
Table 2.10: Regions of Roman Force Projection, 189-179 BCE.....	139
Table 2.11: TRI Averages by Period.....	140
Table 3.1: Josephus' Centers of Jewish Resistance in Galilee.....	185
Table 3.2: TRI Statistics for Centers of Jewish Resistance in Galilee.....	185
Table 3.3: TRI Statistics for Sites Omitted from Josephus' Centers of Jewish Resistance in Galilee.....	186
Table 4.1: Sector One Sites TRI and Elevation.....	280
Table 4.2: Sector One Routes TRI and Elevation.....	281
Table 4.3: Sector Two Sites TRI and Elevation.....	282
Table 4.4: Sector Two Routes TRI and Elevation.....	282
Table 4.5: Sector Three Sites TRI and Elevation.....	283
Table 4.6: Sector Three Routes TRI and Elevation.....	284
Table 4.7: Sector Three Least-Cost Path Analysis.....	284

Table 4.8: Sector Four Sites TRI and Elevation..... 285

Table 4.9: Sector Four Routes TRI and Elevation..... 286

INTRODUCTION

At its core, this dissertation is a study of power and space in the Roman world.

Combining traditional techniques of ancient history with modern tools of digital mapping and Geographic Information Systems (GIS), it explores the spatial settings of Roman imperialism, asking how the depth and nature of empire shifted with the physical landscape. This inquiry reveals the Romans as deeply pragmatic practitioners of power, whatever their rhetoric of boundless *imperium*. While Rome's capacity for violent conquest and political control was seldom matched in the pre-modern world, it was not limitless, and the success and endurance of the empire depended in part on the willingness of imperial leaders to compromise their ambitions in the face of environmental obstacles.

In its most basic form, the dissertation's central argument can be expressed as a logical syllogism:

1. Rome's ability to control territory rested in large measure on military force: that is, the threat and exercise of violence by armed agents of the state.
2. Certain types of terrain, most notably mountains, hills, and other topographically broken ground, hampered the ability of Roman armies to exercise violence efficiently (and, by extension, to threaten it credibly).¹

¹ While this dissertation will focus primarily on the ways in which rugged terrain raised the probable costs of warfare, we should not forget that the relative poverty of most mountainous regions also made imperial military activity inefficient by decreasing its probable economic rewards.

3. Therefore, broken ground shaped Rome's ability to control territory, and in consequence the dynamics of Roman imperialism on rugged terrain were distinctly different from how they were in the plains. The empire's control over hilly and mountainous space was often tenuous, and rested more on cooperation than forcible coercion.

We may thus use the physical landscape of the ancient world (as reconstructed by modern GIS technology) as a lens to analyze the priorities and possibilities of military imperialism. By examining the environmental challenges of Roman warfare, we can learn something new and valuable about the empire that this warfare helped to create.

Section One: Force, Control, and Military Imperialism

While each of the following chapters touches on its own historical and historiographical issues, this introduction sets out the basic context and methodological principles that inform the dissertation as a whole. Before turning to the potentially less-familiar realm of historical GIS, let us begin by framing the first principle of my argument, that Rome's control over its empire was won and held, in large part, through military force. To start, this claim's central concepts—force and control—must be defined, because they will continue to underlie the discussion of Roman warfare and imperialism.

By “control,” I refer to the ability of the Roman state to command the obedience of a given territory's inhabitants; to make its people do what Rome wanted (or, perhaps more frequently, not to do what Rome did not want).² The term is roughly equivalent to “power” in

² Except where questions of internal disunity matter, I typically discuss Rome in this dissertation as a unified state in its relations with provinces, frontiers, and neighbors. While this approach omits some

much of the scholarship on Roman imperialism: William Harris, in his ambitious *Roman Power*, bemoans the term's ill-defined ubiquity, but uses it nevertheless.³ The Romans themselves would have expressed "control" as *imperium*, the right to command (though for our purposes the term need have no connotations of legitimacy or legality).⁴

As a category of analysis, control exists independently of any specific policy ends. Whatever Rome's imperial goals in a territory—acculturation, taxation, slaughter, or mere peace and quiet—control was a necessary precondition for success. In isolation, therefore, more expansive and intensive control was always desirable for both practical and ideological purposes, and *imperium sine fine* was a certainly a cornerstone of Roman political thought.⁵ As the case studies here will demonstrate, however, controlling space and its inhabitants was an expensive proposition. While Roman authors were not always willing to admit it, the empire calculated the costs it was willing to bear to control a given territory based on the likely political and economic rewards. Roman imperialism was thus shaped by a tension between an ideological will to power and the practical recognition that total control was impossible; resources and power had to be carefully managed in order to align the geography of control with the empire's political goals.

nuances of imperial decision-making (see for instance Millar 1977, Talbert 1984), it allows a clearer focus on the power dynamics between Rome and its foreign subjects. See discussion in Morley 2010, 22-23.

³ Harris 2016, 1. "Control" both better captures the my meaning here, and avoids entanglement in the many previous uses of "power." Among others, see Luttwak 1976 (esp. 195-200); Landers 2003 (esp. 8-12), who also uses "spatial integration" as a rough synonym; Morris and Scheidel 2009; Ando and Richardson 2017.

⁴ Richardson 2008. Cic. *Inv. Rhet.* 2.169 gives *potentia* as a value-neutral alternative: "power is the possession of things suitable to keep what is your own, and to take what belongs to others." (*potentia est ad sua conservanda et alterius adtenuanda idonearum rerum facultas.*)

⁵ Verg. *Aen.* 1.279, and see Lintott 1981. On distinctions between intensive and extensive control, see both Mann 1986 (esp. 7-10) and Landers 2003.

If control was the necessary precursor to any of the various forms of Roman domination, “force” was a crucial tool in achieving this goal. Drawing heavily on Edward Luttwak, I define force as the ability of the armed agents of the Roman state to inflict violence—crudely put, to kill people and destroy their possessions—and, crucially, to credibly threaten to do so.⁶ Military force thus has two distinct but related components: active force (a “wasting resource” consumed in its use through the necessary casualties of even successful warfare) and threatened force, which may generate control through the fear of destruction.⁷ As Luttwak correctly stresses, the latter variety of force is more important in the efficient maintenance of empire; indeed, he identifies power (my “control”) as obedience caused by the fearful perception of force.⁸

To be sure, violence and the fear thereof are not the only factors which generated control in the Roman world; Michael Mann’s influential *The Sources of Social Power* identifies military force as just one of four building blocks of state authority (along with ideological, economic, and political power).⁹ This dissertation gives more attention to force than other sources of control because force, alone among the tools of the Roman state, was unilateral.¹⁰ If we consider Mann’s other forms of power in the Roman context—the acculturation of provincials; the creation of legitimate governing rules and institutions; outright bribery—all required a degree of local consent, a willingness of imperial subjects to accept the ideological and material “benefits”

⁶ Luttwak 1976, 195-200.

⁷ For an unusually direct description of the dynamics of force, threats, and fear: Onas. 6.11. Cf. Lee 2020, which discusses the closely related concept of “latent” force.

⁸ Luttwak 1976, 197-98. For a quite different definition of power, and a thorough review of earlier theoretical literature on the subject, see Arendt 1970.

⁹ Mann 1986, 1.1-33. See also Mann 1984. Mann’s other sources of social power feature more heavily in Ando and Richardson 2017; Monson and Scheidel 2015.

¹⁰ It was “despotic,” as opposed to “infrastructural” power. Mann 1984, 188-89.

of empire in exchange for their compliance. Force worked differently. The fear of death and, failing that, the realities of destruction, were the final bulwark of imperial authority, and violence the last guarantor of Roman control.

This structural outline of force and control paints an admittedly bleak picture of life under the Romans. In narrowing our focus to the military dynamics of Roman imperialism, we should not forget that other varieties of social power were constantly in play; in many cases, Rome's control over its subjects was based on more than terror alone. At the same time, this was a violent world, both socially and politically; as Greg Woolf argues, the ideology of the *Pax Romana* concealed a wide variety of anti-imperial warfare both on and behind the Roman frontiers.¹¹ Banditry was endemic: even if *latrones* themselves lacked a coherent political program, their existence was an affront to ideals of imperial order, and policing was an important task of the Roman military.¹² Indeed, the size and expense of the Roman army in the imperial period speak to the importance of force in maintaining the emperors' rule. Rome did not maintain hundreds of thousands of soldiers idly.¹³ Military force, the army's ability to commit and threaten violence, was a crucial pillar supporting imperial control.

¹¹ On social violence: Fagan 2011. On political violence: MacMullen 1966; Dyson 1971; Woolf 2002; Gambash 2015.

¹² Shaw 1984; Fuhrmann 2012.

¹³ For select contributions on the grand strategy debate, discussed further in Chapter Four: Luttwak 1976; Mann 1979; Millar 1982; Isaac 1990; Wheeler 1993a; 1993b; Whittaker 2004.

Section Two: Space and the Environment

With these definitions of force and control in mind, let us consider the impact of space on Roman imperialism. For this subject, John Landers' *The Field and the Forge* provides an important methodological starting point. In this ambitious work, Landers explores “the effects that western economies' reliance on organic sources of energy and raw materials had on the spatial organization of human activities,” and particularly on the imposition of state control, from the development of agriculture to the industrial revolution.¹⁴ Landers stresses the importance of “demographic space,” a conception of geography that emphasizes the relationship between human activity and the *longue durée* material constraints of the pre-industrial world.¹⁵ The attempts of states to exert control over the world, to integrate space into cohesive, interdependent units, relied heavily on the supply and movement of resources (caloric energy being the most important in the ancient case). Centuries of statecraft and state-building can thus be envisioned as an attempt to balance the benefits of control with the costs of pacification and resource extraction.

Landers provides an important model for thinking through the relationship between force, control, and space in the ancient world: as he stresses, the mechanics of power are intimately rooted in their physical settings, and cannot be properly understood in isolation from the natural environment. Violence, after all, is an intensely physical affair. Although scholars since the late 20th century have admirably broadened their scope of inquiry to the cultural, social, and intellectual features of military life, combat (as Adrian Goldsworthy argues) remained the most

¹⁴ Landers 2003, 1.

¹⁵ Landers 2003, 5-6. Landers draws this intellectual framework from the *Annalistes*, most notably Fernand Braudel (Braudel 1949, v. 1).

important role of the Roman army, and the material, technological, and environmental conditions of warfare exerted a profound influence on its nature and success.¹⁶

That said, *The Field and the Forge* is generally more interested in economic than military history, though its emphasis on the material conditions of power is naturally useful for the study of ancient warfare as a tool of state control. Recent work by Wayne Lee applies Landers' concepts more directly to warfare, and shares this dissertation's interest in analyzing military activity within its physical and ecological context.¹⁷ Lee focuses on the range of possible means for conquerors to solidify their control over captured territory, given the ability of the environment to support its occupiers logistically and to reward them economically and politically. This dissertation remains alert to these factors: mountains could present harrowing challenges to ancient logistics, and were typically less lucrative spaces for imperial control. However, I dedicate more attention to the limits which topography placed on the direct imposition and re-imposition of control through violence, and I end to emphasize tactical and operational factors more than strategic ones.

Drawing on the models of Landers and Lee, let us return to the second proposition of my opening syllogism, that all space was not created equal for the purposes of Roman control. Thinking in terms of "demographic space," certain geographies of economic resources were more difficult for the Romans to exploit, to the point that targeting these resources for imperial

¹⁶ Goldsworthy 1996, esp. 1-11. Goldsworthy draws this methodology from Keegan 1976 (and cf. Hanson 1989). Among numerous works relying on the physicality and environmental setting of ancient warfare: Kromayer and Veith 1903-1931; Cary 1949; Engels 1978; Hughes 1994; Shean 1996; Erdkamp 1998; Roth 1999. For a broader overview of late 20th and early 21st century military historiography, see Citino 2007.

¹⁷ Lee 2020 (forthcoming). My thanks to Dr. Lee for providing and discussing an early copy of this work.

control might not be worth the effort. In the more traditional language of military geography (for which Donald Engels' *Alexander the Great and the Logistics of the Macedonian Army* is foundational to the study of the ancient world) certain types of environments made it physically more difficult for the Romans to project and enact military force, and thus to exercise political control.¹⁸ Landers encapsulates how these two factors could come together to impede effective imperial authority: "logistical and other constraints...made it almost impossible to maintain a controlling presence in thinly populated areas with difficult terrain. Whatever constitutional or ideological fictions might be maintained, remoter areas of forest, hills, or moorland were prone to slip outside the effective control of central or regional authorities..."¹⁹

This dissertation is interested in exactly these sorts of spaces and the dynamics of violence and imperialism within them, and in particular in hills, mountains, and otherwise "broken ground."²⁰ As Chapter One argues more fully, we know that the Romans were traditionally uncomfortable fighting in such areas, and for good reason. By examining these peripheral spaces of military force and political control, we can uncover patterns in both local resistance and Roman priorities, as the empire negotiated power relationships on hostile ground. However, in order to integrate the physical environment properly into narratives of Roman imperial warfare, we need to be able to characterize, analyze, and "think with" terrain. The careful employment of GIS technology allows us to do exactly that.

¹⁸ Engels 1978.

¹⁹ Landers 2003, 265, and see 250-74.

²⁰ While forests and marshlands presented similar obstacles to Roman control (see McNeill 2004; Tucker and Russell 2004), reconstructing their ancient geographies is impossible with the data currently available.

Section Three: Locating Broken Ground: GIS and Historical Geography

Historical geography, in both its traditional and digital manifestations, is composed of two sub-fields: cultural and physical geography. While closely related, each has its own sets of resources and challenges. When it comes to cultural geography and locating the settlements and structures of the ancient world, this project benefits from over thirty years of sustained progress in mapping Greco-Roman civilization. Locational data has long been important in Classics, especially on the archaeological side of the field, and works such as Kennedy and Riley's *Rome's Desert Frontier from the Air* demonstrate the rewards of geospatial ancient studies.²¹ Yet despite ambitious projects such as the *Tabula Imperii Romani*, a modern reference atlas for the ancient world remained unavailable until the release of the *Barrington Atlas* in 2000.²² Subsequent work by the Pleiades Project and the Ancient World Mapping Center at the University of North Carolina has both expanded on the *Barrington* data and made it digitally available for use in GIS platforms.²³ As a result, scholars today have better and more readily available resources than ever before to understand the configurations of human space in Rome's world, and the cultural-geographic side of this dissertation draws extensively on datasets already developed for classical studies.²⁴

²¹ Kennedy and Riley 1990.

²² Talbert 2000. See further: Bagnall 1980, 27; Talbert 1992; 2018.

²³ Ancient World Mapping Center: <awmc.unc.edu>. Pleiades: <pleiades.stoa.org>. I have served as Director of AWMC and Co-Managing Editor of Pleiades, and maintain active ties with both organizations.

²⁴ Other important contributions in ancient geospatial digital humanities include Stanford's *Orbis* (<orbis.stanford.edu>) and those of the Pelagios Commons (<commons.pelagios.org>).

We enter less well-trodden territory when it comes to physical geography, particularly when it comes to the use of digital tools to evaluate the topographical backdrop to ancient society. These tools and the datasets they produce were developed by the modern scientific community for the solution of distinctly modern problems; modifying them to our ends is thus a necessarily messy and imperfect process. When it comes to rugged terrain, however, the basics are reasonably simple. Broken ground, in quantitative terms, can be defined by variation in elevation: areas where elevation varies widely over a relatively small area are more “broken” than those where elevation is more constant. The first step in building a GIS model of broken ground is therefore a Digital Elevation Model (DEM), a dataset which associates points on the earth’s surface with their elevation above sea-level. This dissertation relies on a DEM known as SRTM-90: elevations were measured by sophisticated radar equipment on NASA’s Shuttle Radar Topography Mission in February 2000, with a data resolution of approximately 90 m (that is, 90 x 90 m grid squares on the Earth’s surface are assigned a single elevation value).²⁵ This resolution is detailed enough to capture the ruggedness of the landscape accurately, but not so detailed as to be skewed by terrain changes caused by modern construction.

From our elevation dataset, we can use a variety of GIS techniques to determine a given area’s degree of local elevation variation, the “broken-ness” of the ground.²⁶ For our purposes,

²⁵ Farr et al. 2007. The data used here was processed by the Consortium for Spatial Information and is available for download at < <https://cgiarcsi.community/data/srtm-90m-digital-elevation-database-v4-1>>. On CSI’s processing methods, see: Reuter 2007. SRTM-90 data, along with a wide variety of other DEMs and geospatial datasets, can also be downloaded from the US Geological Survey’s EROS Data Center (<<https://eros.usgs.gov>>).

²⁶ For an excellent and well-sourced survey of the various mathematical approaches to broken ground, along with helpful tutorials on performing them using GIS software: Cooley, S.W. “Terrain Roughness: 13 Ways.” *GIS 4 Geomorphology*. 2016. <<http://gis4geomorphology.com/roughness-topographic-position/>>

the most useful metric is the Terrain Roughness Index (TRI). This statistic, originally developed for ecological research but applied more recently in the social sciences, is defined as the total difference in elevation between a central grid-square and the eight squares surrounding it.²⁷ Figure 1 shows two examples of TRI calculation; the example on the right is quantifiably more rugged than that on the left.²⁸

In combination, the SRTM-90 digital elevation model and TRI processing provide a quantitative measure for the ruggedness of terrain almost anywhere on Earth. Correlating TRI statistics with their probable impact on the Roman army is somewhat harder. Judging by historical comparanda and personal experimentation, it seems likely that TRI values between 100 and 200 m would have started to affect Roman military performance.²⁹ However, we cannot state with absolute confidence how broken the ground had to be for it to affect military performance in the way we see throughout Greco-Roman military literature; there is certainly no single TRI value below which Roman forces could always operate easily and above which they could not. The physics of campaign and combat are multivariable, and TRI statistics are predictive but never determinative. As a result, TRI figures are best used comparatively. Even if we cannot pinpoint the correlation between TRI and military performance, we can still use this metric to think through local variations in imperial power relationships.

²⁷ Riley et al. 1999. For social-scientific applications see: Jimenez-Ayora and Ulubasoglu 2015; Nunn and Puga 2012.

²⁸ All figures, maps, and tables in this dissertation are located at the end of their respective chapters.

²⁹ For instance, Gettysburg's famous Round Top hills have TRI values between 110-120 m. Just outside Durham, North Carolina, the hills of Eno River State Park (a moderately strenuous hike for the author and his dog, and substantially imposing in places for infantry combat) reach ruggedness scores of 120-130 m.

TRI analysis forms the methodological bedrock of Chapters Two through Four; in combination with other techniques of digital geography and data processing, it allows us to bring questions of space and terrain to the forefront of military history in a way that was technologically impracticable before the 21st century. At the same time, historical GIS does not always overcome the fundamental difficulties of ancient geography: where our traditional sources fail, technology is no panacea, and, all too frequently, we simply cannot locate a town, tribe, or battle. This dissertation champions the inclusion of GIS among the many tools of the historical profession (and the beginning of Chapter Two outlines some ways that digital methods can accommodate uncertain and ambiguous data better than their analog predecessors). Yet at the same time, it remains necessary to temper the enthusiasm of the digital humanities with the traditional rigor of ancient studies. This dissertation seeks to turn technology on those questions it can answer, and to openly acknowledge those it cannot.

Section Four: Structure and Argument

The dissertation's organization roughly follows the three clauses of the syllogism laid out above. Thus far, I have asserted the (relatively uncontroversial) opening proposition and defined the crucial terms of power and control (along with outlining a GIS methodology for the analysis of military terrain). Chapter One draws on ancient literary evidence to defend the syllogism's second proposition. Analyzing the *topoi* of Roman battle narratives, it reconstructs a set of perceptions and preferences concerning combat on broken ground, a cultural discourse shared by Roman authors and their social peers in command of the army. In this military mindset, broken ground was typically an unsuitable environment for combat. Ancient authors believed that rough terrain generally hindered Roman troops while giving substantial advantages to their opponents,

particularly in the foreign wars of conquest and counterinsurgency that subjected the Mediterranean world to imperial authority.

The remaining three chapters explore the syllogism's conclusion and implications, presenting a series of case studies on different aspects of Roman control. Chapter Two examines the initial imposition of control through conquest, analyzing the geography of Rome's Spanish campaigns between 218 and 179 BCE. It argues that while Roman behavior in these wars reflected the same distaste for hill- and mountain-warfare which we see in Chapter Two's literary portrait, the Romans were capable of adaptation; over two generations of warfare, the geographic foci of Roman operations shifted upcountry, from the coastal plains and river valleys to the more challenging environments of the Spanish foothills and mountains. Exploring the Roman conquest of Spain with questions of space and the physical environment firmly in mind, and with the assistance of GIS mapping and statistical analysis, Chapter Two thus gives new insights into how Roman deployment in the Iberian peninsula responded to a shifting strategic environment.

Chapter Three studies the failure and rejection of Roman control through rebellion, taking as its subject the well-documented Jewish Revolt of the first century CE. Here, GIS brings new perspectives to the military geography of Judaea during the opening months of the revolt, giving the most direct evidence that broken ground incubated resistance against Roman authority. Considering the military geography of Cestius Gallus' disaster at Beth Horon and the disposition of Josephus' strongholds in the Galilee, we see how provincial malcontents shared Rome's perception that broken ground opened opportunities for successful local insurgency. The hopes which some Jews placed in such defensive terrain helps explain local decisions between compliance and rebellion.

Chapter Four considers the long-term maintenance of Roman control through garrisoning and frontier policy, exploring the layout of the Roman frontier in eastern Asia Minor in the first and second centuries CE. As in Chapter Two, GIS analysis reveals a fundamental tension between two missions: large-scale warfare against rival empires (in this case the Parthians, in Chapter Two the Carthaginians) and small-scale counterinsurgency and policing actions against the locals themselves. And as in Chapter Two, we see both a general Roman preference for the former mission (and the level ground on which it was typically carried out) and a degree of strategic flexibility: when pressed, the empire extended its garrisons up the Anatolian mountains, accepting the risks it saw as inherent to such terrain. Though similar in some of its conclusions to my investigation of Rome's Spanish wars, Chapter Four considers a larger area and a much longer stretch of time, and draws on material evidence as much as literary, taking as its basis Timothy Mitford's monumental survey of the Upper Euphrates frontier.³⁰ At this spatial and temporal scale, GIS analysis sheds light not only on the decision-making of individual Roman commanders, but also on the hotly-debated nature and purpose of the imperial frontier system over the course of generations.

Taken together, these case studies remind us, on the one hand, that the Romans remained vulnerable to the structures and strictures of the natural environment, even as they possessed military capabilities surpassing those of any of their neighbors. For all that the Romans might push the "limits of the possible" in exceptional displays of concentrated force, their authority remained dependent on quotidian, cost-effective military action. In literary perception and military reality, broken ground made such operations more difficult and less desirable, shifting

³⁰ Mitford 2018.

the strategic dynamics of imperial control to the benefit of Rome's restive subjects and neighbors.³¹

On the other hand, these case studies depict the Romans as careful, calculating wielders of power: the strength and duration of Roman rule depended in part on a more flexible conception of control than appears in imperial panegyric and self-promotion. In the many rugged regions of the Roman world, the empire thrived thanks not only to its capacity for successful violence, but also to the flexibility with which it ruled mountaineers who could not be dominated by force alone.

³¹ For the "limits of the possible" as a historiographical concept, see especially Braudel 1949, 1979.

10	20	30
10	20	30
10	20	30

$$\text{TRI} = 60$$

60	120	70
60	100	60
50	110	60

$$\text{TRI} = 270$$

Figure 1: Two Examples of TRI Calculation (all units in meters above sea level)

CHAPTER ONE BROKEN GROUND AND ROMAN WARFARE

If pressed, most historians of Roman warfare would recognize the empire's anxieties about combat on mountainous, hilly, or otherwise topographically "broken" ground.¹ Concern with such spaces forms a background hum in our sources, and the impact of topography on military success was well understood during the Roman period: Polybius hypothesized that "in the majority of land and sea battles in a war defeat is due to difference of position."² Centuries later, Vegetius wrote, "the good general should know that a large part of victory depends on the actual place in which the battle is to be fought."³ There is certainly an awareness in modern scholarship, especially in the older "battle histories" of the 19th and 20th centuries, that high ground and defiles could shape the outcome of ancient combat.⁴ Meanwhile the 20th and 21st century debacles of the United States and USSR in Afghanistan have reaffirmed, for professional

¹ As noted in the Introduction, terrain could also be "broken" by vegetation and hydrological factors. While in many cases such features would have similar effects on Roman military performance as rugged terrain, I exclude them here both in the interests of space and because of the difficulties inherent in mapping ancient ecology and hydrology with modern data.

² Polyb. 5.21: ἐπεὶ γὰρ τῶν κατὰ πόλεμον κινδύνων τοὺς πλείους καὶ κατὰ γῆν καὶ κατὰ θάλατταν σφάλλουσιν αἱ τῶν τόπων διαφοραί.

³ Veg. *Mil.* 3.13: *Bonum ducem conuenit nosse magnam partem uictoriae ipsum locum, in quo dimicandum est, possidere.*

⁴ See, among others, Napoleon III 1866; Du Picq 1880; Stoffel 1890; Delbrück 1900; Kromayer and Veith 1903-1931.

and recreational historians alike, the importance of environmental obstacles to conquest and control.

That said, the systematic, structural impact of terrain on Roman violence and control has not yet received a great deal of intensive study.⁵ Fernand Braudel opens his classic *The Mediterranean and the Mediterranean World in the Age of Philip II* with a discussion of mountains in the region's *longue durée* history, characterizing them as a world apart from the more "civilized" plains.⁶ In a passing comment on the ancient world, he draws conclusions similar to this chapter on the depth of Rome's control over the Mediterranean highlands: "even Rome itself, in all its years of power, can have meant very little [in the mountains], except perhaps through the military camps that the empire established for security reasons in various places on the edges of unconquered mountain lands."⁷ Yet Braudel does not particularly explain his observation of imperial authority's fragility on rugged terrain. There is a certain trans-historicism to his work (particularly in the early chapters that form much of the basis for the field of historical geography): this is simply the way that mountains were.

Forty years later, Brent Shaw picked up the theme of montane imperialism in a trio of outstanding articles on ancient Cilicia-Isauria and Mauretania Tingitana, the closest direct parallels to what I attempt in this dissertation.⁸ Developing Braudel's observations more fully,

⁵ Despite its promising title, Syme 1988 ("The Subjugation of Mountainous Zones") is primarily concerned with more limited questions of Augustan Spain.

⁶ Braudel 1995 (orig. 1949), 25-43

⁷ Braudel 1995 (orig. 1949), 34. Trans. Siân Reynolds. As we will see in Chapter Four, this statement undervalues the degree of Roman penetration into mountainous regions.

⁸ Shaw 1986; 1990a; 1990b.

Shaw argues that mountains in the ancient world were spaces of imperfect imperial authority; rugged space was ruled loosely, and through inter-personal contacts rather than the more enduring structures of state power. His explanation for this phenomenon hinges on the limited technological capacity of ancient states: “the impact of mountain terrain was decisive in a pre-modern world where the technological forces of domination were inadequate to the task of controlling this type of topography.”⁹ Yet Shaw, like Braudel, does not explore these unspecified “technological forces of domination” at any length. Moreover, his analysis is limited by a complete lack of maps connecting the structures of Roman control to Isaurian and Mauretanian geography on anything more than a general level. His work deserves tremendous praise, but leaves important questions unanswered.

My goal here is to explore more rigorously the impact of physical topography on Roman imperialism, and to push back on the trans-historical assumption that the Romans dealt with and thought about hills and mountains in a “timeless” way, divorced from their particular cultural and military circumstances. While there are certainly commonalities between the Romans’ approach to mountain warfare and those of comparable empires—the physical realities of rough terrain shaped the range of available tactical and strategic responses—this chapter seeks to outline the relationship between broken ground and military force in the Romans’ own eyes.

The ultimate target of my analysis is Rome’s “way of doing business” on rough terrain, a culturally ingrained set of ideas and preferences about warfare and the physical environment. Rooted in both the physical nature of ancient battlefields and Roman military tradition, this discourse of combat on rough terrain (to borrow theoretical language from John Lynn) helped to

⁹ Shaw 1986, 82.

shape the course of Roman warfare and the geography of empire.¹⁰ While flexible in its application over time and space, Rome's basic *modus cogitandi* for broken ground formed a crucial strategic backdrop to the conquest and rule of mountainous regions. By exploring how the Romans thought about broken ground, we may thus lay the foundations for later chapters' case studies of how they acted over it.

When we survey ancient military literature, it becomes evident that Roman commanders, given the choice, generally did not like to wage war on rough terrain. Ancient authors—either military men themselves, or members of a shared literary and cultural *milieu* with Roman commanders—believed with good reason that rugged terrain made Rome's army worse at combat, while increasing the enemy's chances of victory (or, at the very least, of surviving to fight another day). The political result of this dynamic, in the vision of our sources, was that imperial control in hills and mountains tended to be shallow and tenuous, if it existed at all. In short, we should identify the Roman army itself as key among the “forces of domination” cited by Shaw.

Before substantiating these claims of Roman antipathy to combat on broken ground and its political results, it remains to discuss briefly some matters of historiography and methodology, outlining general principles for how to handle literary evidence on ancient combat.

In its attempt to understand the mechanics of the Roman army as a fighting institution, this chapter shares much in common with Adrian Goldsworthy's influential *The Roman Army at*

¹⁰ Lynn 2003, 331-41. On the ways in which Rome's memory of its distant military past shaped the practices of later empires, see Lendon 2005.

War.¹¹ Along with numerous other scholars (all drawing to greater or lesser extent on John Keegan's *Face of Battle*), Goldsworthy revived scholarly attention on combat as the defining purpose of the Roman army.¹² While Goldsworthy makes little mention of terrain and the physical environment, his goal, like my own, is to reconstruct "how the [Roman] army actually worked on campaign," how physics and psychology shaped its functioning as a tool of state violence.¹³

Goldsworthy's work is ambitious and thoroughly researched, and his goals are laudable (even if I disagree with him on certain points of both substance and methodology). Yet he has been rightly criticized for an overly credulous approach to ancient literary evidence: in short, for taking what our sources say as unproblematic representations of the way combat actually worked.¹⁴ The distinctive Greco-Roman methods for writing about battles did not necessarily match their ways of fighting them, and while ancient combat narratives remained tethered to military fact, we must be careful in this case not to conflate representation and reality. Thus, while I share Goldsworthy's interest in the mechanics of Roman warfare, the analysis in this chapter relies on a different methodology, one that emphasizes the importance of literary *topoi* in

¹¹ Goldsworthy 1996. Goldsworthy responded to an alternative, socio-cultural historiography, best represented a decade later in Southern 2006.

¹² Keegan 1976. Keegan's methodology made a controversial entrance to ancient studies with Hanson 1989. For the mechanics and experience of combat in the Roman world, see Lee 1996; Lloyd 1996; Gilliver 1999; Sabin 2000; along with Wheeler 1979, less indebted than the others to the *Face of Battle* school.

¹³ Goldsworthy 1996, 11.

¹⁴ See in particular Catherine Gilliver's review in *Greece and Rome* 45.2 (1998) 230-31. Though Gilliver's own *The Roman Art of War* (1999) is somewhat better in this respect, her analysis similarly struggles to disentangle *topoi* and literary convention from reality.

historical analysis and the connection (but not necessarily the equivalence) between the discourse and reality of Roman warfare.

Even when our ancient authors know of what they speak in military affairs—an open question in some cases—they do not always care to depict the realities of warfare accurately in their prose.¹⁵ As J.E. Lendon persuasively argues, battle narratives in ancient texts are heavily shaped by literary convention, “products as much of culture as of observation.”¹⁶ For any given battle, our sources blend what actually happened with what (to ancient habits of thought) was supposed to happen, rendering our evidence a strange mixture of historical fact with stock narratives, archetypes, and *topoi*.¹⁷ Recognition of the extent to which ancient military narratives were cultural products threatens to sweep the feet from beneath traditional histories of Roman warfare. In the absence of archaeological corroboration—occasionally available at such famous sites as Masada, Numantia, and Kalkriese—we cannot securely reconstruct the tactical ebb and flow of any individual battle or the operational dynamics of any given campaign.

However, for understanding the structural and systematic factors that shaped the military performance and political impact of the Roman empire, the embeddedness of ancient military narratives within cultural and literary traditions is a benefit, not a hindrance. As Lendon writes, “the way ancient authors describe the details of battle can tell us about the mental rigging of the

¹⁵ For an example of disagreement over an author’s basic military knowledge, see the debate over Livy, with the condemnation of him as a military historian in Walsh 1958 (and cf. Walsh 1961), and rebuttals in Roth 2006 and Koon 2010, who give more charitable evaluations of his historical quality.

¹⁶ Lendon 1999, 274. Cf. Lendon 2017a; 2017b.

¹⁷ In addition to Lendon’s work cited above, see Adema 2017; van Gils, de Jong, and Kroon 2019.

societies in which they lived.”¹⁸ *Topoi* of combat, in short, reveal a great deal about ancient culture, values, and habits of mind.¹⁹ Of particular interest in this chapter are the set of “rules” for broken ground shared by the writers of Roman military literature (and, we should suspect, by their social peers commanding Roman armies): a common set of assumptions about the ways rough terrain affected military operations and preferences about how the empire should best approach these spaces.²⁰ Thus, while the bulk of this chapter’s evidence comes from Roman battle narratives, our analytical target is not these battles as historical events, but as cultural constructs demonstrating Rome’s mindset towards broken ground.

Reconstruction of the Roman perception of rough terrain combat, as revealed in the *topoi* and internal logic of ancient battle narratives, matters in more than the philological abstract. Romans’ habits of writing and thinking about warfare on broken ground both reflected and shaped their habits of actually fighting over such terrain. While not necessarily accurate for the specific battle narratives in which authors deploy them, *topoi* surrounding the dangers of defile ambushes, the difficulties of assaulting hilltop citadels, and the near-impossibility of corralling mountaineers into open combat reflect real facts of Roman military experience.²¹ Such stock descriptions resonate with a Roman audience precisely because they match the readers’ actual experiences and understanding of combat. At the same time, shared cultural conceptions and

¹⁸ Lendon 1999, 275. Cf. Koon 2010.

¹⁹ This methodology underlies Lendon 2005.

²⁰ These are referred to in places as “general truths” (rather than details specific to any particular battle) in Lendon 2017a and 2017b. van Gils, de Jong, and Kroon 2019 casts this distinction in terms of specific “historicity” versus generalized “realism.” On the class-connection of Roman literary figures and political decision-makers, see Mattern 1999.

²¹ Lendon 2017a; 2017b and see n. 20 above.

“rules” of warfare shaped the practices of the Roman army. The idea of mountain combat’s difficulties and risks disinclined Roman commanders to engage on such terrain in the first place, and mental frameworks thus made themselves felt in military reality. To return to John Lynn’s theoretical framework, the discourse and reality of Roman warfare existed in an interdependent and reciprocal relationship.²² We can thus use the literary structures of Roman military discourse, encapsulated in the *topoi* of ancient authors, to reflect on the real-world, systematic relationship between Roman force and the physical terrain.

Let us turn, then, to reconstruct the Roman understanding of combat on broken ground as reflected in ancient military literature. We must begin with the strong current of discontent and anxiety that underlies descriptions of rough terrain and combat: in brief, with the Roman preconception that rough terrain was fundamentally undesirable as a space for military activity.

Section One: “Descending to the Plain” and Roman Ideas of the Battlefield

In the view of ancient authors, battles should be fought (at least by default) on the plains. This is not to dispute that the Romans could triumph on rugged terrain (as in Livy’s account of the victories over Philip V at the River Aous or over Antiochus III at Thermopylae).²³ Nor do our sources deny that the Romans themselves at times took advantage of broken ground, especially when outmatched by the enemy: in Livy’s heavily mythologized account of the Gallic sack of Rome in 390 BCE, it is only a redoubt on the Capitoline hill that preserves the city from

²² Lynn 2003, 331-341.

²³ In 198 and 191 BCE, respectively. Livy, 32.5-12, 36.15-19.

complete annihilation.²⁴ Yet on the whole, ancient authors display a marked discomfort with Roman military activity on rough terrain (indeed, whatever its tactical impact in practice, Livy emphasizes the broken ground at Aous and Thermopylae to magnify his Roman heroes' achievements in the face of adversity). As we will see below, this attitude was occasionally made explicit, but is most noticeably encapsulated in a common *topos* of Roman military literature in which armies descend to level ground in order to signal their willingness to fight.

Our sources are rarely forthright when it comes to the systemic relationship between rough terrain and military efficiency. Within the genre constraints of Roman military literature, they hardly could be; we have no ancient handbooks on the practical mechanics of warfare, in the vein of the modern US Army Field Manuals. Yet an antipathy to broken ground comes to the surface in the campfire banter of soldiers on the march. Tacitus' legionaries in Britain cast the island's rolling landscape as their enemy, bragging of their victories over "the recesses of forests and mountains" without reference to any human opponent.²⁵ Caesar has his troops express a similar sentiment during the Gallic Wars, as the men claim "that they were not afraid of the enemy, but feared the narrow passages and vast forests which lay between themselves and Ariovistus."²⁶ As Lendon notes, Caesar frequently refers to rugged terrain as *locus iniquus*, an "unfair" or "unfavorable place."²⁷ The same motifs appear in Livy, as he describes the Roman

²⁴ Livy, 5.43. Polyb. 18.22 implies that the rugged field of Cynoscephalae put the Romans at an advantage against Philip V's ponderous phalanx.

²⁵ Tac. *Agr.* 25: *ac modo silvarum ac montium profunda*. See also 17, 33.

²⁶ Caes. *BGall.* 1.39: *non se hostem vereri, sed angustias itineris et magnitudinem silvarum quae intercederent inter ipsos atque Ariovistum, ...timere dicebant*.

²⁷ Lendon 1999, 288 (with references).

march towards Pydna in 168 BCE: “although the foe threatened [the Romans] from no direction, the roughness of the terrain harassed them like an enemy.”²⁸

A leery discomfort with warfare on broken ground similarly underlies the strategic logic which our sources impute to Roman commanders. Narrating a Roman campaign against the Boii in 196 BCE, Livy explains how a Roman consul chose to withdraw along a longer route in order to avoid broken ground: “he led the army back by the same way he had come, and after a long roundabout march through country that was open, and therefore safe, he reached his colleague.”²⁹ Caesar reports that he was willing to tolerate similar delay in order to avoid the risks of rough terrain.³⁰ Similarly, when his men were eager to launch an uphill assault against Avaricum in 52 BCE, “Caesar pointed out what great loss, in the death of so many gallant men, a victory must necessarily cost,” and refused to attack.³¹ Later, chiding his men for recklessness, Caesar reminds them that at Avaricum “he had given up an assured victory in order that even slight loss in action might not be caused by unfavorable ground.”³²

More common in ancient literature than explicit critique of broken ground is praise for plains as the natural spaces of military activity. Livy writes of a battleground in Celtiberia that

²⁸ Livy, 44.5: *cum ab nulla parte hostis terruisset, locorum asperitas hostiliter vexavit.*

²⁹ Livy, 33.37: *exercitum eadem via qua adduxerat reduxit et magno circuitu per aperta eoque tuta loca ad collegam pervenit.* See also 34.28.

³⁰ Caes. *BGall.* 1.41. For a similar decision, see 6.34. Livy excoriates the Roman commander Manlius for failing to take such precautions and risking his army on broken ground in Thrace (35.28, 38.46).

³¹ Caes. *BGall.* 7.19: *Caesar...quanto detrimento et quot virorum fortium morte necesse sit constare victoriam.*

³² Caes. *BGall.* 7.52: *exploratam victoriam dimisisset, ne parvum modo detrimentum in contentione propter iniquitatem loci accideret.*

“the plain was entirely flat and suitable for fighting.”³³ Appian similarly praises the terrain near Philippi: “the plain was admirably situated for fighting.”³⁴ According to Tacitus, Germanicus sought to contradict his troops’ preference for level terrain, admonishing them (contrary to the evident stereotype) that “plains were not the only battlefield favorable to a Roman soldier.”³⁵

Roman preferences and perceptions about “suitable” spaces for combat are encapsulated in a common *topos*, in which our authors use a commander’s choice to take up a position on level ground as a symbol for confident belligerence. When armies “go down to the plain” in ancient military literature, this action is synonymous with their willingness to attempt a decisive battle. Thus in Appian, both Hannibal and the Romans signaled their readiness for the Battle of Cannae when “both armies came down to the plain.”³⁶ Livy is even more explicit when describing the Second Punic War in Spain: “as though by agreement, the signal for battle was raised on both sides, and with all their forces they went down into the plain.”³⁷ The same *topos* appears even in Plutarch—hardly our most militarily knowledgeable author, but attuned nevertheless to the perils of hill-combat—as well as in Polybius’ accounts of the first and second Punic wars.³⁸

³³ Livy, 40.30: *Campus erat planus omnis et aptus pugnae*. See also 38.3.

³⁴ App. *BCiv.* 4.13.106: τὸ πεδῖον ἦν ἐναγωνίσασθαι καλόν.

³⁵ Tac. *Ann.* 2.14: *non campos modo militi Romano ad proelium bonos*. See also 2.5.

³⁶ App. *Hann.* 4.19: κατέβαινον ἐς τὸ πεδῖον ἑκάτεροι.

³⁷ Livy, 23.29: *velut ex composito utrimque signum pugnae propositum est atque omnibus copiis in campum descensum*. See also 22.24, 22.30, 24.14, 25.33, 30.8.

³⁸ Plut. *Cam.* 41.3, *Luc.* 15.2, 26.2; Polyb. 1.19, 14.3.

In an inversion of this *topos*, one side signals its lack of confidence by refusing to give battle on the plains. According to Appian, Antony and Octavian tried in vain to incite combat at Philippi, and saw cowardice in their enemies' mountaintop fortifications. Appian's account of Antony's speech to the troops reflects his own understanding of combat's spatial logic: "It is the clearest proof of their defeat yesterday and of their lack of courage that, like those who have been vanquished in public games, they keep out of the arena.... they do not accept our challenge and come down from the mountain, but trust to their rocky fastnesses instead of their arms."³⁹ Livy similarly uses hills and plains as metonyms, standing in for timidity and courage in war: when Metellus took the field against Hannibal: "the consul...pitched camp near Numistro, in sight of Hannibal on level ground, while the Carthaginian held a hill. [Metellus] added the further appearance of confidence in being the first to lead out into battle-line."⁴⁰ At the same time, confidence could be misplaced, and Appian criticizes Curio's leadership in the Civil Wars when he "very imprudently led his enfeebled army down to the plain."⁴¹

The symbolic logic of the "descent to the plains" *topos* was not restricted to the Romans; at least in the vision of Roman authors, it was commonly understood in the Mediterranean world that level fields were the natural site for combat. In Livy's (essentially fictitious) representation of the late 4th century Etruscan wars, Rome's enemies were so aggressive that "not only did they

³⁹ App. *BCiv.* 4.16.119: ὁ σαφειστάτη πίστις ἐστὶ τῆς ἐχθρῆς ἡσσης καὶ φόβου, ὅταν ὥσπερ ἐν τοῖς γυμνικοῖς ἀφιστῶνται τοῦ ἀγῶνος οἱ ἐλάττονες...ὅταν οὖν ἡμῶν αὐτοὺς προκαλουμένων μὴ δέχωνται μηδὲ καταβαίνωσιν ἀπὸ τῶν ὄρων, ἀλλὰ ἀντὶ τῶν χειρῶν πιστεύωσι τοῖς κρημοῖς...

⁴⁰ Livy, 27.2: *consul...ad Numistronem in conspectu Hannibalis loco plano, cum Poenus collem teneret, posuit castra. addidit et aliam fidentis speciem, quod prior in aciem eduxit.* For similar examples, see Caes. *BCiv.* 1.41; Plut. *Fab.* 5.2-5; Polyb. 1.39, 3.91.0

⁴¹ App. *BCiv.* 2.7.45: ὁ Κουρίων κατέβαινε ἀφρόνως μάλα καὶ καταφρονητικῶς, ἀσθενῆ τὸν στρατὸν ἄγων.

move forward their camp, out of the woods, but even, in their eagerness for combat, came down into the plain at the earliest opportunity in battle formation.”⁴² The Samnites, Livy believed, operated under similar mental frameworks; upon failing to ambush a Roman column, “the Samnites—since it must ultimately come to an open trial of strength—likewise preferred to fight a regular engagement. They accordingly descended to level ground, and committed their cause to fortune.”⁴³ We need not worry whether Livy correctly understood the military mindset of Rome’s opponents, nor whether any of the examples cited above matches the reality of the specific battle it describes. What matters for our purposes is the way that the underlying *topoi* in these narratives reflect a broader Roman logic of space and combat, in which on the one hand flat and open ground was where sufficiently strong and resolute armies went to wage war, and on the other hand rough terrain was a refuge of the weak and timid, fundamentally unsuitable for Roman combat.⁴⁴

Of course, descending to the plain was not universal *in practice* for ancient armies, Roman or otherwise; we have already seen examples where outmatched forces refused to offer a “fair” fight. Nor was this discourse of morally superior plains combat the only strand in ancient military thought, even if it dominates in our historical literature. Polybius recognized that battling in the plains on equal terms was, by his day, usually a relic of a more ethical past

⁴² Livy, 9.37: *neque e silvis tantummodo promotam castra sed etiam aviditate dimicandi quam primum in campos delata acies.*

⁴³ Livy, 10.14: *Samnites desperato improvise tumultu, quando in apertum semel discrimen evasura esset res, et ipsi acie iusta maluerunt concurrere. itaque in aequum descendunt ac fortunae se...committunt.* Livy’s Carthaginians and Gauls share similar views: see 28.12, 34.46.

⁴⁴ In this sense, the Roman military worldview is not far different from that which Hanson 2009 hypothesizes for the Greek city states.

(although he notes that it survived in practice among the Romans).⁴⁵ Writing in the first century CE, Onasander's discussion of suitable battlefields carries little of the moral baggage found in near-contemporary historians: the choice between fighting on level or broken ground is a simple matter of whether one's army is stronger in cavalry (lethal against infantry in the plains) or infantry (superior to cavalry in the hills).⁴⁶ By the fourth century, Vegetius not only agreed, but also strategically justified the unconventional warfare that some earlier writers called cowardice: "if [a general] recognizes that the enemy is stronger, let him avoid a pitched battle, because forces fewer in number and inferior in strength carrying out raids and ambushes under good generals have often brought back a victory."⁴⁷

This alternate discourse, however, is not entirely incompatible with the broader Roman perception of plains as a "natural" battle-space. Especially under the late republic and high empire, Rome's army was usually superior to that of its opponents in pitched battle (as we will see below, this advantage did not hold as consistently in unconventional warfare).⁴⁸ As they descended into the plain, Roman commanders could thus pride themselves on the virtuous emulation of their ancestors, secure in the knowledge that they were also making a tactically sound decision by engaging in an "even" fight.

⁴⁵ Polyb. 13.3.

⁴⁶ Onas. 31. On the weakness of cavalry in hills, cf. Veg. *Mil.* 2.1, 3.6.

⁴⁷ Veg. *Mil.* 3.9: *Si vero adversarium intellegit fortiolem, certamen publicum vitet; nam pauciores numero et inferiores viribus superventus et insidias facientes sub bonis ducibus reportaverunt saepe victoriam.*

⁴⁸ This was notably not as consistently the case in Vegetius' day.

Roman distaste for combat on rugged terrain was not just a moral preference but a strategic calculation; to explain why, we must turn to the specific ways in which our literary evidence describes combat and campaigning over rough terrain. Combining Goldsworthy's interest in the mechanics of combat with the subtler handling of evidence advocated by Lendon and Lynn, we may find, within the persistent *topoi* of ancient battle descriptions, two basic "arguments" about the typically negative effects of rugged ground on the Roman military.⁴⁹ First, as already suggested, hills and mountains hindered the Romans' "way of war," making it more difficult to stage the decisive, heavy-infantry battles that were their traditional strength. Second, literary depictions of combat on broken ground indicate a belief among ancient authors that such terrain benefited the non- and pseudo-state opponents who formed the most common targets of Roman imperialism (at least after the destruction of Macedon, Carthage, and the Seleucid Empire). In the view of our sources, while such opponents were markedly inferior to Rome in open combat, the potential which broken ground provided for defensive and guerrilla warfare increased their ability to win in the face of an otherwise indomitable Roman army.

Section Two: Broken Ground, Heavy Infantry, and the Roman Way of War

According to ancient authors, broken ground made it difficult for the Romans to fight in their preferred and most effective style. It was antithetical to a Roman "way of war" which emphasized heavy infantry and decisive battle.

⁴⁹ Goldsworthy 1996; Lendon 1999; 2005; Lynn 2003.

To a substantial extent, this Roman “way of war” was a literary and cultural construct. We need not accept Victor Davis Hanson’s expansive and problematic view of the subject, developed in an ancient Greek context, but broadly applied to the Romans and to a long, undifferentiated line of “Western” descendants.⁵⁰ While their legions of heavy infantry formed a traditional strength, Roman armies were highly flexible in their organization and armament, and could adapt their style of combat to meet a diverse range of opponents.⁵¹ The Roman “way of war” was not an unvarying rule, but a cultural perception: as John Lynn might put it, a discourse connected to (but not identical to) reality.

Nevertheless, our sources’ discussions of combat suggest that part of their general discomfort with broken ground stems from their view that heavy formations and their accompanying tactics often proved ineffective outside level, open battlefields. Thus in his account of the Second Punic War, Livy describes how a Roman contingent struggled on broken ground against a light-armed force of Spaniards:

“These [Spanish] troops were more used to mountains, and better suited to skirmishing amid rocks and crags, and being more agile and more lightly armed, they had no difficulty—thanks to the nature of the fighting—in getting the better of an enemy whose heavy armor and stationary tactics were adapted to level ground. Thus the struggle had been far from equal, when they parted and made off for their respective camps. Hardly any of the Spaniards had been hurt, but the Romans had lost a considerable number of men.”⁵²

⁵⁰ Hanson 1989; 2002.

⁵¹ See especially Polyb. 18.30-32. This is a key argument in Goldsworthy 1996; see also Gilliver 1999. Cf. Wheeler 1979, whose reconstruction of the Roman battle-line against the Alani relies more on firepower and phalanx tactics than the typical fighting style of the cohortal legions.

⁵² Livy, 22.18: *ea adsuetior montibus et ad concursandum inter saxa rupesque aptior ac levior cum velocitate corporum tum armorum habitu campestem hostem, gravem armis statariumque, pugnae genere facile elusit. Ita haudquaquam pari certamine digressi, Hispani fere omnes incolumes, Romani aliquot suis amissis in castra contenderunt.* Cf. Plut. *Fab.* 7.1.

Writing in more general terms, Onasander concurs that light skirmishers fought at an advantage on rugged terrain: “for from the uneven ground they can more easily hurl their weapons and retreat, or they can very easily charge up the slopes, if they are agile.”⁵³

Combat aside, broken ground seems to have presented obstacles to the mere movement of heavy infantry. In his account of the war with Philip V, Livy depicts the Macedonian king withdrawing into the mountains away from his Roman foes, “choosing a road which he knew the Roman, with his heavy-armed column, would not take.”⁵⁴ After Philip’s defeat at the River Aous, broken ground covers his retreat: “the narrow roads and the rough country hindered the [Roman] cavalry, the weight of their arms [hindered] the infantry.”⁵⁵ The Romans could not follow “due to the unfavorable ground.”⁵⁶ When Philip climbed the Haemus Mountains much later in his life, “it was generally agreed by all that there was no way for an army, but that with a few light troops [the mountains] could be climbed by a very difficult road.”⁵⁷ Writing on wars in the East, Polybius comes to a similar conclusion: “it was not beyond the power of unburdened and light-armed troops to ascend over the bare rocks.”⁵⁸

⁵³ Onas. 18: ῥᾶόν τε γὰρ βαλόντες ὑποχωροῦσιν ἀπὸ τῶν τραχέων, ῥᾶστά τε τοῖς ἀνάντεσιν ἐπαναθέουσιν, ἂν ἐλαφροὶ τυγχάνωσιν. See also Polyb. 4.14, 5.52. For the same *topos* in later Roman history: Amm. Marc. 14.2.4-6.

⁵⁴ Livy, 31.39: *montes, quam viam non ingressurum gravi agmine Romanum sciebat, petit.*

⁵⁵ Livy, 32.12: *sed equitem angustiae locorumque asperitas, peditem armorum gravitas impedit.*

⁵⁶ Livy, 32.12: *ex iniquitate locorum.*

⁵⁷ Livy, 40.21: *cum satis inter omnes constaret viam exercitui nullam esse, paucis et expeditis per difficillimum aditum.* Cf. App. *Hann.* 2.11.

⁵⁸ Polyb. 10.30: ἀλλὰ τοῖς ψιλοῖς καὶ τοῖς εὐζώνοις οὐκ ἀδύνατος ἦν ἢ δι’ αὐτῶν τῶν λευκοπέτρων ἀναβολή.

The difficulties which broken ground imposed on heavy infantry were in part a matter of the physiological constraints of individual soldiers. As Livy and Polybius indicate above, rough terrain amplified the physical difficulty of moving around a battlefield in heavy armor and bulky equipment, giving more lightly equipped troops a lethal advantage. Yet beyond its challenges to the stamina and athleticism of individual soldiers, broken terrain also disrupted the close formations that made Roman heavy infantry so effective in combat. In Dio’s account of the Pannonian revolt in the early first century CE, broken ground fragments Tiberius’ army as it advances over mountainous terrain. “Drawn up in a dense square, [they] at first proceeded at a walk; but later they were separated by the steepness and unevenness of the mountain, which was full of gullies and at many points was cut up into ravines, so that some ascended more rapidly but others more slowly.”⁵⁹ Appian similarly notes how broken ground could scatter close formations (although he illustrates this effect in reference to Rome’s opponents during the Mithridatic Wars): he writes how Sulla successfully compelled his opponent to fight “in a rocky region near Chaeronea...while Archelaus was hedged in by rocks which would in no case allow his whole army to act collectively, as he could not bring them together by reason of the unevenness of the ground.”⁶⁰

The “typical” Roman soldier imagined by our sources—almost always the legionary as opposed to his lightly-armed, irregular comrades—was rendered particularly immobile on rough terrain by his heavy armament, while broken ground similarly negated the regimented formations

⁵⁹ Dio Cass. 56.13: οἱ δ’ ἄλλοι τὸ μὲν πρῶτον ἐν πλαισίῳ πυκνῶ συντεταγμένοι βάδην ἀνεπορεύοντο, ἔπειτα δ’ ὑπὸ τε τοῦ ὀρθίου καὶ ὑπὸ τῆς ἀνωμαλίας τοῦ ὄρους χαραδρῶδές τε γὰρ ἦν καὶ ἐς φάραγγας πολλαχῆ κατετέμνητο διεσπάρσθησαν, καὶ οἱ μὲν θᾶσσον οἱ δὲ βραδύτερον προσανήσαν.

⁶⁰ App. *Mith.* 6.42: Ἀρχελάῳ δὲ κρημνοὶ περιέκειντο, οἳ τὸ ἔργον οὐκ εἶον ἐν οὐδενὶ κοινὸν ὅλου τοῦ στρατοῦ γενέσθαι, συστῆναι διὰ τὴν ἀνωμαλίαν οὐκ ἔχοντος. See similar episodes in Polyb. 11.16; 12.20, 12.22

in which he was so effective.⁶¹ Heavy infantry, the first pillar in the Roman “way of war,” thus began to crumble when dispatched to hilly and mountainous regions (especially if we also consider the limitations which rugged topography imposed on the sophisticated logistical systems that maintained large Roman armies in the field).⁶² In isolation, this phenomenon might have little impact on the Romans’ military success. While our sources rarely pay them much attention, Rome could call upon the services of light troops (although Onasander could easily imagine a scenario in which heavy formations operated without skirmisher support).⁶³ If nothing else, legionaries could unburden themselves of their armor and fight (perhaps uncomfortably) as light infantry. Moreover, Roman troops were hardly impotent in individual and small group combat, as Polybius takes care to note.⁶⁴ By the imperial period, these long-service professionals were better fighters, man-for-man, than their typical opponents.

However, rough terrain also weakened a second component of Rome’s “way of war:” the ability to achieve decisive battle. Rough terrain made it difficult to compel an unwilling enemy to fight, to close with a weaker opponent to deliver a decisive blow, and to turn success on the field into a devastating rout.

⁶¹ On Roman collective training, see especially Joseph. *BJ* 3.70-74. While Bannard 2015 argues that collective drill was an innovation of the imperial period, Polyb. 6.19-42 suggests that even in its absence the Romans placed a premium on well-disciplined formation fighting. Cf. Goldsworthy 1996, 171-247.

⁶² On logistical challenges of mountain combat—an important topic, largely omitted here for reasons of space—see App. *BCiv.* 4.12.100; Caes. *BCiv.* 3.42; Polyb. 3.60. On Roman logistics generally, see Erdkamp 1998; Roth 1999.

⁶³ Onas. 20.

⁶⁴ Polyb. 18.30-32.

With the *topos* of the descent to the plain, we have already seen how broken ground made it difficult to force decisive combat with an unwilling enemy. This stock narrative presupposes that when an enemy refuses to descend to a “fair” battleground, his opponent cannot simply or painlessly defeat him on the hills where he stands. To give one example, this strategic logic underlies Fabius Cunctator’s famous plan to defeat Hannibal in the Second Punic War, holding the high ground “at a moderate distance from the enemy, so as neither to lose touch nor yet come to blows with him.”⁶⁵ Livy’s narrative makes sense only if the reader accepts the implicit premise that hills give a general who does not want to fight the option of simply avoiding battle. Even in the aftermath of his greatest triumph, Hannibal recognized that the risks of taking the battle to his unwilling opponent are unacceptably high.

Even if battle could be joined, our sources recognized that rough terrain made it harder for the already ponderous Roman infantry to close with its opponents successfully, in particular when the enemy relied on skirmishers and missile troops. Numerous authors give evocative stock-descriptions of the suffering of Roman soldiers, pinned down under harassing fire from lightly-armed foes. Caesar, describing combat in Britain, writes, “it was clear that in all such fighting our infantry, by reason of their heavy armament, since they could neither pursue a retiring enemy nor venture far from the standards, were poorly matched with an enemy of this kind.”⁶⁶ Cassius Dio reports similar peril for Caesar’s men fighting in Sicily against Sextus Pompey, whose light infantry and cavalry were content to harass Caesar’s men with missiles and

⁶⁵ Livy, 22.12: *Fabius per loca alta agmen ducebat, modico ab hoste interuallo ut neque omitteret eum neque congregaretur.* See similar examples in Polyæn. 1.38.2, 8.5.

⁶⁶ Caes. *BGall.* 5.16: *nostros propter gravitatem armorum, quod neque insequi cedentes possent neque ab signis discedere auderent, minus aptos esse ad huius generis hostem.* Similar examples appear in 5.34-35. Cf. Livy, 22.18, 26.10, 44.4.

sudden charges, and then retreated before Caesar's heavier formations could retaliate: "[Caesar's soldiers] were suffering many injuries and could inflict none in return; for, in case they made a rush upon any of [the enemy], they would put them to flight, to be sure, but not being able to carry their pursuit to the end, they would find themselves in a worse plight during their retreat, since by their sortie they would become isolated."⁶⁷

The tactical mismatch of heavy infantry and troops with ranged weapons need not be confined to broken ground (and indeed, neither of the examples above makes explicit reference to terrain). Yet the obstacles which rough terrain imposed on heavy formations only exacerbated the threat posed by skirmishers. Even the military neophytes among Roman authors must have known that elevated firing positions increased the range and lethality of missile weapons.⁶⁸ Livy, with the characteristic heroic exaggeration of his early books, reports how a citadel could suppress assaults from below: "from a height like this three men would be enough to keep back a multitude, however numerous..."⁶⁹ On the other hand, without sufficient stores of ranged weapons, heavy troops on an exposed hilltop presented an easy target for archers below. Caesar reports that as he attempted to fortify hilltops at Dyrrachium, "many of our men were wounded, and a great dread of the arrows gripped them."⁷⁰ Livy records a similar dilemma for soldiers in the Macedonian Wars, when Perseus surrounded a detachment of Romans on an isolated hilltop:

⁶⁷ Dio Cass. 49.6: κάκ τούτου ἔπασχον μὲν πολλὰ καὶ δεινά, ἀντέδρων δὲ οὐδέν: εἰ γάρ που καὶ ἐπάξειάν τιςιν, ἔτρεπον μὲν αὐτούς, πέρα δ' οὐ δυνάμενοι διώκειν χαλεπωτέρους σφᾶς ἐν τῇ ἀναστροφῇ, ἅτε καὶ μονούμενοι ταῖς ἐκδρομαῖς, εἶχον.

⁶⁸ Veg. 3.13 is explicit on this point. See also Polyæn. 1.1.2, 2.38.2; Polyb. 10.30.

⁶⁹ Livy, 9.24: *hoc quidem ascensu vel tres armati quamlibet multitudinem arcerint*. Cf. App. *BCiv.* 4.16.125; Dio Cass. 36.48-49, 49.20; *Front. Strat.* 2.2.4; Livy, 9.35; Tac. *Hist.* 4.71.

⁷⁰ Caes. *BCiv.* 3.44: *multique ex nostris vulnerabantur, magnusque incesserat timor sagittarum*. Cf. App. *BCiv.* 4.16.121.

“A terrific threat surrounded the Romans, for when massed they could not thrust back those who were struggling up the hill, and whenever they broke ranks by charging forward, they were exposed to javelins and arrows.”⁷¹

As our sources imagine it, broken ground made it difficult or impossible for heavy infantry formations to close with and destroy lighter skirmishers. At the same time, it reduced or eliminated the role of cavalry, and thus robbed the Romans of their best defense against such opponents.⁷² Our sources frequently assume that hills and mountains were fundamentally unsuitable for Roman and non-Roman cavalry alike: as noted above, both Onasander and Vegetius make this factor central to the proper choice of battlefield.⁷³ Livy is similarly explicit on this point; before the Battle of the River Trebia, he has the Romans “moved their camp onto higher ground, where hills made it more difficult for cavalry to operate.”⁷⁴ In Frontinus, a similar assumption underlies Agesilaus’ ruse against the Persians, when he “pretended to make for Caria, as though likely to fight more advantageously in mountain districts against an enemy strong in cavalry.”⁷⁵ In Dio’s account of the aftermath of Carrhae, the Persians hesitate to enter the mountains against the retreating Crassus, because “the higher ground...was inaccessible to

⁷¹ Livy, 42.65: *Ingens Romanos terror circumstabat; nam neque conferti propellere eos qui in tumulum conitebantur poterant et, ubi ordines procursando solvissent, patebant iaculis sagittisque.* Cf. 38.19-21, 38.26.

⁷² Onas. 6.7-8 directly recommends cavalry screens, especially on terrain likely to conceal an ambush.

⁷³ Onas 31; Veg. *Mil.* 2.1, 3.6. See also Plut. *Luc.* 15.3-4, *Crass.* 19.2, 22.3; Polyæn. 4.6.6 (though note a contrary example in 4.3.21); Polyb. 1.30, 1.32, 1.84. Strabo refers to horses specially trained for mountain warfare: 3.4.15.

⁷⁴ Livy, 21.48: *iam in loca altiora collesque impeditiores equiti castra movet.* See also 21.57, 32.12, 38.26, 43.21, 44.5.

⁷⁵ Front. *Strat.* 1.8.12: *Cariam se petere simulavit, quasi aptius locis montuosis adversus hostem equitatu praevalentem pugnaturus.* See similar strategic logic in 1.1.6, 2.5.18, 4.7.21.

horses.”⁷⁶ Tacitus sees Roman cavalry falter on broken ground at the Battle of Mons Graupius, and notes in the *Histories* that Vespasian’s army chose to base itself in Verona, “because there are open plains about it suited to the operations of cavalry, in which their chief strength lay.”⁷⁷ In short, in our sources’ topographic imagination, hills and horses do not mix, and without screening forces of cavalry, Roman heavy infantry could be left at the mercy of lighter opponents.⁷⁸

The removal of cavalry support on broken ground not only left Rome’s heavy infantry with limited options to ward off enemy skirmishers, but made it difficult or impossible to effectively pursue and annihilate beaten opponents. By casting off weapons and armor, a defeated opponent could outpace Roman pursuers on foot; it was thanks to horsemen that “mopping-up” operations in the aftermath of battle typically generated the most casualties among the defeated army.⁷⁹ As we will see later in this chapter, the *topos* of beaten opponents melting away into the mountains in part reflects the advantages that such terrain gave to fleeing natives familiar with the local topography.

On the whole, stock descriptions of ancient combat reveal their authors’ belief that broken ground disrupted Rome’s preferred methods of fighting. Whatever irregulars the empire might press into service, broken ground defanged the heavy infantry which formed the core of

⁷⁶ Dio Cass. 40.26: ὁ Σουρήνας, καὶ φοβηθεὶς μὴ μεταστάντες ποι αἰθὶς σφισι προσπολεμῶσι, προσβαλεῖν μὲν πρὸς τὰ μετέωρα ἄφιππα. See also 48.41, 49.19.

⁷⁷ Tac. *Agr.* 36, *Hist.* 3.8: *Verona potior visa, patentibus circum campis ad pugnam equestrem, qua praevalabant.* See also App. *Mith.* 6.42, 12.80-81.

⁷⁸ Caesar’s successful use of cavalry on the hills at the Battle of Ilerda is an exception, though even here Caesar’s commentary suggests that this action was unusual and impressive. Caes. *BCiv.* 1.45-46.

⁷⁹ Sabin 2000. For a vivid description of cavalry riding down a defeated foe (in this case, Regulus’ Romans, routed by Xanthippus in Africa), see Polyb. 1.34.

the Romans' military strength. It also prevented decisive victory by reducing Rome's ability to corral its opponents into open combat, to get close enough to break their spirit with the disciplined brutality of heavy infantry, and to run down retreating foes in order to destroy their ability to regroup and resist. Crudely put, rugged terrain usually made the Roman army worse at fighting. It also made the typical targets of Roman violence better; equally important in explaining Rome's discomfort with hill and mountain warfare, this perception is the subject of the next section.

Section Three: Home Field Advantage: Broken Ground and Evening the Odds

Regardless of its effects on Rome's own soldiers, ancient authors believed that broken ground increased the military capacity of the Romans' most common opponents during their wars to expand and maintain the empire. Though incapable of defeating the Romans on the "fair" battlefield of the plains, these enemies nonetheless reaped an important "home field advantage" when defending rugged homelands against imperial invasion. It was one that, under the right topographical conditions, allowed them not only to survive Roman incursions, but also to inflict staggering losses on their would-be rulers.

In particular, ancient authors recognized how broken ground worked against the Romans in what I will refer to as "imperial warfare:" military action (under the republic and principate alike) meant to extend or maintain control over foreign peoples and territories. Such imperial warfare was not the type of conflict that most interested our sources, who typically preferred the grand drama of civil wars and foreign invasions. Yet for our purposes here, wars in which Rome sought to exert its authority over foreigners naturally take center stage.

In the military worldview of our sources, Rome suffered from two disadvantages in imperial warfare, both of them exacerbated by broken ground, and both stemming from the fact that Rome's mission in such wars was fundamentally offensive. For all the sophistication of Romans' defensive architecture, the imposition of control frequently required Roman soldiers to project military force outwards from their garrisons into hostile territory, traveling as aggressors to their battlefields. In this scenario, enemies fighting in or near their own homelands typically had superior local knowledge, as well as better opportunity to seize ideal defensive positions in advance of the Romans' arrival.

Let us begin with the issue of local intelligence, in particular the understanding of the physical space in which a campaign or battle was to be waged. While not exclusive to warfare on broken ground, local knowledge was especially significant there, given that the undulation of the landscape can conceal any number of pitfalls, and a commander who wanders into an ambush may see his army annihilated without a chance to defend itself.⁸⁰ To be sure, the Romans could sometimes obtain local intelligence by purchase or coercion.⁸¹ In Livy's account of the Battle of the River Aous, the Romans are shown a way to outflank Philip V's forces by a shepherd who "said he had been accustomed to pasture his flocks in the valley which the king's camp then occupied, and knew all the tracks and paths of those hills."⁸² Appian has Lucullus execute a similar maneuver in his war with Mithridates: "he found a hunter in a cave who was familiar

⁸⁰ For example, in the Roman disaster at the Caudine Forks (Livy, 9.2-3).

⁸¹ Despite the examples of success below, locals could mislead the Romans either through ignorance (e.g. Strabo, 11.13.4; Veg. *Mil.* 3.6) or through treachery (Plut. *Crass.* 21.2, 22.4; Strabo, 16.4.23).

⁸² Livy, 32.11: *is se in eo saltu, qui regiis tum teneretur castris, armentum pascere solitum ait omnes montium eorum amfractus callesque nosse*. See similar examples in 5.26, as well as App. *BCiv.* 4.13.103, 4.16.129.

with the mountain paths. With him for a guide he made a circuitous descent by rugged paths over Mithridates' head."⁸³

Nevertheless, local intelligence was primarily the preserve of Rome's foes in imperial warfare. Caesar, describing his wars in Germany, demonstrates a clear understanding of just how dangerous guerrilla opponents could be when they fought on their own, rough terrain: "Each man had settled where a hidden valley or a wooded locality or an entangled morass offered some hope of defense or security. These localities were known to the dwellers round about, and thus the matter required great care, not for the protection of the army as a whole...but for the preservation of single soldiers."⁸⁴ A similar imbalance in local knowledge plagues Gaius Manlius' forces in Livy's account, where a Roman army marching through the mountains of Thrace is ambushed by locals, and "betrayed by the unfavorable ground, since the barbarians charged them over familiar paths..."⁸⁵

Where Caesar and Livy see spatial knowledge magnifying locals' capacity to strike over broken ground, in Tacitus the same knowledge enables flight in the face of a superior foe (a topic I return to in the next section). Although victorious in the Maritime Alps, Otho's troops were

⁸³ App. *Mith.* 12.80: ἠϋρεν ἐν σπηλαίῳ κνηγὸν ὀρείων ἀτραπῶν ἐπιστήμονα, ᾧ χρώμενος ἡγεμόνι κατὰ ὁδοῦς ἀτριβεῖς περιῆλθεν ὑπὲρ κεφαλῆς τοῦ Μιθριδάτου... The Romans were not the only army to rely on local guides to help direct military operations: see similar tactics used by Hannibal in Livy, 22.13, and by the Aetolians in Livy, 31.42.

⁸⁴ Caes. *BGall.* 6.34: *Vbi cuique aut valles abdita aut locus silvestris aut palus impedita spem praesidi aut salutis aliquam offerebat, consederat. Haec loca vicinitatibus erant nota, magnamque res diligentiam requirebat non in summa exercitus tuenda (nullum enim poterat universis a perterritis ac dispersis periculum accidere), sed in singulis militibus conservandis.*

⁸⁵ Livy, 38.40: *Romanos iniquitas locorum barbaris per calles notas occursantibus...prodebat.* See also 38.49. The Ligurians similarly use their familiarity with local terrain to ambush Roman forces in Livy, 39.20.

unable to take prisoners, “since the people were fleet of foot and familiar with the locality.”⁸⁶ Without such local knowledge, Roman troops could expect to be less fortunate if defeated. In Agricola’s speech before the Battle of Mons Graupius, he reminds his men that defeat on foreign soil means disaster: “we have neither the same knowledge of locality, nor the same abundance of supplies; but we have our hands and swords, and therein we have everything.”⁸⁷ As our sources see it, inferior topographic knowledge was a price that the Romans and similarly expansionist powers paid for their imperial ambition.⁸⁸ Imperial wars were fought, for the most part, in spaces which the local enemy understood better than the distant empire intent on subduing them.

Local knowledge forms the first facet of the “home field advantage” which our sources ascribe to the opponents of imperial rule. It also contributed to the second: not only did Rome’s enemies understand the physical nature of their battlefields better, but they also usually arrived in these spaces before the Romans, and thus had the opportunity to translate their knowledge of the ground into a prepared defense. In the military imagination of our literary sources, the enemy was generally waiting when the Romans arrived; on broken ground, they held the hilltops, ridgelines, and passes. From these positions, even relatively weak opponents posed a serious threat.

⁸⁶ Tac. *Hist.* 2.13: *nec capi poterant, pernix genus et gnari locorum*. The Fidenates make a similar escape in Livy, 4.19.

⁸⁷ Tac. *Agr.* 33: *neque enim nobis aut locorum eadem notitia aut com meatuum eadem abundantia, sed manus et arma et in his omnia*.

⁸⁸ Hannibal’s enemies possessed superior local knowledge during his crossing of the Alps (Livy, 21.33). The Persians were lured into defeat by the geographic awareness of their Scythian foes (Front. *Strat.* 2.5.5).

While they are rarely explicit on questions of tactics and strategy, our ancient sources nevertheless possessed a clear set of “rules” governing uphill and downhill combat, expectations that naturally favored prepared defenders on the heights rather than their attackers below.⁸⁹ Livy provides an evocative description of a Thracian assault downhill: “without hurling a weapon from their higher position, and merely flinging their naked bodies down, they could have overwhelmed us.”⁹⁰ Dio describes a similar phenomenon during Caesar’s Gallic Wars; entrenched on the heights of Gergovia, the Gauls “could both safely remain in position, and, if they charged down, would usually have the advantage.”⁹¹ Caesar ascribes this basic topographic logic—that high ground confers advantages on those who hold it—to the Gauls themselves, who “supposed that, because of the disadvantage of [the Roman] position, since they themselves would charge down from the heights into the valley and hurl their missiles, not even their first onset could be withstood.”⁹²

By the same token, our sources recognize the difficulties of attacking a hilltop position from below. In his own account, even Caesar could not dislodge the Gauls from Gergovia, and

⁸⁹ Vegetius is our most direct author on this point: *Veg. Mil.* 3.6, 3.13. See also Polyæn. 1.1.8, 4.3.27, 4.17; Polyb. 2.3, 4.12, 18.25.

⁹⁰ Livy, 38.46: *ut non tela ex superiore loco mitterent, sed corpora sua nuda inicerent, obruere nos potuerunt*. The expectation of a similar advantage drives the young men of Thaumaci to launch a reckless downhill assault against the Romans during the war against Antiochus in Livy, 36.14.

⁹¹ Dio Cass. 40.36: καὶ οἱ βάρβαροι περίξ αὐτὸ πάντα τὰ μετέωρα κατειληφότες περιεφρούρουν, ὥστε καὶ μένειν αὐτοῖς κατὰ χώραν ἀσφαλῶς ὑπάρχειν καὶ ἐπικαταθέουσι πλεονεκτεῖν τὰ πλείω.

⁹² Caes. *BGall.* 3.2: *tum etiam, quod propter iniquitatem loci, cum ipsi ex montibus in vallem decurrerent et tela coicerent, ne primum quidem impetum suum posse sustineri existimabant*. On the tactical advantage of downhill charges for Rome’s enemies, see also Caes. *BGall.* 7.85; Dio Cass. 39.3; Livy, 4.46, 21.33, 33.9, 37.20.

fell back with heavy casualties.⁹³ Appian similarly uses the advantages of a prepared opponent on broken ground to explain a Roman detachment's defeat by Antiochus III at Thermopylae, when it is repulsed assaulting the hills which overlook the famous pass.⁹⁴ For Livy, attacking uphill is the sign of a foolish commander, and likely to lead to military disaster. When the armies of Veii occupy the Janiculum hill, the Roman consul "was so reckless as to lead his army up the Janiculum to the enemy's camp, and after suffering a more disgraceful repulse than he had administered the day before, owed his own rescue and that of his army to the arrival of his colleague."⁹⁵ Indeed, our sources make avoiding uphill combat the mark of a prudent commander, as in Caesar's narrative of his siege at Avaricum, and in Frontinus' account of the Sertorian war.⁹⁶ The difficulty and futility of uphill assaults is most poetically captured by Livy in the semi-mythical Roman defeat at the Caudine Forks (ostensibly in 321 BCE). In the shadow of overhanging hills held by the Samnite army, the Romans lament: "So long as these ridges shall tower over you, how shall you come at the enemy? Armed and unarmed, the brave and the cowardly, we are all alike captured and beaten men. The foe will not even draw his sword on us, that we may die with honor; he will end the war by sitting still."⁹⁷

⁹³ Caes. *BGall.* 7.48-51.

⁹⁴ App. *Syr.* 4.18.

⁹⁵ Livy, 2.51: *temere adverso Ianiculo ad castra hostium aciem erexit, foediusque inde pulsus quam pridie pepulerat, interventu collegae ipse exercitusque est servatus*. Livy uses the difficulties of uphill assaults to explain similar Roman defeats in 22.28, 28.16, 32.10, 33.7, 33.9.

⁹⁶ Caes. *BGall.* 4.23, 7.19. See also Caes. *BCiv.* 3.85, where Caesar refuses to attack uphill against Pompey before the Battle of Pharsalus. A similar narrative appears in Front. *Strat.* 2.5.31.

⁹⁷ Livy, 9.3: *dum haec imminebunt iuga, qua tu ad hostem venias? armati inermes, fortes ignavi, pariter omnes capti atque victi sumus; ne ferrum quidem ad bene moriendum oblaturus est hostis; sedens bellum conficiet*. See also 27.27, 27.48. Our authors did not restrict the difficulty of uphill assaults to the Romans alone: for foreign examples, see App. *Hann.* 3.14; Dio Cass. 40.26; Livy, 21.32; Polyæn. 2.1.12, 2.22.2, 3.9.48,

This same logic surrounding the defensive advantages of hill-combat appears in the common literary *topos* of the “impregnable” citadel, a stock image that alternately provides a rhetorical example of the Romans’ indomitable will to win and an explanation for defeat and compromise in the face of local resistance. In the former case, hill and mountaintop fortifications serve in numerous accounts as trials for Roman determination and ingenuity. The Romans were masters of relentless siege-craft, and authors highlight their tenacity with narratives such as Augustus’ conquest of the Dalmatian fortress at Promona, Tiberius’ victory over the Pannonians at Andetrium, or the Roman triumph over the last Jewish rebels at Masada.⁹⁸ Similarly common is the *topos* of the fortified city that falls through a combination of its own overconfidence in its elevated position and the daring of Roman soldiers (in particular the auxiliaries and irregulars). Thus in one of Frontinus’ stratagems from the Jugurthine Wars, Marius captures a city when an auxiliary forager finds a path up a cliff face, seemingly so impassable that the enemy left it unguarded.⁹⁹ Scipio (later Africanus) launched a similar attack against the rebellious Spanish city of Illiturgi, sending a band of deserters against the citadel “from the side on which it appeared to be impregnable.”¹⁰⁰ This stock narrative reappears in Livy’s account of the Gallic sack of Rome, where Gauls and Romans alike assume (as it happens, incorrectly) that the steep sides of the Capitoline could not be scaled.¹⁰¹ The fact that in each of these cases the “impregnable” citadel fell to siege or assault need not distract from the

⁹⁸ Respectively, App. *Ill.* 5.25-26; Dio Cass. 56.12-14; Joseph. *BJ* 7.280-406. For other examples of successful assaults on mountainous cities and citadels, see Livy, 3.18, 9.24, 31.27, 43.19.

⁹⁹ Front. *Strat.* 3.9.3. See also 1.5.21.

¹⁰⁰ Livy, 28.19-20: *ab ea parte qua inexpugnabilis videbatur*. Appian *BCiv.* 4.7.56 gives a very similar story from the fighting against Sextus Pompey’s forces in North Africa.

¹⁰¹ Livy, 5.46-47. See also Plut. *Cam.* 25.2; 27.1; Polyæn. 4.3.29

shared belief in our sources that such fortifications were very difficult to seize. Our authors find these incidents so noteworthy precisely because they defy the normal expectations surrounding the security of elevated citadels.

Indeed, while our sources are typically loath to admit limitations on Roman power, in numerous places they recognize that strongholds on rough terrain altered the strategic calculus of force and control, allowing rebels and malcontents to improve their bargaining position with imperial authorities, or to hold out by driving up the costs to subdue them by siege.¹⁰² While it is difficult to disentangle what proportion of these fortresses' defensive capabilities came from the natural terrain, as opposed to its modification by military architecture, it is clear that the combination was lethal to Rome's imperial ambitions (and the soldiers tasked with fulfilling them). Cassius Dio describes how the Cantabri and Astures of Spain temporarily foiled Augustus' expansionist designs: "these peoples would neither yield to him, because they were confident on account of their strongholds, nor would they come to close quarters..."¹⁰³ Appian similarly imagines the impact of mountain strongpoints on successful resistance: he describes how Roman conquests at Numantia, Carthage, and the Iapydian capital of Metulum were all delayed thanks to the fortification of broken ground, while a 2nd century BCE assault against a Dalmatian stronghold was called off entirely when the city's elevated position prevented the Romans from bringing up siege engines.¹⁰⁴

¹⁰² They were only helped in such negotiations by the typical poverty of mountainous regions, which correspondingly reduced the rewards of military intervention. I return to this subject briefly at the end of the chapter.

¹⁰³ Dio Cass. 53.25: ...καὶ ἐπειδὴ μήτε προσεχώρουν οἱ ἄτε ἐπὶ τοῖς ἐρυμνοῖς ἐπαιρόμενοι, μήτε ἐς χεῖρας...ἦσαν...

¹⁰⁴ Respectively, App. *Hisp.* 13.76, *Pun.* 19.130, *Ill.* 2.11, 4.19.

Livy similarly testifies to the ways in which broken-ground fortifications enabled relatively weak defenders to avoid or delay defeat, and to strike favorable bargains with their opponents.¹⁰⁵ While in his most telling examples it is Rome's allies who benefit in their struggles with the likes of Carthage and Macedon, these stories nevertheless reveal Livy's broader attitude about the relationship between fortification, terrain, and control.¹⁰⁶ In his account of the Punic Wars, Livy makes the political impact of mountain strongpoints explicit when the Italian city of Croton holds out against the Bruttians and their Carthaginian allies: thanks to the impenetrability of its elevated stronghold, the Crotonians are able to negotiate their surrender on favorable terms.¹⁰⁷ Later, the Aetolians holed-up in Thaumaci are able to preserve their security and independence against Philip precisely because they can defend themselves from an elevated fortress, driving up the cost of victory beyond what their opponent is willing to bear. "The city [Thaumaci] is defended both by its lofty site and by the fact that it lies on cliffs with steep descents on all sides. These difficulties, together with the fact that it was scarcely a due reward for so much effort and risk, induced Philip to abandon [the siege]."¹⁰⁸

¹⁰⁵ I return to this theme below, in Chapter Three's discussion of Vespasian's war in Galilee.

¹⁰⁶ Note, however, Livy's accounts of mountain citadels holding out (at least temporarily) against Roman aggression: 10.9-10, 24.34, 32.18.

¹⁰⁷ Livy, 24.3.

¹⁰⁸ Livy, 32.3: *nec altitudine solum tuta urbs, sed quod saxo undique absciso rupibus imposita est. hae difficultates et quod haud satis dignum tanti laboris periculique pretium erat, ut absisteret incepto Philippus, effecerunt.* The Romans themselves directly benefitted at times from mountain fortresses; see Livy, 5.43, where the height of the Capitoline enables early Rome's survival against invading Gauls, and 24.37, where the lofty citadel of Henna in Sicily allows the Roman garrison holding it to wage an effective counterinsurgency against an uprising in the city below.

In his discussions of cities (even fortified ones) located in the plains, Livy casts the strength of broken-ground fortifications into stark relief.¹⁰⁹ His writings reflect the belief that without the protection of rough terrain, urban settlements were ripe for imperial exploitation. Livy thus explains Rome's easy conquest of the towns of Luceria (a Roman army "captured the city—situated as it was in a plain—at the first attack") or Oricum ("that city, situated in a plain and not strong either in walls or armed men, had been taken by assault").¹¹⁰ He ascribes the same strategic logic to Antiochus III, who believed that the cities of Asia, "either because they were situated on level ground, or because they did not trust their walls or their weapons or their fighting men, would readily accept his yoke."¹¹¹ While the conquest of plains cities did not always prove so easy, despite the expectations of would-be conquerors, what matters here are the assumptions Livy makes about the impact of terrain on combat.¹¹² In the strategic logic of the commanders who appear throughout his narrative, locations in the plains are seen as readily accessible to military force. On the other hand, fortified sites on broken ground are less accessible, less vulnerable, and therefore less likely to bend to imperial will.¹¹³

¹⁰⁹ See for instance Livy, 39.2, 39.53.

¹¹⁰ Respectively, Livy, 9.26: *haud procul inde exercitus Romanus erat, cuius primo impetu urbs sita in plano capitur.* 24.40: *eamque urbem, sitam in plano neque moenibus neque viris atque armis validam, primo impetu oppressam esse.* See also 25.14.

¹¹¹ Livy, 33.38: *aut quia locis planis positae erant aut quia parum moenibus armisque ac iuventuti fidebant, haud difficulter videbat iugum accepturas.*

¹¹² Livy, 23.45, 25.11, 27.39.

¹¹³ For similar calculations of vulnerability and resistance in the Hellenistic world, note Polyb. 5.62.

To recap, in the military worldview of our ancient sources, broken ground provided local defenders with significant advantages by rewarding their superior local intelligence and prepared defensive positions. To put it simply, local defenders knew where to go, and tended to get there first. That this combination could be tactically decisive is particularly evident if we turn to two of the most common *topoi* from which ancient authors constructed their battle narratives: the battle in the pass and the broken-ground ambush. In each case, our sources envision how the combination of prepared and knowledgeable defenders with the topographical possibilities of hills and mountains could prove lethal to Roman soldiers and Roman authority alike.

The battle in the pass is a stock narrative (without doubt based on a frequent military strategy) in which an outnumbered or outmatched force uses a mountain pass to its defensive advantage. In some cases, defenders deployed along a narrow front, protecting their flanks and negating the advantages of their numerically superior foes. Thus, in battle with Caesar's legions, the broken ground surrounding Ilerda gave its Pompeian defenders a distinct advantage, as the battlefield "extended only so far in width as just to give room for three cohorts drawn up in battle array, so that supports could not be sent up on the flanks nor could cavalry be of any use if the men were in difficulties."¹¹⁴ In other cases, defenders could strike at an enemy in the pass from the surrounding heights, pinning them down with ranged weapons as they attempted to march through the defile. The Jewish victory over Rome at Beth Horon, to which I return in Chapter Three, indicates the dangers which such a tactic could pose.

¹¹⁴ Caes. *BCiv.* 1.45: *praeruptus locus erat utraque ex parte directus, ac tantum in latitudinem patebat, ut tres instructae cohortes eum locum explerent, ut neque subsidia a lateribus submitti neque equites laborantibus usui esse possent.* Scipio's troops take similar advantage of a narrow and rugged battlefield fighting the Second Punic War in Spain. Livy, 28.33. This tactic is especially frequent among Polyaeus' stratagems: 1.1.3; 1.1.49; 2.1.24; 2.1.25; 2.3.9; 3.9.33; 4.2.8; 4.2.14; 4.3.21; 4.3.27; 4.9.5; 4.14; 5.10.3; 5.16.1; 7.15.5; 7.27.1; 8.23.2.

In either case, the motifs of the battle in the pass had their roots in a basic reality of the military landscape, well understood by ancient authors: movement over broken ground was difficult and sometimes impossible, and, as a result, rugged terrain channeled the movements of armies in predictable ways.¹¹⁵ In the context of Roman imperial warfare, such landscapes allowed enemies to anticipate the Romans' movements, to occupy narrow passes and their surrounding heights in advance, and thereby to force Roman armies either to fight at a severe tactical disadvantage or to abandon their objectives.¹¹⁶

Such stock-combat appears frequently in our sources, usually to the Romans' disadvantage. The most famous Roman battle in the pass ended in disaster at the Caudine Forks.¹¹⁷ Livy's narrative here is no less valuable for its heavily fictionalized content; it reflects the idea, deeply rooted in Rome's military mythology, that the dynamics of warfare on broken ground did not favor the aggressors.¹¹⁸ Similarly, in Livy's tale of the 2nd century BCE war in Aetolia, a Roman force abandons its march against Chalcis, "when [the commander] saw that the pass was held by the enemy."¹¹⁹ Later, during the war against Antiochus III, a Roman army turns back from an assault on Naupactus when the enemy blocks the naturally fearsome pass at Mt. Chorax.¹²⁰ Against Perseus, the Romans avoid Macedonian-controlled passages by a brutal

¹¹⁵ There are countless references to this phenomenon in ancient military narratives—Hannibal's miserable crossing of the Alps is perhaps the best known: App. *Hann.* 1.4; Livy, 21.29-37.

¹¹⁶ On the dangers presented by such a tactic to Roman ambition, see especially Onas. 7.1.

¹¹⁷ Livy, 9.2-3.

¹¹⁸ Onas. 11.3 outlines a theoretical, stock type battle closely resembling the Caudine Forks.

¹¹⁹ Livy, 35.50: *qui, postquam ab hostibus obsessas fauces vidit, omisso ad Aulidem itinere Delium convertit.*

¹²⁰ Livy, 37.4. See also 36.30.

march across the mountains, only to find their forces divided and trapped by the enemy.¹²¹ When Dio narrates Antony's disastrous campaign in Armenia, the *triumvir* finds himself hemmed in when "the barbarians seized the passes in advance of their approach, blocking some with trenches, others with palisades..."¹²² In famous cases such as the Battle of the River Aous and the Romans' own battle at Thermopylae against Antiochus III, victory came only through successful flanking maneuvers, not through forcing the narrow passes themselves.¹²³ And indeed, Frontinus recognized seizing occupied defiles as such a systemic military problem that he presented a series of stratagems to overcome it.¹²⁴

Like the battle in the pass *topos*, the stock narrative of the broken-ground ambush reflects a Roman awareness that rugged terrain, and particularly the way it channeled movement into easily defensible defiles, expanded the military capabilities of otherwise outclassed enemies, enabling them to better defend their homelands against Roman military force and political subjugation. In the military worldview of our sources, broken ground was one of the most important elements that allowed for ambushes and increased their lethality (particularly when

¹²¹ Livy, 44.4-6. According to Livy, the Roman army escapes disaster only because Perseus panics and flees. Brutus and Cassius attempt a similar tactic with greater success in App. *BCiv.* 4.13.102-104.

¹²² Dio Cass. 49.28: οἱ βάρβαροι τὰ στενόπορα αὐτῶν προκαταλαμβάνοντες τὰ μὲν ἀπέσκαπτον τὰ δὲ ἀπεσταύρουν. For further examples of the strategic importance of passes, valleys, and defiles, see App. *Hann.* 2.9, *Pun.* 6.36, *BCiv.* 1.10.90, 4.11.87, 5.3.20, 5.12.116; Caes. *BGall.* 1.6, 1.9, 3.1, *BCiv.* 1.65-66; Dio Cass. 37.2, 55.34; Livy, 9.43, 22.13, 22.15, 23.33, 26.17, 26.25, 27.46, 31.23, 31.28, 32.5-6, 33.15, 35.4, 35.11, 35.28, 42.54; Tac. *Hist.* 3.1-2, 3.35, 3.50, 3.55, 4.55, 4.70.

¹²³ On the River Aous, see Livy, 32.9, 32.21. On Thermopylae, see App. *Syr.* 4.17; Livy, 36.15-16. While we do possess some examples in which Rome wins a "battle in the pass" through frontal assault, these are the exceptions, not the rule: Caes. *BCiv.* 1.37; Dio Cass. 41.20, 48.41; Livy, 28.5, 31.39, 40.39. For a similarly exceptional example from Alexander's campaigns in India: Polyae. 4.3.21.

¹²⁴ Front. *Strat.* 1.4.3-7.

heavy vegetation provided additional concealment).¹²⁵ To be sure, ambushes on rugged terrain were not solely the preserve of Rome’s “barbarian” opponents, and on numerous occasions we see surprise attacks working in the Romans’ favor. Frontinus presents multiple stratagems where Roman troops concealed in “hidden valleys,” and “rough ground” spring upon their unsuspecting enemies with deadly result.¹²⁶ According to Appian, while fighting on Sulla’s side in the first civil war, a young Pompey “fell upon [the enemy] from ambush in a defile, defeated them, killed a large number, and surrounded the remainder on a hill.”¹²⁷ Livy relates numerous clashes where Roman commanders concealed ambuscades on broken ground; shortly before the Battle of the Metaurus River, for instance, a Roman commander hid several cohorts behind a ridge, from which they attacked Hannibal’s rear and put his army to flight.¹²⁸

At the same time, ancient authors use the broken ground ambush to explain some of Roman’s greatest defeats. At the River Trebia, Livy has Hannibal set a trap for the Romans in “a water-course, shut in by very high banks on either side and overgrown all round with marsh-grass and the underbrush and brambles with which uncultivated land is usually clothed.”¹²⁹

¹²⁵ It is not always easy to disentangle within our sources the relative importance of rugged terrain and vegetation in concealing ambushes. See in particular App. *BCiv.* 4.13.103-104; Dio Cass. 40.21; Front. *Strat.* 2.5.17, 2.5.33; Livy, 27.41, 38.41; Onas. 6.7-8; Polyæn. 8.23.7; Polyb. 3.71. In practice, substantially broken ground and heavy vegetation would often have gone hand-in-hand, with hills and mountains remaining forested in antiquity because they were (usually) less productive to put under cultivation than the plains below.

¹²⁶ Respectively, Front. *Strat.* 2.5.37 and 2.5.35. See also 2.3.14, 2.5.33-34.

¹²⁷ App. *BCiv.* 1.10.90: οἷς ὁ Πομπήιος ἐξ ἐνέδρας ἐν στενῷ προσπεσῶν τρέπεται τε καὶ πολλοὺς διαφθείρας ἐς λόφον συνέκλεισε τοὺς λοιποὺς. See a similar ambush in *Pun.* 6.36.

¹²⁸ Livy, 27.41. See also 25.39, 28.13, 28.33.

¹²⁹ Livy, 21.54: *rivus praealtis utrimque clausus ripis et circa obsitus palustribus herbis, et quibus inculta ferme vestiuntur, virgultis vepribusque.*

Troops hidden in this ravine struck the fatal blow to the Roman rear, setting in motion their ultimate defeat. In Livy’s account of the battle at Lake Trasimene, Hannibal found “a spot naturally designed for ambushes.”¹³⁰ Concealing his soldiers in the mountains which overhang the lake, Hannibal trapped the Roman army along a narrow stretch of shore and annihilated them. In Dio’s description of the Battle of Carrhae, “the Parthians confronted the Romans with most of their army hidden; for the ground was uneven in spots and wooded.”¹³¹

The examples above feature battles between opponents relatively similar in type and scale, the conventional armies of agrarian empires; broken ground, in these cases, allows the strong to hide their strength until it is too late to avoid. Perhaps more frequently, our sources recognize that broken-ground ambushes gave the weak an opportunity to strike their mightier opponents with greater force, and that in imperial warfare this advantage played a crucial role in evening the odds between Roman armies and their typically inferior foes. Tacitus envisions this circumstance in the *Histories*, when German tribesmen use broken ground to cover a devastating surprise attack on the Roman legions.¹³² Appian turns to a similar narrative *topos* in his account of the Numantine War, when the Pallantioi “concealed a large force just below the brow of the hill,” and ambushed the Roman columns which unwittingly approached.¹³³ In Dio’s narrative of Augustus’ Spanish wars, the emperor’s most difficult opponents resist and survive in part by “always seizing the higher ground whenever a maneuver was attempted, and lying in ambush for

¹³⁰ Livy, 22.4: *loca nata insidiis*.

¹³¹ Dio Cass. 40.21: οἱ Πάρθοι τὸ πλεῖον τοῦ στρατοῦ σφῶν ἀποκρύψαντες ἢ γὰρ χώρα ἀνώμαλός τέ πη ἦν καὶ δένδρα εἶχεν ἀπήντησαν τοῖς Ῥωμαίοις.

¹³² Tac. *Hist.* 4.77.

¹³³ App. *Hisp.* 14.88: πολλοὺς ἐπὶ τῶν ὄρων ὑπὸ λόφοις ἔκρυψαν οἱ Παλλάντιοι. See a similar ambush in 14.89.

him in the valleys and woods.”¹³⁴ In Livy, Histrians otherwise outmatched by their Roman opponents go so far as to seize a Roman camp by ambush, after they “took up a hidden position in a spot behind a hill, and thence over byways followed the line of march, prepared for any opportunity.”¹³⁵

These instances, among many others, indicate a general pattern in the way our sources think about imperial warfare, as broken ground and the surprise attacks it enabled balanced scales of military force otherwise heavily weighted in the Romans’ favor. Indeed, our sources perceive the broken ground ambush as more characteristic of the empire’s enemies than of its own armies, with such tactics appearing most frequently in the arsenal of Rome’s opponents.¹³⁶ This discourse hardly presents an unvarnished fact; it is in part a case of cultural posturing, as the Romans cast concealment and ambush as duplicitous, cowardly, and unbecoming of their military manhood (as seen above, Roman armies were perfectly capable of such tactics). Yet when it comes to the dynamics of imperial warfare, the *topos* of the broken ground ambush probably reflects certain realities of Rome’s experience pushing its frontiers forward. The Romans were indeed vulnerable to hidden ambushes because they were on the offensive more

¹³⁴ Dio Cass. 53.25: καὶ προσέτι καὶ πράγματα αὐτῶ πολλά, εἴ που κινηθείη, τὰ τε ὑπερδέξια ἀεὶ προκαταλαμβάνοντες καὶ ἐν τοῖς κοίλοις τοῖς τε ὑλώδεσιν ἐνεδρεύοντες παρείχον, ἐν ἀπόρῳ παντάπασιν ἐγένετο.

¹³⁵ Livy, 41.2: *ipsi post collem occulto loco consederunt, et inde obliquis itineribus agmen sequebantur, in omnem occasionem intenti.*

¹³⁶ Among the many examples of broken ground ambushes, see: App. *Hisp.* 12.70, 14.88-89, *Hann.* 2.10, 4.20, 7.41, *Pun.* 14.100, *Ill.* 4.18, *Mith.* 12.85, *BCiv.* 1.5.43, 1.6.44; Caes. *BGall.* 6.34, 6.36; Dio Cass. 40.21, 53.25, 54.33; Front. *Strat.* 1.2.8, 2.5.17, 2.5.19, 2.5.22, 2.5.24; Livy, 6.24, 10.26, 21.32, 21.34, 21.54-55, 22.4, 22.28, 22.41, 23.1, 24.14, 25.15, 27.12, 27.26-27, 28.1, 33.7, 35.4, 35.28-29, 38.40-42, 38.49, 39.1, 39.30, 40.25, 41.2, 43.23; Onas. 6.7-8; Polyæn. 1.39, 2.10.1, 2.38.2, 4.8.1, 8.10.2, 8.23.7; Polyb. 3.52-53, 3.71, 4.19; Tac. *Agr.* 37, *Hist.* 4.77.

frequently than not, and typically they fought opponents with superior knowledge of local topography and the time to prepare a lethal welcome for their Roman invaders.

When our sources think through the mechanics and tactical logic of combat on broken ground, they make it clear that such terrain gives a “home-field advantage.” More so than the plains, regions of rough terrain reward their defenders: in the hills and mountains, local knowledge and time to prepare conferred significant, even decisive, military advantages. The stock battle narratives which our sources draw on to describe combat on broken ground—the hilltop citadel, the battle in the pass, and the broken ground ambush—all rely on a shared military logic. Our sources believe that rugged terrain evened the odds in imperial warfare, multiplying the military capabilities of the empire’s opponents, and providing options for victorious resistance to people who would otherwise have none.

Section Four: Refuge: Broken Ground, Survival, and Imperial Control

The preceding sections have focused primarily on questions of tactics, using ancient combat narratives to reflect on our sources’ conceptions of space and battle. We have seen a general antipathy to warfare on broken ground, explained by more specific assumptions that rough terrain typically hindered Roman soldiers while providing advantages to their enemies. This final section gradually turns from tactics to strategy, asking how our sources viewed broken ground’s broader impact on Roman imperial control.

We may start with the common portrayal among Greco-Roman authors of broken ground as a refuge for the weak and defeated. Previous sections have touched on this concept at the tactical level. The *topos* of the descent to the plain presupposes that timid commanders reaped

some benefits by refusing to give battle on level ground. Given the defensive advantages of the hills and mountains, such refusal appears not as cowardice but as shrewd calculation.¹³⁷

Similarly, Rome's frequent failure in the hills and mountains to turn battlefield victory into political triumph reflects the ways defeated enemies could successfully retreat to such spaces. Livy casts retreat to rugged ground as a predictable tactic for a defeated force: in his account of the Volscian wars, when both the Romans and their enemies feared that they had lost after an indecisive battle, "the terror in each camp was such, in consequence of men's ignorance of the outcome, that both armies, abandoning their wounded and a good part of their baggage, retreated to the nearest hills, as though defeated."¹³⁸ Livy is not alone in his supposition that rugged space was the natural refuge for a beaten army: this is one of the most common *topoi* of Roman military literature, found not only in the histories of Appian, Polybius, Cassius Dio, and Tacitus, but also in Plutarch's biographies, Polyaeus' *Stratagems*, and Caesar's *Commentaries*.¹³⁹

In the view of our sources, rugged terrain also served as a refuge at the operational and strategic levels. Dio sees the strategic retreat to mountain refuges as the frequent recourse of Rome's opponents. Thus the Morini and Menapii frustrate Caesar by falling back onto broken ground: "having no cities, and living only in huts, they conveyed their chief treasures to the most

¹³⁷ Cf. Veg. *Mil.* 3.9.

¹³⁸ Livy, 4.39: *tantusque ab imprudentia eventus utraque castra tenuit pavor ut relictis sauciis et magna parte impedimentorum ambo pro victis exercitus se in montes proximos reciperent*. Livy provides a wealth of further examples. For retreat by Romans to broken ground: 2.50, 3.42, 4.41, 5.18, 5.28, 22.6, 22.18, 24.41. For non-Romans: 1.37, 2.30, 2.51, 2.65, 3.8, 4.9, 4.19, 4.39, 7.15, 9.35, 9.37, 9.43, 10.30, 24.41, 26.46, 28.15, 28.16, 29.31, 29.32, 31.42, 32.12, 34.39, 39.31, 39.32, 40.58, 41.12.

¹³⁹ App. *BCiv.* 1.3.26, 1.8.71, 1.10.90, 2.7.45, 4.7.55, 4.15.113, 4.16.128-129, 4.17.130, 5.4.30, 5.9.86-87, *Hann.* 8.48, *Ill.* 5.26, *Mith.* 9.65, 12.79-81, *Pun.* 15.103; Caes. *BGall.* 1.51, 2.42, 3.95, 5.14; Dio Cass. 38.33, 39.5, 40.25-27, 43.2, 48.3; Plut. *Cam.* 18.7, 40.2, 41.1, *Crass.* 25.9-10, 26.1, 29.5, 30.4, *Fab.* 2.1, 6.7, *Luc.* 14.4-5, *Rom.* 18.5; Polyaeus. 1.2.10, 2.2.17, 4.17, 7.41.1; Polyb. 1.74, 2.25, 11.33, 18.21; Tac. *Ann.* 2.46, 12.33-35, *Hist.* 1.68, 4.78.

densely wooded parts of the mountains, so that they did the attacking parties of the Romans much more harm than they themselves suffered.”¹⁴⁰ Similarly, “the Nervii voluntarily retired before [Caesar] from the level country, as they were no match for his forces, and betook themselves into the most densely wooded mountains.”¹⁴¹ When Caesar attempted to follow, the Nervii used the defensive advantages of broken ground to great effect, devastating much of his army with a downhill countercharge. Falling back to broken ground was not always effective: for instance, when a hostile tribe near the Danube withdrew to a heavily defended cave, Crassus defeated them by blockade and starvation.¹⁴² Yet regardless of its ultimate success, withdrawal to broken ground makes strategic sense to Dio; because of how it affects the risks and prospects of combat, broken ground is a logical refuge for the weaker party in a military conflict.¹⁴³

Livy presents a wealth of examples in which Rome’s weaker opponents rely on this same understanding of military space.¹⁴⁴ In his description of the Asiatic Gauls’ strategy in 189 BCE, Livy gives remarkable insight into his own geostrategic thinking:

“They had adopted this plan particularly for conducting the war—that, when they had occupied the highest peaks in the region, conveying everything there which would be sufficient for their use over however long a period, they would wear down the enemy by exhaustion; for the Romans would neither venture to climb over such steep and difficult ground, and, if they did attempt it, they could be

¹⁴⁰ Dio Cass. 39.44: οὔτε γὰρ πόλεις ἔχοντες ἀλλ’ ἐν καλύβαις διαιτώμενοι, καὶ τὰ τιμιώτατα ἐς τὰ λασιώτατα τῶν ὄρων ἀνασκευασάμενοι, πολὺ πλείω τοὺς προσμίζαντάς σφισι τῶν Ῥωμαίων ἐκάκωσαν ἢ αὐτοὶ ἔπαθον.

¹⁴¹ Dio Cass. 39.3: Νέρουιοι οὖν τῆς μὲν πεδιάδος ὅου γὰρ ἦσαν ἀξιόμαχοι ἐκόντες αὐτῷ ἐξέστησαν, ἐς δὲ δὴ τὰ ὄρη τὰ ὑλωδέστατα ἀνακομισθέντες.

¹⁴² Dio Cass. 51.26.

¹⁴³ For further examples, see Dio Cass. 36.14, 36.47, 53.25, 55.30.

¹⁴⁴ In addition to the two episodes quoted here, see Livy, 1.27, 4.17, 9.43, 23.26, 24.16, 27.42, 28.8, 31.33-41, 32.13, 36.17, 38.2, 38.19, 39.2, 39.53, 40.17, 40.22, 41.18.

stopped even by a small force or pushed back, nor would they sit quietly at the foot of cold mountains and endure chill and hunger.”¹⁴⁵

The Ligurians allegedly relied on similar tactics in 187 BCE, delaying Roman assaults by negotiation and then fleeing “at full speed through pathless country and over steep cliffs where an enemy could not pursue.”¹⁴⁶

As in Dio, these tactics are not always successful; indeed, the Asiatic Gauls were ultimately defeated by a Roman assault.¹⁴⁷ Yet when it worked, Livy believed that withdrawing to the mountains could provide weaker opponents the ability to reject or negotiate imperial control. Consider as a comparative example the revolt of Petra against the Macedonians in 181 BCE. Though forced to surrender by Philip V’s army, the proximity of nearby mountain refuges rendered Macedonian control short-lived: “after the army retired, forgetting the hostages they abandoned the city and fled to the fortified places and the mountains.”¹⁴⁸ For the imperial powers of the ancient world, broken terrain enabled would-be subjects to flee in the face of military force, making wars of imperial control longer and costlier.¹⁴⁹

¹⁴⁵ Livy, 38.19: *iis haec maxime ratio belli sumendi fuerat, quod cum montes editissimos regionis eius tenerent, convectis omnibus quae ad usum quamvis longi temporis sufficerent, taedio se fatigatuos hostem censebant: nam neque ausuros per tam ardua atque iniqua loca subire eos et, si conarentur, vel parva manu prohiberi aut deturbari posse, nec quietos in radicibus montium gelidorum sedentes frigus aut inopiam laturos.*

¹⁴⁶ Livy, 39.2: *ceterum effusi rursus, et pars maxima inermes, per invia et rupes deruptas praecipitantes fugerunt, qua sequi hostis non posset.*

¹⁴⁷ See Livy, 40.41.

¹⁴⁸ Livy, 40.22: *iidem, postquam exercitus recessit, obliti obsidum relicta urbe in loca munita et montes refugerunt.*

¹⁴⁹ For further examples, see Livy, 1.27, 4.17, 9.43, 23.26, 24.16, 25.32, 27.42, 28.8, 31.33, 31.34-36, 31.39, 31.41, 32.13, 33.15, 36.17, 38.2, 39.53, 40.17, 40.27, 40.41, 41.18, 42.16, 44.36.

Other ancient authors broadly agree with Dio and Livy’s assessment of the role which broken ground played as a strategic refuge. The Germans frustrate Caesar by secreting themselves “where a hidden valley or a wooded locality or an entangled morass offered some hope of defense or security.”¹⁵⁰ Rather than risk his forces hunting down these dispersed opponents, “Caesar preferred to forgo some chance of doing harm...rather than to do harm with some damage to the troops.”¹⁵¹ In Appian, Spaniards fall back onto broken ground to escape Roman domination: “The rest of the barbarians collecting together from the fields took refuge—some among inaccessible rocks, others in the most strongly fortified towns—carrying away what they could, and burning what they were obliged to leave.”¹⁵² Appian has the Illyrians, Galatians, and Cilicians all rely on the same strategy, though only the Illyrians hold out in practice against Roman arms.¹⁵³ Frontinus depicts the Carthaginians using hills to safeguard their armies in both the First and Second Punic Wars, while against the Spartans, Thracian tribesmen “conveyed to the mountains all things necessary for their subsistence and were buoyed up by the sole hope that [Clearchus] would withdraw in consequence of lack of supplies.”¹⁵⁴

¹⁵⁰ Caes. *BGall.* 6.34: *ubi cuique aut valles abdita aut locus silvestris aut palus impedita spem praesidi aut salutis aliquam offerebat, consederat.*

¹⁵¹ Caes. *BGall.* 6.34: *ut in eiusmodi difficultatibus, quantum diligentia provideri poterat providebatur, ut potius in nocendo aliquid praetermitteretur, etsi omnium animi ad ulciscendum ardebant, quam cum aliquo militum detrimento noceretur.*

¹⁵² App. *Hisp.* 9.52: οἱ δ’ ἄλλοι βάρβαροι συνέθεον ἐκ τῶν πεδίων, οἱ μὲν ἐς τὰ ἀπόκρημνα, οἱ δὲ ἐς τὰς ὀχυρωτέρας πόλεις, συμφέροντες ἃ δύναιτο καὶ ἐμπιπράντες ὅσα λείποιεν. See also 12.71.

¹⁵³ App. *Ill.* 2.11, *Syr.* 7.42, *Mith.* 14.95. See also *Syr.* 6.30, *Mith.* 13.87, 15.99.

¹⁵⁴ Respectively, Front. *Strat.* 2.2.11, 2.3.8, 3.5.1: *Clearchus Lacedaemonius, exploratum habens Thracas omnia victui necessaria in montes comportasse unaque spe sustentari, quod crederent eum commeatus inopia recessurum...* See also 1.10.3, 2.7.1, 3.15.5.

In many wars and for many authors, withdrawing to broken ground was a logical choice for an army that recognized its own weakness. Of course, this strategy was not always successful: in numerous cases, our sources show defeated troops run down even as they try to escape to the hills, or cut off in their mountain sanctuaries and starved out.¹⁵⁵ Yet the fact that this strategy sometimes failed does not invalidate the point that ancient authors thought it could succeed, and that in the military imagination of our ancient sources broken ground could serve as a refuge for Rome's defeated foes. Even if the advantages of defending broken ground were insufficient for Rome's opponents to win victory, rough terrain could provide an opportunity for escape, and for continued resistance to Roman aggression.

This strategic dynamic—the mountains as refuge—had political effects, shaping relationships of power and exploitation between Rome and its would-be subjects. To return to the model of Roman imperialism laid out in the Introduction, military force was an important tool for generating political control, and Rome's ability to compel obedience to its authority depended in large part on acts and threats of violence. As we have seen, the Romans themselves believed that broken ground made it more difficult and costly to use force successfully against their opponents. In turn, this disadvantage made it more difficult to threaten violence credibly: the confidence which Rome's targets placed in the safety of broken ground indicates their hopeful belief that the Romans would not follow them onto such terrain, and that the Romans might be beaten if they did.

Not only did broken ground raise the probable costs of Roman force, it also typically decreased the expected rewards. While this dissertation takes the former phenomenon as its

¹⁵⁵ App. *Hisp.* 6.31, 10.59, *Pun.* 10.72, *BCiv.* 1.14.120, 4.17.130; Caes. *BCiv.* 3.97; Front. *Strat.* 3.15.5; Livy, 3.8, 9.43, 10.30, 26.46, 28.15-16, 39.32 40.41; Tac. *Hist.* 1.68.

focus, we must not forget that, in most cases, the Romans found less to fight for in the hills and mountains of the Mediterranean world. Though its historians were rarely so crass as to represent the empire in such terms, Rome was primarily an agrarian state concerned with monopolizing agrarian resources: caloric energy, as well as the labor to exploit and expand it. While there are cases where mineral wealth or political value drew Rome's attention to the hills—as in the gold mines of the upper Baetis river in Chapter Two, and the religious significance of Jerusalem in Chapter Three—in most cases these spaces were secondary concerns for the empire, less militarily relevant in their own right than for the danger their inhabitants posed to the settled fields below.¹⁵⁶

According to our theoretical model, with the costs of military force raised and its benefits usually lowered, broken ground typically stood in a tenuous relationship with Roman authority. As Roman force weakened, the empire was forced to fall back on more cooperative levers of power, and to accept a shallower level of control over rugged space. Because they felt less threatened by the prospect of military intervention, inhabitants of the hills and mountains were more likely to resist imperial dictates, or to drive harder bargains in return for their acquiescence.

We need not rely on theory alone to predict this interaction of rough terrain and imperial control under the Roman Empire. Though our ancient authors would not put it in such formal terms, they are well aware of the ways in which regions of broken ground served as systemic incubators of resistance.¹⁵⁷ Livy frequently constructs a dichotomy between broken terrain and

¹⁵⁶ Cf. Braudel 1995 (orig. 1949), 43; Shaw 1986, 82. Strabo frequently describes mountainous regions as impoverished, and blames these regions' endemic brigandage on their economic misfortune: 3.1.2, 3.3.5, 4.6.9, 7.5.12, 11.13.3, 12.3.18.

¹⁵⁷ Polyæn. 4.3.31 is particularly explicit on the difficulty of controlling mountainous territory.

plains, in which the former falls outside the established political order. As he imagines the early history of Rome as a city-state, “the Gauls came down from the Alban hills, having been unable to endure the sharpness of the winter, and ranging over the plains and sea-coast, laid waste the country.”¹⁵⁸ Livy similarly describes the Samnites, “who in those days dwelt in villages among the mountains, [and] used to ravage the regions of the plain and coast, despising their cultivators, who were of a softer character, and one that—as usually happens—resembled their country, while they themselves were rude highlanders.”¹⁵⁹ Narrating the war between Syphax and Masinissa in Africa, Livy is relatively explicit in casting rough terrain as an incubator of resistance. After losing to Syphax, Masinissa retreats with a few followers to a remote fortress. “The mountain which the fugitives had occupied is well supplied with grass and water and being suitable for the support of cattle, it was quite capable of sustaining men also who lived on flesh and milk. From it they rendered all the surrounding country unsafe, first by stealthy raids in the night and later by open brigandage.”¹⁶⁰ Livy tends to put the threat of mountaineers in ethnographic terms: this approach is shared by Strabo (and to a limited extent, as seen at the beginning of this chapter, by Braudel).¹⁶¹ Yet his ultimate conclusion that rugged terrain produced unruly and hostile bandits is not without basis in political and military reality.

¹⁵⁸ Livy, 7.25: *Galli ex Albanis montibus, quia hiemis vim pati nequiverant, per campos maritimaque loca vagi populabantur.*

¹⁵⁹ Livy, 9.13: *nam Samnites, ea tempestate in montibus vicatim habitantes, campestris et maritima loca contempto cultorum molliore atque, ut evenit fere, locis simili genere ipsi montani atque agrestes depopulabantur.*

¹⁶⁰ Livy, 29.31: *quem ceperant exsules montem herbidus aquosusque est; et quia pecori bonus alendo erat, hominum quoque carne ac lacte vescentium abunde sufficiebat alimentis. inde nocturnis primo ac furtivis incursionibus, deinde aperto latrocinio infesta omnia circa esse.*

¹⁶¹ For further examples, see Livy, 1.4, 9.36, 21.37, 21.43, 21.60, 27.39, 34.16, 36.14, 40.38. For Strabo, see especially 3.3.8, but also 3.3.5, 7.5.4, 11.14.14. Braudel 1995 (orig. 1949), 29.

Mountains and broken ground tend to house raiders in part because these spaces often lie beyond the reach of easy and effective military retribution from state authorities.

Appian takes a less anthropologized and rather more sophisticated view of broken ground as an incubator for resistance against state control. Fighting a guerilla war in Spain under Junius Brutus in 131 BCE, Roman armies attack their enemies' homes, hoping to draw them into open combat. However, the presence of nearby mountains foils the Romans' design: "some, however, of the inhabitants fled to the mountains with what they could carry, and to these, when they asked pardon, Brutus granted it."¹⁶² As Appian imagines the scenario, the presence of broken ground allowed an enemy that might otherwise have been annihilated to prolong its resistance and ultimately negotiate terms. In his account of Augustus' Alpine wars, the mountain-dwelling Pannonians reap even greater benefits from their physical environment, and Appian is explicit that the mountains themselves are the root of Pannonian power: they inhabit "the higher Alpine mountains, a range difficult of access, the paths being narrow and hard to climb. For this reason they had not only preserved their independence, but had levied tolls on those who passed through their country."¹⁶³ Though they are finally subdued after a two-year siege, the Pannonians quickly threw off the imperial yoke, "and gaining possession of the mountain passes, they mocked the forces that Augustus sent against them, which were unable to accomplish anything

¹⁶² App. *Hisp.* 12.71: εἰσὶ δ' οἱ καὶ ἐς τὰ ὄρη μεθ' ὧν ἐδύναντο ἀνεπήδων καὶ αὐτοῖς δεομένοις συνεγίνωσκεν ὁ Βροῦτος, καὶ τὰ ὄντα ἐμερίζετο.

¹⁶³ App. *Ill.* 4.17: οἱ κορυφὰς οἰκοῦσι τῶν Ἄλπεων, ὄρη δύσβατα, καὶ στενὴ δίοδος ἐστὶν ἐπ' αὐτὰ καὶ δυσχερὴς: δι' ἧ καὶ ἦσαν αὐτόνομοι, καὶ τέλη τοὺς παροδεύοντας ἤτουν. Cf. Strabo, 11.13.6.

of importance. Thereupon Augustus, anticipating a war with Antony, acknowledged their independence and allowed them to go unpunished for their offenses.”¹⁶⁴

We see a similar vision of terrain, force, and control in Tacitus. In reference to Corbulo’s Armenian war, Tacitus explicitly outlines the relationship between defensive terrain and self-confident belligerence: “the Mardi, well-practiced bandits and secured against invasion by mountains, harassed [Corbulo’s] march along their frontier.”¹⁶⁵ Similarly, when the Thracians rebelled in 26 CE, they attempted to negotiate with the Romans using their defensive terrain as a bargaining chip: “they pointed to their strongholds perched upon the cliffs...and threatened a war intricate, arduous, and bloody.”¹⁶⁶ Like Appian, Tacitus saw mountains as a space typically isolated from imperial authority by their defensive terrain.

A similar logic underlies the tools of warfare and statecraft which the Romans used to rule, however tenuously, over rugged terrain. Well aware that difficult topography sapped their control, they sometimes brought overly-confident locals to heel by resorting to exemplary violence, targeting otherwise insignificant mountain settlements in order to strike fear into their neighbors. Reporting on the war in the Bosphorus, Tacitus writes that, “the destruction of the inhabitants of Uspe struck dismay into the rest of the country, with nothing being considered

¹⁶⁴ App. *Ill.* 4.17: καὶ τὰ στενὰ κρατυνάμενοι τοὺς ἐπιπεμπομένους σφίσις ὑπὸ τοῦ Καίσαρος διέπαιζον, οὐδὲν δρᾶν μέγα ἔχοντας. ὅθεν αὐτοῖς ὁ Καῖσαρ, προσδοκωμένου τοῦ πρὸς Ἀντώνιον πολέμου, συνέθετο αὐτονόμους ἑάσειν, καὶ ἀκολάστους τῶν...πραχθέντων. For other examples in which Appian casts broken ground as an incubator of resistance, see *Ill.* 3.15, 4.18, *Pun.* 16.107, *Mith.* 14.92.

¹⁶⁵ Tac. *Ann.* 14.23: *illum finis suos praegredientem incursavere Mardi, latrociniis exerciti contraque inrumpentem montibus defensi.* As it happened, Corbulo successfully invaded the Mardi. Here as elsewhere, natural defenses did not necessarily guarantee security.

¹⁶⁶ Tac. *Ann.* 4.46: *castella rupibus indita...ostentabant bellumque impeditum arduum cruentum minitabantur.* Note similar examples in Polyb. 5.8, 5.62.

safe, when armies and fortifications, high or difficult ground, rivers and cities, failed equally to withstand the enemy.”¹⁶⁷ Cicero employs the same logic when he requests a triumph after the fall of Pindenissus: “I thought it of importance to the prestige of the empire to suppress their audacity, in order that there might be less difficulty in breaking the spirits of all such as were anywhere disaffected to our rule.”¹⁶⁸

Perhaps the best evidence that ancient authors saw broken ground as a fundamental problem for imperial control comes when they describe efforts by the Roman authorities to forcibly resettle restive foes from their mountain strongholds to less defensible sites on the plains. When the Romans defeat the Ligurians in Livy’s account, the consul “subdued them all, took away their arms and transferred the population from the hills to the plains.”¹⁶⁹ Later, the Romans see a different group of Ligurians as utterly intractable unless they are robbed of their natural defenses. “First consulting the senate by letter, Cornelius and Baebius determined to move [the Ligurian Apuani] down from the mountains to lands on the plains, far from home, that there might be no hope of return, thinking that there would be no end to the Ligurian war until this was done.”¹⁷⁰ In Cassius Dio, after Agrippa defeats the Cantabri, he “deprived [them] of

¹⁶⁷ Tac. *Ann.* 12.17: *excidio Vspensium metus ceteris iniectus, nihil tutum ratis, cum arma, munimenta, impediti vel eminentes loci amnesque et urbes iuxta perumperentur.*

¹⁶⁸ Cic. *Fam.* 15.4.10: *ad existimationem imperi pertinere arbitratus sum comprimere eorum audaciam, quo facilius etiam ceterorum animi, qui alieni essent ab imperio nostro, frangerentur.*

¹⁶⁹ Livy, 39.2: *omnes Aemilius subegit armaque ademittit et de montibus in campos multitudinem deduxit.*

¹⁷⁰ Livy, 40.38: *eos consulto per litteras prius senatu deducere ex montibus in agros campestris procul ab domo, ne reditus spes esset, Cornelius et Baebius statuerunt, nullum alium ante finem rati fore Ligustini belli.* Another potential example appears in 38.28, though the importance of broken terrain is less clear here.

their arms, and forced them to come down from their fortresses and live in the plains.”¹⁷¹

Elsewhere, Caesar sets resettlement as the terms for peace with the Lusitanians: “he proceeded to the Herminian Mountains and ordered the inhabitants to move into the plain, in order, as he claimed, that they might not use their fastnesses as a base for marauding expeditions, but really because he well knew that they would never do what he asked, and that as a result he should have some ground for war.”¹⁷² Appian witnesses similar policies in Spain, where the Romans “also removed Termes, a large city always insubordinate to the Romans, from its strong position into the plain, and ordered the inhabitants to live without walls.”¹⁷³

It is ultimately Appian who provides our clearest example of the Roman belief that brigands could be subdued by depriving them of natural defenses. When the Cilician pirates abandon their mountain citadels to Pompey in hope of leniency, he resettles them in sites which we can securely locate in the plains. “Those pirates who had evidently fallen into this way of life not from wickedness, but from poverty consequent upon the war, Pompey settled in Mallus, Adana, and Epiphaneia, or any other uninhabited or thinly peopled town in Cilicia Tracheia. Some of them, too, he sent to Dyme in Achaia.”¹⁷⁴ Pompey justifies his tactic in economic

¹⁷¹ Dio Cass. 54.11: καὶ τοὺς λοιποὺς τὰ τε ὄπλα ἀφείλετο καὶ ἐς τὰ πεδία ἐκ τῶν ἐρυμνῶν κατεβίβασεν.

¹⁷² Dio Cass. 37.52: πρὸς τὸ ὄρος τὸ Ἑρμίνιον ἐτράπετο καὶ ἐκέλευσε τοὺς οἰκήτορας αὐτοῦ ἐς τὰ πεδινὰ μεταστῆναι, πρόφασιν μὲν ὅπως μὴ ἀπὸ τῶν ἐρυμνῶν ὀρμώμενοι ληστεύωσιν, ἔργῳ δὲ εὖ εἰδὼς ὅτι οὐκ ἄν ποτε αὐτὸ ποιήσῃαν, κὰκ τούτου πολέμου τινὰ ἀφορμὴν λήψεται.

¹⁷³ App. *Hisp.* 16.99: Τερμησὸν δέ, μεγάλην πόλιν ἀεὶ δυσπειθῆ Ῥωμαίοις γενομένην, ἐξ ἐρυμνοῦ κατήγαγεν ἐς τὸ πεδῖον, καὶ ἐκέλευσεν οἰκεῖν ἀτειχίστους. See also 10.59-60, and *Hann.* 8.54 in which Hannibal adopts a similar strategy of forced resettlement.

¹⁷⁴ App. *Mith.* 14.95: τοὺς δὲ πειρατὰς οἱ μάλιστα ἐδόκουν οὐχ ὑπὸ μοχθηρίας ἀλλ’ ἀπορία βίου διὰ τὸν πόλεμον ἐπὶ ταῦτα ἐλθεῖν, ἐς Μαλλὸν καὶ Ἄδανα καὶ Ἐπιφάνειαν, ἢ εἴ τι ἄλλο πόλισμα ἔρημον ἢ ὀλιγάνθρωπον ἦν τῆσδε τῆς τραχείας Κιλικίας, συνόκιζε. The Barrington Atlas places all four named cities in the plains: BA 67 A3 Mallos, BA 66 G3 Adana, BA 67 C3 Oeniandos/Epiphaneia, BA 58 B1 Dyme.

terms—settled on agricultural land, the Cilicians can have an occupation other than piracy—and this is surely part of his motivation. But Romans and Cilicians alike would have recognized how the balance of power shifted when the former brigands were transported from their mountain strongholds. Without broken ground to protect them from Roman force, they had few options to resist imperial control. In the mountains, the Cilicians were a threat worthy of the grotesque constitutional overreach that was Pompey’s naval command. In the plains, they would be meek and unproblematic subjects to Roman authority. As our sources saw it, broken ground was not just a tactical problem, but a strategic factor which structured Rome’s relationship with those it would dominate.

Conclusion

This chapter has analyzed the Roman discourse surrounding warfare on broken ground, focusing on the *topoi* and stock descriptions which ancient authors used to describe battles on rough terrain and to explain their results. As noted in the opening pages, this discourse is not identical to Rome’s military reality; as Adrian Goldsworthy argues, the actual experience of Roman combat over the centuries of its imperial dominance was more varied than both our sources and many works of modern scholarship reflect.¹⁷⁵ At the same time, the military imagination of our sources is not disconnected from the practicalities of warfare: the basic military logic of ancient literature needed to make sense to its audience, much of which had some familiarity with combat and campaigning. Moreover, the *topoi* surrounding broken ground combat exerted their own influence on the real-world behavior of Roman commanders: operating

¹⁷⁵ Goldsworthy 1996.

within a literary culture that feared rough terrain, we should not expect many generals to embrace the perils of the hills and mountains unless circumstances compelled them to do so.

The chapters that follow move from discourse to reality, examining the behavior of Roman armies and their opponents on rugged terrain in the contexts of conquest, counterinsurgency, and garrisoning. As we will see, Rome did not adhere dogmatically to its preference for warfare in the plains. Roman decision-makers proved flexible and adaptable in response to local conditions and strategic priorities. Yet the concerns of broken ground were not confined to ancient literature: mapping Roman force and violence reveals a wariness on the part of commanders to risk their forces on rough terrain. As cultural discourse met the practical realities of life on mountainous frontiers, the Romans struck a delicate balance in their approach to broken ground, and the strategic calculus which governed relationships between rulers and the ruled rested heavily on concerns of the physical environment.

CHAPTER TWO
TAKING CONTROL: BROKEN GROUND IN THE ROMAN CONQUEST OF SPAIN
(218-179 BCE)

We turn now from the analysis of an important set of literary *topoi* to their practical application in the historical study of Roman imperialism. Thus far, this dissertation has demonstrated that in the perception of Roman writers and commanders, broken ground presented a formidable military obstacle, giving advantage and refuge to opponents who would otherwise be unable to resist Roman force. In Rome's military mindset, mountains and similarly rugged terrain were best avoided, and generals who entered them did so with special care and significant risk. This chapter and the following two move from the general Roman discourse surrounding hill and mountain warfare to the specific realities of violence on broken ground, asking how the relationship between terrain and military activity can help historians think through broader questions of imperial priorities, decision-making, and control.

Spain provides the first of three regional case studies.¹ Surveying operations in the Iberian peninsula from 218-179 BCE, this chapter takes "conquest" as its central theme: at issue is the relationship between the physical environment and the initial imposition of Roman authority over provincial space.² In Spain, as elsewhere, Roman conquest was not a one-time event; rather, this region's transition from independence to subjection was a centuries-long mix

¹ By Spain, I refer to the Iberian peninsula as a whole, including modern Portugal: as Leonard Curchin puts it, "I am referring to *Hispania*, not *España*." Curchin 1991, 1.

² Unless otherwise noted, all dates in this chapter are BCE.

of diplomacy, insurgency, and acculturation. By mapping military activity in the early decades of this process (for which our evidence is notably better than later periods), we can see the strategic evolution of Roman warfare in response to local circumstances, as well as the physical environment's impact on the tenuous balance of terror and respect which kept newly-conquered Spain within the Roman fold.

Even if it is difficult to cite a precise moment when Spain fell fully and irrevocably under Roman control, the military narrative of the peninsula's conquest and integration is reasonably clear. In part a Carthaginian possession with close ties to the Barca family, Spain was a crucial source of revenue and manpower for Hannibal, and so a natural target for Roman operations in the Second Punic War. From 218-206, Rome fought continuously in Spain, ultimately driving out the Carthaginians.³ As John Richardson shows in his influential monograph *Hispaniae*, Rome's expansion into the resulting power vacuum was halting and uncoordinated, and the Spaniards did not submit quietly to Roman rule.⁴ The new Spanish provinces saw frequent fighting not only down to Tiberius Gracchus the Elder's campaigns in 179 (this chapter's closing point) but also in the general conflagration of 155-133, when the Lusitanians revolted under Viriathus and the Celtiberians made their famous stand at Numantia.⁵ While resistance seems more subdued thereafter (in part due to the worsening quality of our sources), anti-Roman sentiment motivated many of the Spaniards who fought in the civil wars of the dying republic,

³ Curchin 1991, 24-28; Richardson 1996, 9-40; Edwell 2011, 320-24; Owens 2017.

⁴ Richardson 1986, 172-80 and *passim*.

⁵ Simon 1962; Dyson 1987, 186-219; Keay 1988, 29-42; Harris 1989, 118-42; Curchin 1991, 28-39; Richardson 1996, 41-82; Dobson 2007.

most notably under Sertorius between 80 – 72.⁶ The military pacification of the Iberian peninsula was only completed (at least nominally) under Augustus and Agrippa at the end of the first century.⁷

The physical and chronological characteristics of the Spanish wars make this an especially productive case study on imperial conquest. As Maps 2.1 and 2.2 indicate, the Spanish landscape is starkly divided between broad plains and river-valleys and forbidding mountains and their foothills. Roman commanders had a choice in Iberia between lowland and broken ground warfare, and their decisions reveal important patterns in the empire's environmental preferences and military priorities. Moreover, this conquest was a drawn-out affair, allowing us to distinguish changes in Roman strategy over time. Finally, Roman activity in Spain is well documented in our literary evidence (especially in the late 3rd and early 2nd centuries BCE where this chapter focuses). As a result, the early conquest of the Iberian peninsula provides an ideal opportunity to test the connection between the geographic *topoi* of ancient military historians and the realities of Roman warfare.

Spain also provides fertile historiographic ground for reexamining the relationship between force and imperialism in the Roman world. As Richardson recognized, Roman expansion in Spain provided a crucial proving ground for the forms and structures of imperial rule.⁸ Nevertheless, the most influential works on the systemic relationship between military

⁶ Curchin 1991, 42-46; Richardson 1996, 95-104.

⁷ Syme 1970, 79-107; Jones 1976; Curchin 1991, 52-53; Richardson 1996, 133-34.

⁸ Richardson 1986.

force and imperial control have focused on Rome's later frontiers in the north and east.⁹ While military historians of ancient Spain have produced outstanding work, most of this scholarship either presents narrowly focused reconstructions of individual campaigns or broad narrative overviews of Hispano-Roman relations over the course of centuries.¹⁰

Analytical histories connecting the capacity of the Roman army with the depth of Roman control in Spain are relatively rare and, despite their substantial quality, increasingly out of date. The best work in this category comes from Robert Knapp and Stephen Dyson. Both synthesize long-term Roman military activity in Spain, elucidating broad patterns in the nature of Roman force and control.¹¹ Both authors' works are thoroughly researched and thoughtfully written, and neither author lacks geographic knowledge: later in his career, Knapp oversaw the production of the *Barrington Atlas*' Iberian maps. However, Knapp and Dyson adopt a very modern perspective when it comes to the spatial dynamics of Roman expansion in Spain: especially in Knapp's work, the military history of the conquest is described in terms of advancing frontier lines.¹² Zones of control and diplomatic relationships emanate outwards from a firmly Roman core across the well-defined and defensible military frontier and into semi-independent tribal space.¹³ While neither work makes a full-throated case for a Roman "Grand Strategy," in this

⁹ Among many others: Luttwak 1976; Mann 1979; Isaac 1990; Wheeler 1993a, 1993b, 2007; Whittaker 1994.

¹⁰ In the former category: Syme 1970; Martínez Gázquez 1974; Corzo Sanchez 1975; Astin 1978, 28-49; Lazenby 1978; Knapp 1980. In the latter: Simon 1962; Keay 1988, 25-46; Curchin 1991, 24-54; Richardson 1996; Varga 2015; Owens 2017.

¹¹ Knapp 1977, 15-57; Dyson 1987, 174.

¹² See especially Knapp 1977, 33-35.

¹³ Knapp 1977, 56-57; Dyson 1987, 230-31.

vision of Roman power they share a great deal with Edward Luttwak's much-debated 1976 classic.

As I show below, Knapp and Dyson oversimplify the spatial nature of Roman imperialism in Spain. It was impossible to draw a clear line in the Iberian peninsula between Roman and tribal territory; our literary evidence gives no indication that Roman commanders attempted to draw or enforce such a boundary, and they may well have found the very concept foreign and irrelevant. Moreover, to the extent that there were amorphous "front-lines" of Roman expansion, we need to think about them in three-dimensions (thanks to GIS, an exponentially easier task in the 2010s than the 1970s and 80s). This chapter argues that the most important historical change in Rome's military policy and political authority in the Spain was the shifting concentration of force into rugged space. To be sure, between 218 and 179, the Romans generally preferred to wage war on the level terrain of Spain's coasts and river-valleys, enacting into military reality the negative *topoi* surrounding mountain combat. However, this geospatial preference was not static over time: as our narrative moves from warfare against Carthaginians in the late 3rd century to warfare with the Spaniards in the early 2nd, Rome proved more and more willing to advance its forces into the Spanish hills in response to changing local conditions and strategic priorities.

Geospatial reconstruction not only reveals this trend in Rome's military activity, but also suggests an explanation for the strategic shift. Lowland warfare was effective in driving the Carthaginians out of Spain, but it proved unable to control the peninsula. Winning major coastal and river-valley battles did little to overawe the hill tribes of the Spanish interior: immediately following the expulsion of Punic forces, "Roman" Spain was beset by decades of rebellion and brigandage. While Rome never abandoned its preference for level, agrarian battlefields, the

spatial and strategic requirements of its new mission gradually drew commanders up-country into wars of pacification over increasingly difficult terrain. Spain's narrative is thus one of tension between fundamental Roman concepts of military space and the practical requirements of widely dispersed imperial warfare. A geographic reconstruction of the wars of 218-179 speaks not only to the Romans' ingrained preference for level terrain, but also to their strategic flexibility and capacity to learn in the face of failure.

The remainder of this chapter develops this argument over four sections. The first considers the methodological challenges of reconstructing Roman military activity in Spain; it discusses the reliability of our sources (especially Livy) when it comes to the geography of the early Spanish wars, before briefly outlining some digital mapping techniques and principles that help to compensate for the inevitable ambiguity of our data in this and future chapters. Sections Two and Three reconstruct the Roman conquest of Spain in two phases, the former discussing the victory over Carthage between 218-206, the latter covering the first generation of Spanish rebellions between 205-179. After briefly looking forward to events after 179, Section Four concludes by considering some implications of my argument for the military history of Spain, as well as for wider histories of Roman conquest.

Section One: Sources and Challenges

Let us begin by turning to our literary sources themselves.¹⁴ For the period from the Second Punic War down to the treaties of Tiberius Gracchus (father of the famous tribune), Livy provides our most important and geographically detailed evidence, though supplementary material comes from Polybius (himself an important source for Livy) and Appian's *Iberika*.¹⁵ We can supplement these authors with brief references to Spanish affairs in an array of minor sources, though these rarely expand upon the geographic information of their more voluminous counterparts. These include Diodorus Siculus, the geographic works of Pliny the Elder and Strabo, collections of stratagems and military virtues by Frontinus and Valerius Maximus, and later epitomes by Florus, Orosius, and Eutropius.

Provided that historians ask the right sort of questions, there is good reason for confidence in the geographical data provided by these sources, and in particular in the impressive volume of place-names recorded in Livy. To be sure, Livy and our other sources do not preserve all (or even most) locations of Roman violence in the Iberian peninsula.¹⁶ Nor is their understanding of Spanish geography unimpeachable.¹⁷ Yet we know that Livy drew on earlier

¹⁴ For summary and analysis of the available literary evidence, see Bane 1976; Richardson 1996, 319-29; Varga 2015, 5-7.

¹⁵ Unfortunately, Brian McGing's new translation of Appian in the Loeb Classical Library appeared too late for consideration in this chapter.

¹⁶ Ancient authors make passing reference to hundreds of unnamed (and therefore unlocatable) sites which were captured by the Romans or surrendered to them. See Livy, 34.16, 40.49; Oros. 4.20; Plut. *Cat. Mai.* 10.3.

¹⁷ For instance, Livy's geography is internally inconsistent in 26.20, when he places Hasdrubal's forces near Saguntum upon Scipio's arrival in Spain, yet reports that Scipio then marched unopposed from Tarraco to Carthago Nova. Cf. Polyb. 10.7. Livy's usefulness to military historians is roundly criticized by Walsh 1958, 1961; Livy receives more favorable treatment in Hoyos and Yardley 2009, Koon 2010,

authors with substantial military experience in Spain, such as Cato the Elder (consul for 195 in Hispania Citerior) and Silenus, a companion of Hannibal whose work was transmitted to Livy via Coelius Antipater.¹⁸ Even the late annalists such as Valerius Antias and Claudius Quadrigarius, from whom Livy likely drew many of his Spanish place names, are more reliable on such details than their generally poor reputation would imply.¹⁹ In all likelihood, the pontifical records from which these authors drew much of their material included lists of conquered cities and surrendered tribes.²⁰ Whatever their penchant for fabrication, when it comes to such toponyms the annalists probably lacked the motive and imagination to substantially distort the historical record.²¹

While we should not pretend that Livy and our other sources can support a comprehensive map of Rome's Spanish Wars, or even that their information is correct in every specific instance, I would argue that the geographic information in these works preserves in broad outline Rome's perceptions and priorities in the conquest of the Iberian peninsula. The toponyms which survive from the Spanish war reflect, however hazily, the "hot-spots" of Roman

and Levene 2010. Appian is generally regarded as even more problematic (see Janni 1984, 114; Richardson 2000, 6). He badly misunderstands the location of Saguntum at *Hisp.* 7 and later conflates the town with Carthago Nova (*Hisp.* 12, 19).

¹⁸ Badian 1966, 16; Briscoe 1981, 63-66; Cornell 2013, 1.256-63. Von Ungern-Sternburg 2015, 169

¹⁹ For critique of the first century annalists, see Badian 1966, 18-23; Oakley 1997, 89-93. For somewhat more positive treatments, especially of Valerius Antias, see Cornell 1986; 2013, 1.288-304; Rich 2005.

²⁰ Oakley 1997, 62-63. Rawson 1971 argues to the contrary that the annalists did not make use of pontifical records. See also Frier 1979.

²¹ Oakley 1997, 63 makes this argument even in reference to the older material of Livy's second pentad. On the subject of obscure place names supplied by the annalists, he writes: "To argue that they are bogus is to imply that the annalists had both the time and the patience to discover and work into their narratives numerous references to places of no consequence, some of which were hundreds of miles from Rome. This seems improbable."

attention and military activity during the conquest of the region. For a place name to be preserved in the historical record, it needed sufficient significance not only to be recorded in the first instance (probably in the pontifical tables), but also to be selected by our ancient authors for inclusion in their texts. While it is impossible to know for sure the motives driving each instance in this process of remembrance and re-remembrance (and we must therefore be particularly careful in discussing the significance of any specific site), in aggregate the places named in the historical record had outsized political and military importance. They were the focus of more frequent, intensive, and significant Roman military activity, and the broad patterns in their geographic distribution reflect the geographic foci of imperial force projection and control. In short, while our sources may remember the geography of the Spanish conquest incompletely and (in the case of some specific details) incorrectly, they do not remember it randomly.

Bearing this in mind, we may turn to the challenges of historical geography, and the task of associating the toponyms in Livy and other authors with positions on a map. Here, too, there is reason for confidence, thanks to over a century of investigation into the geography of Roman Spain. German scholars provided much of the early foundation, and the work of Adolf Schulten (most famous for his excavations at Numantia) is particularly important.²² Antonio Tovar's volumes in the 1970s and 80s were a major step to synthesize and build upon earlier knowledge.²³ More recently, contributions from the Iberian volumes of the *Tabula Imperii*

²² Schulten 1914-1929; 1933; 1935; 1937. On Numantia, cf. Dobson 2007. For a historical survey of German archaeology in Spain, see Blech 2006.

²³ Tovar 1974; 1976; 1989.

Romani, the *Barrington Atlas*, and the *Pleiades Gazetteer* have dramatically expanded the range and accessibility of Spanish geographical data.²⁴

Like the ancient sources on which it is based, Spanish historical geography is not without its pitfalls and shortcomings. As will be clear in Sections Two and Three, there are some Roman operations that we simply cannot locate; in other cases, debates continue to rage over the correct siting of a battle or siege. Even where we know the approximate location for Roman military activity, our knowledge is rarely detailed enough to support tactical reconstructions and “battle history” in the vein of Kromayer and Veith’s *Antike Schlachtfelder*.²⁵ Yet on the whole, the combination of our surviving literary evidence and generations of meticulous research corroborating ancient names with modern locations is sufficient to set Roman strategy against the physical backdrop of the Iberian peninsula.

This is particularly true thanks to GIS technology’s ability to generalize and average data. Taking advantage of this capability, the analysis in this chapter (as well as Chapters Three and Four) uses a pair of techniques to generate a healthy margin of error, acknowledging and addressing the inevitable shortcomings of our geographic knowledge. The first, “generalized positioning,” compensates for the small errors that results from the imprecision of our sources: the fact that Livy and other authors rarely locate battles in terms more specific than a surrounding region or nearby town. The second technique, “accuracy in aggregate,” adds a

²⁴ *TIR* Porto 1991; *TIR* Caesaraugusta 1993; *TIR* Lisboa 1995; *TIR* Tarraco 1997; *TIR* Valencia 2002; Talbert 2000; <<https://pleiades.stoa.org/>>. Though largely peripheral to this chapter’s survey of textual evidence, archaeological reports (including important work on Roman fort construction and military activity) continue to be published at a steady rate: Keay 2003; Abad Casal, Keay, and Ramallo Asensio 2006; Morillo and Aurrecoechea 2006.

²⁵ Kromayer and Veith 1903-1931.

degree of safety to our analysis by focusing on average trends over large datasets, rather than the sometimes debatable specifics of any given data-point.

Generalized positioning refers to the practice of evaluating the relationship of force, control, and terrain based not on specific sites (point features, in GIS terms) but on larger areas around those sites (polygon features).²⁶ The quantitative tools of GIS software can capture the general, physical character of these larger features in a way that on-site autopsy or the use of traditional contour maps cannot. Crucially, we can calculate the average TRI statistics for the area surrounding a putative battle-site (a TRI score, for short), and use this statistic as an indicator for the military difficulties of the local environment. This practice of generalized positioning captures the uncertainty of ancient battlefields, and builds in a comfortable margin to accommodate errors that may result. Shifting the proposed location for a battle or siege, even by a matter of miles, will have less dramatic effects on the average statistics for its surrounding polygon.

Accuracy in aggregate represents a larger-scale approach to the ambiguities of historical geography. In this chapter, Sections Two and Three explore the long-term relationship between Roman force projection and rugged terrain, focusing on aggregate trends in the dataset, rather than on the proposed location and statistics of any individual battle or siege. The uncertainty of any individual site thus disappears into the full geographic roster of Roman military activity.²⁷

²⁶ In this chapter, the default polygon feature is a circle with a 10 km radius surrounding each site of military activity attested in ancient literature. The default radius for other chapters varies based on the security of our data and the type of warfare under consideration.

²⁷ This principle depends on the assumption that scholarly hypotheses on ancient geography are not systematically skewed in relationship to the physical environment. While this is impossible to prove definitively, I have been unable to find a clear and consistent bias in the placement of ancient sites with respect to terrain.

Take, for example, the hotly debated location of Scipio's victory at Ilipa: whether we place this battle at its conventional location of Acalá del Río, or at Appian's Carmo, or somewhere between the two, we will see minimal change in its TRI statistics, and essentially no impact on the averages across the data as a whole.²⁸ Even in examples where locational information is even less secure, as in the case of Publius and Gnaeus Scipio's defeat in 211, accuracy in aggregate still provides a level of insurance: an error in the specific placement of this event will not significantly skew broader trends in the relationship between terrain and force projection.²⁹ While this approach does not eliminate the need for careful scrutiny of proposed geographic identifications, in cases where one or more plausible locations can be determined for an ancient site, accuracy in aggregate allows us to move forward even in the face of uncertainty.³⁰

Starting from the hypothesis that the named sites of military action in our sources represent the foci of Roman military efforts, the next two sections construct a spatial narrative of Roman warfare in Spain, focusing on the strategic relationship between military force and rugged terrain. While this narrative cannot entirely break free of "*histoire éventuelle*" and specific assertions about the locations of Roman violence, every effort is made to indicate where our geospatial data is less than certain, and to corroborate the broad, structural outlines of the Spanish conquest through quantitative analysis. In this way, generalized positioning and

²⁸ Livy, 28.12-16; Polyb. 11.21-24. Cf. Frontin. *Str.* 2.1.1, 2.3.4; Polyaeus, *Strat.* 8.16.1. For a modern summary of the campaign and battle: Curchin 1991, 28. For debate over the location: Scullard 1936; Walbank 1967, 296; Millán León 1986; Keay 1988, 29.

²⁹ Livy, 25.32-36, 28.19-20; Plin. *HN* 3.9; cf. App. *Hisp.* 32; Flor. 1.33.6. On the debate over location, see among others *TIR* Valencia 83; Tovar 1989, 165; Hoyos and Yardley 2009, 663.

³⁰ As will become clear, there are no universally applicable criteria to distinguish plausible and implausible locations. Operating on a case-by-case basis, I have attempted to exclude as few proposed locations as possible, doing so only in the rare cases when a proposed site would directly contradict securely established information. See, for example, the case of Cartala/Althaia, below.

accuracy in aggregate provide a historical GIS methodology that is tolerant of the unavoidable ambiguity of our data, and that can confidently trace major trends in the environmental history of Roman warfare.

Section Two: The Spanish Front During the Second Punic War (218 – 206 BCE)

Mapping Roman violence in the early conquest of Spain reveals Rome's evolving relationship with broken ground, as its opponents and objectives in the peninsula changed over forty years of near-cessless combat. When Roman armies initially arrived in this theater in 218, they brought from Italy a longstanding antipathy to warfare on rugged terrain, a preference that was only reinforced by the priorities of their Carthaginian foes. In the Spanish campaigns of the Second Punic War, we see Chapter One's literary *topoi* surrounding military space put most clearly into practice. The sites where our sources record Roman military activity in this period predominantly sit on level terrain, the coastal plains and river valleys where the Roman army—and, we should expect, their Punic opponents—preferred to fight.³¹ This geographic pattern provides an important counterpoint to triumphalist Greco-Roman narratives of the Spanish conquest. While Rome's strategy was well adapted to challenge the Carthaginians in Spain, upon closer examination the hegemony which it won there proved thin and illusory. The Romans beat the Carthaginians, but that was all: between 218 and 206, the geographic

³¹ Dyson 1987, 175-76. Given the nature of ancient agriculture, these spaces were not only tactically suitable for Roman warfare, but also typically wealthier and more capable of provisioning Roman armies than the neighboring hills and mountains.

disposition of Roman violence did little to win deep and extensive control over Spanish territory.³²

Carthage naturally looms large in the story of Rome's seizure of the Iberian peninsula. Whatever Rome's underlying motives of greed and glory, the Second Punic War was the proximate cause for its entry into Spain, and Rome first wrested the peninsula not from its inhabitants, but from the Carthaginians.³³ To a significant extent, the Romans in Spain inherited approaches to terrain and control from the peninsula's previous conquerors. We should start, therefore, by briefly reviewing what the Romans knew (or thought they knew) about Punic rule in Iberia. As can be seen in Map 2.3 and Tables 2.1 and 2.2, what little our Greco-Roman sources preserve about the geography of Carthaginian forces in Spain suggests that the Barcid governors typically centered their power on level ground and coastal sites, moving into higher and more rugged terrain only late in their rule.

Carthage's imperial project in Spain began in earnest in 237 with the campaigns of Hamilcar Barca (Hannibal's father).³⁴ With its power in the central Mediterranean crippled by the First Punic War and subsequent mercenary revolts, Carthage turned its attentions west.³⁵ Diodorus Siculus records Hamilcar's conquest of Gades (modern Cádiz), his foundation of Akra

³² On the distinctions between extensive and intensive control, see especially Landers 2003. For comparative perspectives on conquest as a political and military process, see Day 2008; Lee 2020 (forthcoming).

³³ Richardson 1986, 31-35; 1991, 9-40; Curchin 1991, 24-28. On broader motivations for Roman expansion, see Harris 1979; Champion 2004; Eckstein 2005; 2008

³⁴ Richardson 1996, 16-18. For locations of Carthaginian military activity between 237 and 218, refer to Maps 2.3 and 2.4.

³⁵ Polyb. 2.1. On the motivations for Hamilcar's campaign: Keay 1988, 25; Curchin 1991, 24; Richardson 1996, 16-18.

Leuke on the Mediterranean coast, and his defeat and death in battle against the Orissi at nearby Helike in 229.³⁶ The command in Spain passed to Hasdrubal (Hamilcar's son-in-law), who led a retaliatory campaign against the inland home of the Orissi, allegedly capturing a dozen unnamed cities.³⁷ Of greater long-term significance was his foundation of Carthago Nova on the southeast coast, and the establishment of the "Ebro Treaty" of 226, which set the river as a tenuous divide between Roman and Punic spheres of influence.³⁸

As shown on Map 2.3, to this point, all Punic activity important enough for our sources to locate (with the exception of Hasdrubal's strike against the Orissi) was set on the Spanish coasts. Table 2.1 confirms that the early centers of Carthaginian force were uniformly on the level, with their local TRI statistics averaging to the 1st percentile compared to the Spanish landscape as a whole. Even the Orissi were far from mountaineers: a loose approximation of their territory has a TRI profile only slightly above the Spanish average (see Table 2.2).³⁹

³⁶ On Gades: Diod. Sic. 25.10-12; BAtlas 26 D5 Gadeira/Gades; Pleiades 256177. On Akra Leuke: Diod. Sic. 25.10-12; BAtlas 27 E3 Lucentum; Pleiades 265954. On Helike: BAtlas 27 E3 Ilici/Helike; Pleiades 265922. The Orissi (probably the "Iberian Oretes" in Polyb. 3.33) are an alternate name for the Oretani. As Diod. Sic. 25.11 makes clear, they had gone on the offensive from their homeland north of the Baetis river to raise the Carthaginian siege of Helike on the coast. See Schulten 1935-1937 (hereafter, Schulten *FHA*) 3.12; Tovar 1989, 29-30; BAtlas 27 B3 Oretania; Pleiades 265989. Pleiades entries are listed by their ID numbers and are available at pleiades.stoa.org.

³⁷ Diod. Sic. 25.12.

³⁸ On Carthago Nova: Diod. Sic. 25.12. Cf. Livy, 21.5, 21.21., 26.42; Polyb. 3.33, 10.8-9. BAtlas 27 E4; Pleiades 265849. On the Ebro Treaty: Livy, 21.2. The exact terms of the Ebro Treaty are unclear. Whatever its putative effects on Carthage, it clearly did not stop Rome from expanding its diplomatic ties to Saguntum, well south of the Ebro. Richardson 1986, 20-30; Curchin, 1991, 25.

³⁹ The TRI statistics for tribal areas are calculated based on a 50 km radius surrounding their label as drawn in the *Barrington Atlas*; TRI scores for areas are calculated in terms of TRI per square kilometer, in order to compensate for regions of differing sizes.

Hasdrubal was assassinated in 221. His successor, by popular acclaim within the army, was Hannibal Barca, son of Hamilcar and (allegedly) an unswerving enemy of the Romans.⁴⁰ According to our literary evidence, Hannibal launched a series of campaigns more aggressive and geographically extensive than those of his predecessors. Using Carthago Nova as a base, Hannibal invaded the territory of the Olcades in 221, capturing their capital—Cartala in Livy, Althaia in Polybius—and extending Carthaginian force into the hills between the Tagus and Baetis rivers.⁴¹ The following year, Punic armies invaded the territory of the Vaccaei along the Durius river, capturing the towns of Hermandica and Arbocola.⁴² Returning to Carthago Nova through the Spanish interior, Hannibal successfully fought a major battle against the Carpetani somewhere along the Tagus river. Livy claims, with some exaggeration, that after this victory, “everything beyond the Ebro, except Saguntum, was in the hands of the Carthaginians.”⁴³

In 219, Hannibal took aim at Saguntum itself, provoking conflict between the city and the neighboring Turdetani.⁴⁴ Hannibal’s motives are not entirely clear—the hostile Greco-Roman source tradition cannot help us—but he must have suspected that a move against Saguntum

⁴⁰ Diod. Sic. 25.12; Livy, 21.3; Polyb. 2.36.

⁴¹ Livy, 21.5; Polyb. 3.13. On the Olcades: BAtlas 27 A2; Pleiades 265984. Cartala/Althaia is left unlocated on Map 2.3: BAtlas 27 UNLOC; Pleiades 270296; TIR Valencia 128. Sumner 1968, 216 suggests the small town of Altea on the Mediterranean coast; this is rejected by Tovar 1989, 185, and is impossible given the positioning of the Olcades in BAtlas.

⁴² Livy, 21.5; Polyb. 3.14. On the Vaccaei: BAtlas 24 G3; Pleiades 236706. On Hermandica (modern Salamanca): BAtlas 24 F4 Salmantica; Pleiades 236642; TIR Madrid 195. On Arbocola: Tovar 1989, 323; BAtlas 24 F3; Pleiades 236340.

⁴³ Livy, 21.5: *et iam omnia trans Hiberum praeter Saguntinos Carthaginiensium erant*. Cf. Polyb. 3.14.

⁴⁴ Livy, 21.6; The precise location of this tribe is unknown—contextually they must be neighbors of Saguntum, probably centered around the unlocated settlement of Turda (see Livy, 33.44) not the more famous Turdetani of the Baetis valley. Knapp 1980, 47-54 (but cf. Astin 1978, 34).

would provoke a Roman response.⁴⁵ Though Rome declared war, its assistance arrived far too late for the Saguntines, and Hannibal sacked the city before the end of 219.⁴⁶ He followed his victory with the most aggressive moves yet against the rugged highlands of Spain. According to Polybius, Hannibal attacked and subdued the Ilergetes, Bargusii, Arenosii, and Andosini.⁴⁷ Livy (who uses Polybius as his main source here) records the first two tribes, and adds (presumably from one of the annalists) the Ausetani and Lacetani to the list of Hannibal's victims, along with a cryptic reference to the town of Onusa.⁴⁸

Hannibal's campaigns were territorially extensive, and far less focused on coastal bases than those of his predecessors. We may see these campaigns as an effort to tighten Carthaginian imperial control over inland Spain, some 20 years after the initial establishment of littoral strongholds; Rome would follow a notably similar trajectory in its own conquest of the peninsula. However, when it comes to military terrain, GIS analysis identifies Hannibal's campaigns as a late and mostly moderate variation on previous patterns of Carthaginian warfare in the plains. While more rugged than previous conquests, Hannibal's inland prizes of Arbocola and Hermandica did not sit on particularly broken ground in absolute terms: their TRI averages

⁴⁵ Polyb. 3.29-30; Richardson 1986, 28.

⁴⁶ App. *Hisp.* 12; Eutr. 3.7; Livy, 21.6-16; Polyb. 3.33. The slowness of the Roman response to Saguntum was later a point of criticism by wavering Spanish allies: see Livy, 34.11.

⁴⁷ Polyb. 3.35. On the Ilergetes: BAtlas 25 F4; Pleiades 246432. On the Bargusii (an alternate name for the Bergistani): Tovar 1989, 39-40; BAtlas 25 G4 Bergistani; Pleiades 246239. On the Aerenosii: BAtlas 25 F3; Pleiades 246164. On the Andosini: BAtlas 25 G3 Andosinoi; Pleiades 246164.

⁴⁸ Livy, 21.22-23. On the Ausetani: BAtlas 25 H4; Pleiades 246211. On the Lacetani: BAtlas 25 G4 Lacetania; Pleiades 246458. Cf. App. *Hisp.* 13, which records a general outline of Hannibal's campaigns in northeastern Spain without giving geographic specifics. On Onusa: Livy indicates without further expansion that Hannibal marched past this town on the way from Carthago Nova to the Ebro; given this description, it cannot be the Onuba of BAtlas 27 A4. Following an early identification by Schulten, Tovar 1989, 476 tentatively identifies it with modern Peñíscola on the Mediterranean coast.

in the low 100s are unremarkable in the Iberian context, and probably caused slight but not overwhelming military difficulties. The aggregate TRI score for Hannibal's urban conquests only reaches the 16th percentile compared to Spanish terrain as a whole. The evidence from tribal and regional toponyms (Table 2.2) is admittedly more ambiguous: in particular, the Aernosii and Andosini dwelt on extremely mountainous terrain. However, the campaigns in 219 are best understood as groundwork for Hannibal's march against Italy, rather than a long-term effort at rule over the Pyrenees. In aggregate, Punic military control in Spain (as understood by Greco-Roman authors) rested on the deployment of force over level ground.

This geographic precedent, along with the Romans' preexisting reservations about broken ground combat, shaped the early configuration of the Second Punic War in Spain. Considering the geospatial patterns of Roman deployment during this conflict on Map 2.4 and Tables 2.3 and 2.4, it becomes clear that Rome adopted Carthage's longstanding (though not inflexible) focus on controlling narrow stretches of relatively level terrain, first on the Mediterranean coast, and later in the Baetis river-valley. Under the command of two generations of Scipiones, the Romans' primary mission was the defeat of the Carthaginian field armies; pacification of the Spaniards themselves was less important.

Although the Roman Senate assigned Spain to the consul Publius Scipio in 218, initial fighting was directed by his brother Gnaeus Scipio as legate.⁴⁹ From the start, according to Livy, Gnaeus' mission was expansionist, but primarily concerned with Carthaginian power rather than

⁴⁹ Richardson 1986, 31-37 notes the flexibility which Roman field commanders such as the Scipiones evidently enjoyed to modify arrangements of the Senate based on the conditions they found *in provincia*. On the historical significance of this decision for the Roman conquest of Spain, see Richardson 1996, 25.

local resistance: the Romans fought “with the object not merely of protecting old allies and of winning over new ones, but also of driving Hasdrubal out of Spain.”⁵⁰ In the first months of warfare, Gnaeus successfully restored Roman hegemony in the northeast of the peninsula, though major operations and firm imperial control were limited to the coastal plain.⁵¹ The Romans initially landed at Emporiae in the far northeast; this Massilian colony was perhaps one of very few cities which remained friendly to Rome after Hannibal’s victories in early 218.⁵² Moving south, Gnaeus reestablished diplomatic ties with Spanish tribes: only the Laetani are named, though Livy claims that the Spanish coast as far as the Ebro returned to the Roman fold.⁵³ While the actual exercise of force is not yet mentioned—Livy ascribes Gnaeus’ diplomatic successes to a reputation for clemency—the threat of violence certainly played a role. With the nearest Carthaginian garrison far away at Tarraco, the Spaniards must have found Gnaeus’ force of 20,000 quite persuasive.⁵⁴

The first direct clash between Roman and Punic forces took place at Cissis; Gnaeus defeated and captured the Carthaginian general Hanno, before taking the town itself.⁵⁵ In the

⁵⁰ Livy, 21.32: *Cn. Scipionem fratrem cum maxima parte copiarum adversus Hasdrubalem misit, non ad tuendos tantummodo veteres socios conciliandosque novos, sed etiam ad pellendum Hispania Hasdrubalem.*

⁵¹ Curchin 1995, 21; Owens 2017, 29.

⁵² Livy, 21.60; Polyb. 3.76. It played a similar role for Scipio Africanus after the defeat of his father and uncle (Livy, 26.19), and for Cato the Elder against Spanish rebels in 195 BCE (Livy, 34.8-9). On Emporiae: BAtlas 25 I3; Pleiades 246382.

⁵³ Livy, 21.60. On the Laetani: BAtlas 25 H4 Laetania; Pleiades 246460; *TIR* Tarraco 97.

⁵⁴ Livy, 21.60. On the size of Gnaeus’ army, Richardson 1996, 25-26.

⁵⁵ Livy, 21.60; Polyb. 3.76; Lazenby 1978, 126; Richardson 1976, 27; Owens 2017, 29. On Cissa: BAtlas 25 G4 Kissa/Cissis; Pleiades 246452. Cf. Walsh 1985, 234; Hoyos and Yardley 2009, 638.

aftermath, the main Carthaginian army under Hasdrubal fell back south of the Ebro, and the Romans established a garrison in Tarraco, which would serve as their primary base for the remainder of the war.⁵⁶ However, Gnaeus was unable to press his advantage in late 218: issues of local control and native revolt pulled his attention north, giving Hasdrubal precious time to recuperate. Bribed by the Carthaginians, the inland tribe of the Ilergetes rebelled, despite previously making a treaty and delivering hostages.⁵⁷ Gnaeus subdued the Ilergetes and captured their capital of Atanagrus, but was drawn even further from the Carthaginian front by an uprising among the Ausetani and Lacetani in the southern foothills of the Pyrenees.⁵⁸

These early rebellions call into question the success of Gnaeus' diplomacy earlier in 218, and highlight the strategic drawbacks of Rome's race down the coast to engage the Carthaginians. GIS analysis suggests that Gnaeus, in his haste to concentrate his forces against a conventional enemy in the plains around Cissis and Tarraco, failed to impose sufficient control on the more dispersed and rugged territories to his rear. As Table 2.3 indicates, every Roman conquest in 218 that we can associate with a specific point-feature took place on very level terrain: concentrated at these sites, the Roman army was impossible to resist. The tribal areas in

⁵⁶ Livy, 21.61. Hasdrubal was able to strike a blow, more symbolic than decisive, against disorganized Roman forces pillaging around Tarraco. On Tarraco: BAtlas 25 G4 Col. Tarraco; Pleiades 246349.

⁵⁷ Livy, 21.61. On the Ilergetes: BAtlas 25 F4; Pleiades 246432. Lazenby 1978, 126 is dubious that this revolt occurred; Polyb. 3.76 makes no mention of it. Hoyos and Yardley 2009, 633-634 argue that Livy's narrative is broadly correct, but that the rebels were a coastal Ilergetes (centered perhaps on the modern town of Olerdola) rather than the inland Ilergetes of Barrington. Map 2.4 tentatively marks Olerdola as an alternate center-point for the Ilergetes.

⁵⁸ Livy, 21.61. Lazenby 1978, 126 continues his objection (see above) to Livy's accuracy; Hoyos and Yardley 2009, 638 continue their support of the narrative. On Atanagrus: Walsh 1985, 235 suggests that it is in the vicinity of Ilerda (BAtlas 25 F4; Pleiades 246431), the later capital of the Ilergetes. Its positioning on Map 2.4 is tentative but plausible. On the Lacetani: BAtlas 25 G4; Pleiades 946458; *TIR* Tarraco 96-97. On the Ausetani: BAtlas 25 H4; Pleiades 246211.

Table 2.4 were statistically more rugged in comparison with the Spanish average, and thus arguably more resistant to Roman authority. As Roman columns flew toward Tarraco, the Ilergetes, Lacetani, and Ausetani may have supposed that a combination of defensive landscape and Rome's evident focus on the Mediterranean littoral would protect them from serious retribution.⁵⁹

As it happened, these tribes were only partially correct. Gnaeus successfully redeployed his army to put down their rebellions in late 218, and if the relatively rugged terrain of the Ausetani or Lacetani caused difficulties for Roman troops, Livy does not record them. Yet even these campaigns were a stopgap measure, quick strikes before the Romans moved to winter quarters at Tarraco; they did not mark a significant change in geostrategic priorities.⁶⁰ The Ilergetes would rebel again just a year later, and a major rebellion by the Ilergetes, Lacetani, and many of their neighbors in 206 suggests that Roman authority over Spain's northeastern tribes in this early period was never particularly pervasive.⁶¹ While Gnaeus could evidently bring force to bear against rugged, inland space, such campaigns were risky and ultimately secondary to Rome's primary mission in the coastal plain. Driven by discomfort and interest, Roman control in the Spanish hills was accordingly tenuous.

While Roman campaigns in 217 expanded beyond northeast Spain, GIS analysis indicates that this remained an essentially lowland, coastal war. As in 218, the centerpiece of Livy's

⁵⁹ This phenomenon is explored in more detail in Chapter Three, where I argue that a similar perception of "safe" defensive terrain surrounding Jerusalem helped motivate the initial Jewish resistance to Cestius Gallus.

⁶⁰ Livy, 22.19; Polyb. 3.76, 3.95.

⁶¹ See below, and App. *Hisp.* 37; Livy, 22.21, 28.24-34; Polyb. 11.25-30.

narrative is a conventional battle between the main Roman and Carthaginian armies: both sides combined their ground and naval forces, which moved in tandem along the coast to collide at the mouth of the Ebro river.⁶² Recognizing the superior size of the Carthaginian army, Cn. Scipio attacked by sea and caught Hasdrubal by surprise. Roman crews captured twenty-five of the Carthaginians' forty warships and forced the remainder ashore, effectively assuring Roman naval dominance over the Spanish coast for the remainder of the war.⁶³

The Romans followed up their victory on the Ebro with a string of successful operations, almost entirely confined to the plains of the Mediterranean coast: retaliation against the rebellious Ilergetes and a march to Castulo (potentially an anachronistic mistake on Livy's part, but included nevertheless under the principles of accuracy in aggregate) are exceptions, but insufficient to disrupt the general trend.⁶⁴ Gnaeus first launched a series of raids well south into Carthaginian territory, taking the towns of Onusa and Longuntica and pillaging the island of Ebusus, although he failed to capture the city of the same name.⁶⁵ An indecisive standoff against

⁶² Livy, 22.19.

⁶³ Livy, 22.20; Polyb. 3.96. Perhaps cf. Frontin. *Str.* 4.7.9. Curchin 1991, 25-26; Owens 2017, 29-31.

⁶⁴ On the Ilergetes: Livy, 22.21. Though Livy downplays its significance, the resurgence of the Ilergetes gives further evidence that the Roman focus on its Carthaginian opponent and the Mediterranean littoral came with costs for nominally pacified, inland territory behind the front lines. On the march against Castulo in 217: Livy, 22.20. For the strategic and chronological implausibility of this campaign, see Lazenby 1978, 127; Hoyos and Yardley 2009, 642. On Castulo's later importance, see below, and App. *Hisp.* 16, 32; Livy, 28.12, 28.19-20; Polyb. 11.20. On the location of Castulo: BAtlas 27 B3; Pleiades 265855.

⁶⁵ Livy, 22.20. Richardson 2000, 118 calls these raids "almost certainly fictitious," preferring App. *Hisp.* 15's account of Gnaeus' achievements (or, more precisely, his lack thereof). However, both Hoyos and Yardley 2009, 642 and the usually skeptical Lazenby 1978, 127 find them plausible. Tovar 1989, 463 tentatively places Onusa at modern Peñíscola, following an earlier argument in Schulten *FHA* 3.55, 66-67, 115. On Longuntica: BAtlas 27 D4; Pleiades 265952; Lazenby 1978, 127; Tovar 1989, 165-66. On Ebusus: BAtlas 27 G2; Pleiades 265884 (for the island) and Pleiades 265883 (for the city).

Hasdrubal followed in the territory of the Ilergavonenses near the mouth of the Ebro, and at the unlocated but probably coastal site of Nova Classis (“New Fleet”).⁶⁶ When the Carthaginians fell back to suppress a revolt in Celtiberia, Gnaeus united with reinforcements under his brother Publius and marched to Saguntum, where they arranged for the betrayal of the city’s Spanish hostages in a major diplomatic windfall.⁶⁷ As Table 2.3 indicates, none of these locations had a TRI score above the 5th percentile.

For the remaining years of P. and Cn. Scipio’s command, Livy’s narrative is problematic in terms of both chronology and geography, and it is difficult to make out more than general patterns with any confidence.⁶⁸ At least in part, Rome continued to concentrate its forces on level ground, much of it along the Mediterranean coast. In 216, Publius and Gnaeus’ combined forces fought perhaps the most strategically significant action of the Spanish wars somewhere near Hibera, defeating Hasdrubal in open battle and preventing him from marching to Italy with reinforcements for Hannibal.⁶⁹ In subsequent years, Livy records Roman victories at Intibili just

⁶⁶ Livy, 22.21. Lazenby 1978, 127 is dubious on the historicity of this episode. The Ilergavonenses were centered on the town of Dertosa, later known as Hibera Iulia Ilercavonia (BAAtlas 25 F5; Pleiades 246369). Nova Classis is unknown, but based on its name and evident proximity to the Ilergavonenses, it is probably on the Mediterranean coast. See *TIR* Tarraco 113; Tovar 1989, 467; Hoyos and Yardley 2009, 642-43. Map 2.4 uses the site of Dertosa as a loose and tentative approximation for the abortive standoff in 217 between Cn. Scipio and Hasdrubal.

⁶⁷ Livy, 22.22; Polyb. 3.97-99. Cf. Lazenby 1978, 128. On the alleged camp of the Scipiones near Saguntum, see Curchin 1991, 25. On the Celtiberians: BAAtlas 25 B4 Celtiberia; Pleiades 246322. We may take this uprising as evidence that Carthage’s own longstanding emphasis on level ground caused similar problems for its control over the hills of the Spanish interior.

⁶⁸ Hoyos and Yardley 2009, 657-58.

⁶⁹ Livy, 23.28-29; Lazenby 1978, 128-29; Owens 2017, 50-53. Hasdrubal would ultimately march to Italy in 208 after his defeat at Baecula, only to be defeated at the Battle of the Metaurus river before reaching Hannibal: Livy, 27.18-20, 28.42. On Hibera: BAAtlas 25 F5 Dertosa/Hibera Iulia Ilercavonia; Pleiades 246369.

south of the Ebro and an indecisive action near Castrum Album (formerly the Carthaginian Akra Leuke).⁷⁰ Roman forces also liberated Saguntum, their original *casus belli*, and enslaved the neighboring Turdetani (whose complaints were the excuse for Hannibal's siege in 219).⁷¹

Livy also relates a gradual shift west into the upper reaches of the Baetis valley, the beginnings of an offensive which Scipio Africanus would ultimately press to victory. Though hardly a radical departure from their previous *modus operandi* of combat in the plains, these inland campaigns increasingly took the Romans into the Spanish hills, presaging later changes in imperial strategy. Roman armies raised two Carthaginian sieges of Iiturgis and posted a detachment in the town; Castulo appears to have received a similar garrison in or shortly after 214.⁷² In 214, according to Livy's chronology, Gnaeus Scipio won a string of victories at Bigerra, Munda, and Orongis (here called Aurinx).⁷³ While our locational data is uncertain for

⁷⁰ Livy, 23.49, 24.41. Cf. Frontin. *Str.* 2.3.1. Note doubts about the historicity of both battles in Lazenby 1978, 129. On Intibili: BATlas 25 F5 Indibilis; Pleiades 246439; *TIR* Tarraco 94. On Castrum Album: Tovar 1989, 201-204; BATlas 27 E3 Lucentum; Pleiades 265954. Livy records that the Romans were driven from Castrum Album, and pulled back to Mons Victoria: its location is unknown, see Hoyos and Yardley 2009, 658.

⁷¹ Livy, 24.42. These Turdetani are unlocated, and distinct from the more famous tribe in Baetica.

⁷² Livy, 23.49, 24.41. For Castulo, cf. App. *Hisp.* 16. Hoyos and Yardley 2009, 653, 658 doubt Livy's geography on the first battle of Iiturgis (allegedly in 215), but accept the second in (in 214). On Iiturgis: BATlas 27 B4; Pleiades 265924.

⁷³ Livy, 24.41-42. Bigerra is unlocated in Barrington: BATlas 27 UNLOC, Pleiades 270306. Cf. *TIR* Valencia 110-11. However, Tovar 1989, 167 (following an argument by Müller) suggests a location near modern Becerra, where I have tentatively placed it on Maps 2.5 and 2.6. On Munda: BATlas 26 E4; Pleiades 356314. *Neue Pauly* s.v. Munda places it somewhat to the west at modern Montilla, south of Corduba. Hoyos and Yardley 2009, 658 are skeptical of a Roman advance so deep into Baetica—though Livy's narrative seems at least internally consistent—and suggest that Munda is a mistake for Unda/Undi from Plin. *HN* 3.10 (for which, Tovar 1974, 140; BATlas 26 UNLOC). Aurinx/Orongis reappears in Livy, 28.3-4 (and cf. Eutr. 3.16). For the location, see Tovar 1989, 152-53; Hoyos and Yardley 2009, 658, 682; BATlas 27 B4 Aurgi/Orongis; Pleiades 265810.

both Bigerra and Munda, the aggregate trend towards somewhat more broken ground is clear at the bottom of Table 2.3.

To the extent that we can speculate on their location, Publius and Gnaeus' final, disastrous battles in 211 probably reflect this trend.⁷⁴ The evidentiary problems are too thorny to address in full detail here. Livy records Gnaeus' defeat near Amtorgis, perhaps Iliturgis on the Baetis, which Livy later implicates in the death of the Scipios.⁷⁵ Pliny places the disaster at Ilorcum: this can be plausibly identified with Ilugo in the upper Baetis valley, though an alternative argument puts the site at Ilorci near modern Mercia (both options are included on Map 2.4 and Table 2.3).⁷⁶ Appian claims that Publius and Gnaeus fell near Orso, *Barrington's* Urso.⁷⁷ He is probably mistaken, at least in detail—it seems inconceivable that the main Roman army could advance so far west without more fanfare surviving in our sources—yet Appian may preserve the hazy memory of some early Roman raiding into the lower Baetis valley, and under the principles of accuracy in aggregate we may tentatively include Orso as a fourth military site for 211.⁷⁸ Of the four locations, Ilugo is significantly rugged (60th percentile), and Iliturgis is moderately so (25th). Ilorci and Orso are somewhat more level (10th and 14th percentile, respectively), but still more rugged than most combat sites of earlier years.

⁷⁴ On these defeats, cf. Polyb. 10.6-7, which does not name a location.

⁷⁵ Livy, 25.32-36, 28.19-20 and cf. App. *Hisp.* 32; Flor. 1.33.6. *TIR* Valencia 83; Tovar 1989, 165; Hoyos and Yardley 2009, 663.

⁷⁶ Plin. *HN* 3.9. Hoyos and Yardley 2009, 686 argue for Ilugo: BAAtlas 27 B3; Pleiades 265929. Tovar 1989, 165 (following Schulten *FHA* 3.90) argues for Lorca, Barrington's Ilorci: BAAtlas 27 D3; Pleiades 265927.

⁷⁷ App. *Hisp.* 16. On Orso: BAAtlas 26 E4 Urso; Pleiades 256503.

⁷⁸ Cf. Richardson 1986, 41; 2000, 119.

While the death of the Scipiones threw Rome's position in Spain temporarily into crisis, their seven-year tenure in the Iberian peninsula was wildly successful on the whole. Until 211, they never lost a battle significant enough to enter our historical record. Map 2.4 speaks to the geographic scope of the brothers' accomplishments: from a toehold in Emporiae, they extended Roman force to the Punic stronghold of Carthago Nova in the south, and began to threaten the Baetis valley in the southwest. At the same time, this map and the accompanying tables reveals the flexible but ever-present environmental strictures on Roman campaigning: even accounting for their late push into the hills around the Baetis' headwaters, Gnaeus and Publius made little penetration into truly rugged Spanish territory. Between 218 and 211, the average site of Roman force projection had a local TRI score of 63.7 m (10th percentile of the Spanish average). While the Romans doubtless made war on more rugged terrain, according to our surviving records the foci of violence were predominantly located in the Spanish plains. Whether due to the Romans' traditional antipathy to broken ground combat, or the fact that Carthage's own strategic centers of gravity tended toward the coastal and riverine, Publius and Gnaeus Scipio showed comparatively little interest in Spain's foothills and highlands, let alone the mountains themselves.

With the events of 211, we enter a new phase of the Spanish war (for which, see Map 2.5 and Tables 2.5 and 2.6). After a brief interregnum under the command of Gaius Nero, Roman forces fought under Scipio Africanus down to 206 (I use the cognomen to distinguish him from his homonymous father, even though he did not earn it until 202). From a narrative standpoint,

Scipio's campaigns are well explored by modern historians.⁷⁹ However, where these scholars focus on military geography at all, it is typically in pursuit of specific battle sites (most notably for the decisive Roman victory at Ilipa).⁸⁰ If we take a broader geographic view, it is clear that whatever the ambiguities in the precise locations of Scipio's actions, he extended the westward thrust of his predecessors' later campaigns, but maintained their general preference for level ground (with corresponding consequences for Roman authority—or lack thereof—over the Spanish hill-tribes).

Following Publius and Gnaeus' death, Rome's continued hold on northeastern Spain was ensured by Lucius Marcius, a junior officer of indeterminate rank and probably overblown reputation, who captured a pair of Carthaginian camps in a daring nighttime raid.⁸¹ This feat perhaps occurred near the Ebro, but we receive no specifics.⁸² By 210, the Senate dispatched Gaius Nero to Spain with substantial reinforcements; he made landfall at Tarraco, still the hub for Roman forces on the Spanish front.⁸³ According to Livy, Nero successfully trapped Hasdrubal's army at Lapidés Atri "in the country of the Ausetani, between the towns of Iliturgis

⁷⁹ Scullard 1930; Lazenby 1978; Richardson 1996; Edwell 2011, 320-324; Owens 2017.

⁸⁰ Corzo-Sanchez 1975, 134-140; Millán León 1986.

⁸¹ Livy, 25.37-39, 26.2. Cf. Val. Max. 2.7.11 (which identifies Marcius as a military tribune); Cic. *Balb.* 34 (which has him as a centurion). On Marcius' exaggerated reputation, see Lazenby 1978, 131; Owens 2017, 82.

⁸² See Livy 25.37, in which L. Marcius restores the Roman army after retreating north of the Ebro. Cicero, *Balb.* 34, alleges that Marcius made a treaty with the people of Gades: this seems thoroughly improbable, and in all likelihood retrojects Marcius' attempts to arrange Gades' defection in 206 to an earlier and better-known phase of his career.

⁸³ Livy, 26.17.

and Mentissa,” before Hasdrubal escaped by a ruse during feigned negotiations.⁸⁴ Livy’s geography is confused here: Iliturgis (Ilugo) and Mentissa lie north of the Baetis’ headwaters, while the Ausetani are far to the northeast near Emporiae.⁸⁵ Perhaps Livy or his sources conflated multiple reports of combat in both regions. As seen on Tables 2.5 and 2.6, the locations associated with C. Nero’s campaigns are notably more rugged than the Spanish average: combat here suggests that in the aftermath of Publius and Gnaeus’ shocking defeat, it was these regions that broke most quickly and decisively from Roman authority, requiring unusually direct intervention on broken ground.

We return to firmer evidence and more familiar patterns of Roman force projection with Scipio Africanus’ arrival in Spain in late 210 or early 209.⁸⁶ Livy, Polybius, and Appian all agree that, after consolidating his forces in Emporiae and Tarraco, Scipio’s first major action was a daring strike on Carthago Nova, long a bulwark of Punic control over the south.⁸⁷ With three Carthaginian armies (under squabbling commanders) distributed across the Iberian peninsula,

⁸⁴ Liv. 26.17: *Hasdrubal Hamilcaris ad Lapides Atros castra habebat; in Ausetanis is locus est inter oppida Iliturgim et Mentissam*. Richardson 2000, 120 rejects this episode entirely, preferring Appian’s account in *Hisp.* 17 which denies any notable Roman successes before Scipio Africanus’ arrival. Lazenby 1978, 132 is unsure whether Livy’s account is entirely factual, but deems that it is certainly possible.

⁸⁵ The Ausetani have already appeared as victims of Hannibal and rebels against Cn. Scipio, while Iliturgis on the Baetis has been discussed as a focal point for P. and Cn. Scipio’s later campaigns. On Mentissa: BAtlas 27 C3 Mentesa; Pleiades 265969. Rather than the Ausetani, Livy may have meant the Oretani, whose territory was near Mentissa and Iliturgis; see Hoyos and Yardley 2009, 668. For an alternate proposed location well to the east, superseded by better material in BAtlas and Pleiades, see Lazenby 1978, 132 (following Scullard 1930, 50).

⁸⁶ On the chronology, Lazenby 1978, 132-133. Livy, 26.41. App. *Hisp.* 17 paints a grimmer picture, claiming that upon Scipio’s arrival nearly all of Spain had slipped from Rome’s control. There is no reason to prefer Appian’s narrative on this point. See Curchin 1991, 26.

⁸⁷ Livy, 26.19, 26.41.

Scipio made a rapid march along the Mediterranean coast and took the stronghold by assault.⁸⁸ With this victory, he not only cut off a major naval lifeline connecting Spain with Carthage, but also secured a diplomatic coup by releasing the Spanish hostages held in Carthago Nova, the guarantors of local loyalty to Punic rule.⁸⁹ Scipio garrisoned Carthago Nova and established it as a center for weapons production, before returning to winter in Tarraco, where he received emissaries from countless (and unnamed) Spanish tribes promising to join the Roman cause.

With the Carthaginians routed from the Mediterranean coast, Scipio (like his father and uncle) turned his attentions to the Baetis valley, which would host most of the combat recorded by our sources for the remainder of the war. The most significant engagement of 208, the battle of Baecula, took place in the same area of the upper Baetis where the Romans had now been fighting for several years.⁹⁰ By Livy's account, broken ground was a tactical factor in this battle: Hasdrubal's army retreated to a defensible hilltop, pinning their hopes "upon position, not upon courage or arms."⁹¹ Scipio made a daring assault uphill, routing his Carthaginian foe. Yet our maps and tables highlight the discrepancy between the tactical significance of these hills

⁸⁸ App. *Hisp.* 19-23 (who confuses Carthago Nova and Saguntum); Frontin. *Str.* 3.9.1; Livy, 26.42-46; Polyb. 10.10-15. Owens 2017, 93-98. Livy (26.42) and Polybius (10.9) claim that Scipio marched from the Ebro to Carthago Nova in six days, flatly impossible given the distances involved. See Lazenby 1978, 135.

⁸⁹ Livy, 26.49-50; Polyb. 10.18-19.

⁹⁰ Appian may refer to this battle in *Hisp.* 24, though he refers to a clash near the city of Baetica. See Richardson 2000, 126. Appian also mentions earlier combat between Scipio and Hasdrubal near the town of Lersa: the site is unlocated and the battle is unconfirmed by any other source. Richardson 2000, 126 argues that Lersa is either an authorial error or textual corruption. For an alternate, geographically improbable argument that reads Lersa as an error for the Ilergetes, see Goukowsky 1997 and Schulten *FHA* 3.127.

⁹¹ Livy, 27.18: *Scipio circumvectus ordines signaque ostendebat hostem, praedamnata spe aequo dimicandi campo captantem tumulos, loci fiducia, non virtutis aut armorum stare in conspectu...* cf. Polyb. 10.37-39. Owens 2017, 98-99.

(perhaps little more than a standardized battle *topos* in this instance) and the broader topographical character of Scipio's operational environment: the area around Baecula is not entirely level, but it pales in comparison to the rugged heights to the north, east, and south. Whatever the details of this battlefield (its precise location remains unknown), it fell into a larger strategic context of lowland warfare over the relatively flat Baetis valley.

We may productively pause to reflect on the aftermath of Scipio's victory at Baecula, which suggests crucial drawbacks to Roman strategy: as Gnaeus found in the northeast in 218, the geographically narrow concentration of force brought a correspondingly narrow fragment of Spain under Roman control. Defeated in open battle, Hasdrubal retreated north, tracing the course of the Tagus river before crossing the Pyrenees via an unspecified pass.⁹² By 207, he had made his way into Italy, inspiring terror in Rome itself.⁹³ If we follow John Richardson's assessment that the primary purpose of the Roman war in Spain was to prevent Carthaginian reinforcements from reaching Italy, the tactical victory at Baecula thus appears to be a strategic defeat.⁹⁴ Scipio found that despite impressive victories against lowland Carthaginian strongholds, and despite the professed loyalty of the Spaniards in the aftermath of these triumphs, the Romans' incipient imperial control in the peninsula did not stretch much further than the immediate striking range of their field army and garrisons. It certainly did not extend into the more rugged ground that Hasdrubal must have crossed on his march northeast: here, the Carthaginian army was able to move unimpeded among peoples who Livy claims were

⁹² Livy, 27.19-20; Polyb. 10.39-40.

⁹³ It was only by a daring ruse that the Romans defeated Hasdrubal at the Metaurus river, dashing his hopes of reinforcing Hannibal in the south. Livy, 27.36-39, 43-51; Polyb. 11.2-3. Owens 2017, 105-109.

⁹⁴ Richardson 1996, 26-27.

nominally subject to Roman authority.⁹⁵ Livy's geographically vague approximation of these tribes, "nearly all the peoples dwelling on this side of the Ebro...and many also from the farther province," reflects their tenuous relationship with the Roman state.⁹⁶ When Scipio famously refused to be hailed as king after Baecula (preferring to be called *imperator*) he knew how little either title meant outside the limited, level spaces under intensive Roman military domination.⁹⁷

It was perhaps with this problem in mind that Scipio launched a punitive expedition into the hills of Celtiberia (a move which paralleled Gnaeus' strikes against the Ilergetes, Lacetani, and Ausetani in 218).⁹⁸ The Celtiberians had been a questionably loyal source of mercenaries for both sides, and Hasdrubal certainly passed through their territory in his march along the Tagus; Scipio may well have hoped to intimidate the tribe into more trustworthy allegiance, in addition to driving the Carthaginians from their lands.⁹⁹ As both Map 2.5 and Table 2.6 show, this campaign certainly took the Romans onto more rugged ground, and Livy's description of their victory against a joint Carthaginian and Celtiberian army is set on rough terrain.¹⁰⁰ After the Romans' initial success against their enemy's concentrated forces, however, we hear nothing of wider attempts to punish the Celtiberians and pacify their territory. With the battle lost, they

⁹⁵ Livy, 26.51, 27.17.

⁹⁶ Livy, 26.51: *et cuncti fere qui cis Hiberum incolunt populi, multi etiam ulterioris provinciae convenerunt.*

⁹⁷ Livy, 27.19; Polyb. 10.40.

⁹⁸ Livy, 28.1-2.

⁹⁹ App. *Hisp.* 24; Livy, 22.21-22, 24.49, 25.33, 26.50. Cf. Dio Cass. 16.42-43; Frontin. *Str.* 2.11.5; Polyb. 10.19.

¹⁰⁰ Livy, 28.1-2.

“melted away into the nearby forests and then scattered to their homes.”¹⁰¹ They would rise in revolt the following year, suggesting that even this atypical Roman advance into Spain’s challenging highlands was too brief and narrowly focused to impose lasting imperial control.¹⁰²

Indeed, Scipio’s remaining actions in the war for Spain largely reverted to the lowland norms of Roman force projection. To be sure, an abortive campaign in 207 through the Baetis valley drove the Carthaginians from Orongis, a hub for “making raids against the tribes of the interior” and the only military site of this period with a TRI score above the Spanish mean (see Table 2.6).¹⁰³ Yet the decisive campaign of 206 was set on low and level ground, and Livy deploys standard *topoi* of set-piece combat: with their forces swelled by local recruits, the two Carthaginian commanders “established themselves in open plains, resolved not to refuse a battle.”¹⁰⁴ Scipio advanced from Tarraco through Castulo, and after a skirmish at Baecula confronted the Carthaginians at Ilipa (Appian gives Carmo, somewhat to the east).¹⁰⁵ The Carthaginians were defeated in the field and deserted by their allies; Scipio cut off their retreat

¹⁰¹ Livy, 28.2: *Celtiberi...in proximas dilapsi silvas inde domos diffugerunt.*

¹⁰² Livy, 28.24.

¹⁰³ Livy, 28.3: *ea arx fuerat Hasdrubali ad excursiones circa mediterraneos populos faciendas.* Orongis is identical to Aurinx, site of a Roman victory in Livy, 24.42. See Richardson 1986, 50; Tovar 1989, 152-153; Hoyos and Yardley 2009, 658, 682.

¹⁰⁴ Livy, 28.12: *ibi super campos patentes duo duces Poeni ea mente ne detrectarent certamen consederunt.*

¹⁰⁵ App. *Hisp.* 25-26; Livy, 28.12-16; Polyb. 11.21-24. Cf. Frontin. *Str.* 2.1.1, 2.3.4; Polyaeus, *Strat.* 8.16.1. Owens 2017, 109-112. Castulo and Baecula are both sites of earlier engagements, and Livy’s inclusion of them may reflect their broader significance rather than the operational details of Scipio’s march. For debate on the site for the decisive clash in 206: Wallbank 1967, 296; Corzo Sanchez 1975, 234-240; Millán León 1986; Keay 1988, 29; Curchin 1991, 28; Richardson 2000, 127. As noted above, the exact location of this battle is not particularly important for my purposes, and I have marked both Ilipa and Carmo on Map 2.5. For Ilipa: BAtlas 26 E4 Ilipa Magna; Pleiades 256222. For Carmo: BAtlas 26 E4; Pleiades 256058.

and surrounded the surviving Punic troops on a barren hill, while their commander escaped by sea to Gades.¹⁰⁶ There would be some desultory fighting later this year before the Carthaginians withdrew even from this final refuge. Yet as far as Livy was concerned, the war for Spain ended at Ilipa, on the same level terrain that had occupied most of Rome's attention for the previous fourteen years.¹⁰⁷

With the end of the Carthaginian threat, Rome began to modify its geostrategic priorities and patterns of force projection. In quantitative terms, the changes in late 206 were admittedly slight: the aggregate TRI data does not look drastically different in the months after Ilipa than it did in the years before, and we continue to receive reports of Roman activity in the coastal plains. Scipio's lieutenants tightened their grip around the Straits of Gibraltar, fighting a naval engagement at Carteia and seizing Gades after the Carthaginian position there proved untenable.¹⁰⁸ Scipio himself dealt with a mutinous garrison at low-lying Sucro, evidently one in a string of forts along the Mediterranean coast between Tarraco and Carthago Nova.¹⁰⁹ He also

¹⁰⁶ Livy, 28.15-16.

¹⁰⁷ Livy, 28.16. Livy counts inclusively, and dates the war from the official declaration in 219 BCE, rather than Gnaeus' invasion the following year.

¹⁰⁸ For Carteia, see Livy, 28.30; Tovar 1974, 70-72; Hoyos and Yardley 2009, 688; BAtlas 26 E5; Pleiades 256063. For Mago's raid on Carthago Nova and the defection of Gades, Livy, 28.36-37. Cf. Cic. *Balb.* 39; Flor. 1.33.7; Badian 1954. App. *Hisp.* 37 records simply that Mago chose to abandon Gades to recruit an army in Liguria.

¹⁰⁹ Scipio deceived the mutineers with a show of clemency, then publicly executed their ringleaders: App. *Hisp.* 34-36; Livy, 28.24-32; Polyb. 11.25-30. On Sucro: Hoyos and Yardley 2009, 687; BAtlas 27 E2; Pleiades 266052. Note the obvious confusion about Sucro's position in Livy, 28.24, which incorrectly places it north of the Ebro. Richardson 2000, 132.

secured the mouth of the Baetis river with the foundation of Italica, before departing to wage the final, African stage of the Second Punic War.¹¹⁰

However, the extremely low TRI scores for these four sites stand in contrast to a cluster of towns in the southern Spanish hills, wracked by widespread rebellion in late 206. With Scipio in Numidia laying the diplomatic groundwork for his African war, Iliturgis and Castulo launched an insurrection against the Romans.¹¹¹ Scipio crushed the former by assault—this was either Iliturgis on the Baetis or an alternate name for nearby Ilugo—and Castulo surrendered in the face of a siege. The Romans proceeded against the bandit haven of Astapa to the south, where slaughter and mass-suicide terrified the region into at least temporary obedience. As the statistics in Table 2.5 indicate, these three targets (regardless of which location is correct for Iliturgis) sat on moderately rugged terrain. The Romans had not entirely abandoned their distaste for broken ground combat: Map 2.5 reveals no major activity in the truly mountainous heights south of the Baetis river, or the jagged hills around the upper Tagus. Instead, we see the beginnings of a subtle shift in Roman priorities to encompass troublesome local communities along outskirts of the Baetis Valley, a willingness to overawe these towns and their neighbors through the calculated use of overwhelming violence. With Carthage out of the strategic picture, the Spanish hills would fall ever further into the Roman cross-hairs; as Livy puts it, “[previously]

¹¹⁰ App. *Hisp.* 38. Richardson 1986, 53 argues for its military significance: “though Appian...describes it as intended for the wounded, there can be little doubt that a Roman settlement so far west was meant to establish a permanent Roman presence.” For Italica’s location: Keay 1988, 26; BAtlas 26 D4; Pleiades 256231.

¹¹¹ Livy, 28.19. App. *Hisp.* 32 gives Ilurgia and Castax. Hoyos and Yardley 2009, 686 argues that this is Ilorcum/Ilugo (a possible location for Publius and Gnaeus’ disaster) rather than Iliturgis on the Baetis. This is tentatively marked as an alternate site on Maps 2.4 and 2.5. Iliturgis and Ilugo are relatively close by and sit on broadly similar terrain, and the choice between the two thus makes little difference in my overall analysis.

vengeance upon those states would have been deserved but not expedient...in a time of peace the moment for exacting the penalty seemed to have arrived.”¹¹²

We see similar advances towards broken ground warfare in the northeast, where Scipio’s untimely illness in late 206 revealed the fragility of Roman authority. A serious uprising began under Mandonius and Indibilis, kings of the Ilergetes. One-time allies of the Romans, the pair raised their own tribe in revolt along with the Lacetani and Celtiberians, invading the still-loyal Suessetani and Sedetani.¹¹³ The geospatial circumstances of this war are uncertain, and Livy tells us only that the decisive combat occurred somewhere along the Ebro itself. Map 2.5, along with Table 2.6, suggests that (as in the upper Baetis) Roman troops in this region would have found a landscape more rugged than they liked but far less severe than the worst Spain had to offer. Scipio was ultimately successful against the Ilergetes and their fellow insurgents. Yet Livy’s narrative speaks to his ambivalence towards a widespread campaign of pacification over partially broken ground: the Romans offered generous terms to their defeated foes in 206, an act Scipio’s successors would come to regret when Indibilis renewed hostilities in 205.

The spatial configuration of Roman violence immediately following the Battle of Ilipa reveals a fundamental tension between old missions and new, between traditional antipathy to warfare on broken ground and the hard-won knowledge that such campaigns were necessary if Rome was to consolidate its military triumphs into lasting rule over Spain. For a decade, Roman commanders had fought the Carthaginian field army, for the most part in the Spanish plains, shifting their attention to local hill-tribes only when revolt made this absolutely necessary.

¹¹² Livy, 28.19: *merito magis quam utiliter saevitum foret; tunc iam tranquillis rebus quia tempus expetendae poenae videbatur venisse...*

¹¹³ Livy, 28.33-34. For an earlier Roman alliance with the Sedetani, see Polyb. 10.34-35. On their location: Fatás Cabeza 1971; BAtlas 25 E4 (S)Edetani; Pleiades 246633; *TIR* Tarraco 143-144.

Within the context of inter-state war with Carthage, this strategy had proved wildly successful, and in 206 Scipio could claim before the Senate that “he had left not a single Carthaginian in that country.”¹¹⁴ What Scipio did leave behind were the Spaniards themselves: fickle subjects to the Carthaginians, they proved no more eager to accept Roman dominion.

As our maps and tables thus far have indicated, the Spaniards’ recalcitrance should come as no surprise. With their focus on narrow corridors of advance over mostly level, topographically homogenous ground, the Romans had not projected serious force against most of the Spanish landscape (at least not in ways significant enough for our sources to record). In a series of wars lasting to 179, Scipio’s successors would gradually modify the geographic foci of their campaigns, following a trajectory suggested by Scipio himself after Ilipa. Even as the urbanized plains of the Baetis and Mediterranean coast became the cores of two new provinces, Roman armies would push upland into the Spanish *meseta*. Yet the geographic priorities and preconceptions discussed in Chapter One would continue to exert their influence: Rome would make little effort to control the most broken Spanish terrain, and the geospatial analysis of intensive force projection shows a continuing correlation between Roman military activity and level ground.

¹¹⁴ Livy, 28.38: *neminem Carthaginensem in iis terris reliquisse*.

Section Three: The First Generation of Roman Spain (205-179)

Most modern narratives of the early decades of Roman provincial rule over Spain are dominated by the campaigns of Cato the Elder in 195.¹¹⁵ While Cato is far from the only commander who merits our attention, his wars mark an inflection point in the spatial narrative of Roman violence. While Rome remained notably unwilling to engage with the most challenging Spanish terrain, in 195 and the years that follow we see a significant increase in the projection of Roman force against rugged targets, depicted in Map 2.6 and Tables 2.7 and 2.8.

Although finally uncontested by the Carthaginians, Roman rule in Spain began on a sour note in 205, with the renewed rebellion of Indibilis, Mandonius, and the Ilergetes.¹¹⁶ Livy ascribes the revolt to the withdrawal of Scipio's best troops for the African campaign, and to the rebels' "contempt for other generals [which] sprang from admiration for Scipio."¹¹⁷ We may cast some blame upon Scipio's desultory retaliation the previous year, which evidently did little to inspire terror or obedience among the Spaniards. Livy records that the Ilergetes were joined by the Ausetani and several other neighboring tribes, and mustered an army "in the territory of the Sedetani" along the Ebro; it is unclear whether the Sedetani were turncoats themselves, or if they paid the price for loyalty to the Romans (as they did in 206).¹¹⁸

¹¹⁵ Among others, see Keay 1988, 29-32; Curchin 1991, 29-33. Dyson 1987, 186-98 provides a notably broader and more balanced account. Cato has inspired a rich catalogue of military histories: Del Pozzo 1921; Martínez Gázquez 1974; Astin 1978, 28-49; Knapp 1980.

¹¹⁶ App. *Hisp.* 38; Livy, 29.1-3.

¹¹⁷ Livy, 29.1: *per admirationem Scipionis contemptu imperatorum aliorum orto.*

¹¹⁸ Livy, 29.1: *in Sedetanum agrum.* See also 28.33-34. Smith 1993, 16-17 suggests the Cessetani, Iacetani, Lacetani, and Ilergaones as the unnamed neighbors to rise in rebellion, and argues that the Sedetani probably remained loyal to Rome.

Scipio's two successors, Lucius Lentulus and Lucius Manlius Acidinus, united their forces in the northeast and marched their army "through the Ausetanians' country: a hostile one treated with clemency as though it were pacified," before confronting and defeating the Ilergetes' coalition at an unspecified location.¹¹⁹ Indibilis fell in battle, and Mandonius was delivered to the Romans by his countrymen as the price for peace.¹²⁰ Livy's geography is disappointingly vague on this incident, but Map 2.6 and Table 2.8 nevertheless suggest the topographic logic to Rome's actions. The decision not to devastate Ausetanian territory was hardly an act of mercy, but a strategic imperative: dispersing Roman soldiers to pillage across this rugged stretch of the Spanish countryside would be time-consuming at best and fatal at worst (and, at least in economic terms, unprofitable regardless). With the enemy concentrated into a conventional army somewhere in the plains of the Ebro, the Roman commanders were naturally eager to confront their foes on level and convenient ground. Even as the Ilergetes' affront to Roman authority required a strike inland from the coastal plain, a fundamental aversion to broken ground continued to shape patterns of force projection.

We hear little more of fighting in Spain until 197, though Lentulus' *ovatio* in 200 suggests that his five years in Iberia were not entirely quiet.¹²¹ The year 200 saw renewed warfare and another Roman victory among the Sedetani.¹²² For 199, we receive mention of at

¹¹⁹ Livy, 29.2: *ipsi exercitibus per agrum Ausetanum hostico tamquam pacato clementer ductis militibus*. A march through Ausetanian territory makes geographic sense if the Roman forces initially mustered at Emporiae, rather than Tarraco. This is perhaps unusual given the prominence of the latter city as Scipio's northern base, but far from impossible.

¹²⁰ Livy, 29.3.

¹²¹ Livy, 31.20.

¹²² Livy, 31.49. Again, it is unclear whether this was a victory over the Sedetani or a victory over other tribes that took place in Sedetanian territory.

least a small Roman garrison in Gades: the Romans probably withdrew their prefect from the city this year, a sign of confidence that this coastal space was securely under Roman control.¹²³ But while some nominal autonomy may have been restored to Gades, Rome showed no interest in abandoning its hard-won position in Spain: for 197, two praetorian provinces (out of a newly increased six) were designated for Hispania Citerior and Ulterior.¹²⁴

It was perhaps this signal of permanent Roman dominion that sparked a series of major revolts across the Iberian peninsula. Livy identifies a serious uprising in Ulterior, naming the cities of Carmo and Baldo as rebel strongholds, and suggesting the potential for an even wider conflagration: “on the coast the Malacini and Sexetani and all Baeturia and other states which had not yet disclosed their intentions would soon rise to join the revolt of their neighbors.”¹²⁵ The spatial distribution of anti-Roman resistance speaks to the shallow and geographically contingent nature of Rome’s control over Spain at this date. As Map 2.6 indicates, the Malacini and Sexetani were isolated from the Roman garrisons along the Baetis by a formidable mountain range; Baeturia was similarly protected to the north by the Sierra Morena.¹²⁶ Moreover, if we

¹²³ Livy, 32.2; cf. Cic. *Balb.* 34, 39. I follow the argument of Badian 1954, which argues that the Gaditanians received a Roman garrison around 206 under the terms of their treaty, and petitioned for its removal in 199.

¹²⁴ *MRR* 333-334; Richardson 1986, 75-79.

¹²⁵ Livy, 33.21: *in maritima ora Malacinos Sexetanosque et Baeturiam omnem et quae nondum animos nudaverant ad finitimorum motus consurrectura*. Cf. App. *Hisp.* 29. Briscoe 1971, 290 argues for Livy’s reliability in these passages. We have seen Carmo already as Appian’s site for the decisive Roman-Carthaginian battle of 206 BCE (*Hisp.* 25-27). On Baldo: *BAtlas* 26 E5 B(a)elo; *Pleiades* 256005; *PECS* s.v. Baelo. Contra Briscoe 1971, 291.

¹²⁶ The Malacini were centered around modern Malaga: Briscoe 1971, 291; *BAtlas* 27 A5 Malaca; *Pleiades* 265963. The Sexetani were centered on Sexi: Briscoe 1971, 291; *BAtlas* 27 B5 Sexi/Saxentum; *Pleiades* 266038. Map 2.6 indicates these sites as tentative not because their locations are unknown, but because I am using point features as approximate indicators of more geographically dispersed tribes. On

reflect on the geographic reconstruction of Section Two, these areas had not yet seen serious exertions of Roman force. The rebels in 197 were thus unlikely to be overawed by the threat or memory of Roman violence. Notably, Livy gives no further specifics on the revolt in Ulterior; its governor, Lucius Stertinius, returned to Rome in 196 with substantial treasure, but “without hope of a triumph.”¹²⁷ While the rebellion in the south was evidently unsuccessful in restoring *de jure* local independence, it was not suppressed with sufficient vigor to impress either our historical sources or the Roman Senate, and we may suspect that diplomacy and compromise were necessary to restore a semblance of order.

A second revolt, better documented and evidently more serious, broke out in Hispania Citerior at nearly the same time. In 197 or 196, a Roman army was massacred, and its praetor killed in action.¹²⁸ The Senate diverted troops from its consular armies and rushed new praetors to the Iberian peninsula; in late 196, it went so far as to name Hispania Citerior a consular province, sending Cato the Elder west with substantial reinforcements. Both the operational details and broader significance of Cato’s campaigns are subjects of considerable modern debate.¹²⁹ In the rebellion he faced, we may see the lingering effects of previous commanders’ limited geostrategic priorities.

To be sure, the situation in Spain was at least partially restored before Cato’s arrival by Quintus Minucius, who won a major victory over Spanish rebels near the town of Turda; we may

Baeturia: BAtlas 26 D3 Baeturia Celtica; Pleiades 256011; BAtlas 26 E3 Baeturia Turdelorum; Pleiades 256012. The label on Map 2.6 encompasses both territories.

¹²⁷ Livy, 33.27: *ne temptata quidem triumphi spe...*

¹²⁸ Livy, 33.25, and cf. 33.42.

¹²⁹ On Cato’s campaigns: Del Pozzo 1921; Martínez Gázquez 1974; Astin 1978, 28-49; Knapp 1980.

hypothesize a site somewhere near Saguntum.¹³⁰ Nevertheless, Cato inherited a severely compromised Roman position, even on the long-secured coastal plains of the far northeast. Massing his forces at Pyrenaeus, the consul made an amphibious strike against Rhoda, before disembarking his troops at Emporiae.¹³¹ Although the Greeks of Emporiae were stalwart Roman allies, the Spaniards within and outside the city walls were in open rebellion.¹³² While Cato trained his forces on the coast, he received an urgent plea from the Ibergetes for assistance against the rebels; the ambassadors intimated that they would join the uprising if Roman aid was not forthcoming.¹³³ Cato prevaricated, pretending to dispatch troops inland and recalling them after the ambassadors departed.¹³⁴ While Frontinus cites this ruse as an example of shrewd command, it is indicative of a broader collapse of Roman control in Spain, and suggests that in most parts of the peninsula this control was marginal to begin with.¹³⁵ When tested in the crisis of 195, Rome's authority was once again restricted to the immediate striking range of its armies.

Within that range, concentrated Roman forces remained highly effective, as Cato would soon prove. He defeated the Spaniards near Emporiae (archaeological evidence suggests a battlefield at Ullastret) and restored peace to the region; as far as our sources record, this was the

¹³⁰ This is the center of the Turdetani who allied with Hannibal against Saguntum in 219 BCE. See Briscoe 1973, 333; Tovar 1989, 226. The position in Map 2.6 is at Saguntum, and is extremely tentative.

¹³¹ Livy, 34.8. For Pyrenaeus: Astin 1978, 35; Knapp 1980, 28; Briscoe 1981, 67; *BAtlas* 25 I3 Portus Veneris; *Pleiades* 246571. For Rhoda: Astin 1978, 35; Knapp 1980, 26; Briscoe 1981, 67; Keay 1988, 30; *BAtlas* 25 I3 R(h)oda; *Pleiades* 246588.

¹³² *App. Hisp.* 30; Livy, 34.8-9.

¹³³ Livy, 34.11.

¹³⁴ Livy, 34.11-13.

¹³⁵ Frontin. *Str.* 4.7.31.

last reminder Emporiae would need of Roman force, and we hear nothing further of rebellion in the vicinity.¹³⁶ Around the same time, Marcus Helvius (governor of Ulterior) won a major victory over the Celtiberians near a town Livy calls Illiturgi, *Barrington's Ildum*.¹³⁷ Proceeding down the Mediterranean coast towards his victorious colleague, Cato returned at least the appearance of order to the northeast: Livy writes that “by the time [Cato] reached Tarraco, all Spain on this side of the Ebro had been subdued.”¹³⁸

We have good reason to doubt the thoroughness of this pacification: this was not the first time the Romans claimed suzerainty above the Ebro when their armies had barely penetrated past the Mediterranean littoral. As Cato planned his next moves in Tarraco, Livy reveals a telling (and, from the Roman perspective, disturbing) psychological pattern among the recently subdued Spaniards. Rumor spread through the hinterland of Tarraco that Cato had left the city to campaign in Turdetania.¹³⁹ Trouble immediately arose among “the mountaineers of the outlying districts,” most notably the Bergistani (Table 2.8 confirms Livy’s appraisal of their terrain).¹⁴⁰ The fact that Cato suppressed this revolt without notable difficulty does not obviate its importance: at issue is not the tactical capabilities of a Roman consular army, but its ability to turn military victory into lasting control in the absence of standing forces. Though they acted on

¹³⁶ App. *Hisp.* 40; Livy, 34.13-16. On Ullastret: Oliva Prat 1970, 44; Knapp 1980, 33; Keay, 1988, 31; BAAtlas 25 I4 Puig de S. Andreu; Pleiades 246578. Because our ancient sources only name Emporiae as this battle’s spatial context, Ullastret is not included on Map 2.6.

¹³⁷ Livy, 34.10. On Illiturgi/Ildum: Astin 1978, 40; Knapp 1980, 40; Briscoe 1981, 70-71; BAAtlas 27 F1 Ildum; Pleiades 265920.

¹³⁸ Livy, 34.16: *cum Tarraconem venit, iam omnis cis Hiberum Hispania perdomita erat.*

¹³⁹ Its location is a major source of contention. See below.

¹⁴⁰ Livy 34.16: *devios montanos*. On the Bergistani: Astin 1978, 42; Knapp 1980, 35; Briscoe 1981, 79; BAAtlas 25 G4; Pleiades 246239; *TIR* Tarraco 48.

incorrect information, the Bergistani and other inhabitants of the Pyrenean foothills took the putative departure of Cato and his army as license to reject Roman authority. Cato was thus left with a strategic quandary: he could not carry his campaign forward without provoking renewed resistance to his rear.

As I have suggested, this was not a new predicament, but a structural consequence of the Roman way of war. Cato's response—the projection of force upcountry against rebel strongholds—was not novel in type but in extent. Previous commanders had dabbled in warfare over rough terrain; in 195 and subsequent years, the Romans proved more consistently willing to fight on substantially (though still not severely) broken ground.

Having temporarily crushed the Bergistani revolt, Cato launched a wide-ranging campaign to cow the Spaniards of Citerior into obedience. Parts of this advance struck against traditionally level targets along the Spanish valleys and coasts. Appian puts Cato's movements near the Ebro; Segestica, according to Livy the major center of resistance, lay on the river.¹⁴¹ Rome's suppression of the Turdetanian revolt similarly took place on level ground, whether we locate this region on the lower Baetis or (following Robert Knapp) near Saguntum's coastal plains.¹⁴² Yet as Tables 2.7 and 2.8 indicate, Cato ventured onto substantially more broken ground than most of his predecessors. The war in Turdetania entangled Rome's armies with the Celtiberians, 10,000 of whom had been hired as mercenaries by the enemy.¹⁴³ For the first time,

¹⁴¹ App. *Hisp.* 41; Livy, 34.17. Cf. Frontin. *Str.* 1.1.1. The location of Saguntia is controversial, but Knapp 1980, 38 identifies it with the archaeological remains near modern Azaila. Cf. Briscoe 1981, 81.

¹⁴² Livy, 34.19. On the debate over location, see Knapp 1980, Briscoe 1981, 80; contra Astin 1978, 40-42. I center Turdetania around Turda, itself tentatively located somewhere near Saguntum on Map 2.6. For Turdetania on the lower Baetis: BAAtlas 27 A4; Pleiades 266075.

¹⁴³ Livy, 34.17: *omnium Hispanorum maxime imbelles habentur Turdetani.* Cf. 34.19.

Rome projected force into the hills around the upper Tagus river, and encountered substantial difficulties on this terrain. We hear of an inconclusive Roman strike on a rebel supply depot at Saguntia, and when the Celtiberians refused to give battle Cato was ultimately unable to compel them to fight.¹⁴⁴

Returning with a portion of his army to northeastern Spain, Cato used drastic measures to put down the final throes of rebellion still raging in the Pyrenean foothills: his policies of disarmament earlier in the year proved inconsistently successful outside the alluvial plains of the Ebro.¹⁴⁵ In addition to the low-lying Sedetani, the Suessetani and Ausetani provided auxiliaries to the Roman cause. Both tribes had been previously chastised by Roman force, and their loyalty in 195 was the dividend of previous commanders' tentative strikes into the Spanish hills. Yet the Bergistani (according to Table 2.8, by far the most mountain-dwelling of Rome's opponents) remained defiant, as did the Lacetani. In the face of a determined governor and a multi-ethnic coalition of pro-Roman Spaniards, topography failed to protect either tribe. Cato captured the chief town of the Lacetani—Livy leaves it unnamed—before moving against Bergium, the capital of the Bergistani.¹⁴⁶ He arranged for the betrayal of the city by its chieftain, and enslaved the populace.¹⁴⁷ If the probable location of this city at modern Berga (with a local TRI score in the 91st percentile) is correct, the Roman pacification of the Bergistani engaged with broken

¹⁴⁴ Livy, 34.19.

¹⁴⁵ See above, and App. *Hisp.* 41; Livy, 34.17. On the limited extent of the disarmament, see Knapp 1980, 38.

¹⁴⁶ For the Lacetani, Livy, 34.20 and cf. Frontin. *Str.* 3.10.1. On their location: Briscoe 1981, 83; BAtlas 25 G4; Pleiades 246458; contra Fatás Cabeza 1971. On Bergium: Livy, 34.21. The location at Berga is supported strongly by Knapp 1980, 47, and tentatively by Briscoe 1981, 79 and *TIR* Tarraco 48. BAtlas 25 leaves the site unlocated.

¹⁴⁷ Livy, 34.16, 34.21.

ground to a degree unprecedented in the Spanish conquests. Even if our location is mistaken, the aggregated outline of Cato's wars suggest a newfound Roman interest in the Spanish highlands, and an awareness that peace and order in the Iberian peninsula would require the increased exercise of military force in these areas. As Table 2.7 shows, sites of Roman force projection in the first decade after the Battle of Ilipa had an aggregate TRI score in the 1st percentile of the Spanish landscape. In 195, this score jumps to the 29th percentile; it would continue to climb over the subsequent years. Table 2.8 indicates a similar, albeit less dramatic trend for regions of force projection, with a growth from the 42nd percentile before 195 to the 55th during Cato's campaigns.

Cato returned to Rome, claiming the Spanish revolts were at an end, and boasting of administrative rearrangements that would make the Iberian peninsula a lucrative contributor to the Roman treasury.¹⁴⁸ While his claims to victory proved substantially overblown, Roman force projection over the next several years would primarily follow the new geographic patterns set in 195. In 194, we hear of widespread rebellions in both Citerior and Ulterior: the Lusitani are Rome's only named opponent, and their defeat at Ilipa (after plundering far south from their homeland above the Tagus) is the only geographically specific reference to combat.¹⁴⁹ The governor of Citerior, Cn. Scipio's son, waged a campaign somewhere south of the Ebro, receiving 50 local settlements in surrender, but Livy gives us nothing in the way of mappable data.¹⁵⁰ Geographic specifics abound, however, for 193: in Citerior, Gaius Flaminius fought in

¹⁴⁸ Livy, 34.21.

¹⁴⁹ Livy, 35.1. For the Lusitani: BAtlas 25 D4; Pleiades 236528.

¹⁵⁰ Livy, 35.1. Despite these victories, general opinion in 193 was that the war was going poorly: see Livy, 35.2.

Oretania, taking the Spanish settlement of Inlucia and spending the winter in policing actions “against raiding parties of brigands rather than soldiers...”¹⁵¹ On the Tagus river, Marcus Fulvius Nobilior defeated an alliance of the Vaccaei, Vettones, and Celtiberi near Toletum (modern Toledo).¹⁵²

Both governors were prorogued for 192, and Flaminius took the town of Licabrum by assault: it is perhaps Igabrum, though this would put him well into his colleague’s territory.¹⁵³ Nobilior waged a far-reaching campaign, significant enough to receive extensive geographic documentation in Livy’s sources: the historian lists five towns (Vescelia, Helo, Nolibia, Cusibis, and Toletum) among the Roman conquests. Toletum was the most important prize and the only one we can securely locate; Helo was perhaps in the south near Ilipula Minor, Nolibia and Cusibis were evidently somewhere within Oretania, and Vescelia is entirely unknown.¹⁵⁴ Finally, in 190 BCE, Livy preserves a brief episode in which the Lusitani routed Roman forces under Lucius Aemilius Paullus; the historian locates this battle near Lyco in Bastetania (its

¹⁵¹ Livy, 35.7: *per hiemem proelia aliquot nulla memoria digna adversus latronum magis quam hostium excursiones vario tamen eventu nec sine militum iactura sunt facta*. On Oretania: BAtlas 27 B3; Pleiades 265989. Inlucia may be securely identified with Ilugo, in the hills near the Baetis headwaters: Briscoe 1981, 154; BAtlas 27 B3 Ilugo; Pleiades 265929; *TIR* Valencia 289-290.

¹⁵² Livy, 35.7. On the Vaccaei: Briscoe 1981, 155; BAtlas 24 G3; Pleiades 236706. On the Vettones: BAtlas 26 D2; Pleiades 256512. On Toletum: BAtlas 27 A2; Pleiades 266066.

¹⁵³ Livy, 35.22. *TIR* Valencia 199 and Briscoe 1981, 178 identify Licabrum and Igabrum, following Schulten *FHA* 3.197. See contra Tovar 1974, 171-122. The site is unidentified in BAtlas 26 and Pleiades 260592, and its placement on Map 2.6 should be regarded as highly tentative.

¹⁵⁴ Helo can be located only very tentatively at or near Ilipula Minor: Briscoe 1981, 178; Schulten *FHA* 3.197; BAtlas 26 A4 Ilipula Minor; Pleiades 256224; *TIR* Valencia 187 (and cf. Pleiades 260565). On Nolibia and Cusibis: Briscoe 1981, 178; Tovar 1989, 184. On Vescelia: Tovar 1974, 62; Briscoe 1981, 178; BAtlas 26 UNLOC; Pleiades 260660; *TIR* Valencia 337.

specific location is unknown), indicating a considerable Roman advance into the highlands above Carthago Nova.¹⁵⁵

Whether we analyze the locations of Roman force in the late 190s visually (as in Map 2.6) or quantitatively (in Tables 2.7 and 2.8), it is evident that the scope of Roman violence had expanded both laterally and vertically. While the fighting at Ilipa in 194 indicates some continued activity on the well-trodden fields of the Baetis valley, Roman forces also pushed far into the high *meseta* around Toletum, and into Spain's southern mountains around Inlucia, Helo, and Licabrum.¹⁵⁶ Our topographic statistics show an intensification of Cato's upland campaigns. From 194-190 (a convenient point of division, rather than a historical watershed in its own right), the aggregate TRI score for force-projection sites rises to the 40th percentile; with the exception of Ilipa, the ground around any of these sites was likely broken enough to present military difficulties. The regions on Table 2.8 are similarly rugged: though TRI scores dip slightly after Cato's war with the Bergistani, the statistics from 194-190 still exceed the Spanish mean.

While accounts are patchy until the end of the 180s, general trends indicate that over this decade Rome continued its tentative shift into the Spanish hills (see Map 2.7 and Tables 2.9 and 2.10). Livy's account of 186 features level-ground victories over the Celtiberians at Calagurris and against the Lusitanians at Hasta, triumphs that proved predictably unhelpful in bringing the

¹⁵⁵ Livy 37.46, and cf. Oros. 4.20. The Lusitanians were defeated, probably in the same region, in 189; see Livy, 37.57. On Bastetania: BAAtlas 27 C4; Pleiades 265822. Briscoe 1981, 363 seems to envision a territory further west. On Lyco: Briscoe 1981, 363; Tovar 1989, 157; BAAtlas 27 UNLOC; Pleiades 270342.

¹⁵⁶ While Livy records warfare against the Lusitani, Vaccaei, and Vettones, it remains unclear how far (if at all) Roman armies advanced into their territory.

hill-tribes back into allegiance.¹⁵⁷ Roman forces shifted upcountry in 185, marching from Baeturia against Lusitanian forces in Carpetania.¹⁵⁸ Defeated somewhere near Toletum, Rome reverted to its military topography of choice, destroying a joint Celtiberian and Lusitanian army in the plains somewhere along the Tagus river. Further combat may have taken place to the west at Dipo.¹⁵⁹ Again, however, the Spanish insurgency continued: as of yet, the relatively rugged homelands of the Celtiberians had been threatened only briefly by Cato, while we have no record of major Roman actions in Lusitania. Once more, this persistence of the Spanish rebels drew Roman forces upcountry. 184 saw warfare against the Suessetani, Cato's one-time allies in the Pyrenean foothills.¹⁶⁰ 183 brought renewed conflict with the Celtiberians in the wilds of Ausetania, where Rome successfully seized a number of unnamed enemy strongholds. In 182, the Romans besieged and captured Urbiaca, which we may tentatively locate on impressively rugged terrain near the headwaters of the Tagus.¹⁶¹

From 181-179, Rome continued its efforts to deny rugged terrain to the enemy, as the Celtiberians launched the last serious challenge to imperial control in the first generation of

¹⁵⁷ Livy, 39.21. On Calagurris: Briscoe 2008, 294; BAtlas 25 D3 Calagurris (Nassica) Iulia; Pleiades 246279. On Hasta: Taylor 2017, 142; BAtlas 26 D5 (H)Asta; Pleiades 256193. Cf. *ILS* 15.

¹⁵⁸ Livy, 39.30, 39.42.

¹⁵⁹ Livy, 39.30-31. Livy records the Roman defeat "not far from the towns of Dipo and Toletum" (*haud procul Dipone et Toletum urbibus*). Unless there is an otherwise unknown Dipo near modern Toledo, Livy is certainly confused; the reference may preserve a separate, hazily remembered incident at *It. Ant.*'s Dipo far to the west. BAtlas 26 UNLOC; *TIR* Emerita 74-75. Dipo is placed tentatively on Map 2.7 based on the distances recorded in *It. Ant.* 418.3 and noted as tentative. Cf. Briscoe 2008, 324-25.

¹⁶⁰ Livy, 39.42, which notes the capture of the unlocated town of Corbio: Tovar 1989, 41-42, 435; Briscoe 2008, 357; BAtlas 25 UNLOC; *TIR* Caesaraugusta 106.

¹⁶¹ Livy, 40.16. Opinions vary on the identity and location of Urbiaca. Map 2.7 tentatively follows the mileage for Urbiaca in *It. Ant.* 447.5. See Richardson 1986, 100; Tovar 1989, 225; Briscoe 2008. Note BAtlas 25 UNLOC; Pleiades 270381.

Roman Spain (and the last conflict within the chronological bounds of this chapter). Against 35,000 Spanish rebels (“a greater number, almost, than ever before”) the governor Fulvius Flaccus’ campaigns in 181 reflected an increasingly standard mixture of intensive combat in the plains and dispersed, hazily remembered activity in the highlands.¹⁶² The Romans defeated the main Celtiberian army at Aebura in the Tagus valley; while its position is uncertain, Livy notes that “the plain was entirely flat and suitable for fighting.”¹⁶³ A second victory on more rugged terrain followed when the Celtiberians failed to challenge a siege at Contrebia, and the city fell to the Romans.¹⁶⁴

While neither of these actions took place in the most rugged sectors of Celtiberia, there are indications of less intensive but more geographically widespread campaigning across the hills of the region; Livy briefly summarizes Flaccus’ piecemeal victories over the Celtiberians, “all scattered in their forts and villages.”¹⁶⁵ Appian records further combat in the mountainous territory of the Lusones, with combat centered on the city of Complega (perhaps in the vicinity of Chaunus M.).¹⁶⁶ In a speech preserved by Livy, Tiberius Gracchus the Elder (who would

¹⁶² Livy, 40.30: *ad quinque et triginta milia hominum, quantum numquam ferme antea, Celtiberi comparaverant.*

¹⁶³ Livy, 40.30-32: *campus erat planus omnis et aptus pugnae.* The location in Map 2.7 is drawn from the *Rav. Cosm.* 312.11, and is quite tentative; however, Livy’s account confirms that a level battle-site in Carpetania, presumably along the Tagus, is meant. Cf. Tovar 1989, 235; Briscoe 2008, 486-487; BAtlas 26 UNLOC Libora; Pleiades 260591.

¹⁶⁴ Livy, 40.33. On Contrebia: Briscoe 2008, 490; BAtlas 25 D4; Pleiades 246355.

¹⁶⁵ Livy, 40.33: *in vicos castellaque sua omnes dilapsi.* Cf. Livy, 40.35.

¹⁶⁶ App. *Hisp.* 42 and Tovar 1989, 340. For the Lusones: see Richardson 2000, 139-40 and maps in Richardson 1996, 11; Keay 1998, 9. On Complega: see Burillo Mozota 1986, 536-39 and *TIR* Caesar Augusta 101 for a tentative location near Mt. Chaunus (modern Moncayo; BAtlas 25 D4 Caius M.; Pleiades 246276). See contra Richardson 2000, 140. Diod. Sic. 29.28 puts this battle at the Cemeletae, unlocated and probably a textual error for Complega.

bring this revolt to a close in 179) reflected on the necessity for such fighting, and the geospatial dynamics of Roman control: “It is easier to talk about than to accomplish, this subjugation of a province fierce by nature and rebellious. A few cities, as at least I hear, which the neighborhood of the winter-quarters kept most completely under control, have come under our rule and sway; the more remote are in arms.”¹⁶⁷

Forty years after its entry into the Spanish peninsula, Rome continued to learn that battles in the plains did not win loyalty in the hills. Gracchus’ Spanish campaigns (along with Flaccus’ final combat in 180) reflected this knowledge, and reaffirmed the commitment to warfare on broken ground evident since 195. Flaccus began the year by ravaging “the remoter regions of Celtiberia;” he defeated the rebels in battle at the Manlian Pass (*Manlianus Saltus*), in the rugged mountains south of the Ebro valley.¹⁶⁸ In 179, Gracchus coordinated offensives with his colleague in Ulterior (Postumius Albinus, who led a successful but poorly recorded invasion against the Lusitanians and Vaccaei), before capturing and garrisoning the city of Munda.¹⁶⁹ As he marched across Celtiberia, 103 towns and numerous tribes fell under Roman authority: drawing on annalistic sources, Livy names Certima, Alce, and Ergavica as the most important prizes.¹⁷⁰ While Alce sits on the plains of the upper Tagus, Ergavica and perhaps Certima were

¹⁶⁷ Livy, 40.35: *dictu quam re facilius est provinciam ingenio ferocem, rebellatricem confecisse. paucae civitates, ut quidem ego audio, quas vicina maxime hiberna premebant, in ius dicionemque venerunt; ultiores in armis sunt.*

¹⁶⁸ Livy, 40.39-40: *educto exercitu ex hibernis ulteriorem Celtiberiae agrum, unde ad deditionem non venerant, institit vastare.* On the Manlian Pass: Briscoe 2008, 508; BATlas 25 D4 Manlianus Saltus; Pleiades 246484; *TIR* Caesaraugusta 146-47.

¹⁶⁹ Livy, 40.47. Munda can be identified with modern Munébriga: *Neue Pauly* s.v. Munda. Cf. Tovar 1989, 224-25; Briscoe 2008, 535, for debate.

¹⁷⁰ Livy, 40.47-49.

highland strongholds (with considerable TRI scores: see Table 2.9).¹⁷¹ Some of Livy's sources refer to further fighting in the Chaunus Mountains—certainly rugged and perhaps identical to *Barrington's Mons Caius*.¹⁷²

To be sure, Gracchus projected power onto level ground as well: Appian records fighting at Caravis in the Ebro Valley, and the governor founded Gracchuris on the river itself to celebrate and secure his victories.¹⁷³ But as the statistical analysis on Tables 2.9 and 2.10 indicates, Tiberius Gracchus (and, to a lesser extent, his predecessors in the 180s) continued a shift in violence towards rugged terrain that began under Cato the Elder. After decades of wars that, despite their successful prosecution, produced little in the way of lasting political control, the Romans were increasingly willing to alter the geographic disposition of their forces, a strategic shift captured in quantitative terms on Table 2.11. Rome's new approach balanced traditional antipathy to rough terrain against the hard-won knowledge that its control over Spain could not rest entirely on level ground.

¹⁷¹ On Alce: Tovar 1989, 216; Briscoe 2008, 536; BAtlas 27 B2 Alce(s); Pleiades 265790. On Ergavica: Briscoe 2008, 539; BAtlas 25 B5 Ercavica; Pleiades 252200. Cf. Plin. *HN*. 3.24; Ptol. *Geog.* 2.6.58. Certima can be placed only very tentatively based on early 20th century speculation by Schulten in *RE* 16.558, who places it near modern Almazán on the upper Duero. Cf. Briscoe 2008, 535.

¹⁷² Livy, 40.50. The placement on Map 2.7 is based on the suggestion of Briscoe 2008, 539 of a connection with M. Caius (BAtlas 25 D4; Pleiades 246276).

¹⁷³ App. *Hisp.* 43. Livy, *Per.* 41.2-4. On Caravis: Richardson 2000, 140; BAtlas 25 D4; Pleiades 246292. Cf. *It. Ant.* 443.1. On Gracchuris: BAtlas 25 D3 Ilurcis/Grac(ch)urris; Pleiades 246435.

Section Four: Sequels and Implications

Alongside L. Postumius' less documented but equally triumphant campaigns against the Lusitanians, Gracchus' victories brought a generation of relative peace to Spain.¹⁷⁴ Appian rightly praises Tiberius' diplomatic acumen: "he made carefully defined treaties with all the tribes, binding them to be the friends of Rome, and giving and receiving oaths to that effect. These treaties were often longed for in subsequent wars."¹⁷⁵ In light of this chapter's geographic reconstruction, I would argue that Gracchus' successful negotiations had as much to do with shifting patterns of Roman violence as with his own charisma. By increasing the frequency of major operations on broken ground between 195 and 179, Rome demonstrated its commitment to expansive control, its willingness to engage with hostile terrain in order to deny its opponents a place of refuge. By gradually shifting the foci of violence into the hills, Cato, Gracchus, and their colleagues had taught the Spaniards to fear the legions. With fear a crucial component of Rome's diplomatic toolkit, it should come as no surprise that Spanish tribes were more willing to accept and abide by Roman authority, now that this authority was backed by credible threats of devastating retribution.¹⁷⁶

¹⁷⁴ Curchin 1991, 33. Livy's record survives down to 167 BCE: he mentions a minor uprising by the Celtiberians in 174 (Livy, 41.26) and the Roman conquest of Margolica in 168 (Livy, 45.4; its location is unknown, see Briscoe 2012, 618). Appian makes no mention of Spanish conflict between 179 and 153 BCE.

¹⁷⁵ App. *Hisp.* 43: καὶ πᾶσιν ἔθετο τοῖς τῆδε συνθήκας ἀκριβεῖς, καθ' ἃ Ῥωμαίων ἔσονται φίλοι: ὄρκους τε ὤμοσεν αὐτοῖς καὶ ἔλαβεν, ἐπιποθήτους ἐν τοῖς ὕστερον πολέμοις πολλακίς γενομένους. Cf. Plut. *Ti. Gracch.* 5.

¹⁷⁶ Knapp 1977, 52.

Peace would not last more than a generation, and from 155 to 133 Rome waged a series of bitter conflicts to re-impose control in the face of Lusitanian and Celtiberian rebellions.¹⁷⁷ In the interests of space, this chapter will not attempt a detailed survey of these long and complicated wars, nor of the century of scantily documented conflicts that followed. Upon preliminary analysis, however, some of the toponyms preserved in our sources down through Augustus' Spanish campaigns indicate that Rome maintained and even intensified its projection of military force onto broken ground. Numantia and Termantia, strongholds during the Celtiberian wars, were located in the imposing hills around the upper Durius river.¹⁷⁸ In 60, Julius Caesar fought in the rugged Herminian Mountains (in central Portugal) so that the locals "might not use their strongholds as a base for marauding expeditions."¹⁷⁹ Finally, while the details of their geography are difficult to untangle, Augustus and Agrippa's wars advanced Roman force even into the heights of the Cantabrian mountains.¹⁸⁰ There is no reason to suspect that the Romans ever abandoned their well-attested leeringness towards broken ground warfare, and much military activity and civil development continued to be centered on level terrain. Yet at least in some cases, the rewards of deep and expansive imperial control over the Iberian

¹⁷⁷ The fullest account of this war is Simon 1962, though see also Keay 1988, 33-42; Curchin 1991, 33-39. Our major literary source is App. *Hisp.* 44-98.

¹⁷⁸ App. *Hisp.* 46, 76-77, 89-98.

¹⁷⁹ Dio Cass. 37.52-53: μή ἀπὸ τῶν ἐρυμνῶν ὀρμώμενοι ληστεύουσιν.

¹⁸⁰ Dio Cass. 53.25-26; 54.20; Jones 1976; Keay 1988, 44-46; Curchin 1991, 52-53.

peninsula outweighed the military risk of rugged environments, and the agents of Roman force marched up-country.¹⁸¹

A full GIS analysis of these later wars is a promising avenue for future research. For the moment, however, let us pause to reflect on what the geospatial analysis of Rome's early conquests in Spain adds to our historical understanding of warfare and imperialism in this region.

As noted at the outset, part of this chapter's purpose is to revisit the military historiography of Rome's Spanish wars, and in particular to nuance the over-simplified vision of the Roman conquest presented by Robert Knapp and Stephen Dyson.¹⁸² As I have acknowledged, there is much to admire about both works. Nevertheless, the geographic reconstructions of this chapter make it difficult to accept Knapp and Dyson's narrative of steady Roman expansion, one which progresses along clearly defined fronts to well established borders. The concept of a Roman frontier sweeping forward across the Iberian peninsula overlooks mountainous regions where we have no literary evidence for intensive military activity, and where Roman authority rested on cooperation as much as compulsion. This concept neglects to explain how Toledo and the central Tagus river, deep in the Spanish interior, fell under Roman control earlier and more completely than Lusitania or Celtiberia. As this chapter has suggested, Roman force and control certainly advanced in Spain, but the most important pattern in their geographic shift was vertical rather than lateral.

¹⁸¹ Though our sources are never explicit on this point, we may perhaps implicate the broken ground combat of the Celtiberian War in Rome's tremendous difficulties recruiting and motivating its Spanish armies. See App. *Hisp.* 49; Livy, *Per.* 48.16; Polyb. 35.4.

¹⁸² Knapp 1977, 15-57; Dyson 1987, 174.

The existence of this pattern also allows us to revisit one of John Richardson's central claims about the development of Roman rule in Spain, namely that this was a halting process without clear central coordination, its progress relying on the initiative of individual commanders.¹⁸³ To be sure, I would argue that Richardson's assessment of Rome's Spanish wars has much to recommend it. As this chapter's spatial reconstruction has indicated, Roman decision-making varied year-to-year, even if we can perceive some trends over the long term. Within the parameters of his argument (more concerned with the relationship between the Senate and its generals than that between these commanders and the Spaniards themselves), Richardson makes the persuasive case that Roman governors *in provincia* had substantial flexibility of action.

However, the analyses in this chapter suggest that, whatever their legal authority, Roman commanders tended to deal with space and terrain in a predictable way, and that Rome's policy in Spain was more consistent than Richardson allows. Rome's preference for level ground was never expressed as doctrine. The Romans lacked the institutional structures to do so, yet their most important battles tended to be fought in the plains nonetheless. Even if Rome lacked the rhetorical forms we associate with modern strategy, its projection of military force shifted, haltingly but progressively, in response to its ultimate political goals in the Iberian peninsula. This is not the place for a semantic argument over whether the evidence supports a Roman strategy, grand or otherwise, in Spain.¹⁸⁴ For the moment I will merely suggest that between 218 and 179 BCE, cultural modes of thought and action surrounding broken terrain played an

¹⁸³ Richardson 1986, 42-43, 55, 172-80.

¹⁸⁴ Though on this question, see especially Isaac 1990, with a convincing rebuttal in Wheeler 1993a and 1993b.

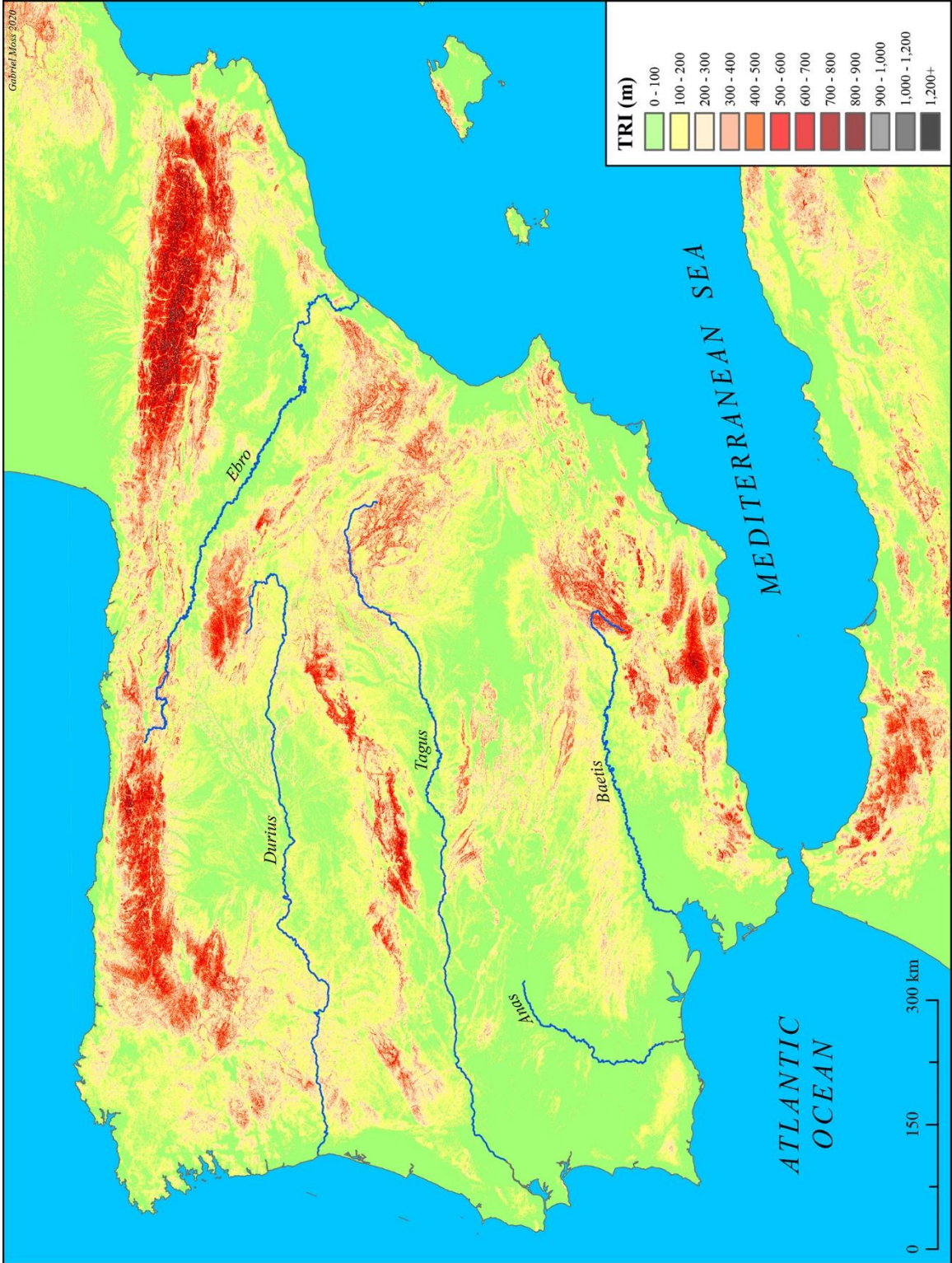
important role in shaping Roman deployment. While such thought may never have been formalized to the level of “strategy,” the Roman military does appear to have possessed not just Chapter One’s *modus cogitandi*, but a practical *modus operandi* that shaped how it conceived and executed its mission over the physical landscape.

By way of conclusion, let us consider our Spanish case study’s broader implications for understanding Roman military imperialism. First and foremost, geospatial analysis of Rome’s early wars in the Iberian peninsula indicates that the *topoi* of Chapter One had a practical impact beyond the Greco-Roman literary sphere. When we analyze the sites of military activity, Roman warfare does relate to the physical landscape in consistent and predictable ways. Ancient antipathy to broken ground is not a literary *topos* alone, but an important set of cultural and strategic preferences that shaped the real-world deployment of imperial violence.

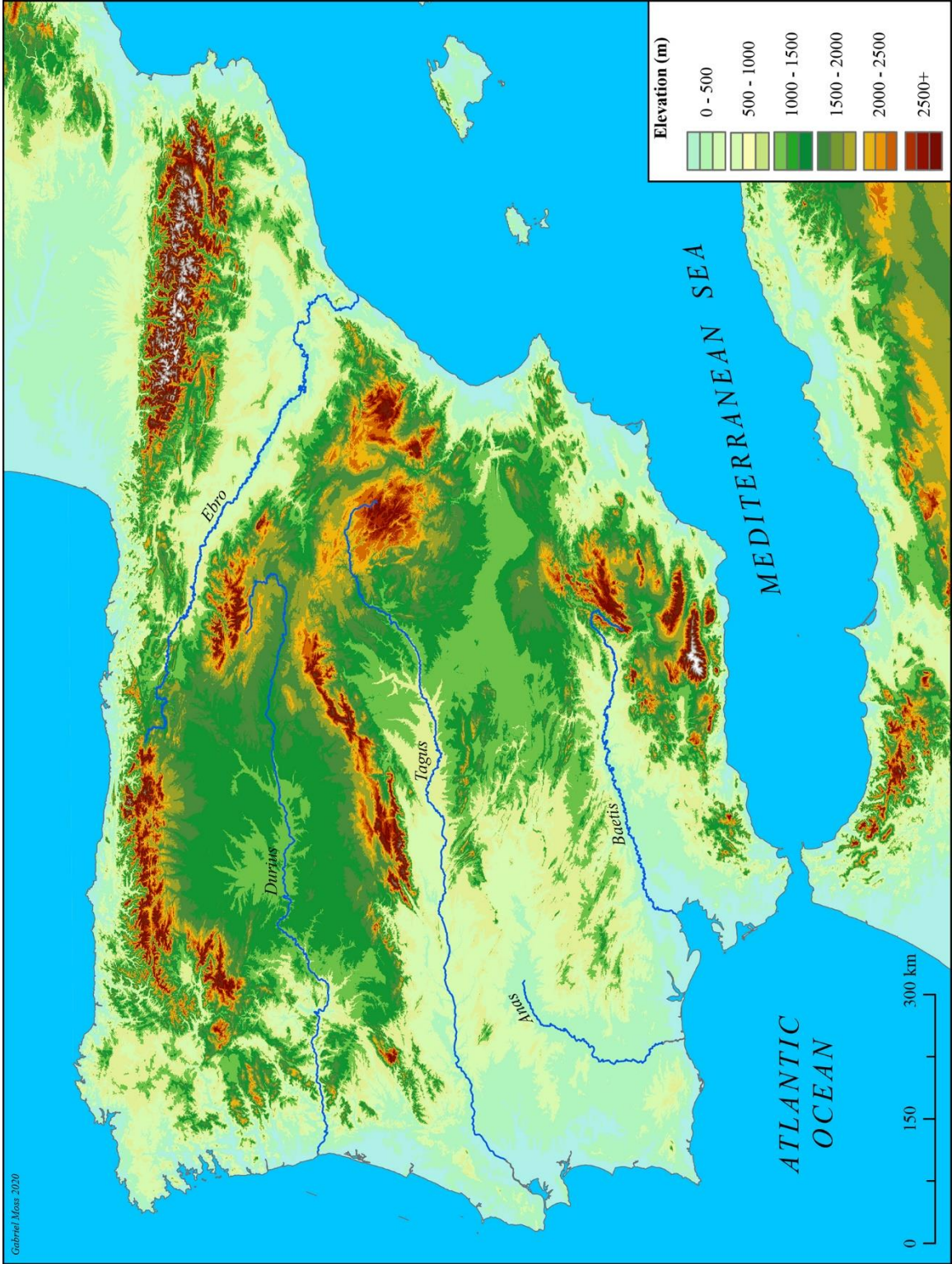
Moreover, this chapter’s spatial narrative of the Spanish wars, and in particular the gradual migration of violence up-country in the face of continued insurrection, suggests an important corollary to the Roman preference for level-ground warfare. As imperial forces preferred to project force on the plains, so local resistance was most likely to manifest itself on broken ground, where insurgents not only possessed the crucial defensive advantages discussed in Chapter One, but also where serious Roman retribution was less likely to occur. Rome’s relationship with the hill-tribes of Spain, most notably the Bergistani, Lusitani, and Celtiberi, suggests that locals were well aware of Rome’s geospatial priorities and predilections: it was hardly a secret that Rome preferred not to launch major attacks far from level ground. Opportunistic locals took advantage of this knowledge to resist Roman authority over rugged terrain, driving a harder bargain for their quiescence and erupting more readily to violence at signs of Roman weakness. It was this dynamic, played out through two generations of Roman

rule, that necessitated the gradual shift we see in Roman force projection: to rule the highlands, Romans had to present a credible threat of violence against them.

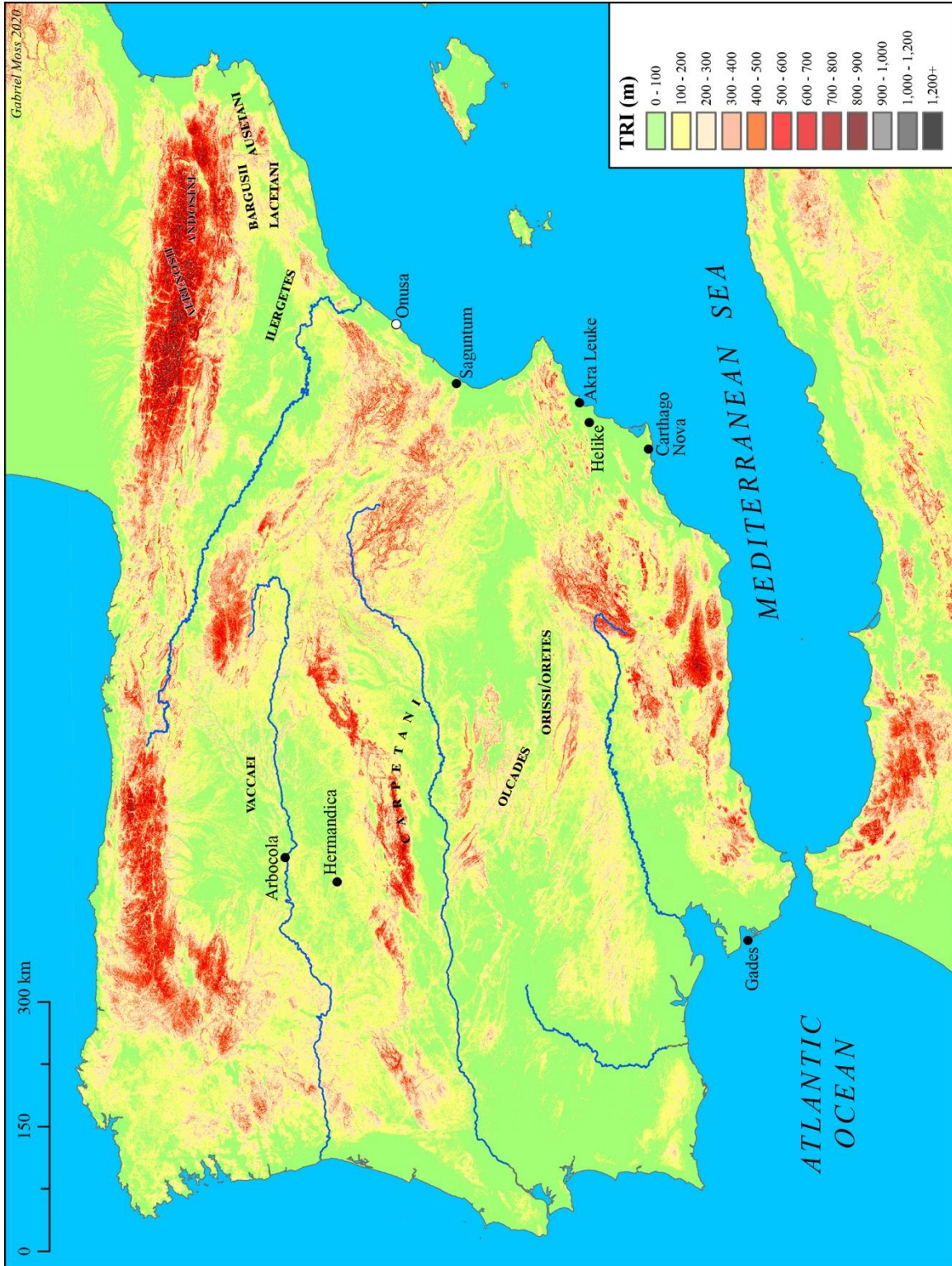
In short, the dynamics of Roman force and control depended not merely on Rome's military and political relationship with the physical environment, but also on local perceptions of that relationship. If we shift our perspective from Rome to its potential opponents, we see that resistance was thus similarly conditioned by the physical landscape, and that environmental challenges to Roman force presented opportunities for rebellion. The role of terrain in rebellion and the local rejection of Roman control is the subject of the next chapter, which examines resistance and insurgency in the context of the Jewish Revolt of 66 CE.



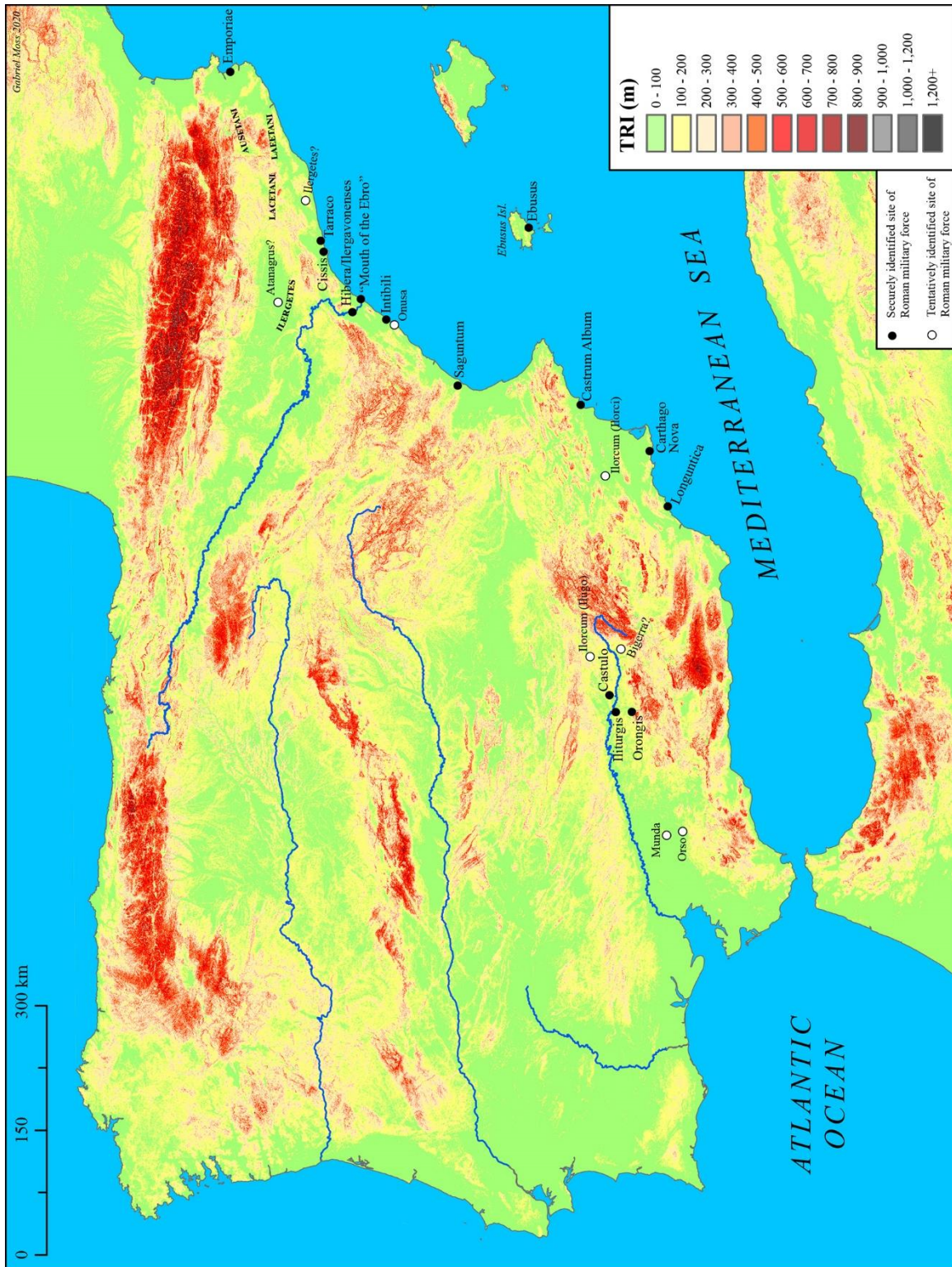
Map 2.1: Spain TRI Overview



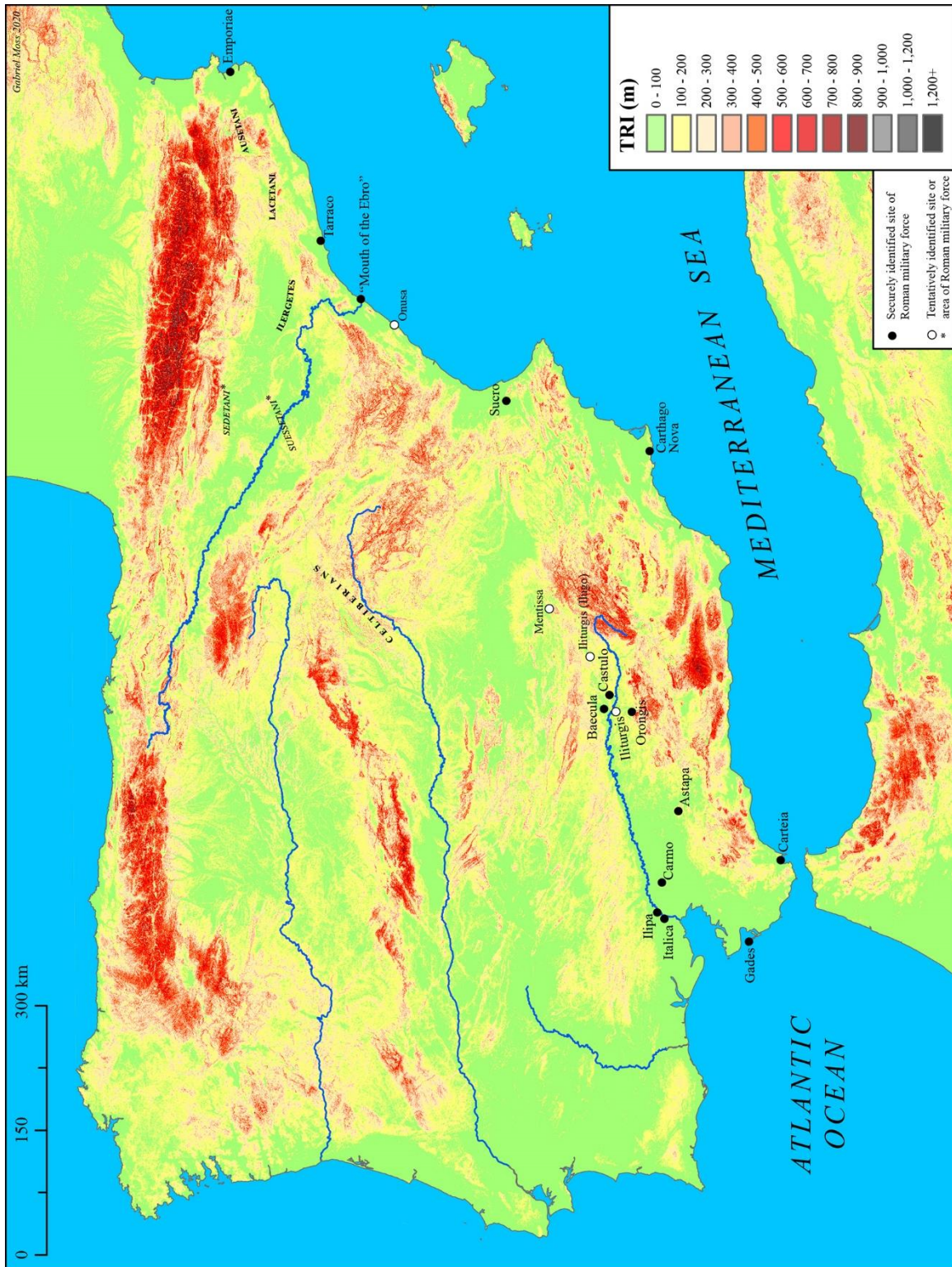
Map 2.2: Spain Elevation Overview



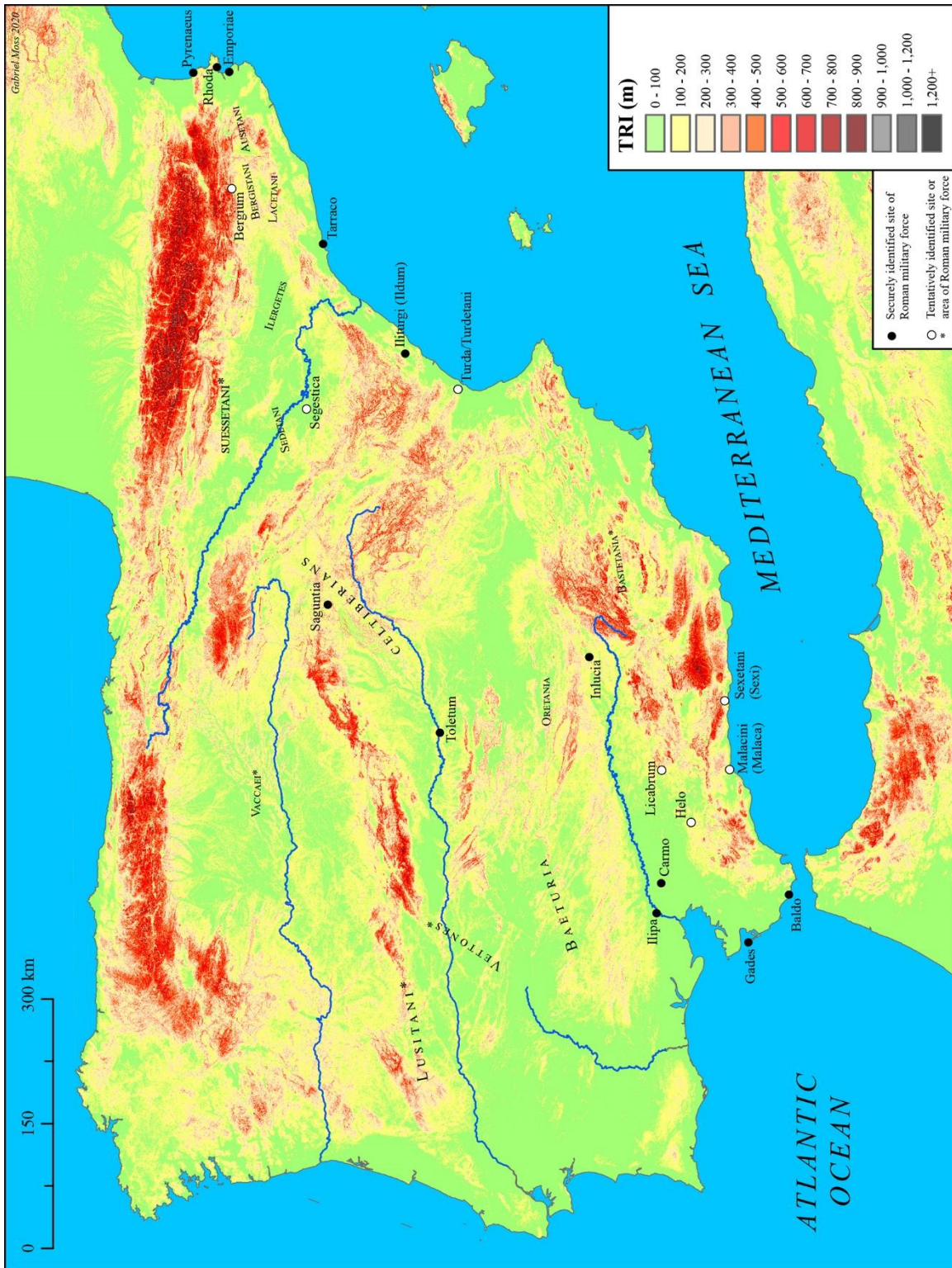
Map 2.3: Carthaginian Force Projection, 237-218 BCE



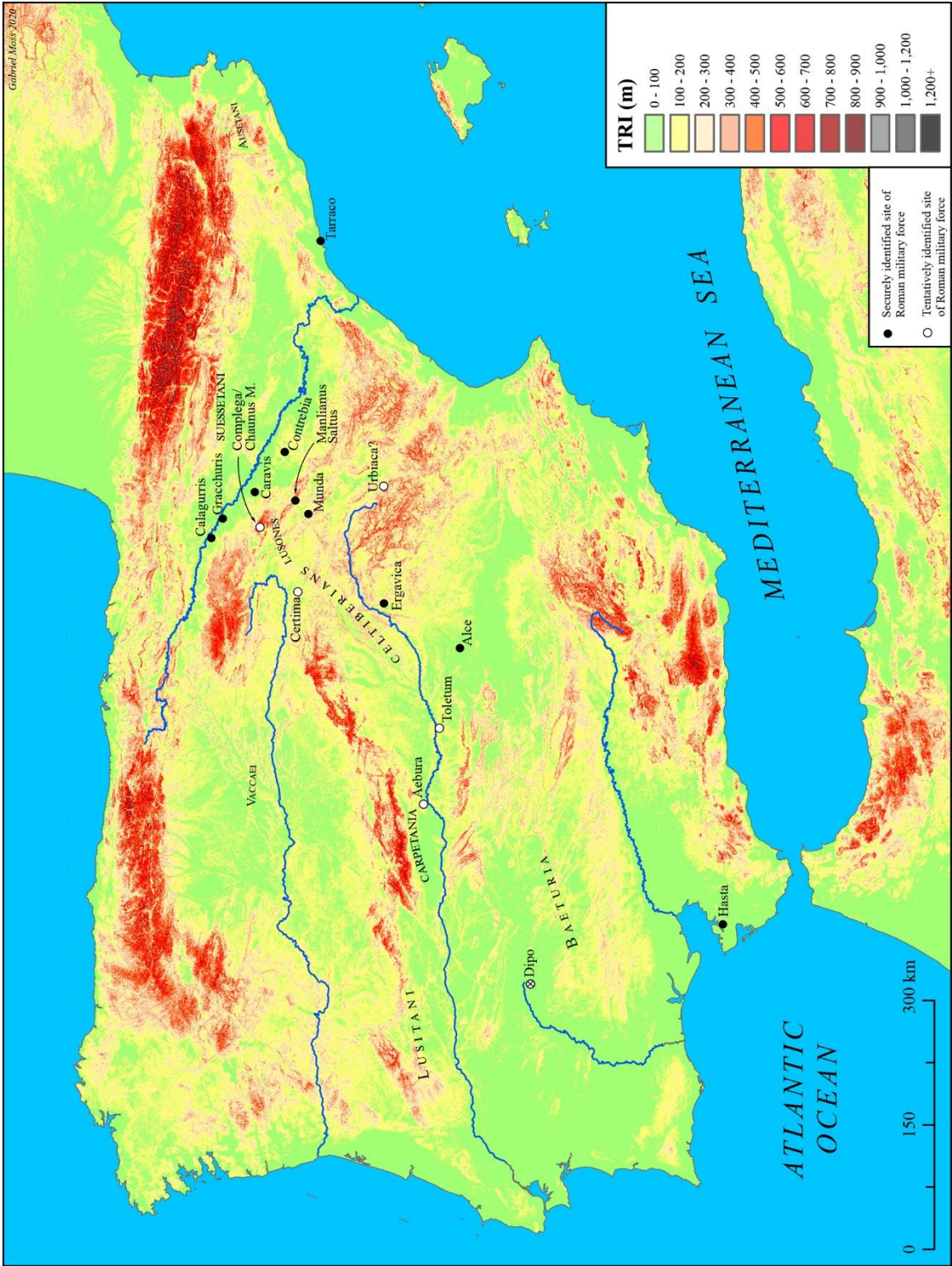
Map 2.4: Roman Force Projection, 218-211 BCE



Map 2.5: Roman Force Projection, 210-206 BCE



Map 2.6: Roman Force Projection, 205-190 BCE



Map 2.7: Roman Force Projection, 189-179 BCE

Site	Notes	TRI Mean (10 km)	Percentile Rank
Akra Leuke		23.07	0.01
Gades		2.33	0.00
Helike		33.79	0.03
Carthago Nova		35.76	0.03
Arbocola		103.13	0.28
Hermandica		111.87	0.33
Saguntum		48.34	0.05
Onusa	tentative	40.40	0.04
	AVERAGE	49.84	0.05
	AVERAGE (237-221)	23.74	0.01
	AVERAGE (220-218)	75.93	0.16

Table 2.1: Sites of Carthaginian Force Projection, 237-218 BCE

Region	TRI/km ²	Percentile Rank
Orissi/Oretes/Oretania	14744	0.57
Olcades	14915	0.58
Vaccaeii	9734	0.31
Carpetani	14120	0.55
Ilergetes	10021	0.33
Bargusii	21320	0.80
Aerenosii	40019	0.98
Andosini	41406	0.98
Ausetani	14713	0.57
Lacetani	13099	0.49
AVERAGE	19409	0.75
AVERAGE (Before the Fall of Saguntum)		0.51
AVERAGE (After the Fall of Saguntum)		0.84

Table 2.2: Regions of Carthaginian Force Projection, 237-218 BCE

Site	Notes	TRI Mean (10 km)	Percentile Rank
Emporiae		17.17	0.01
Cissis		13.65	0.00
Tarraco		21.45	0.01
Atanagrus	tentative	52.21	0.06
"Mouth of the Ebro"		10.39	0.00
Carthago Nova		35.76	0.03
Onusa	tentative	40.40	0.04
Longuntica		43.00	0.04
Ebusus		38.75	0.04
Saguntum		48.34	0.05
Hibera		65.32	0.11
Intibili		27.80	0.02
Castrum Album		23.07	0.01
Iliturgis		98.11	0.25
Castulo		104.71	0.29
Bigerra	tentative	156.86	0.54
Munda	tentative	51.49	0.06
Orongis		181.70	0.63
Ilorcum (Ilorci)	tentative	62.51	0.10
Ilorcum (Ilugo)	tentative	172.39	0.60
Orso	tentative	73.07	0.14
	AVERAGE	63.72	0.10

Table 2.3: Sites of Roman Force Projection, 218-211 BCE

Region	TRI/km ²	Percentile Rank
Laetani	8772	0.26
Ilergetes	10021	0.33
Lacetani	13099	0.49
Ausetani	14713	0.57
AVERAGE	11651	0.42

Table 2.4: Regions of Roman Force Projection, 218-211 BCE

Site	Notes	TRI Mean (10 km)	Percentile Rank
Mentissa	tentative	144.96	0.48
Emporiae		17.17	0.01
Tarraco		21.45	0.01
"Mouth of the Ebro"		10.39	0.00
Carthago Nova		35.76	0.03
Onusa	tentative	40.40	0.04
Castulo		104.71	0.29
Baecula		96.90	0.25
Orongis		181.70	0.63
Ilipa		18.84	0.01
Carmone		35.78	0.03
Iliturgis	tentative	98.11	0.25
Iliturgis (Ilugo)	tentative	172.39	0.60
Astapa		105.06	0.29
Sucro		36.23	0.03
Carteia		35.58	0.03
Gades		2.33	0.00
Italica		23.48	0.01
	AVERAGE	65.62	0.11

Table 2.5: Sites of Roman Force Projection, 210-206 BCE

Region	Notes	TRI/km ²	Percentile Rank
Ausetani	Tentative	14713	0.57
Celtiberians		15675	0.61
Ilergetes		10021	0.33
Lacetani		13099	0.49
Suessetani		15583	0.61
Sedetani		8802	0.26
	AVERAGE	12982	0.49

Table 2.6: Regions of Roman Force Projection, 210-206 BCE

Site	Notes	TRI Mean (10 km)	Percentile Rank
Gades		2.33	0.00
Carmo		35.78	0.03
Baldo		38.15	0.04
Turda	Tentative	48.34	0.05
Pyrenaeus		71.14	0.13
Rhoda		53.83	0.07
Emporiae		17.17	0.01
Tarraco		21.45	0.01
Segestica	Tentative	66.01	0.11
Iliturgi (Ildum)		125.66	0.39
Saguntia		208.29	0.73
Bergium	Tentative	323.11	0.91
Ilipa		18.84	0.01
Inlucia		172.39	0.60
Toletum		117.07	0.36
Licabrum	Tentative	188.18	0.65
Helo	Tentative	136.87	0.44
	AVERAGE	96.74	0.25
	AVERAGE (205-196)	25.42	0.01
	AVERAGE (195)	103.89	0.29
	AVERAGE (194-190)	126.67	0.40

Table 2.7: Sites of Roman Force Projection, 205-190 BCE

Region	Notes	TRI/km ²	Percentile Rank
Ilergetes		10021	0.33
Ausetani		14713	0.57
Sedetani		8802	0.26
Malacini (Malaca)		11396	0.41
Sexetani (Sexi)		13514	0.51
Baeturia		11820	0.43
Celtiberians		15675	0.61
Turdetani (Turda/Saguntum)	tentative	6846	0.16
Bergistani		21320	0.80
Suessetani		15583	0.61
Lacetani		13099	0.49
Lusitani	tentative	13408	0.51
Oretania		14745	0.57
Vaccaeii	tentative	9734	0.32
Vettones	tentative	10066	0.34
Bastetania	tentative	20781	0.79
	AVERAGE	13063	0.49
	AVERAGE (205-196)	11711	0.42
	AVERAGE (195)	14235	0.55
	AVERAGE(194-190)	13747	0.53

Table 2.8: Regions of Roman Force Projection, 205-190 BCE

Site	Notes	TRI Mean (10 km)	Percentile Rank
Hasta		24.54	0.01
Calagurris		86.31	0.20
Dipo	Tentative	48.80	0.05
Toletum		117.07	0.36
Urbiaca	Tentative	251.84	0.82
Aebura	Tentative	103.65	0.29
Contrebia		133.38	0.43
Complega/Chanus M.	Tentative	337.13	0.92
Manlianus Saltus		232.68	0.78
Tarraco		21.45	0.01
Munda		200.34	0.70
Certima	Tentative	160.10	0.55
Alce		70.96	0.13
Ergavica		169.40	0.58
Caravis		86.27	0.20
Gracchuris		58.60	0.08
	AVERAGE	131.41	0.42

Table 2.9: Sites of Roman Force Projection, 189-179 BCE

Region	TRI/km ²	Percentile Rank
Lusitani	13408	0.51
Celtiberians	15675	0.61
Baeturia	11820	0.43
Carpetania	14120	0.55
Suessetani	15583	0.61
Ausetani	14713	0.57
Lusones	14432	0.56
Vaccae	9734	0.32
AVERAGE	13686	0.52

Table 2.10: Regions of Roman Force Projection, 189-179 BCE

Period	Sites		Regions	
	TRI Mean (10 km)	Percentile Rank	TRI/km ²	Percentile Rank
218-211	63.72	0.10	11651	0.42
210-206	65.62	0.11	12982	0.49
205-196	25.42	0.01	11711	0.42
195	103.89	0.29	14235	0.55
194-190	126.67	0.40	13747	0.53
189-179	131.41	0.42	13686	0.52

Table 2.11: TRI Averages by Period

CHAPTER THREE TERRAIN AND RESISTANCE IN THE FIRST JEWISH REVOLT (66-73 CE)

Among the revolts against Roman rule in the first century CE, the Jewish uprising from 66 to 73 was perhaps the most serious.¹ Like every other revolt of this period, it was also unsuccessful, and the Jews paid a staggering human and religious price for their insurrection. As we saw in Spain, Roman antipathy to broken ground had its limits, and the hills of Judaea and Galilee ultimately proved to be inadequate bases for lasting rebellion. It remains important to couch in relative terms the opportunities for resistance and insurgency which broken ground provided; as the surviving siege-works at Masada testify, there was little that the concentrated power of the Roman army could not accomplish, even on exceptionally hostile ground.

If, however, we shift our focus from the ultimate collapse of the Jewish revolt to the heady enthusiasm of its early days, we find in the initial outbreak clues to the broader patterns of space and violence which held the Mediterranean world under Roman rule. This chapter argues that the geographical foci and strongpoints of the early Jewish revolt may be found predominantly on broken ground. This war, recorded from the perspective of a (former) Roman enemy, confirms a trend glimpsed, however hazily, in the behavior of Chapter Two's Spaniards: rugged terrain was not only a source of discomfort for the Romans but also a source of hope for its enemies, who shared in the Roman belief that hills and mountains might let weaker locals

¹ Unless otherwise noted, all dates in this chapter are CE.

defeat stronger foreign foes. Through GIS analysis of two case studies—the initial Jewish victory at Beth Horon, and Josephus’ subsequent mission to defend Galilee—we see broken ground in its role as an incubator of resistance.

The Jewish wars of the mid-first century CE provide a particularly promising focus for this dissertation’s questions of terrain, force, and control. At the level of “battle history,” rough terrain is an unavoidable feature of the Jewish rebellion, a conflict bookended by two famous engagements in which rugged terrain played a crucial role. The war began in earnest in 66 with the ambush of Roman forces at Beth Horon, a steep pass north of Jerusalem. It came to a close in 73 (or perhaps 74) at Masada, today the most famous hill-fort from the Roman world and an important site in Israel’s national mythology.² As this chapter will argue, however, historians can use the Levantine terrain not just as an explanatory device for tactical history, but as a strategic, structural factor which influenced both the outbreak of the revolt itself and broader patterns in Roman control over Judaea.

Beyond the *prima facie* relevance of broken ground to the conflict, the Jewish revolt presents a uniquely appealing area of investigation because of the historical record provided by Flavius Josephus, whose *Jewish War* and autobiographical *Life* provide extensive coverage of the conflict. Not only do these works provide the most detailed extant account of a rebellion against Roman rule, they are the only major source from this period written by an erstwhile enemy of the empire: a leader in the Jewish community, Josephus commanded forces in Galilee in 66 and 67, before being captured by Vespasian and ultimately joining the future emperor’s

² Ben-Yehuda 1995. On the date of the Roman siege, Cotton 1989, 157-62. Note that while this chapter’s case studies do not address the role of Masada in the Jewish Revolt, the use of this base as refuge of last resort broadly supports my findings.

network of clients.³ To be sure, Josephus is not a simple author to decipher, nor is he always truthful.⁴ Yet with careful handling he provides unmatched insight into the dynamics of a provincial revolt: its motivations, factional divides, hopes for success, and ultimate failures.

While this is not the place for a full narrative of the Jewish War, a very brief historical overview will serve to establish context. Judaea fell under Roman control with Pompey's campaigns in the 60s BCE. For half a century, it remained (for the most part) a loyal client kingdom under Hasmonean and then Herodian rulers.⁵ After an abortive revolt following the death of Herod the Great (4 BCE) and the intolerable reign of Archelaus, Judaea was turned into a province in 6 CE.⁶ The sixty years separating provincialization and revolt were also fraught with internal conflicts among the Jews themselves, as well as periodic clashes with their neighbors and the Roman authorities.⁷ Rebellion broke out in 66 during the procuratorship of

³ Despite his perspective as a one-time outsider to the Roman world, Josephus wrote primarily for a Roman audience; Mason 2016, 99.

⁴ This chapter adopts a relatively positive approach to Josephus' quality as a historian, but continues to treat his accuracy on a case-by-case basis. For arguments against Josephus' reliability, see: Weber 1921; Cohen 1979; Rappaport 1994, 279-89;. For more charitable assessments of Josephus, see Rajak 1983; Miller 2001, 453-67; Curran 2007, 75-91; Mason 2016.

⁵ Mason 2016, ch. 4. Mason's monumental analysis of the first revolt is now the definitive work on the subject.

⁶ Millar 1993, 44. Millar and Mason 2016, 240 disagree on the administrative status of Judaea, with Mason arguing that it was attached to the larger province of Syria. Mason's evidence is persuasive, though for our purposes the precise administrative configuration of the Roman Near East matters little; we can be confident that Judaea was overseen by either a Prefect or Procurator (who reported either formally or informally to the legate of Syria), and possessed an auxiliary garrison.

⁷ Farmer 1956; Hengel 1961; Isaac 1992, 55. On the contrary, Mason 2016, 214, 262, and ch. 4 *passim* argues that Romano-Jewish tensions in this period have been overstated.

Gessius Florus, when the priests of the Temple ceased sacrifices for the emperor Nero, and rebels besieged and massacred the auxiliary garrison of Jerusalem.⁸

The first Roman response came from Cestius Gallus, governor of Syria, who marched south with 30,000 men in a show of force designed to cow the rebellious population.⁹ Gallus probably did not expect that the inhabitants of Jerusalem would refuse to surrender upon his arrival, or that the Herodian walls would stymie his unprepared army.¹⁰ Forced to turn back from the Judaeian capital with little to show for his efforts, he and his men were ambushed during their descent back to the coast through the defile at Beth Horon. By the time Gallus reached the safety of the plains, he had lost 6,000 men.¹¹

The Jews' victory at Beth Horon would mark the high point of their rebellion. In 67, Vespasian invaded Judaea with an army twice the size of Gallus' the year prior.¹² Despite Josephus' praise for his own preparations in the north, he was quickly outmatched by Vespasian, and Galilee fell to the Romans by the end of the year.¹³ Vespasian's army then moved south into

⁸ Joseph. *BJ* 2.277-456.

⁹ On the size and composition of Gallus' army, see Gichon 1981, 44.

¹⁰ This is the central argument of Mason 2016, ch. 5; cf. Joseph. *BJ* 2.499-539.

¹¹ Joseph. *BJ* 2.540-555. Josephus lists 6,000 killed, a plausible 17% casualty rate if we follow Gichon's estimates for the size of Gallus' army. According to Suet. *Vesp.* 4.5, Gallus also lost a legionary eagle in the battle, although Josephus makes no mention of this.

¹² On the size of Vespasian's army (approximately 60,000, including three full legions), see Mason 2016, 364.

¹³ Mason 2016, ch. 6 minimizes the significance and difficulty of Roman military action in the Galilee. While his general conclusion that the Romans did not do much actual fighting in Galilee is correct, in the discussion below I refute the assumption that this reflects the dominance of Roman power in the region, and not Roman restraint, along with the tacit acceptance of a *modus vivendi* by the empire and potential militants. For a reconstructed timeline of the Galilee campaign, see Mason 2016, 378.

Judaea proper, pausing in order to monitor the succession crisis in Rome that would ultimately make its commander emperor, as well as to allow warring factions in Jerusalem to exhaust each other.¹⁴ By 70, Vespasian's son Titus had closed in on the Jewish capital. After a harrowing siege, he sacked the city and burned the Temple.¹⁵ While the fall of Jerusalem brought most of Judaea back into the imperial fold, a handful of rebels held out in mountain fortresses, most notably Masada. Yet even this stronghold ultimately fell to Roman determination and engineering skill, and by 73 or 74 the Jewish revolt was over.¹⁶

The Jewish War has generated a lengthy historiography (the bibliography of Steven Mason's meticulously researched *History of the Jewish War* spans 37 pages), much of which focuses on the Jewish motives to revolt.¹⁷ Older arguments emphasized that the outbreak of war in 66 was driven by persistent religious animosity between Jews and Romans.¹⁸ More recent work has advanced disparate causes including socio-economic displacement and class tension, the inability of the Jewish ruling class to govern its countrymen, the weakness and incompetence of Roman provincial governors, and animosity between the Jews and their Greco-Syrian

¹⁴ Cline 2010, 118.

¹⁵ Mason 2016, ch. 7-8.

¹⁶ Joseph. *BJ* 7.280-401.

¹⁷ Mason 2016, ch. 4 provides a thorough overview of the scholarly debate over the Jewish Revolt's causes. See also Goodman 2002, 15-24.

¹⁸ Farmer 1956; Hengel 1961.

neighbors.¹⁹ Today, most historians agree that the Jewish uprising had multiple causes, and that individual participants had a wide range of overlapping motives for revolt.

Far fewer scholars have addressed the means of the revolt: once the Jews were sufficiently enraged to resist Roman control, what factors gave them confidence that they might succeed in rebellion (or, at the very least, survive the attempt)? While the few military histories of the Jewish revolt make substantial contributions in their own right, they tend to focus on how the Romans defeated their Jewish opponents, largely overlooking questions of why the Jews expected the outcome to be different.²⁰ If we are to gain full understanding of the Jewish revolt and the power dynamics of Roman rule in Judaea, we must focus on this question of military expectation. Whatever their grievances against the empire, most Jewish combatants did not want to die on the battlefield (and those who did wanted to take some Romans with them). When faced with a life-or-death struggle against the most powerful army in the known world, the Jews thought carefully about how their revolt might unfold. By tracing where and how rebels chose to fight, we see that they made these considerations with the physical landscape firmly in mind.

As noted, rough terrain did not ultimately prevent the Roman reconquest of Judaea. Yet if we reconsider this war in terms of the military landscape, it is clear that broken ground shaped the outbreak, conduct, and resolution of the Jewish uprising. Because of the defensive

¹⁹ On class tension: Horsley 1979, 37-63; Horsley and Hanson 1988. On the failure of the Jewish ruling class: Goodman 1987. On provincial governors: Curran 2005, 70-98. On Greco-Jewish conflicts: Rappaport 1982, 81-95; Mason 2016, 200.

²⁰ On the paucity of military histories of the Jewish War: Millar 1993, 70 n. 2. For a comprehensive operational history of the Jewish War (and succeeding conflicts): Bloom 2010. For outstanding tactical treatments of the Battle of Beth Horon (discussed in greater detail below): Bar-Kochva 1976; Gichon 1981. On the Roman military response to rebellion in Judaea: Isaac 1990; Gambash 2015; Russell 2016. Though not entirely a military history, Mason 2016 is often influenced by military considerations: see especially ch. 3.

advantages which they provided, hills and mountains were the means for successful resistance and an important impetus to rebellion. In a moment where all other sources of social power faltered, broken ground limited the empire's ability to restore its authority efficiently, thus exacerbating and prolonging ruptures of Roman control.²¹

With this argument in mind, let us turn to the first in our pair of case studies: Cestius Gallus' disaster at Beth Horon in 66. Analyzing this clash in terms of military geography—and with the assistance of GIS technology—reveals the importance of the strategic landscape surrounding Jerusalem in the outbreak of the Jewish war, as well as in the longer-term relationship between the city and its imperial rulers.

Section One: Beth Horon and the Topographical Advantages of Jerusalem

The Battle of Beth Horon in October 66 was a crushing defeat for the Romans, second only to the slaughter in Teutoburg Forest among the military catastrophes of the early empire. Its effects were profound, especially if we follow Mason's view that the Romans were initially hesitant to take heavy-handed military action against the Jews; according to Mason, even after the massacre of Jerusalem's auxiliary garrison and the High Priests' halting of sacrifices to the emperor, Gallus and the Romans did not consider the province of Judaea to be in open revolt.²² Peace (albeit with appropriate punishment for the leading agitators) was still possible. The Jewish victory in 66 emboldened radicals and temporarily silenced moderates, providing the

²¹ Mann 1986 (and see Introduction above).

²² Mason 2016, ch. 5.

impetus for a widespread rebellion.²³ Furthermore, the death of 6,000 Romans in the pass at Beth Horon compelled the empire to respond with overwhelming force.

Most accounts of Beth Horon stress the incompetence of Cestius Gallus, painting the legate as a blunderer whose ignorance and miscalculation brought disaster to the men in his charge.²⁴ While this case study far from exonerates Gallus, I would stress that the general's decision to approach and depart Jerusalem via the Beth Horon pass was not among his numerous mistakes. The Romans recognized their campaign as a calculated risk necessary to quell the revolt in Jerusalem, and both they and the Jews foresaw the possibility of a successful ambush at Beth Horon. As a result, the battle there is best seen not as a historical accident with tremendous consequences, but as the result of underlying structural and topographical factors. The Jerusalemites understood and appreciated the strategic implications of their surrounding landscape, and in 66 they found the means for (temporarily) effective rebellion in the defiles surrounding the Judaeian plateau.

Let us begin by briefly recounting the events of Cestius Gallus' campaign and the battle of Beth Horon. In 66, responding to growing unrest in Jerusalem, Gallus marched south along the coast from Antioch. According to Mason, he had begun to assemble his forces a month before the destruction of Jerusalem's auxiliary garrison.²⁵ While the Romans did not expect serious resistance, they had no qualms about using force as a warning to their subjects: Gallus

²³ Joseph. *Vit.* 24; Bloom 2010, 76-77.

²⁴ Bar-Kochva 1976; Gichon 1981; Bloom 2010. cf. Mason 2016, 281. A new study of the battle of Beth Horon is forthcoming from Ran Ortner in the proceedings of the 24th Limes Congress; Dr. Ortner has been kind enough to share a preliminary draft.

²⁵ Mason 2016, 301-309.

burned Jewish communities along the borders of Ptolemais and slaughtered the population of Joppa.²⁶ After delays pacifying Galilee (where fighting centered on the rugged terrain at Mt. Asamon), by October the Romans were established in the south and prepared to ascend from the coastal plain to Jerusalem.²⁷

In the hills of Judaea, however, Gallus faced a level of opposition that he evidently did not expect. As depicted on Map 3.1, the Jews struck as the Romans climbed towards Jerusalem.²⁸ Outside Gabao, radicals from the Jewish capital temporarily shattered the Roman line, inflicting 515 casualties with only 22 losses.²⁹ At almost the same time, a Jewish detachment under Simon bar Giora attacked the Roman baggage-train (still ascending the Beth Horon pass), badly hampering Gallus' ability to provision his main army.³⁰ Drawing on the common *topoi* of mountain combat discussed in Chapter One, Josephus suggests that broken ground brought defensive advantages for the Jews, and discomfort for the Romans: as Cestius Gallus encamped at Gabao, "the Jews occupied the heights and kept guard on the defiles, clearly not intending to remain inactive, should the Romans begin to move."³¹ Afterwards, the client-king Agrippa II tried to negotiate terms with the Jews, "perceiving that, with the enemy in such

²⁶ Joseph. *BJ* 2.503-509.

²⁷ Joseph. *BJ* 2.510-12.

²⁸ Note that this map gives only an approximate presentation of the Roman march and Jewish attacks. In particular, the depiction of Jewish movements should not be taken as precise indications of where and how ambushes took place.

²⁹ Joseph. *BJ* 2.517-20. We need not consider these figures as anything more than approximations which Josephus uses to communicate the magnitude of the Jewish victory.

³⁰ Joseph. *BJ* 2.521-22.

³¹ Joseph. *BJ* 2.522: οἱ Ἰουδαῖοι τὰ μετέωρα κατελιηφότες ἐπετήρουν τὰς παρόδους δῆλοί τε ἦσαν οὐκ ἠρεμήσοντες ἀρξασμένων τῶν Ῥωμαίων ὁδεύειν.

countless numbers in possession of the surrounding mountains even a Roman army was in a perilous position.”³² While we should remain alert to the impact of literary convention on Josephus’ text, the GIS reconstruction below indicates that these passages realistically depict the challenges of Gallus’ advance. On the rugged edges of the Judaeian plateau, the Romans encountered perilous terrain which multiplied the lethality of Jewish hit-and-run attacks.

Taking advantage of dissent among the Jewish ranks, Gallus was ultimately able to push through to his objective. He encamped outside Jerusalem on Mt. Scopus. Even after his losses in its hinterlands, Gallus evidently expected Jerusalem to surrender.³³ When it did not, the Romans torched the suburbs and assaulted the walls of the Old City. Josephus insists that the Romans were on the verge of success when Gallus ordered a sudden retreat.³⁴ While we cannot know whether a more persistent assault would have broken Jewish resolve, according to Mordechai Gichon the decision to withdraw was strategically sound. Gallus lacked the siege equipment necessary to take Jerusalem by assault, and with his supply lines compromised and winter rains closing in, he had insufficient time either to construct these weapons or to rely on pro-Roman factions in the city to defeat the rebels and open the gates.³⁵

³² Joseph. *BJ* 2.523: “Ἐνθα δὴ κατιδὼν Ἀγρίππας οὐδὲ τὰ Ῥωμαίων ἀκίνδυνα πλήθους ἀπείρου πολεμίων τὰ ὄρη περισχόντος...

³³ Joseph. *BJ* 2.528.

³⁴ Joseph. *BJ* 2.533-539.

³⁵ Gichon 1981.

Cestius Gallus' withdrawal only emboldened the rebels; as shown on Map 3.2, the march back to the coast quickly turned disastrous for the Romans.³⁶ Initial attacks on the rearguard inflicted heavy casualties before the Romans reached the security of their base at Mt. Scopus.³⁷ The next day, the Jews continued to harry Gallus with great effect, exploiting their ability to move freely around the edges of the cumbersome Roman column.³⁸ "Hanging upon [Gallus'] heels they cut up his rear, and enclosing the troops on either side of the route poured their missiles on the flanks of the column."³⁹ The Romans limped to a temporary respite at Gabao, where a two-day delay only allowed time for more militants to flood the surrounding countryside.⁴⁰ Realizing too late the gravity of his situation, Gallus abandoned what remained of his baggage train and ordered a quick descent through Beth Horon.⁴¹

What followed, according to Josephus' narrative, was a paradigmatic "defile ambush," a common *topos* of Greco-Roman combat description described above in Chapter One. As in Livy's semi-legendary disaster at the Caudine Forks, the Romans found themselves surrounded in the narrows, while the Jews rained fire on them from the adjacent heights.⁴² "There was no

³⁶ See Map 3.2 for a rough depiction of Gallus' retreat. As with Map 3.1, all routes of march (particularly those of the Jews) are approximate and impressionistic.

³⁷ Joseph. *BJ* 2.540-42.

³⁸ As seen in Chapter One, the Romans themselves recognized their vulnerability to light skirmishers on rugged terrain, and this tactical mismatch was a common *topos* of military literature.

³⁹ Joseph. *BJ* 2.542: ...καὶ τοὺς ὑστάτους αὐτῶν προσκείμενοι διέφθειρον καὶ καθ' ἑκάτερον τῆς ὁδοῦ περιόντες ἠκόντιζον εἰς πλαγίους.

⁴⁰ Joseph. *BJ* 2.545.

⁴¹ Joseph. *BJ* 2.546.

⁴² Joseph. *BJ* 2.547; cf. Livy, 9.2-3.

room for flight, no conceivable means of defense; in their utter helplessness the troops were reduced to groans and the wailings of despair.”⁴³ Only the fall of darkness put a pause to the Jewish attack, allowing the Romans to flee to the safety of the coastal plain.⁴⁴

Josephus’ text, as seen in the excerpts above, stresses the role of broken ground in the Jewish victory at Beth Horon. As in Chapter Two’s discussion of Rome’s evolving strategy in Spain, GIS analysis can demonstrate that this is not just a literary allusion, but a representation of military reality. Showing TRI values for the region around Jerusalem, Map 3.3 substantiates the connection between the terrain and Gallus’ defeat, demonstrating that the physical landscape proved fatal to Rome’s first attempt to restore order in Judaea. As in previous TRI maps, relatively flat and unproblematic ground is shown in green, while shades of yellow (100-200 m) and red (200+ m) indicate areas where the terrain was probably rough enough to hamper Roman operations.

At the tactical and operational levels, GIS confirms that the terrain surrounding Jerusalem was sufficiently rugged to enable the Jewish ambush and decisive victory at Beth Horon. Following the principle of generalized positioning developed in the previous chapter, this conclusion holds regardless of Cestius Gallus’ precise route through Beth Horon (a matter of some debate).⁴⁵ We may thus challenge Mason’s assertion that Josephus misrepresents the terrain near Beth Horon for literary effect.⁴⁶ To be sure, this was not the “true Alpine landscape”

⁴³ Joseph. *BJ* 2.549: καὶ οὐτε φυγῆς τις τόπον οὐτε ἀμύνης εἶχεν ἐπίνοιαν, ἀλλ’ ὑπ’ ἀμηχανίας ἐπ’ οἰμωγὴν ἐτράποντο καὶ τοὺς ἐν ἀπογνώσεσιν ὄδυρμούς.

⁴⁴ Joseph. *BJ* 2.550-55.

⁴⁵ See discussion in Mason 2016, 300.

⁴⁶ Mason 2016, 300.

of Josephus' imagination.⁴⁷ Nevertheless, TRI statistics suggest the severe difficulty which the Romans faced in the Beth Horon pass, even in comparison to other famous engagements of the Jewish rebellion: the worst of the terrain leading up to Masada has TRI values around 210 m, while the ridgeline which overhangs the Beth Horon pass has TRI values closer to 260 m. In Mason's criticism of Josephus, "Spectacular scenery was more important to this pivotal episode than fidelity to a nature unknown to his audiences. This is a good place to remember how much Josephus omits, which is almost everything, and why it is futile to suppose that we can recover the past from him."⁴⁸ While parts of this criticism may be justified as a general principle, in this specific instance TRI analysis largely exonerates Josephus' narrative, and supports the previous scholars—Gichon and Bezalel Bar-Kochva chief among them—who have defended its validity.⁴⁹ Mason is very harsh on Josephus in this respect.

As Josephus claimed, rough terrain had a crucial impact on the way in which the opening battle of the Jewish war was fought, enabling an improbable Jewish victory (and the political consequences which followed). Yet if we analyze the early days of the war at the level of military expectation and anticipation, we may further suggest that even before the decisive battle, the terrain around Jerusalem would have called into question the strength of Rome's grip on the city. As the Roman army closed in on Jerusalem in October 66, potential rebels recognized the degree of protection afforded by Beth Horon and the other passes up the Judaeen plateau. They saw that the Romans would be vulnerable on this terrain, making victory a distinct possibility.

⁴⁷ The phrase is originally from Gichon 1981, 58. It is quoted (rather selectively) in Mason 2016, 300: the ensuing paragraphs of Gichon's argument give a more thorough discussion of the potentially severe military difficulties posed by the Beth Horon pass.

⁴⁸ Mason 2016, 300.

⁴⁹ Bar-Kochva 1976; Gichon 1981.

At a moment when Rome's non-violent forms of power crumbled in the face of Jewish rage, broken ground emboldened radicals with hopes for military success against their occupiers.⁵⁰ By undercutting the fear of Roman force—that final bulwark of empire—rough terrain thus helped to cause the dissolution of Roman control and the outbreak of the Jewish rebellion.

This argument that the Jews anticipated victory at Beth Horon rests on two premises. First, Cestius Gallus' approach to Jerusalem through this narrow defile was not a mistake, but a calculated and unavoidable risk which the Jews could expect. Second the Jerusalemites knew their own history of remarkable triumphs in these same hills (including two victories by Judas Maccabeus at Beth Horon itself), and thus had reason to hope for a similar victory against the Romans.

GIS technology allows us to confirm cartographically and quantitatively the impression of Mordechai Gichon (who fought over much of this terrain in 1947) that Cestius Gallus chose the safest approach to Jerusalem.⁵¹ Even a quick survey of Map 3.3 reveals the magnitude of the city's natural defenses. There was simply no way for an external power to project military force against Jerusalem without accepting the risks of broken ground combat, and the Jerusalemites knew it. In fact, we can use TRI data and a GIS technique known as Least-Cost Path Analysis to confirm mathematically that the path through Beth Horon is the *least* rugged northern approach to Jerusalem from the Mediterranean coast. In this method, each grid-square in our TRI dataset is assigned a cost for moving through it (in this case, its TRI value). GIS software then calculates the route from a designated start and endpoint—Antioch and Mt. Scopus—that incurs

⁵⁰ Note the model of force and control laid out in the Introduction above, drawing largely on Mann 1986.

⁵¹ Gichon 1981, 51. Bar Kochva 1976, 13 and Mason 2016, 291 come to similar conclusions.

the lowest cost (and so traverses the least rugged terrain).⁵² As seen in Map 3.4, the results almost perfectly trace the ascent through Lower and Upper Beth Horon to Gabao and the Judaeian plateau.

While Gallus could perhaps have done more tactically to counter the Jewish ambush, at an operational level he minimized the dangers to his troops by selecting the Beth Horon pass for his approach and retreat.⁵³ Josephus himself saw the battle of Beth Horon as one of inevitable risk and predictable disaster. While Josephus criticizes the Roman commander's decision to fall back from Jerusalem when on the cusp of victory, Gallus' leadership during the retreat itself draws little complaint.⁵⁴ And indeed, Josephus uses the *topoi* of mountain combat not just as a literary affectation, but as an explanatory device for the Jewish victory. When the historian chooses to deploy the *topos* of the defile ambush, he explains the Roman defeat at Beth Horon in terms of a permanent geographic quandary, rather than an unpredictable and individual error.

In short, Cestius Gallus and the Romans did not wander into the Battle of Beth Horon by accident, and the Jews did not stumble upon their decisive ambush. With even a basic working knowledge of Judaeian topography, malcontents in Jerusalem understood that the Romans would have to run the risk of combat at Beth Horon (or even more treacherous ground) in order to put

⁵² For documentation of this tool in ArcMap: <<https://desktop.arcgis.com/en/arcmap/10.5/tools/spatial-analyst-toolbox/cost-path.htm>>

⁵³ For criticism of Gallus' tactical preparations, see Bloom 2010, 74-76. On the importance of securing passes like Beth Horon in advance of major operations (no easy task in this case), note Onas. *Strat.* 7.1, 11.4; *Veg. Mil.* 3.6.

⁵⁴ See *BJ* 2.540 for Josephus' criticism of the decision to withdraw. Josephus' narrative of the retreat to the coast critiques Gallus for continuing the retreat from Mt. Scopus ("by continuing his retreat, he invited further opposition from the enemy") and for delaying at Gabao. Gallus is portrayed as overly conservative, perhaps bordering on timorous, but allegations that he should somehow have negated the Jewish advantage on broken ground are absent.

down large-scale resistance in the city. Moreover, the long mythology and history of Judaea before Roman rule provided numerous examples of successful ambushes to inspire hope and rebellion in 66. According to the Hebrew Bible, Joshua routed the Amorites through the Beth Horon pass. Accounts of a divine assault on the fleeing Amorites perhaps presage the ability of Jewish skirmishers to turn the pass into a killing ground: “while they were going down the slope of Beth Horon, the Lord threw down huge stones from heaven on them as far as Azekah, and they died.”⁵⁵ Judas Maccabeus defeated the Seleucids twice in Beth Horon, and Bar-Kochva argues that his first strike came from the same hilltop where the Jews ambushed Gallus.⁵⁶ In the first battle at the pass between Judas and the Seleucid general Seron, the Book of Maccabees hints at Beth Horon’s defensive qualities (although its explanations are supernatural, rather than topographical). Upon seeing the size of the Seleucid force, the Jewish militants asked their commander, “How can we, few as we are, fight against so great and so strong a multitude?’ Judas replied, ‘It is easy for many to be hemmed in by few, for in the sight of Heaven there is no difference between saving by many or by few. It is not on the size of the army that victory in battle depends, but strength comes from Heaven.’”⁵⁷ Drawing on such examples of victory, the Jerusalemites were culturally primed to anticipate that both God and tactics would favor them at Beth Horon.

In 66, the Jews knew the Romans would have to cross unfavorable terrain to reach Jerusalem, and they knew that similar imperial powers had fallen victim to Jewish ambushes on such terrain. As a result, when they considered fighting Cestius Gallus in October 66 (and

⁵⁵ *Josh.* 10.11. All biblical translations are from the New Revised Standard Version.

⁵⁶ Joseph., *AJ* 12.288-92, 408-12; *I Macc.* 3.13-26; Bar Kochva 1976, 17, 19-20.

⁵⁷ *I Macc.* 3.18-19.

perhaps even when they considered how stringently to oppose the procurator Florus in the preceding summer), their knowledge of Jerusalem's advantageous topography encouraged resistance against imperial control. It was in part the Judaeian terrain itself which ultimately plunged the region into all-out war.⁵⁸

Before concluding this case study of the battle of Beth Horon, we should ask what role the surroundings of Jerusalem played in the longer-term relationship between the city and Roman power structures. There is certainly evidence that Beth Horon and the similarly rugged ground which rings the Judaeian plateau were spaces of shallow imperial control. The Maccabees revolt against the Seleucids had its origins in the village of Modeein, at the very edge of the Judaeian hills.⁵⁹ Under Roman rule in the early 50s, a slave of the imperial household was robbed by bandits on the road near Beth Horon; imperial troops could only retaliate against the surrounding villages for allowing (if not abetting) the bandits' escape.⁶⁰ Nevertheless, the impact of Beth Horon and its surrounding hills on resistance movements in Jerusalem itself is more difficult to ascertain. While broken ground proved decisive in the defeat of Cestius Gallus' campaign, it does not seem to have presented similar difficulties to other Roman commanders. Pompey (63 BCE), Varus (4 BCE), and Vespasian (68-70 CE) did not face significant opposition as they climbed a variety of rugged passes towards Jerusalem.⁶¹ As explanation, we may point to the operational and logistical barriers to defending these passes. In order to take advantage of

⁵⁸ Joseph. *Vit.* 24.

⁵⁹ Joseph. *AJ* 12.268-70. As noted above, some of this revolt's greatest victories were similarly won thanks to the defensive terrain of the Judaeian plateau.

⁶⁰ Joseph. *BJ* 2.228-29.

⁶¹ Joseph. *BJ* 1.138-41, 2.66-71; Bloom (2010) ch. 11.

the defensive terrain at Beth Horon in 66, Jewish rebels needed to be sufficiently motivated and organized to march 17 km away from Jerusalem, no easy task for an amateur militia.⁶² Against Gallus, the Jerusalemites were sufficiently angry and united to take advantage of their defensive terrain; in previous conflicts, these preconditions were evidently not met. Though important in shaping and motivating resistance, the physical environment was not historically determinative.

Yet even though the security of the Judaeian plateau was not a constant trigger for outright rebellion, there is evidence that Romans and Jews consistently thought about their relationship and acted upon it in ways that were influenced by the military environment, both before and after the revolt in 66. Passes such as Beth Horon seem to have influenced the symbolism of Jewish negotiation with the Romans: in times of duress in the first century, Jerusalem elites tended to come down from the Judaeian plateau and present their case to the Roman governors in the cities of the coastal plain.⁶³ Since the Romans perceived broken ground as an obstacle to imperial control, such descent from the hills can be seen as a sign of ritualized submission, analogous to the empire's forced removal of defeated peoples from mountains to plains discussed in Chapter One.⁶⁴ When the Jews made themselves vulnerable before the governor on level ground, he tended to grant their requests, eager to show *clementia* (and perhaps mindful of the difficulties in taking further military action against Jerusalem). Yet in cases where the proper forms of submission were not observed and the governor confronted

⁶² Distance calculated in ArcGIS, roughly following the road from Jerusalem to Upper Beth Horon as depicted in BAtlas 70 and *TIR Iudaea* 1994. Joseph. *BJ* 2.517 emphasizes for literary effect the haste and unplanned nature of the Jews' first attack on Cestius Gallus, misrepresenting the geographic realities involved.

⁶³ Joseph. *BJ* 2.169-74, 184-201, 228-31.

⁶⁴ App. *Ill.* 4.21, *Hisp.* 13.76; Dio Cass. 54.11; Livy, 39.2, 40.38.

Jewish opposition in Jerusalem itself, the Roman response was harsh and violent.⁶⁵ Over the course of decades, we can see the military environment and imperial control intersect at a symbolic level: while the Jews did not always use passes such as Beth Horon to defend their interests through violence, the strategic potential of the landscape influenced both Roman and Jewish thinking about their imperial relationship.

In addition, changes in Roman deployment patterns after the First Jewish War suggest that the empire recognized the role of military geography in a longer-term pattern of Jewish disobedience. From Pompey's arrival in 63 BCE to the outbreak of war in 66 CE, Judaea was monitored by a mix of auxiliary cohorts and the armies of royal clients. Except for a brief period following Herod's death in 4 BCE, no Roman legions were posted in the province.⁶⁶ This changed after the sack of Jerusalem, when *Legio X Fretensis* was permanently stationed in the city.⁶⁷ We can read this change in deployment as evidence for how the Romans evaluated the threat of Jerusalem and its surrounding landscape. As Benjamin Isaac stresses, Judaea was an internal frontier, and *Legio X* was not stationed in anticipation of foreign invasion.⁶⁸ Its redeployment to Jerusalem reflected Rome's need to maintain order in the city, and its growing understanding of the difficulties in doing so from coastal bases. In short, when Roman leaders reflected on the events of the Jewish revolt, they identified the physical terrain as a structural factor in their loss of control over Judaea. As they did with the hill-tribes of Spain, the Romans

⁶⁵ Joseph. *BJ* 2.175-77, 223-27.

⁶⁶ Joseph. *BJ* 2.79

⁶⁷ Bloom 2010, 182.

⁶⁸ Isaac 1992, 55.

adjusted their deployments accordingly, moving a more imposing garrison into the highlands surrounding Jerusalem.

This case study demonstrates the potential of a tightly focused GIS analysis to reveal larger trends in Roman imperialism and local resistance. Moving outward from the historical “tipping point” at Beth Horon, I have suggested a structural relationship between the terrain surrounding Jerusalem and the Roman grip on the city, arguing that broken ground not only enabled Jewish victory for a few short days in 66, but also provided an important psychological cause of their revolt in the first place. Turning north, the second of this chapter’s case studies makes a similar argument on a somewhat larger scale, using the physical landscape to explain broader patterns of resistance and compliance across the entire region of Galilee.

Section Two: The War in Galilee

Unlike their coreligionists to the south, the Jews in Galilee never won a decisive victory over their Roman opponents: the region fell to Vespasian in a matter of months.⁶⁹ Yet while Rome ultimately triumphed, broken ground still shaped the spatial organization of resistance in Galilee and helped to determine where and how the Romans lost provincial control. Here, as in Jerusalem, rough terrain and its military advantages provided the means for revolution (in anticipation, if not in practice).

After a very short introduction on the handling of Josephus as an admittedly problematic source, this case study proceeds in two parts. The first maps out the geographic foci of the Jewish rebellion in the north, exploring how in Galilee, as in Judaea, the presence of broken

⁶⁹ Bloom 2010, ch. 7-8; Mason 2016, ch. 6.

ground played an important role in local decisions between rebellion and compliance. The second subsection traces Vespasian's reconquest of Galilee in 67; as in Spain more than two centuries earlier, it shows Rome's hesitation to engage its enemies on rough terrain, and demonstrates more clearly than ever how the topographical priorities of Roman imperialism allowed highland insurgents to survive the act of rebellion and even extract concessions from their would-be rulers.

We must begin, however briefly, with the challenges Josephus poses as our only literary source on the revolt in Galilee.⁷⁰ Scholarly opinion of Josephus' historical merits has tended to be negative (though recent work is increasingly charitable).⁷¹ For the Galilean war in particular, we are hampered by the centrality of Josephus himself as a character in the narrative, and by the fact that the *Jewish War* and the *Life* give contradictory purposes for his mission to the north.⁷²

When it comes to the geography of the Galilean revolt, however, we may confidently use Josephus as a reliable source: though far from comprehensive, his toponym-lists—both of Jewish strongpoints (whether fortified by himself or others) and of sites which fell to Vespasian and his lieutenants—are essentially trustworthy. We are on even firmer ground here than in the previous

⁷⁰ For Beth Horon, on the other hand, Josephus' account is confirmed in broad outline by Tac. *Hist.* 5.10 and Suet. *Vesp.* 4.

⁷¹ For the pro-Josephus camp, see especially Rajak 1983; Curran 2007; Mason 2016, ch. 2. See also n. 4 above. Mason provides the most up-to-date bibliography on the debates over Josephus.

⁷² In *BJ* 2.572-76, Josephus was sent by a militant Jerusalem government to organize the defense of Galilee, where he allegedly raised 100,000 soldiers (an absurd overstatement). In *Vit.* 28-29, both the provisional government and Josephus' mission are moderate and conciliatory; he was sent north to disarm extremists and to keep the peace in Galilee while awaiting the arrival of the Romans and (hopefully) a negotiated settlement. This contradiction has produced a range of scholarly responses, from attempts to reconcile the two sources to arguments for the dismissal of one or the other; among others, see Rappaport 1994; Miller 2001.

chapter: Josephus knew far more about Galilee than Livy and Polybius (let alone Appian) knew about Spain. Like these authors and their sources, Josephus seems unlikely to have falsified or simply invented the toponyms of sieges and battle sites: in most cases, he had no discernible motive to misrepresent this information (as will see below, the city of Sepphoris is a notable exception).⁷³ Indeed, given that at least some readers of the *War* and *Life* must have participated in the Galilean wars on one side or the other, Josephus was under pressure to render the basic geography correctly, however much he embellished his own importance in the narrative. Even more than the composite picture of the early Spanish conquest provided by Livy, Polybius, and Appian, Josephus gives us a reasonable register of the “hot spots” in the Galilean war: the major centers of Jewish resistance and the main targets of Roman reprisal.

With good reason for methodological confidence, let us turn to the events of the Galilean war themselves, and in particular to the Jewish preparations for war in the months between Cestius Gallus’ defeat at Beth Horon in 66 and the arrival of Vespasian in 67. Analyzing this prelude to the conflict in terms of military topography demonstrates how rough terrain served as an incubator for resistance: as in Jerusalem, the Galileans proved more likely to rebel where they could take confidence (however misplaced) in defensive terrain.

Unlike with the battle of Beth Horon, a linear narrative of Jewish preparations for war in Galilee is neither simple to reconstruct from Josephus’ text nor particularly necessary for present purposes. Suffice it to say that Josephus found the region deeply divided in late 66 and early 67.

⁷³ This claim essentially borrows and extends the argument concerning the Roman annalists in Oakley 1997, 63.

Many aristocrats of Sepphoris, Tiberias, and Taricheae preferred peace, thanks in part to their lucrative connections with the Romans and Herodians.⁷⁴ The core of the revolutionary movement, in addition to the urban poor, was a group described by Josephus simply as “the Galileans,” composed primarily of poorer villagers from the countryside.⁷⁵ Giorgio Jossa makes a persuasive case that Josephus made a bid for leadership of the Galileans, but was rapidly coopted into supporting their pro-war stance.⁷⁶ Meanwhile, a powerful faction coalesced in Upper Galilee around John of Gischala, a fierce opponent not only of the Romans but also of Josephus himself.⁷⁷ Finally, the political landscape was further complicated by widespread brigandage in Galilee.⁷⁸ Whether we see these raiders as simple criminals, “social bandits,” or politically aware proto-revolutionaries (or a mix of all three), they remain an important but poorly documented source of manpower and tension in the Galilean revolt.⁷⁹

Josephus preserves the spatial organization of the Galilean revolt in a pair of parallel lists in the *Jewish War* and the *Life*, recording the names of cities and towns which he allegedly

⁷⁴ Horsley 2002, especially 92-95. See also: Joseph. *Vit.* 30-42

⁷⁵ The identity and geographic association of “the Galileans” have been the subject of some debate, though most historians now agree that they tended to be rural and relatively poor. Zeitlin 1974; Loftus 1977; Armenti 1981; Feldman 1981; Jossa 1994. Note that Horsley 2002, 98 argues to the contrary that the Galileans were socially motivated and hostile to the urban elite, but not particularly concerned with larger Roman or Herodian power structures.

⁷⁶ Jossa 1994.

⁷⁷ Horsley 2002, 95-96. While recognizing that John of Gischala was an opportunist whose priorities and allegiances shifted over time (see especially Joseph. *Vit.* 43), I disagree with the argument in Jossa 1994 that John was a pro-Roman figure when he attempted to usurp Josephus’ role in Galilee, and only turned against the Romans later (see Joseph. *Vit.* 70).

⁷⁸ Horsley 2002, 99-101.

⁷⁹ Joseph. *Vit.* 77-79, 104-107.

fortified in the months before Vespasian's arrival.⁸⁰ While the list in the *War* contains four sites not found on the equivalent in the *Life*, they are otherwise identical. Summarized in Table 3.1 (along with textual and locational references), these geographic registers form the basis for this section's analysis. Previous scholarship has been skeptical of these texts, and not without reason. As records of Josephus' own accomplishments in Galilee they are certainly unreliable.⁸¹ We can be reasonably confident that Josephus himself did not fortify Gischala, the base of his hated rival John; nor did he probably garrison the consistently pro-Roman Sepphoris (a special case I return to below).⁸² Nevertheless, we may productively take these lists not as indicators of Josephus' own actions, but as a broader guide to the insurgency in Galilee: in aggregate, they provide us with the geographic layout of the rebellion in the north.

With Josephus' roster of resistance sites in hand, we can use comparative GIS analysis to more thoroughly test the correlation between rough terrain and the willingness of locals to resist Roman authority, seen in microcosm in the case of Beth Horon and Jerusalem. Map 3.5 layers Josephus' nineteen sites over our now familiar TRI dataset. Even at a purely visual level, the connection between broken ground and resistance is apparent. Anchored by John's base at Gischala, almost a third of the Jewish strongholds cluster on the rugged *massif* of Upper Galilee, even though the majority of the region's population and wealth lay on the plains to the south. Both in Lower Galilee and across the sea to the east, centers of rebellion seem to seek out the

⁸⁰ Joseph. *BJ* 2.573-75; *Vit.* 187-188.

⁸¹ Horsley 2002, 90. On the other hand, Bloom 2010, 114-15 takes the lists as accurate (with the possible exception of Sepphoris).

⁸² On Gischala: Joseph. *BJ* 575; *Vit.* 45, 102-103. On Sepphoris: Joseph. *BJ* 574; *Vit.* 30, 104. According to Meyers 2002, the Sepphorites actually tore down their city's fortress in a deliberate show of submission to Vespasian's army.

most rugged ground available: see in particular Jotapata, Gamala, and Mt. Itabyrion/Tabor, and to a lesser extent Japha, Sigoph, and Seleucia.

Even in some of the rare cases where Jewish resistance concentrated in the plains, we may find alternate explanations in cultural geography, the limited resolution of our TRI dataset, or simple misdirection on the part of Josephus. Capharreo, quantitatively the most level of the nineteen sites, sits just off the main road which runs from Ptolemais east of Mt. Carmel—the logical route for a Roman advance into Samaria—and within striking distance of the road connecting Ptolemais and Sepphoris.⁸³ Despite its vulnerable position in the plains, it made strategic sense as an advance warning post for Roman incursions. Further inland, TRI analysis probably underestimates the defensive potential of the Caves of Arbela. The caves here, though invisible in our elevation dataset, provided an important refuge against attackers: a century prior, they served as a bandit refuge during Herod's campaign of reconquest, and were taken only with great difficulty in 38 BCE.⁸⁴

The regional capital at Sepphoris, for its part, should in all likelihood be redacted from Josephus' list as an outright and clumsy falsehood.⁸⁵ As the text of the *Life* makes clear, Sepphoris was never a meaningful site of homegrown resistance against the Romans.⁸⁶ Nor should we expect it to be, regardless of the surrounding defensive landscape. Thoroughly

⁸³ See BAtlas 69 B4. Capharreo is just southeast of Gedru.

⁸⁴ Joseph. *BJ* 305-13.

⁸⁵ I retain Sepphoris in the analysis below only in accordance with the principles of accuracy in aggregate, discussed above in Chapter Two. Its inclusion makes little discernable impact on the broader conclusions which we may draw from this dataset.

⁸⁶ Joseph. *Vit.* 104-105.

Hellenized and favored by the Romans as the administrative center of Galilee, the city had little motivation to rebel.⁸⁷ We must suspect that Josephus adds it to the list solely to protect his own reputation: as the putative commander of Galilee, he could hardly omit the regional capital from his list of bases without raising uncomfortable questions about his own level of control.

Even beyond the visual impression of Map 3.5, GIS quantitatively confirms that the strongholds of Jewish resistance tended to lie either on or within easy reach of substantially rugged, defensible terrain.⁸⁸ Table 3.2 calculates the average and maximum TRI values for 1 km radius circles surrounding each of Josephus' sites of resistance.⁸⁹ (organized in ascending order of TRI average). Color-coding roughly matches that of the TRI maps, with red denoting severely difficult terrain (>200 m TRI) and yellow marking potentially difficult terrain (100-200 m TRI). Only five sites have local TRI averages less than 100 m, and only two lack any sort of nearby stronghold with a TRI score above 100 m. Moreover, if we compare the TRI figures for these sites with a random regional sample (as in Chapter Two's analysis of Spain), it becomes clear that the Jews based their resistance on ground substantially more rugged than the regional norm. Only five sites (Sogonea, Taricheae, Tiberias, the Caves of Arbela, and Cepharricho)

⁸⁷ Josephus claims (and TRI analysis confirms) that the defensive advantages of Sepphoris were substantial: "as it was the largest city of Galilee, a fortress in an exceptionally strong position in the enemy's [i.e. the Jews'] territory, and adapted to keep guard over the entire province." Joseph. *BJ* 3.24: ...μεγίστην μὲν οὖσαν τῆς Γαλιλαίας πόλιν, ἐρυμνοτάτῳ δ' ἐπιτετειχισμένην χωρίῳ καὶ φρουρὰν ὅλου τοῦ ἔθνους ἐσομένην.

⁸⁸ As noted above, this was also true in the first round of resistance against Cestius Gallus in the north, where rebel fighters coalesced around Mt. Amanus. Joseph. *BJ* 2.510-12.

⁸⁹ While Chapter Two used 10 km radii as default, these 1 km calculations continue to reflect the principle of general positioning, while adapting to the increased certainty of our positional data. Because we are dealing here with fortification and conflict settling on urban sites, many of which include archaeological remains, we can locate the sites of Jewish resistance much more precisely than the nebulous and frequently debated battlefields of Spain.

have local TRI averages below the Galilean average, and the average TRI score for Jewish strongholds reaches the 64th percentile of a random regional sample.

The relative ruggedness of Josephus' list of fortified sites is similarly evident when we compare these strongholds with the major population centers in and near Galilee where Josephus makes no specific mention of resistance or combat.⁹⁰ As seen in Map 3.6, many (though not all) such settlements lay on relatively level ground. Eleven, including the sizeable city of Hippos, hug the low coasts of the Sea of Galilee (although of these, Hamath and Beth Maon find slightly more rugged sites southwest of Tiberias). Another eight towns can be found on level ground in lower Galilee; as we will see below, the plains here fell to Vespasian's forces early and with no significant resistance.⁹¹ Table 3.3 provides quantitative confirmation that the towns on which Josephus remains silent sat on substantially more level ground than his attested strongholds: twenty of the thirty-three sites have local TRI averages below 100 m (and below the 50th percentile of our random Galilean sample). Taken in aggregate, these sites have an average TRI score of 111 m, 38 m (and 18 percentile points) less than Josephus' strongholds.

To be sure, Josephus' lists omit several severely rugged population centers: Meron, Baka, and Kefar Nevoia are all significantly mountainous, while Thekoa (297 m) is surrounded by terrain more broken than the most imposing Jewish stronghold at Jamnith (292 m). We should be careful not to overstretch any argument based on the silence of Josephus, and an investigation of the potential role of these sites in the Galilean war should be a promising avenue for future archaeological research. Nevertheless, when we investigate Josephus' account of this war's "hot

⁹⁰ These sites, 33 in total, consist of all intermediate and large settlements in the area of Galilee, as defined by the labeling scales in BAtlas 69.

⁹¹ Nazareth and Kana are the only towns to defy this trend, sitting on reasonably rugged ground (cf. Table 3.3).

spots” through TRI analysis, it confirms the correlation between Jewish resistance and rugged topography. We may safely conclude that here, as in Jerusalem, the Jews recognized Roman discomfort in mountain warfare and the defensive advantages of broken ground, and proved more willing to rise in revolt in the highlands than they were in the plains.

If we turn from the preparations in Galilee in anticipation of invasion to the war as it actually occurred, we see how broken ground continued to shape geographic structures of conflict and control. Mapping Vespasian’s invasion in 67 reveals patterns now familiar from Chapter Two’s Spanish wars, albeit played out over a much shorter period of time and recorded by Josephus in far greater detail: the restoration of Roman control began for the most part in the plains and worked its way uphill. With the advantage of Josephus’ focused narrative and “local” perspective, we can see more clearly in Galilee how the costs of pacification increased dramatically when the Romans besieged the Jewish insurgents’ hilltop redoubts. Indeed, at some of Galilee’s most rugged fortifications, the empire reestablished its authority only through the negotiated surrender of Jewish strongholds on lenient terms, giving reason to question how secure Roman control over such spaces actually was.

Upon his arrival in Galilee in early 67, Vespasian began his campaign by occupying Sepphoris, which had requested a Roman garrison for protection from Jewish rebels and brigands.⁹² From this secure and friendly base, the Romans launched raids across the plains: “Galilee from end to end became a scene of fire and blood; from no misery, no calamity was it

⁹² Joseph. *BJ* 3.29-34, 59-60.

exempt; the one refuge for the hunted inhabitants was in the cities fortified by Josephus.”⁹³

Within weeks of Vespasian’s arrival, Roman control was reestablished on level terrain; a combination of Sepphorite collaboration and unopposed violence proved sufficient to pacify the plains. Yet pockets of resistance persisted in the hills, and grew in strength as rebels and refugees flooded in from lower ground.⁹⁴ In an early skirmish, the Jews entrenched at Jotapata even drove back a Roman assault led by the tribune Placidus.⁹⁵ Whether fortified on local initiative or by Josephus’ orders, these rugged strongpoints evidently provided refuges against Vespasian’s otherwise irresistible army.

All nineteen strongholds could not resist forever. The boldness of Jotapata’s attack on Placidus (and, we should suspect, its proximity to the Roman base at Sepphoris) caught Vespasian’s attention. On the Jewish side, Josephus took personal command of Jotapata’s defense just days before a Roman cordon closed around the town. His account in the *War* of the site’s natural strength (“surrounded on three sides by ravines so deep that sight fails in the attempt to fathom the abyss”) is certainly an overstatement, but a local TRI score above 180 m (82nd percentile) suggests that the military landscape around Jotapata would have caused the Romans substantial difficulties.⁹⁶ Moreover, while many aspects of Josephus’ long narrative of the siege of Jotapata are tinged by self-aggrandizement, archaeological evidence indicates that

⁹³ Joseph. *BJ* 3.63: πυρὶ δὲ ἡ Γαλιλαία καὶ αἵματα πεπλήρωτο πᾶσα πάθους τε οὐδενὸς ἢ συμφορᾶς ἀπείρατος ἦν: μία γὰρ καταφυγὴ διωκομένοις αἱ ὑπὸ τοῦ Ἰωσήπου τειχισθεῖσαι πόλεις ἦσαν.

⁹⁴ Joseph. *BJ* 3.111.

⁹⁵ Joseph. *BJ* 3.110-14.

⁹⁶ Joseph. *BJ* 3.158: ...ἐκ μὲν τῶν ἄλλων μερῶν πάντοθεν φάραγξιν ἀπείροις ἀπότομος, ὡς τῶν κατιδεῖν περὶ τῶν τὰς ὄψεις προεξασθενεῖν τοῦ βάρους... Mason 2016, 345 argues by contrast that Jotapata had relatively little defensive potential.

serious and sustained fighting did take place there.⁹⁷ Rugged terrain allowed the Jews to hold out, at least temporarily, against superior Roman numbers and siege engineering.⁹⁸

While Jotapata's fall was practically inevitable once Vespasian brought up the bulk of his army, Roman victory came at a tremendous cost in time, money, and lives. The empire expended substantial military energy against this hill-fort, thanks in part to its topographical position. The Romans' return on this investment in terms of imperial control (and economic reward) was questionable at best. Jotapata was just one of many strongholds (and a small one at that), and its rebel garrison could not have been particularly large.⁹⁹ As we have seen, on the level ground below Jotapata the Romans reasonably expected easy victory. Even better, they could often expect instant capitulation at the mere threat of devastating violence. The rough terrain at Jotapata not only emboldened its inhabitants to fight, but forced the Romans to pay a steep price for unrewarding victory.

Josephus' military role in the north ended with his capture at Jotapata; Mason argues that with this victory and continuing peace in Sepphoris, Vespasian considered his mission in western Galilee complete.¹⁰⁰ Unrest continued in the east, where the client-king Agrippa II called for aid against the Jewish insurrection in his territory.¹⁰¹ Vespasian obliged, and as in the first stage of

⁹⁷ Aviam 2008a, 2008b; Mason 2016, 346.

⁹⁸ Joseph. *BJ* 3.161-328.

⁹⁹ Mason 2016, 345.

¹⁰⁰ Mason 2016, 369.

¹⁰¹ I have intentionally glossed over the distinction between the portions of Galilee under direct Roman administration and the portions ruled by Agrippa II. While motives in the east may have centered on hatred of Agrippa, rather than the Romans specifically, in practice all would have recognized that an uprising against the king was an affront to the empire that legitimized his rule.

the Galilean campaign the Jews of the plains were first to fall. The Romans took Tiberias (with a local TRI average of 56 m, 19th percentile) and Taricheae (66 m, 27th percentile) with little difficulty.¹⁰² Imperial control was quickly restored on the flat shores of the Sea of Galilee.

Josephus maintains that with the collapse of resistance in Tiberias and Taricheae (the two largest settlements in the east), most of Galilee fell once more under Roman control. The exceptions were Gischala (235 m, 94th percentile) and Mt. Itabyrion/Tabor (233 m, 94th percentile), among the most rugged of Josephus' fortifications.¹⁰³ Major fighting also remained across the Sea of Galilee at the hill-fort of Gamala (201 m, 86th percentile). Despite a seven-month siege by Agrippa and the surrender of the less-imposing, nearby strongholds of Seleucia and Soganaea, Gamala persisted as a successful refuge for anti-Roman and anti-Herodian forces in Gaulanitis, and, "the city was packed with fugitives owing to the strength of its defenses."¹⁰⁴ As with Jotapata, TRI mapping supports Josephus' account of Gamala's natural strength, and archaeological evidence confirms the severity of the fighting there.¹⁰⁵

As at Jotapata, a determined Roman siege ultimately triumphed, but not without great cost to Vespasian and his forces.¹⁰⁶ When an initial assault successfully breached the walls, but was attacked from above by an onslaught of Jewish fighters using the steep hills to their advantage, the Roman army suffered heavy casualties, and Vespasian himself was nearly killed

¹⁰² Mason 2016, 370-79.

¹⁰³ Joseph. *BJ* 4.1.

¹⁰⁴ Joseph. *BJ* 4.3-4, 10; *Vit.* 114.

¹⁰⁵ Joseph. *BJ* 4.4-10; Syon and Yavor 2008; Mason 2016, 348-50.

¹⁰⁶ Joseph. *BJ* 4.11-83.

in the fighting.¹⁰⁷ Perhaps more importantly, even with Jerusalem in open revolt, it took Vespasian nearly a month to take Gamala, whose rebels were a symbolic affront to imperial power but no real threat to the security of the Roman province itself.¹⁰⁸ Broken ground could not save the insurgents and fugitives gathered at Gamala—according to Josephus, only two women escaped the sack of the fortress—yet it dramatically increased the risks and costs which the Romans faced reasserting imperial control.¹⁰⁹

With Gamala subdued, John’s rebels in Gischala were all that remained of the Galilean rebellion (Mount Itabyrion/Tabor, the last holdout in Lower Galilee, fell to Placidus’ trickery).¹¹⁰ Vespasian dispatched Titus into the highlands of Upper Galilee where, according to Josephus, he called on the Gischalans to surrender on merciful terms. Josephus dramatically understates the defensive terrain at Gischala in order to proclaim Titus’ *clementia*; the historian reports that Titus “saw that the town might easily be carried by assault...[but] he was already satiated with slaughter and pitied the masses doomed along with the guilty to indiscriminate destruction.”¹¹¹ TRI analysis, however, disputes Titus’ claim to the Gischalans that “they had seen cities far stronger than their own overthrown at the first assault.”¹¹² While TRI cannot speak to any artificial defenses of Gischala, its surrounding landscape was severely rugged, worse than that at

¹⁰⁷ Joseph. *BJ* 4.17-38.

¹⁰⁸ Contra Mason 2016, 377. On the timeline of the siege of Gamala, see Joseph. *BJ* 4.83.

¹⁰⁹ Joseph. *BJ* 4.81-83.

¹¹⁰ Joseph. *BJ* 4.54-61.

¹¹¹ Joseph. *BJ* 4.92: Τίτω δὲ προσιππασαμένῳ τοῖς Γισχάλαις εὐπετέες μὲν ἦν ἐξ ἐφόδου τὴν πόλιν ἐλεῖν... ἦν δ’ αὐτῷ κόρος ἤδη φόνων καὶ δι’ οἴκτου τὸ πλέον ἀκρίτως συναπολλύμενον τοῖς αἰτίοις, ἐβούλετο μᾶλλον ὁμολογίας παραστήσασθαι τὴν πόλιν.

¹¹² Joseph. *BJ* 4.94: ...ἑωρακότες μὲν ὀχυρωτέρας πολλῶν πόλεις ὑπὸ μίαν προσβολὴν κατεστραμμένας...

Jotapata, Gamala, or any other Galilean site taken by Roman assault (see Table 3.2).¹¹³ This was no easy target for Roman force.

Titus, despite Josephus' protestations, recognized the difficulty of assaulting Gischala (along with the relative poverty and political insignificance of this highland stronghold). John, with the recent examples of Jotapata and Gamala, recognized that while defensive terrain could impose heavy costs on a Roman victory, a determined siege would ultimately overthrow his defenses.¹¹⁴ Though Josephus distorts the details, the two commanders appear to have come to an arrangement.¹¹⁵ Citing religious scruples, John pled for Titus to delay his siege until after the Sabbath; Titus obligingly withdrew, leaving Gischala unguarded; John and a large body of fighters and refugees fled the town that night.¹¹⁶ The following day, Titus entered Gischala without opposition, and while his cavalry massacred stragglers from the Jewish column, John and his men made it to Jerusalem to continue the fight for years to come.¹¹⁷

With the surrender of Gischala in late 67, the bulk of the Roman army moved south to besiege Jerusalem, taking Josephus' narrative attention with it; active fighting in the north was at

¹¹³ See Table 3.2.

¹¹⁴ We might compare the peaceful surrender of Tebora in Cilicia to Cicero, after his destruction of Pindenissus (Cic. *Ad. Fam.* 15.10) or the impact of the Roman sack of Uspe on the surrounding towns of the Bosphorus (Tac. *Ann.* 12.17).

¹¹⁵ Josephus maintains, unconvincingly, that John escaped Gischala by tricking Titus. The historian fails to explain why Titus did not post guards around Gischala, even after John allegedly invited him to do so. Two explanations appear plausible: either Titus was grossly incompetent (an explanation at odds with his generalship at Jerusalem and Josephus' motives to cast him in the best possible light) or he was willing to let John leave the highly defensible Gischala in order to fight him at a later date and on more favorable ground (not unlike Placidus' strategy at Mt. Tabor: see Joseph. *BJ* 4.54-61).

¹¹⁶ Joseph. *BJ* 4.97-111.

¹¹⁷ Joseph. *BJ* 4.112-20. John of Gischala would play a major role in the siege of Jerusalem, leading his followers against both Titus' Romans and rival Jewish factions.

an end. If we reflect on the geographic shape of this Galilean revolt with an eye to the physical landscape, the impact of broken ground on the course and costs of the war is immediately apparent. Roman reconquest in the west began in the plains around Sepphoris, and moved upland only with difficulty in the siege of Jotapata and the negotiated surrender of Gischala. Similarly, in Agrippa's kingdom the relatively low-lying sites of Tiberias and Taricheae were first to fall—rebels gravitated to Gamala, the region's most defensible site, and exacted a heavy cost for their eventual defeat. Broken ground in Galilee was not just an incubator for resistance in anticipation of warfare, but a refuge for rebels once war broke out.

Moreover, while we can certainly say that the Romans had reasserted their control over Galilee by the end of 67, the ferocity with which they brought their Jewish opponents back in line varied with geography: while the Galilean rebellion was nowhere successful, on rough terrain rebels were more likely to survive their reintegration into the empire. The escape of John of Gischala and his followers is a key example: John lived, and continued to fight, because Titus preferred to let him escape rather than undergo the risks of besieging an exceptionally rugged Jewish stronghold. We should similarly suspect that rebels in a number of other rugged fortifications were able to surrender on favorable terms, thanks to the high cost and comparatively low reward of taking them by force. Of the nineteen strongholds listed by Josephus, only three (Jotapata, Taricheae, and Gamala) were sacked by the Romans.¹¹⁸ The others surrendered, seemingly on merciful terms: the natives of Mt. Itabyrion/Tabor, who at the very least had harbored rebels, were allowed to deliver themselves “into the trust [of the

¹¹⁸ Jotapata: Joseph. *BJ* 3.329-39. Taricheae: *BJ* 3.500-502. Gamala: *BJ* 4.78-83.

Romans].”¹¹⁹ Upon taking Gischala, “after directing his troops to pull down a small portion of the wall in token of capture, [Titus] proceeded to repress the disturbers of the city’s peace by threats rather than by punishment.”¹²⁰ And, according to Titus’ speech at Gischala, the numerous strongpoints which surrendered after the Roman victory at Taricheae were left unharmed, and the few rebels remaining “beheld in the secure enjoyment of their possessions all who had trusted in the Romans’ good faith.”¹²¹

In part, the merciful treatment of most Jewish strongholds in Galilee reflects the motives of Vespasian’s campaign. As Mason argues, the future emperor never wanted a “scorched-earth” pacification of the north, and was happy enough to secure or suppress only the major population centers (especially Sepphoris, Tiberias, and Taricheae) before moving against Jerusalem.¹²² Yet when we focus our analysis of this campaign on the military landscape of Galilee, we see that military means and strategic calculation were just as much at issue. Vespasian and the Romans were willing to let many Jewish rebels rejoin the imperial fold quietly and without punishment because the alternative was to wage at least a half-dozen more sieges, all against objectives as naturally well-fortified and economically unrewarding as Jotapata and Gamala. In short, broken ground not only motivated rebels to fight and prolonged the rupture of

¹¹⁹ Joseph. *BJ* 4.61: ...οἱ δὲ ἐπιχώριοι πίστευς λαβόντες...

¹²⁰ Joseph. *BJ* 4.117: ...καὶ τοῖς στρατιώταις ὀλίγον τοῦ τείχους παρασπάσαι κελεύσας νόμῳ καταλήψεως ἀπειλαῖς μᾶλλον ἢ κολάσει τοὺς τάρασσοντας τὴν πόλιν ἀνέστελλε.

¹²¹ Joseph. *BJ* 4.101: ἐωρακότες...ἐν ἀσφαλείᾳ δὲ τῶν ἰδίων κτημάτων ἀπολαύοντας ὅσοι ταῖς Ῥωμαίων δεξιαῖς ἐπίστευσαν, ἅς καὶ νῦν προτείνειν αὐτοῖς μηδὲν μνησικακῶν τῆς αὐθαδείας.

¹²² Mason 2016, 377. According to Gambash 2016, this light-handed imperialism was more typical of the Roman approach than the brutal siege and sack of Jerusalem which followed.

Roman control, but it also helped numerous insurgents to survive their violation of imperial order.

Conclusion

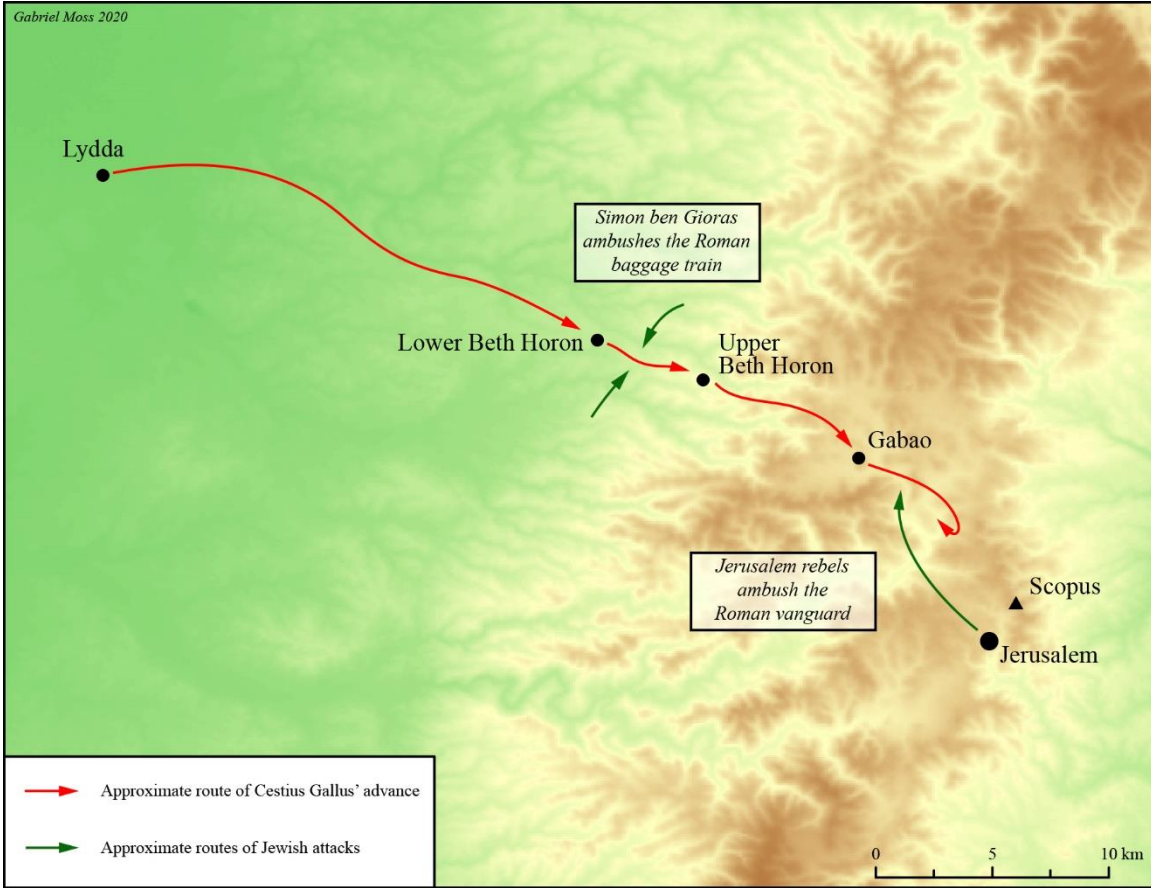
The two case studies in this chapter have drawn further connections between the *topoi* and discourse of Roman warfare on rugged terrain and the historical realities of force and control. In the best documented rebellion against imperial authority, we have seen that once imperial control was shattered, broken ground exacerbated the rupture, giving insurgents the chance for battlefield victory (at Beth Horon and in an early skirmish at Jotapata) and the ability to prolong costly sieges by otherwise superior armies (at Jotapata and Gamala). In the initial decisions of Jerusalemites to strike at Cestius Gallus, and the spatial organization of Jewish strongholds in Galilee, we have seen that when prospective insurgents considered their options for resistance against the Romans, they recognized rough terrain as a means for successful rebellion and were thus more willing to rise against the empire. Finally, while Rome ultimately pacified Judaea (violently reminding both their ancient subjects and modern observers that broken ground, whatever its challenges, neither made defeat certain nor victory impossible), numerous rebels used the defensive terrain of their fortresses as bargaining chips in a negotiated surrender. This phenomenon suggests that, even as Vespasian and Titus basked in the glory of *Judaea capta*, Romans' control in the province's hills was shallower and more dependent on compromise than their domination of the plains, where violence was cheaper, easier, and generally more profitable.

The findings of this chapter suggest a rough typology of Roman control, dependent on force and fear and strongly correlated with the physical landscape. We can see how some communities were enthusiastic participants in the Roman imperial project, such as the Greeks of the Mediterranean coast and aristocratic elements in Sepphoris, Tiberias, and Jerusalem. We can see how others (including the Jewish towns on the coastal plain during Cestius Gallus' march to Jerusalem) may have had the motivation to rebel but lacked the topographical means, and remained loyal because they feared certain destruction by the Romans. As local topographies become more rugged and broken ground begins to challenge Roman force projection, we see communities sufficiently confident in their defensive terrain to rise in opposition to the empire. While some (Jotapata, Taricheae, Gamala, Jerusalem) were crushed by overwhelming military force, even in destruction they testify to the greater fragility on such terrain of imperial control: active violence, at tremendous cost to the empire, was required because latent, threatened violence was insufficient to dominate well-defended locals.¹²³ Finally, in some rugged spaces (including Gischala and many other Galilean strongholds), the costs of military intervention were so great that the Romans evidently accepted a shallower level of control (low- or no-consequence surrender and survival of rebels), governing through a mixture of threats and compromise because they were unwilling or unable to force an unconditional victory.

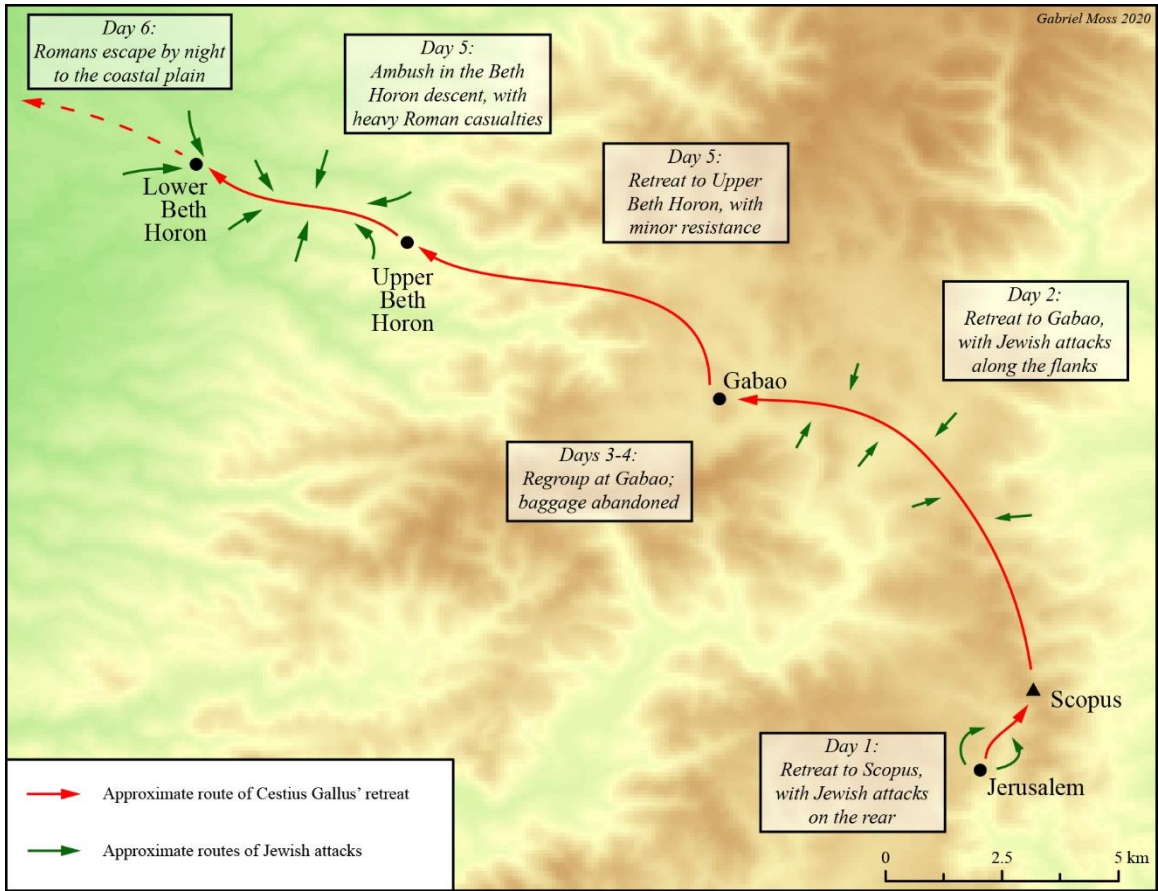
With the substantial evidence provided by Josephus, we can argue that, during the Jewish revolt in the late 60s and early 70s, Roman control varied depending on the military landscape. While power relations certainly shifted over time, it seems likely that a similar patchwork of Roman control prevailed before and after these dates, albeit usually with levels of Jewish resistance more subtle than open rebellion. Yet Josephus' texts cannot support this same depth

¹²³ On latent violence, see Lee 2020 (forthcoming).

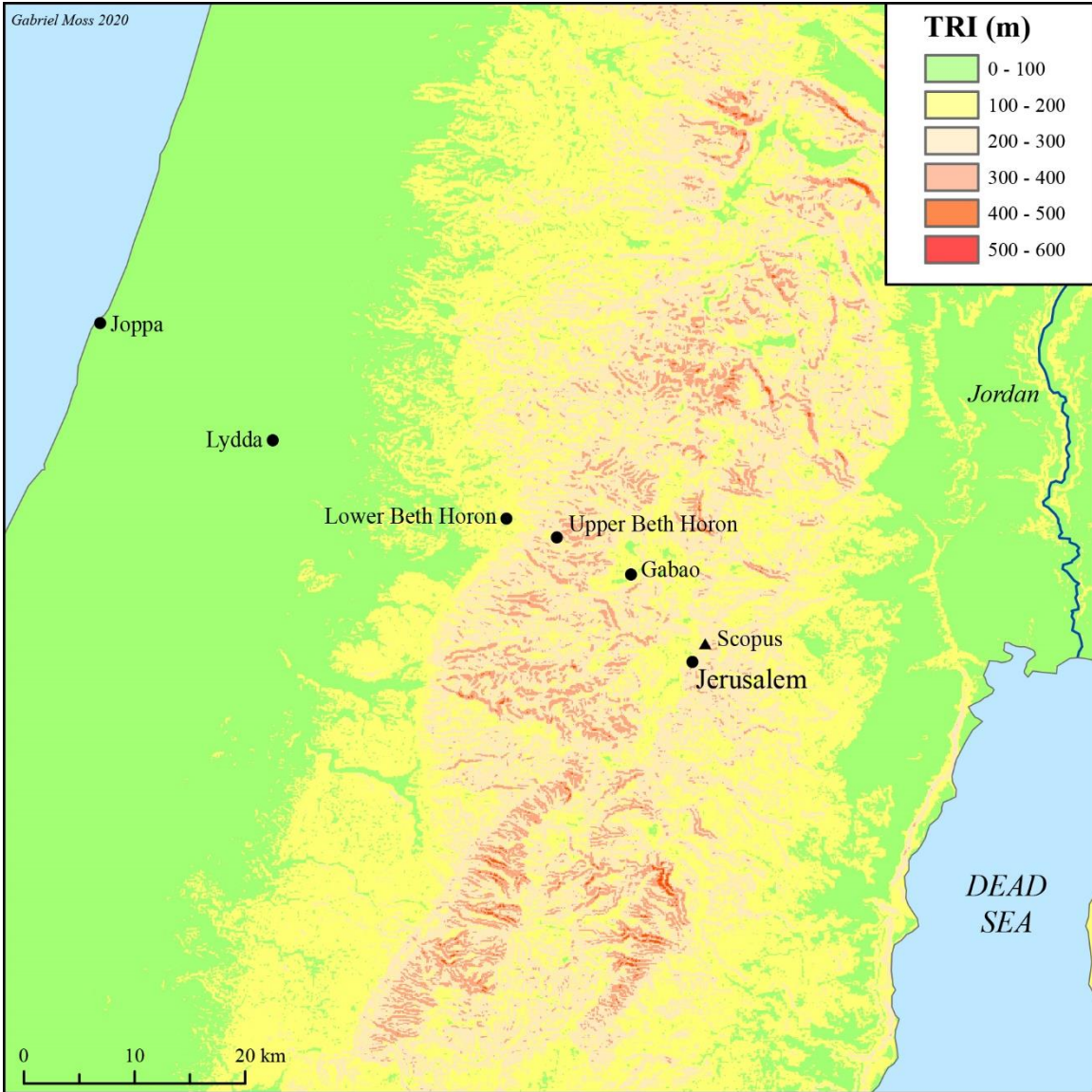
of military-environmental analysis outside the First Jewish War. While these sources provide a particularly revealing snapshot of the connections between power, violence, and the physical environment, they are less useful for a longitudinal study of Roman control. The next, final chapter adopts a longer-term perspective. Turning its focus north and dramatically broadening its chronological range from a matter of months to several centuries, this chapter explores how we can use Roman deployment patterns and the archaeological record to study the relationship between Rome, local populations, and the physical landscape in the mountains of eastern Anatolia.



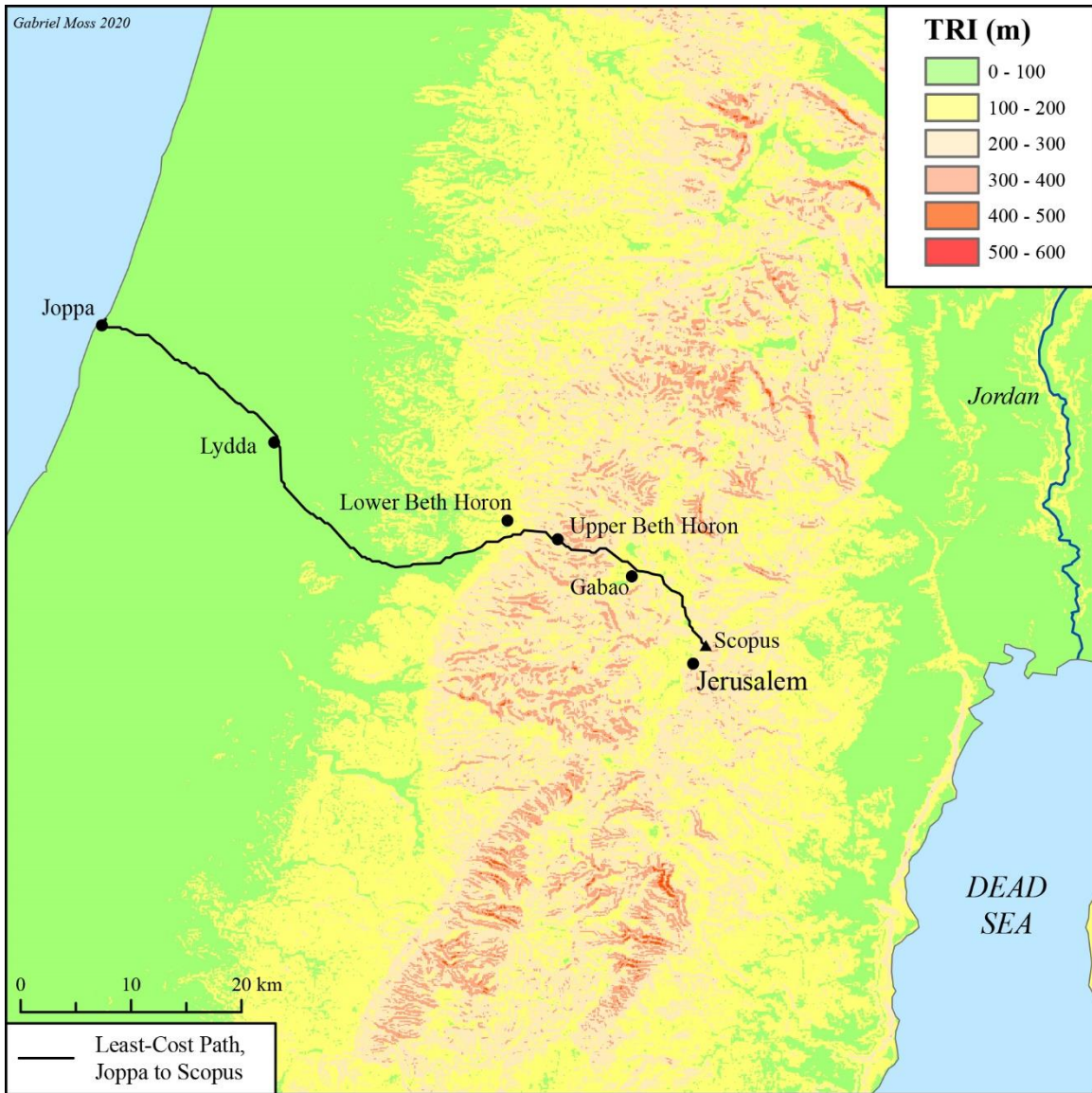
Map 3.1: Cestius Gallus' March Towards Jerusalem



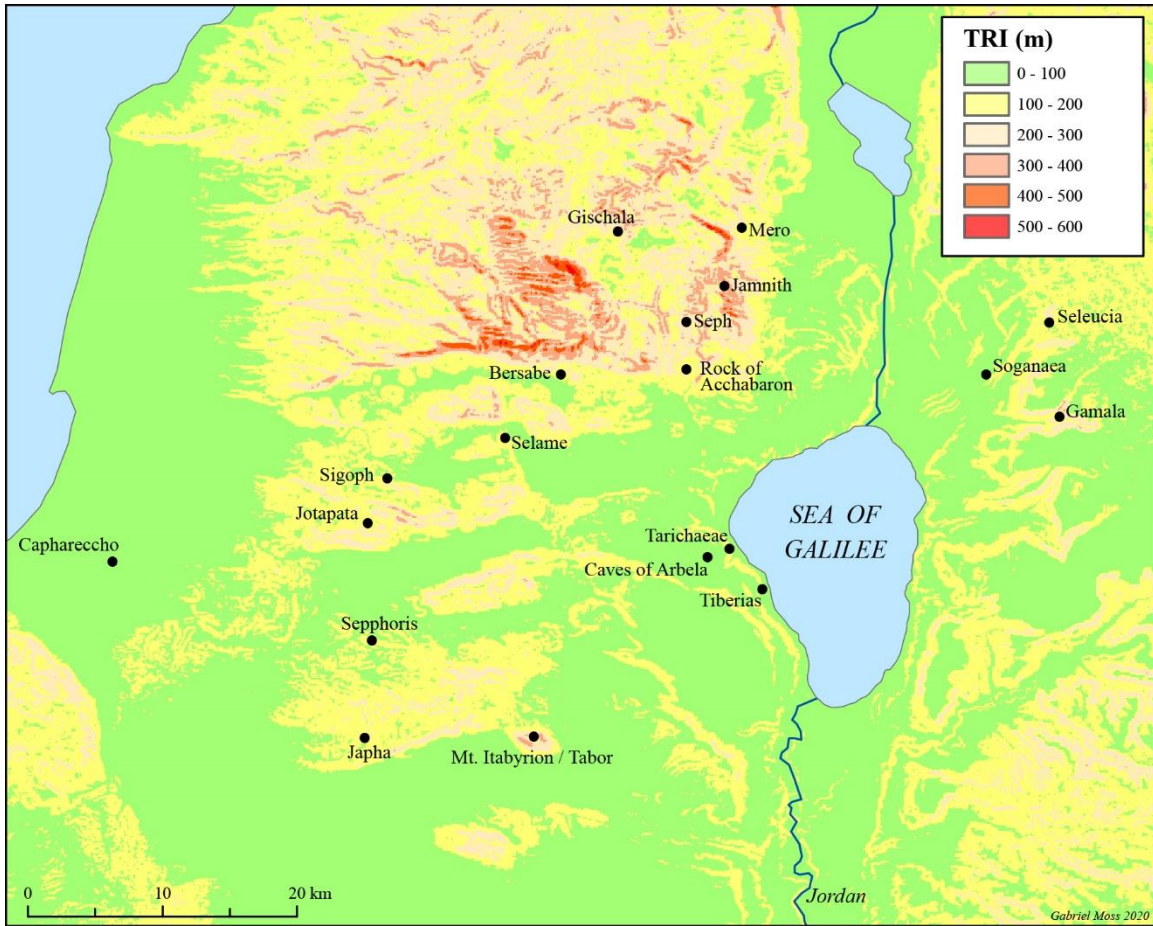
Map 3.2: Cestius Gallus' Retreat From Jerusalem



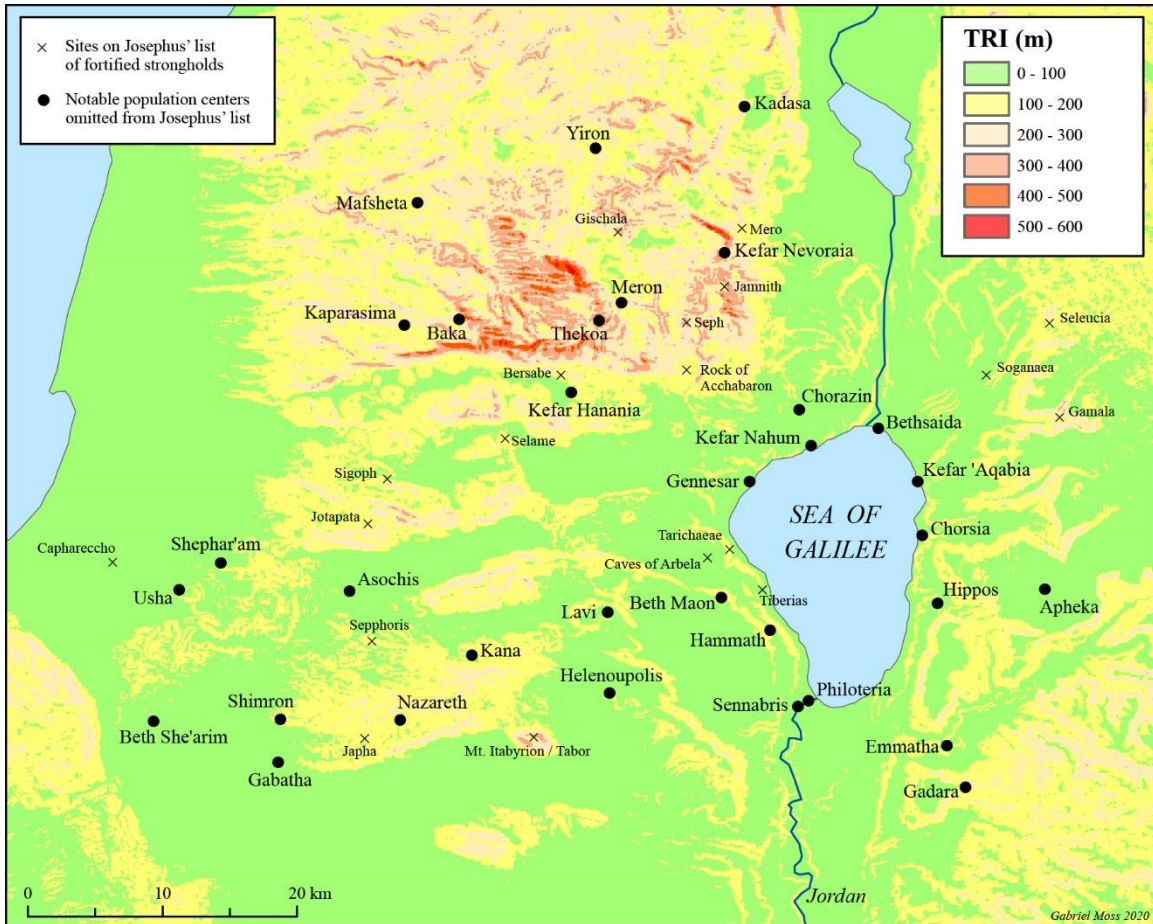
Map 3.3: Judean Plateau TRI Overview



Map 3.4: Least-Cost Path Analysis of Cestius Gallus' March



Map 3.5: Josephus' Centers of Jewish Resistance in Galilee



Map 3.6: Notable Sites Omitted from Josephus' Fortification List

Site	Text Reference	Location Reference
Bersabe	BJ 2.573, Vit. 188	BAtlas 69 B4; TIR Iudaea Beersheba II
Caphareccho	BJ 2.573, Vit. 188	TIR Iudaea Capharata
Caves of Arbela	BJ 2.573 (?), Vit. 188	BAtlas 69 C4; TIR Iudaea Arbela I
Gamala	BJ 2.574	BAtlas 69 C4; TIR Iudaea Gamala
Gischala	BJ 2.575	BAtlas 69 B3; TIR Iudaea Gischala
Jamnith	BJ 2.573, Vit. 188	TIR Iudaea Iamnith
Japha	BJ 2.573	TIR Iudaea Iaphia
Jotapata	BJ 2.573; Vit. 188	BAtlas 69 B4 Iotapata; TIR Iudaea Iotapata
Mero	BJ 2.573, Vit. 188	BAtlas 69 C3 Meroth; TIR Iudaea Meroth
Mt. Itabyrion	BJ 2.573, Vit. 188	BAtlas 69 B4 Thabor Mons; TIR Iudaea Thabor Mons
Rock of Acchabaron	BJ 2.573, Vit. 188	BAtlas 69 B4 Akchabare; TIR Iudaea Acchabaron
Selame	BJ 2.573; Vit. 188	TIR Iudaea Selamen
Seleucia	BJ 2.574, Vit. 187	BAtlas 69 C4 Seleukeia; TIR Iudaea Seleucia
Seph	BJ 2.573	TIR Iudaea Sepph
Sepphoris	BJ 2.574, Vit. 188	BAtlas 69 B4; TIR Iudaea Sepphoris
Sigoph	BJ 2.573	TIR Iudaea Sogane I
Soganaea	BJ 2.574, Vit. 187	BAtlas 69 C4 Sogane; TIR Sogane II
Taricheae	BJ 2.573, Vit. 188	BAtlas 69 C4 Magdala/Taricheai; TIR Iudaea Magdala Taricheae
Tiberias	BJ 2.573, Vit. 188	BAtlas 69 C4; TIR Iudaea Tiberias

Table 3.1: Josephus' Centers of Jewish Resistance in Galilee

Site	TRI Mean (1 km)	Percentile Rank	TRI Maximum (1 km)	Percentile Rank
Caphareccho	22.11	0.02	42.43	0.02
Caves of Arbela	46.97	0.14	96.98	0.14
Tiberias	56.16	0.20	145.93	0.33
Taricheae	65.86	0.27	179.72	0.52
Soganaea	73.70	0.33	145.07	0.32
Sepphoris	104.48	0.54	168.29	0.48
Selame	111.97	0.58	215.10	0.61
Sigoph	124.70	0.64	251.71	0.71
Seleucia	143.05	0.72	250.42	0.70
Japha	150.36	0.74	219.64	0.61
Bersabe	156.57	0.75	279.66	0.77
Rock of Acchabaron	181.37	0.82	346.30	0.88
Jotapata	182.73	0.82	272.12	0.75
Mero	191.08	0.84	418.90	0.96
Gamala	200.86	0.86	321.33	0.84
Mt. Itabyrion	232.96	0.94	364.97	0.91
Gischala	234.65	0.94	383.27	0.93
Seph	248.17	0.95	379.55	0.92
Jamnith	291.90	0.98	424.36	0.96
AVERAGE	148.40	0.64	258.20	0.65

Table 3.2: TRI Statistics for Centers of Jewish Resistance in Galilee

Site	TRI Mean (1 km)	Percentile Rank	TRI Maximum (1 km)	Percentile Rank
Asochis	35.04	0.097	121.59	0.221
Gennesar	38.45	0.113	140.00	0.306
Bethsaida	40.67	0.122	88.99	0.126
Philoteria	45.04	0.134	100.87	0.151
Kefar Nahum	46.55	0.137	120.89	0.215
Kefar 'Aqabia	48.42	0.146	147.58	0.338
Beth She'arim	50.10	0.157	103.47	0.155
Chorazin	53.03	0.170	125.86	0.235
Apheka	54.14	0.179	85.91	0.121
Gabatha	54.26	0.180	100.40	0.150
Sennabris	61.57	0.243	123.64	0.228
Helenoupolis	65.78	0.268	117.28	0.208
Chorsia	67.95	0.278	150.21	0.351
Shephar'am	72.62	0.312	134.55	0.288
Usha	77.19	0.356	123.76	0.228
Hippos	84.73	0.403	168.93	0.480
Emmatha	90.02	0.436	165.54	0.463
Lavi	93.60	0.456	166.70	0.472
Shimron	95.15	0.468	166.70	0.472
Beth Maon	96.98	0.485	169.57	0.484
Kefar Hanania	106.44	0.552	251.49	0.707
Hammath	110.45	0.572	182.49	0.532
Kana	126.90	0.649	209.81	0.597
Kadasa	137.44	0.698	241.61	0.677
Nazareth	152.32	0.741	255.06	0.711
Gadara	161.96	0.759	249.98	0.699
Yiron	168.77	0.781	277.60	0.761
Mafsheta	181.47	0.819	259.14	0.727
Kaparasima	192.36	0.843	285.80	0.784
Meron	213.68	0.897	335.18	0.864
Baka	260.46	0.961	454.08	0.981
Kefar Nevoraia	275.55	0.967	435.41	0.971
Thekoa	297.05	0.985	427.03	0.965
AVERAGE	110.79	0.466	196.58	0.475

Table 3.3: TRI Statistics for Sites Omitted from Josephus' Centers of Jewish Resistance in Galilee

CHAPTER FOUR

HOLDING CONTROL: THE ROMAN FRONTIER IN EASTERN ASIA MINOR

The previous chapter's investigation of the Jewish War considered control and terrain primarily from the perspective of local insurgents, examining how broken ground stimulated resistance and revolt against the Roman empire. This chapter approaches the same problem from a Roman point of view, examining imperial choices with regard to the northeastern frontier in Asia Minor in the late first and second centuries CE. It considers how the Romans chose to deploy their military resources in these rugged regions, and asks what these decisions can tell us about an imperial "strategy" for broken ground and the broader purpose of the frontier in Asia Minor. The answer largely parallels Chapter Two's conclusions on Spain (although the focus here is on the long-term maintenance of Roman rule rather than its initial imposition): the roads and bases of the Roman frontier made only limited efforts to dominate the highlands along the empire's nominal boundaries. At least on a military level, the Romans tended to cede effective control of the mountains to local actors, focusing instead on the limited security of strategic routes in the larger struggle against Parthia.

Numerous factors make the northeastern frontier a promising setting for a case study.¹ Given the sheer size of this area, my digital approach reveals patterns that traditional methods cannot. In addition, the frontier in Asia Minor was severely mountainous, more so than either

¹ For the purposes of this chapter, the "northeastern frontier" refers to the border-zone stretching from Samosata in northern Syria up through the legionary bases of Melitene and Satala to Trapezus on the Black Sea coast.

Spain or Judaea. As the TRI data in Map 4.1 makes clear, the terrain of eastern Anatolia hampered Rome's sizeable garrison to an extent rarely found elsewhere in the empire, making this an ideal test case for the landscape analysis of imperial power relations.

Despite this region's potential as a promising case study, any analysis of Rome's northeastern borderlands must contend with serious problems of evidence.² Narrative accounts of this area are scarce, and only rarely reveal the day-to-day problems of frontier control. There is no equivalent here to Josephus' *Jewish War*, or even to Livy's patchwork narrative of the Spanish conquest. The material record is hardly better.³ Political instability and challenging terrain have discouraged surveys of eastern Turkey, and a substantial portion of the frontier is now inundated by dams on the Upper Euphrates. As desirable as it may be, a complete and diachronic history of Roman occupation in the northeast is difficult to achieve with the evidence currently available.

Nevertheless, thanks in large part to the recent publication of Timothy Mitford's *East of Asia Minor: Rome's Hidden Frontier* (2018), it is now possible to advance our historical understanding of this border-zone.⁴ The product of a long and frequently perilous career surveying the ancient remains of eastern Asia Minor, this remarkable book traces the full length of the Roman frontier north of Samosata, mapping its roads and stations in considerable detail. Mitford's geographic reconstruction combines his own observations with evidence from the Antonine Itinerary, Peutinger Map, and *Notitia Dignitatum* and an exhaustive bibliography of

² See Fergus Millar's preface to Mitford 2018.

³ French 1983, 71; Wheeler 2017, 161.

⁴ See also reviews by Lightfoot 2019 and Mitchell 2019.

previous surveys and travelers' accounts. While his conclusions remains necessarily tentative in numerous places, *East of Asia Minor* can provide the starting point for an analytical history of the northeast frontier.⁵

The GIS methods that form a core contribution of my dissertation are the second crucial ingredient for the large-scale analysis of Rome's presence in Anatolia. *East of Asia Minor* contains beautiful maps, skillfully produced by Sean Goddard: drawn over base-maps produced by the Turkish General Staff in the first half of the 20th century, they provide crucial illustrations to accompany Mitford's description of the frontier.⁶ However, these maps do not provide easily extractable coordinate data for modern GIS software.⁷ With Mitford and Goddard's generous permission, I have reconstructed their geographic information on Roman roads and sites in a digital format, georeferencing their materials and producing datasets that can be easily integrated into GIS platforms.⁸ Much of the resulting coordinate data will be released along with this

⁵ For some important earlier contributions to the geography of the eastern Turkish frontier, see Crow and French 1980; French 1983, 1988; Crow 1986; Wheeler 1991, 2017; Speidel 2009.

⁶ Mitford 2018, 579-82. The maps in question (Turkish General Staff, 1:200,000) were issued in the 1940s, but draw heavily on Ottoman work from the First World War. For the history of mapping Asia Minor, see Talbert 2018, 110-12, and his forthcoming work on Heinrich and Richard Kiepert.

⁷ Based on personal correspondence with Sean Goddard, the 1:200,000 maps in Mitford 2018 were produced in Adobe Illustrator, drawing features over a scanned graphic of the Turkish basemaps. No GIS software was required for this method, and the resulting features have no embedded geographic data.

⁸ Hereafter, the maps from Mitford 2018 (printed as plates in the second volume) are referred to as TBM 1-24. I georeferenced TBM 6-15 and 17-23 against ArcGIS satellite imagery and OpenStreetMap, and digitized Goddard's ancient sites and roads with reference to the georeferenced TBM series (checking the results for accuracy against the satellite imagery and OpenStreetMap). The results are imprecise in places, a result not only of the computational difficulties of projecting a flat map against a round earth but also of the changes in human geography from the initial compilation of the Turkish General Staff maps in the early 20th century. Nevertheless, the resulting spatial data is accurate enough for a historical overview and analysis in aggregate of the northeast frontier.

dissertation, and can be reused under open license by future investigators of Rome's Anatolian borderlands.

With this data in hand, it becomes possible to broaden the scope of our analysis, relying once again on the principles of generalized positioning and accuracy in aggregate to address the shortcomings of our geographic knowledge in the Roman northeast.⁹ While even Mitford's decades of effort cannot entirely overcome the fact that we cannot securely and precisely place numerous sites in the northeast, a GIS approach allows us to identify larger trends in the relationship between the Roman frontier and the landscape. As in previous chapters, my analysis does not hinge on the location of any individual military site. Nor, in the absence of good evidence, does it hang on specific chronologies of military development and imperial policy. Looking for general trends in large sets of GIS data, over hundreds of miles of space and over a century, we can be less concerned about the geographic and chronological specificity of any given data point.

Even with careful handling, the predominance of Mitford's data in this chapter's reconstruction of the Roman frontier raises the threat of circular argumentation. The geography I present in the following sections is essentially a digitized representation of Mitford's claims; if Mitford located Roman installations with their specific purpose (as he envisaged it) in mind, analysis based on this data could not help but confirm his interpretation for the frontier system as a whole. And indeed, while *East of Asia Minor* does not advance a comprehensive argument for the nature and purpose of the Roman frontier, there are signs that Mitford has incorporated into

⁹ A factor lamented correctly, if perhaps overly pessimistically, in Wheeler 2017. On these principles, see Chapter Two, Section One, above.

his geography a particular vision of Rome's mission and *modus operandi*.¹⁰ In the Anatolian frontier, he sees a parallel to the better preserved systems on the Rhine and Danube, a defensive line concerned with monitoring and interdicting traffic across the border.¹¹ Roman forts are consequently drawn toward river crossings and, indeed, toward level ground. Note for example Mitford's problematic case for a Roman fort at modern Tillo, near a major crossing of the Euphrates: "geography thus insists that the Tillo promontory contained the site of Claudiopolis. The tactical requirement to observe, patrol, and maneuver to north and south recommend the terrace, rather than the enclosed hillsides below."¹²

However, generalized positioning helps to compensate for any interpretive bias in Mitford's geography: because I evaluate statistics based on regional averages (in this chapter, for 200 m and 1 km radii surrounding frontier installations) the hills below Tillo will factor into its TRI score regardless of Mitford's assertion about the precise location of the fort.¹³ Accuracy in aggregate also provides a valuable margin of error: even if we suspect that some of Mitford's site locations may skew low and level, his biases surrounding the tactical purpose of Roman bases are not sufficiently rigid or consistent to invalidate patterns of Roman behavior observed across hundreds of miles of frontier. Indeed, while Mitford's largely unspoken concept of this frontier's mission may skew micro-level analyses on the tactical purpose of any given fort, my broader

¹⁰ On the absence of a conceptual or theoretical approach to the Roman frontier, see the gentle criticism in Mitchell 2019.

¹¹ Mitford 2018, 57. Cf. Lightfoot 2019, 906; Mitchell 2019.

¹² Mitford 2018, 135. Cf. Lightfoot 2019, 908.

¹³ This chapter uses substantially smaller radii than the analysis of Spain in chapter two, which defaulted to 10 km. This is in part because Mitford's survey produces a smaller margin of error than the amorphous connection between toponyms and battle sites in the Iberian peninsula. In addition, the severely mountainous terrain of Turkey distorts the statistics for larger areas; the immediate environs of a site may be relatively level, but the prevalence of broken ground skews the TRI statistics high for 10 km radii.

geospatial perspective supports largely different conclusions. For the most part, the frontier system was not concerned with the strict control of movement through the borderlands, but focused on Rome's larger military and political struggle with the Parthians and, later, the Sassanid Persians.

The body of this chapter advances this argument in three sections. The first briefly traces the development and strategic environment of the northeast frontier from the late Republic to the end of the Antonine dynasty, highlighting both the persistent threat of Parthia and the challenges of smaller-scale brigandage that made nominally "Roman" territory quite unstable. The second section maps the Roman frontier between the legionary base of Samosata and Trapezus on the Black Sea. Though relying primarily on Mitford's voluminous findings, this is no simple *précis*: using TRI and elevation statistics, it focuses on the relationship between the Roman frontier and the mountainous terrain of eastern Anatolia. I argue that the Roman frontier, when considered in aggregate, tended to lie on relatively low and flat terrain amidst the mountainous extremes of the Euphrates and Pontic frontiers. This trend indicates that the primary purpose of the frontier in this region was the support of large-scale warfare against Parthia. Roman troops in this region were deployed to secure supply lines and likely crossing points into Armenia and the broader Parthian world. In order to secure these narrow but convenient and defensible corridors of military movement, imperial decision-makers were willing in most places to forego any serious attempt to dominate the mountaineers along the border.

The third and final section situates the frontier in Anatolia within the broader historiography on Roman military borders, asking what GIS technology and Mitford's remarkable geographical data contribute to ongoing debates on the nature and purpose of imperial frontiers. I caution against overly schematic and doctrinaire explanations of Roman

frontier strategy: as in Spain, imperial decision-makers in eastern Anatolia appear highly competent and flexible in the face of widely varied and sometimes mutually contradictory missions. Yet Section Three also indicates that imperial choices in this region came with real costs (even if these are largely invisible in our written sources). Predominantly focusing on level ground and large-scale war, Rome accepted shallower and more contingent control over vast areas of mountainous terrain within the empire.

Section One: The Historical Development and Strategic Context of the Northeastern Frontier

In modern scholarship, the history of the Roman borderlands in eastern Anatolia is dominated by the empire's relationship with its Parthian and later Persian neighbors.¹⁴ This view reflects the priorities of our ancient authors: even when writers such as Tacitus, Suetonius, and Cassius Dio were well informed of events in the northeast, they were generally uninterested in local affairs unless they impinged upon the grander concerns of the emperor and his court.¹⁵ Even if the actual, day-to-day threat of a Parthian invasion has perhaps been at times overstated, this rival empire was a serious concern in the east, and the frontier in eastern Anatolia developed, at least in part, with Parthian wars in mind.¹⁶

¹⁴ Among many examples, Levick 2000, 604-609; Wheeler 2002, 287; Bennett 2006; Mitford 2018, 38-40, 60-68.

¹⁵ The notable exception is Arrian, whose *Ektaxis* and *Periplus* discuss northeastern security with little reference to the Parthians. Cf. Bosworth 1977.

¹⁶ On the overstated threat of Parthian invasion: Isaac 1989, 233; 1990, 20-28; Goldsworthy 1996, 60-68; Wheeler 2017.

Yet the grand sweep of relations between the empires should not entirely overshadow problems of local control and resistance. There is scattered but persuasive evidence that this region did not lie placidly under Roman domination, and that (as already seen in Judaea) broken ground weakened Rome's grip on its nominal subjects. The empire was forced to choose its missions and priorities in the northeast, between maintaining a diplomatic and military edge in its large-scale rivalry with Parthia and addressing small-scale, local threats of brigandage and rebellion.

While Rome held territory in Asia Minor by the late 2nd century BCE, its entanglement with eastern Anatolia was initially a product of the Mithridatic Wars. Between 88 and 63 BCE, a series of late republican commanders led armies across the Near East, dramatically expanding Roman influence in the region.¹⁷ By the time of Pompey's ultimate settlement, the territories which would form Rome's northeastern frontier (Commagene, Cappadocia, Armenia Minor, and eastern Pontus) were client-kingdoms under Roman hegemony.¹⁸

Rome's forcible entry into Anatolia and the Levant quickly brought it into conflict with the Parthians—replaced by the Sassanid Persians in the early 3rd century—a struggle which would dominate the history of the Near East until the Arab conquests of the 7th century. Most crucially in the long term, Pompey's settlement first asserted Rome's right to crown proxy kings in Armenia, and backed this claim with a legionary garrison in the new province of Syria.¹⁹

¹⁷ Sherwin-White 1984, 93-185; Evans 2011, 53-108. Sherwin-White's *Roman Foreign Policy in the East* remains the standard diplomatic narrative of late Republican and Augustan involvement in the Near East, though Evans *Roman Conquests* provides an engaging supplement on the military narratives of the same period.

¹⁸ Plut. *Pomp.* 34-35, 45; Sherwin-White 1984, 186-234; Evans 2011, 109-12; Mitford 2018, 23-24.

¹⁹ Mitford 2018, 23-24.

More immediately, ambitious warlords in Rome and Parthia found their new neighbors to be appealing targets for wars of personal aggrandizement. Meaningful victory proved beyond their reach. Crassus' invasion ended ignominiously at Carrhae in 53 BCE.²⁰ The Parthians raided Syria in 40 BCE, but were only temporarily successful against a divided and distracted Roman empire. Antony's reprisal in 36 BCE was driven back with heavy casualties and no territorial gains.²¹

While the first Romano-Parthian wars of the late Republic centered on Syria and the Middle Euphrates, over time the military and diplomatic center of the conflict shifted north into Anatolia. After Crassus' disastrous assault from Syria, Caesar evidently planned to invade Armenia and sweep into the Parthian empire from the north, and Antony put a similar strategy into action in 36.²² Moreover, as it became clear that neither Rome nor Parthia could sustain a major advance along the Syrian frontier, proxy-control over the kings of Armenia Major became the central issue in their rivalry.²³ This "Armenian Question" was at the center of Augustan diplomacy in the late first century BCE. Rome ultimately won the diplomatic stand-off, thanks to Augustus' threats of war and the characteristic fragmentation of the Arsacid royal family.²⁴ In

²⁰ Sherwin-White 1984, 279-89; Campbell 1993, 214. On Carrhae: Plut. *Crass.* 18-31; Dio Cass. 40.20-27. Caesar planned a similar invasion, forestalled by his assassination: Dio Cass. 44.51.

²¹ Dio Cass. 48.25-26, 41, 49.19-33; Sherwin-White 1984, 298-321; Campbell 1993, 214. The Parthians also launched a smaller invasion in 51: Cic. *Att.* 5.18.

²² Caesar: Suet. *Iul.* 44.3; Sherwin White 1984, 307-308; Antony: Plut. *Ant.* 37-38; Sherwin-White 1984, 308-12. In an unusual reversal of the general pattern established in Chapter 1, the mountainous north probably aided the Roman efforts against the cavalry-heavy Parthian army; Sherwin-White 1984, 307.

²³ Wheeler 2002, 288.

²⁴ Augustus' threats were notably backed by the Syrian garrison, rather than by troops further north. See Dabrowa 2002.

a treaty struck between Augustus' grandson Gaius Caesar and the Great King Phraataces in 1 CE, Rome secured the right to nominate kings of Armenia; its territory was to remain free from military occupation, with the Euphrates serving as the Romano-Parthian border.²⁵

Thus, by the start of the first century CE, Rome's relationship with its most powerful remaining neighbor centered firmly on the Upper Euphrates. The military importance of this region only continued to grow, as Augustus' treaty failed to settle the Armenian question permanently: tensions and proxy-wars would flare up through the rest of the Julio-Claudian period. From the accession of Tiberius to the reign of Nero, we can narrate imperial frontier policy in terms of the gradual intensification of Rome's presence in eastern Anatolia, as the empire learned (too late) that maintaining its edge in Armenia would require ever greater investments of political and military capital.

The transformation of former client-kingdoms into provinces is an early and integral part of this story: Tiberius took a key step in the development of the northeast frontier by annexing Cappadocia in 17 CE.²⁶ While it is tempting to see this administrative change as a move against the Arsacids, we should be careful not to oversimplify matters. At least initially, the annexation of Cappadocia did little to change the military balance with Parthia, for despite its geographic

²⁵ Strabo, 16.1.28; Sherwin-White 1984, 322-28; Campbell 1993, 220-28; Mitford 2018, 27-28. Wheeler 2002, 290 argues to the contrary that Rome never recognized the Euphrates as the limit to their power, and indeed there is reason to question whether the empire ever accepted formal limits to its dominion (see Whittaker 2000, 297-98; note a more moderate position in Wheeler 1993a and 1993b). Evidence for imperial deployment east of the Euphrates supports Wheeler's conclusion: the Romans had a small garrison at Gorneae in Armenia, positioned to protect their chosen client-king in nearby Artaxata: Tac. *Ann.* 12.45-47; Bennett 2006, 90. For a broader statement on Roman presence and power east of the Euphrates, see Wheeler 1991, 507.

²⁶ Bennett 2006, 78-80; Mitford 2018, 28. Tiberius also annexed Commagene at the same date, but it was returned to client-kingdom status by Caligula in 38.

extent, Cappadocia had only an equestrian governor and an auxiliary garrison of unknown size.²⁷ Julian Bennett argues that Tiberius' primary motivation was financial, and that he hoped to use Cappadocian revenues to reduce unpopular taxes in Rome.²⁸ Our ancient sources tend to emphasize instead Tiberius' hatred for the Cappadocian king, who had declined to visit during his exile in Rhodes.²⁹ Whatever his motives, Tiberius' annexation of Cappadocia brought a large portion of what would become the northeast frontier under provincial jurisdiction, establishing a foundation for later developments in the region.

While the provincialization of Cappadocia in 17 CE may not have sprung directly from any Parthian threat, the events of subsequent years would emphasize the tenuous nature of diplomatic relations in the northeast and the expanding role played by the Arsacids in shaping Rome's frontier activity. In 35, Tiberius had the son of the Parthian king deposed from the Armenian throne, by fomenting rebellion by disaffected Arsacid nobles, backing an Iberian invasion of Armenia, and checking Parthian intervention by the threat of retaliation with the Syrian legions.³⁰ Claudius used similar tactics in 41 CE to install a pro-Roman monarch in Artaxata. An Iberian client army and a small Roman auxiliary force waged war in Armenia itself, while the Syrian legions to the south forestalled any interference by the Parthian army.³¹

²⁷ Bennett 2006, 80, who argues (against Levick 1976, 141) that Tiberius deliberately avoided putting legions in Cappadocia so as not to escalate tensions with Parthia. Cf. Bennett 2002, 301.

²⁸ Bennett 2006, 79. Cf. Tac. *Ann.* 1.78, 2.42.

²⁹ Dio Cass. 57.17.7; Tac. *Ann.* 2.42. For still another explanation, in which Archelaus of Cappadocia was suspected of rebellious tendencies, see Suet. *Tib.* 37.4.

³⁰ Tac. *Ann.* 6.31-37, 43-44; Campbell 1993, 229; Dabrowa 2002, 277-78; Mitford 2018, 29.

³¹ Tac. *Ann.* 11.8-10; Dio Cass. 60.8.1.

In both cases, the use of allied troops, limited Roman deployment, and the threat of overwhelming force were sufficient to maintain Rome's advantage in Armenian affairs.

In the later years of Claudius' reign, this advantage began to slip away, as the Roman army proved increasingly unable to support pro-Roman regimes in the face of mounting Parthian pressure. In 51 CE, a Roman auxiliary garrison posted outside Artaxata failed to defend Armenia's client-king against the Iberian invader Radamistus.³² The procurator of Cappadocia, Julius Paelignus, launched an ill-conceived attempt to retake the kingdom, ending in widespread desertion and (allegedly) Paelignus' defection to Radamistus' court. Cappadocia was left essentially defenseless as the Parthian king Vologeses invaded Armenia.³³ In the face of rebellious locals, the Arsacids failed to install one of their own on the Armenian throne, but the now-leaderless region fell loosely under Parthian control.³⁴ The Syrian garrison's response proved ineffective. After Paelignus' disaster, a legion hastily marched north to stabilize Cappadocia, but quickly returned to Syria to avoid sparking outright war with the ascendant Parthians.³⁵ A fundamental weakness in Rome's arrangements for the northeast was thus revealed: in the face of determined Parthian opposition and without the support of client-kingdoms such as Iberia, Roman armies in the East lacked the strength and proximity to maintain control over Armenia.³⁶

³² Tac. *Ann.* 12.44-47; Mitford 2018, 30.

³³ Tac. *Ann.* 12.49-51; Bennett 2006, 81-82.

³⁴ Tac. *Ann.* 12.50-51.

³⁵ Tac. *Ann.* 12.49.

³⁶ Mitford 2018, 30.

When Nero became emperor, the debacle of 51 CE and his own need for military legitimization combined to inspire a more aggressive Roman policy in the northeast.³⁷ In 54 or 55, with Vologeses backing his brother Tiridates for the Armenian throne without paying due homage to Rome, Nero sent Domitius Corbulo east to check Parthian influence. The dispatch to Cappadocia of Corbulo, a skilled commander and equal in rank to the Syrian legate Ummidius Quadratus, demonstrated an intensification of Rome's commitment to solving the Armenian problem. So, too, did the fact that Corbulo was given command of two legions, transferred north from the resentful Quadratus (a third legion was ultimately added from Germany).³⁸ Not only did this mark a sizeable increase in the Roman military capacity on the Upper Euphrates, but the Romans proved willing to use Corbulo's army as more than a passive display of force: in 58 CE, these legions invaded Armenia to enthrone the pro-Roman Tigranes.³⁹ According to Tacitus, the empire left a garrison of five auxiliary units and 1,000 legionaries to support its new client-king (a notable increase from the small force that failed to protect the pro-Roman regime in 51).⁴⁰

So long as Corbulo retained command of the war-effort and the Parthian Vologeses remained distracted by Hyrcanian revolts on the eastern edge of his empire, Rome's policy held firm.⁴¹ When the rash new client-king Tigranes provoked the Parthians into mustering their full forces in 62 CE, Nero's *ad hoc* military build-up was insufficient to maintain Roman proxy-rule

³⁷ Tac. *Ann.* 13.6; Mitford 2018, 30-31.

³⁸ Tac. *Ann.* 13.7-8, 35; Bennett 2006, 83-84.

³⁹ Tac. *Ann.* 13.37-41, 14.23-26; Mitford 2018, 31-34.

⁴⁰ Tac. *Ann.* 14.26.

⁴¹ On the Hyrcanians, Tac. *Ann.* 15.1.

in Armenia.⁴² Fearing an invasion of Syria, Rome was forced to divide its forces and attention along the full frontier from Antioch to the Black Sea. This was too great a task even for Corbulo, who managed defenses in the south while the soon-to-be infamous Caesennius Paetus took command of the armies on the Upper Euphrates.⁴³ Paetus led his men into Armenia, where they met a Parthian force under Vologeses' personal command. The results were disastrous, an embarrassing Roman defeat. Encircled by the Parthians, and with Corbulo too distant to provide timely assistance, Paetus was forced into ignominious surrender and retreat.⁴⁴

The events of 62 CE effectively exposed the frailty of Augustus' Armenian policy. To be sure, with Corbulo's army and reputation untouched, Vologeses did not attempt to force outright Parthian dominance through continued fighting. Still, when the two sides negotiated in 63 CE, the military setbacks under Paelignus in 51 and Paetus in 62 compromised Rome's bargaining position. The Roman empire had escalated the conflict over Armenia and lost, making its permanent dominance in the region untenable. In the Peace of Rhandaia, named after the site where Paetus was defeated and where Corbulo and Vologeses negotiated, Parthia gained the right to nominate the kings of Armenia. It was only a renewed campaign by Corbulo which won the concession that these kings would travel to Rome to accept their crowns from the emperor.⁴⁵ Symbolically a compromise, this bargain clearly favored the Parthians, legitimizing the *de facto* Arsacid influence over Armenian affairs.

⁴² Tac. *Ann.* 15.2.

⁴³ Tac. *Ann.* 15.6.

⁴⁴ Tac. *Ann.* 15.8-17; Bennett 2006, 85; Mitford 2018, 34.

⁴⁵ Tac. *Ann.* 15.28-29; Mitford 2018, 36-38. For an alternate interpretation, see Campbell 1993, 232.

As a result, Rome under Nero (and later Vespasian) was forced to reckon with a newly intensified threat on the northeastern frontier. Bloodied on the Armenian question, the empire needed a new military and diplomatic approach to its struggle for pre-eminence in the Near East.⁴⁶ It chose, with considerable historical consequence, to formalize and militarize the frontier system along its northeastern border.⁴⁷

In the aftermath of Rhandaia, Nero first attempted to strengthen Roman influence along the Black Sea, hedging Armenia in from the north with Roman clients and allies.⁴⁸ He annexed the rump kingdom of Pontus Polemoniaca in 64 CE, thus gaining direct control over the port at Trapezus. A crucial point on Roman supply lines to the northeast frontier, Trapezus became the main naval base supporting imperial operations in the eastern Black Sea.⁴⁹ Nero also planned a major expedition against the Caspian Gates. In addition to checking any threat from Sarmatian raiders, this campaign could not fail to remind the Iberians, Albanians, and other client-rulers of

⁴⁶ See especially Wheeler 1993a, 32-33.

⁴⁷ I would argue, following Bennett 2002; 2006; and Mitford 2018, that the Roman system of roads and fortifications on the Upper Euphrates and over the Pontic mountains was largely a creation of the Late Neronian and Flavian periods. See also Dabrowa 1989, 72-73; Levick 2000, 605. Other historians maintain that the defensive works in the northeast are much later creations: see Crow 1986; Wheeler 1991; 2017. See further discussion below.

⁴⁸ For this argument on Roman strategy under Nero and Vespasian, see Dabrowa 1989, 72; Wheeler 2012, 141. Note arguments to the contrary in Braund 1989, 31; 1991, 420-21 (stressing the importance of police actions against local brigands and pirates); Gabelia 2015, 291; Mitford 2018, 38 (stressing the importance of a forward defense against trans-Caucasian raiders).

⁴⁹ Suet. *Nero* 18; Wheeler 2012; Mitford 2018, 37-38. Mitford argues (against Bennett 2002; 2006) that with Armenia Minor still in the hands of a client king, the Romans could not yet have established a military frontier on the Upper Euphrates during Nero's reign. In this case, Mitford overstates the necessity of annexation to Roman policy. As we see in the substantial Roman garrison of Armenia under Tigranes (Tac. *Ann.* 14.26) and the later Roman deployments in Colchis (Arr. *Peripl. M. Eux.*; Braund 1989; 1991; Gabelia 2015), the empire was willing and able to deploy its forces beyond the limits of provincial administration.

Roman strength.⁵⁰ While Nero's death forestalled the expedition, his successors would continue plans to expand Roman influence along the Black Sea littoral. By the early 2nd century a substantial auxiliary garrison was established in forts as far east as Pityus and Sebastopolis in modern Georgia.⁵¹

While Nero sought to outflank Arsacid-controlled Armenia, Vespasian strengthened the Roman presence directly opposing it on the Upper Euphrates. Reacting to the perceived weakness of Julio-Claudian arrangements in eastern Anatolia (made evident both by Paetus' debacle and by the outbreak of local rebellion in 69), Vespasian annexed the client-kingdoms of Commagene and Armenia Minor, bringing the full length of the Upper Euphrates under direct Roman administration.⁵² While Commagene was attached to Syria, Vespasian incorporated Armenia Minor into his newly combined "super-province" of Galatia-Cappadocia, a powerful command that encompassed the frontier from the Taurus mountains to the Black Sea (along with much of the Anatolian interior).⁵³ Two legions, in position at Satala and Melitene by the mid-70s, anchored Galatia-Cappadocia's defense, while a third held the southern flank at Samosata in

⁵⁰ Suet. *Nero* 19; Plin. *HN* 6.4; Mitford 2018, 38. Mitford stresses the threat of the Sarmatians, looking forward to the Alani invasion in 135 CE. See opposing arguments from Bosworth 1977, 225-26; Braund 1991, 421.

⁵¹ Braund 1994; Mitford 2018, 404-25 and TBM 4 B1. On Sebastopolis, see Gabelia 2015.

⁵² Tac. *Hist.* 3.47-48; Dabrowa 1989, 71. In 69, A rebellion by Anicetus (a freedman of eastern Pontus' former client-king) sacked Trapezus and forced Vespasian to divert forces to settle affairs on the Black Sea. Both Commagene and Armenia Minor had been annexed by Tiberius, but were returned to semi-independence by Caligula and Claudius: Mitford 2018, 40.

⁵³ Bennett 2002, 384; Speidel 2009, 620-22; Mitford 2018, 40-42.

Commagene.⁵⁴ The legions were complemented by a sizeable auxiliary garrison along the frontier and the *Classis Pontica* based at Trapezus.⁵⁵

Heavily militarized by the end of Vespasian's reign, the Roman frontier in Asia Minor continued to play an important role in the Parthian and later Persian struggle over the following centuries. While in the interest of space we need not trace the full history of the frontier until its fall to the Arabs in the 7th century, a brief review of activity during the Antonine dynasty suggests that Rome's struggle with Parthia for regional hegemony continued to form an important part of the frontier's strategic context.⁵⁶ After 40 years of relative quiet under the Flavians, Trajan used the military infrastructure which his predecessors had built in the northeast as a staging ground for a major expedition against the Parthians, an unprecedented commitment to shifting the balance of power between the two empires.⁵⁷ In 114 CE, Trajan assembled fully eight legions at Satala along with a large complement of auxiliaries.⁵⁸ This force proved irresistible, and Trajan conquered Armenia within the first year of the war (with minimal fighting, according to Cassius Dio).⁵⁹ By the end of campaigning in 116, Trajan had extended

⁵⁴ Keppie 1986, 421-23. XII Fulminata, the core of the Roman force at Beth Horon, was sent to Melitene at the end of the Jewish Revolt. XVI Flavia was in Satala no later than 75 (the exact date is a point of disagreement).

⁵⁵ On the auxiliary garrison: Speidel 2009; Mitford 2018, 451-98. On the *Classis Pontica*: Wheeler 2012.

⁵⁶ Mitford 2018, 77-83.

⁵⁷ Dio Cass. 68.17-26; Mitford 2018, 62-67.

⁵⁸ Mitford 2018, 63-64.

⁵⁹ Dio Cass. 68.18-20.

Roman rule deep into Mesopotamia, only then to suffer a fierce backlash by the Parthians.⁶⁰

Following Hadrian's immediate retrenchment back to the Euphrates and the return of Armenia to client-king status (albeit with a Roman-leaning ruler), the strategic utility of the northeast frontier in large-scale warfare against the Parthians was clear.⁶¹

Renewed warfare under Marcus Aurelius and Lucius Verus in the early 160s further demonstrated the Anatolian frontier's role in countering any threat from Parthia. In 161 CE, the Parthians invaded Armenia and destroyed a small Roman advance post at Elegeia.⁶² To the south, a second Parthian army crossed the Euphrates into Syria, forcing Verus to travel to Antioch and take command of the war effort. As under Trajan, the Roman forces in Cappadocia went on the offensive with large reinforcements (perhaps as many as five additional legions were temporarily transferred into the theater from the Rhine and Danube).⁶³ By 163, a Roman army once again marched east from the staging ground at Satala, overwhelming Parthian resistance and conquering Armenia.⁶⁴ As in 116, Armenia was left as a client-kingdom under a Roman nominee; the loyalty and security of its king were to be guaranteed through the end of the second century by a garrison at Kainepolis, the new Armenian capital 30 km northwest of Artaxata.⁶⁵

⁶⁰ Lightfoot 1990, 115-26; Graham 2014. For an extensive survey of Trajan's Parthian War: Lepper 1948.

⁶¹ On the revolt of Armenia in 116, generally acceded to by the Romans, see Mitford 2018, 67.

⁶² SHA *Marc.* 8; Mitford 2018, 72. Mitford argues persuasively that the Roman force destroyed at Elegeia was not a full legion (as in Speidel 2009, 601) but a smaller collection of *vexillationes* and auxiliaries.

⁶³ Mitford 2018, 73. See especially n. 69 for epigraphic evidence of these reinforcements.

⁶⁴ SHA *Marc.* 9; Mitford 2018, 73-74. Roman coins of 163 and 164 proclaimed victory over Armenia; see Mitford n. 70.

⁶⁵ Mitford 2018, 73-74. Kainepolis: TBM 4 C2.

As under Trajan, the northeast frontier displayed its potential as a base for decisive military action on the Armenian question.

This frontier continued to be an important site of imperial power-politics until the Arab invasions; if anything, the rise of the Sassanids in the 3rd century only increased the importance of this region in Rome's military affairs.⁶⁶ Even if we allow for the tendency of our ancient authors to emphasize the Parthian conflict in their accounts of the first two centuries CE, the fact remains that Rome's military and diplomatic relationship with its only imperial neighbor was an important factor in the structure and strategic purpose of the northeastern frontier. At the same time, we must recognize other types of threats to Roman security in Asia Minor. When we look past the struggle between empires which dominates our sources, it becomes clear that while Parthia was certainly Rome's most powerful opponent in the East, the empire also faced widespread, smaller-scale challenges to regional prosperity and imperial control.

Numerous examples suggest that Asia Minor did not lie quietly under Roman rule. Some threats emerged as a backlash to Roman provincialization: Nero's seizure of eastern Pontus from Polemon in 64 led to a revolt five years later by the royal freedman Anicetus, while Vespasian's annexation of Commagene provoked a rebellion by the sons of the deposed king.⁶⁷ Others challenges came from the large-scale movement of hostile peoples, most notably the Sarmatian

⁶⁶ For a brief survey of the Anatolian frontier from Septimius Severus to the Arab Conquest: Mann 1974, 524-25; Mitford 2018, 75-83.

⁶⁷ Anicetus: Tac. *Hist.* 3.47-48; Dabrowa 1989, 7; Mitford 2018, 39. Commagene: *ILS* 9198; Joseph. *BJ* 7.219-43; Suet. *Vesp.* 8; Mitford 2018, 41-42.

Alani from north of the Caucasus, who famously clashed with Arrian's legions in 135 CE.⁶⁸ Ultimately, however, the Roman army proved well suited to these "medium-scale" threats. The rebellions in Pontus and Commagene featured clearly defined opponents with Hellenistic political structures and conventional armies; both were put down with little difficulty.⁶⁹ The Alani were a similarly manageable foe, not an existential threat to Roman rule.⁷⁰ Their predations were mostly confined to the Parthian world, and Rome's alliance with Iberia was usually sufficient to keep the Alani north of the Caucasus.⁷¹ Despite the importance of Arrian's battle description to our understanding of Roman tactics in the 2nd century CE, the fight itself was a minor affair against an exhausted opponent.⁷²

The frequent, low-intensity conflict which the Romans encountered in Asia Minor was potentially more challenging.⁷³ Though not a major concern of our sources, Anatolia certainly played host to brigandage, raiding, and other forms of social resistance; as in Judaea and Galilee, rugged, militarily inaccessible terrain incubated agitators against Roman authority.⁷⁴ Some of our

⁶⁸ Bosworth 1977; Mitford 2018, 71.

⁶⁹ Even Anicetus, who briefly threatened the stability of the entire northeastern frontier by seizing the port of Trapezus, was rapidly driven from Roman territory by a relatively small imperial force. Tac. *Hist.* 3.47-48; Mitford 2018, 39.

⁷⁰ On the contrary, see Magie 1950, 572-76, who makes the Alani the primary impetus for Vespasian's militarization of the northeast frontier.

⁷¹ Joseph. *BJ* 7.244-51; Suet. *Dom.* 2.2; Bosworth 1977, 220-23; Dabrowa 1989, 70-72; Mitford 2018, 42 n. 21.

⁷² Dio Cass. 69.15; Bosworth 1977, 220, 222; Mitford 2018, 70-71. On the *Ektaxis* and Roman tactics: Wheeler 1979.

⁷³ Shaw 1990a and 1990b argue convincingly for the significance of low-level violence and imperfect imperial control in Cilicia-Isauria, in the Anatolian interior to the west of the frontier line.

⁷⁴ We need not parse out how much of this "background violence" was explicitly targeted at Roman rule. Whatever the intentions of its perpetrators, brigandage made it more difficult for the Romans to

best evidence for such “small wars” comes from the coast of the Black Sea east of Trapezus, a region outside official provincial administration but still garrisoned by the Roman army.⁷⁵ The Heniochi tribe contributed to widespread piracy here, and sacked the city of Pityus in the 70s CE.⁷⁶ We hear from Strabo (writing at a very early stage) that while local elites were relatively successful in combating banditry, Roman governors were not particularly interested in hunting down brigands.⁷⁷ As we saw in examples from the early conquest of Spain, Roman concepts of military glory (and expectations of economic reward) tended to put little weight on small-scale warfare against mobile and widely dispersed brigands, especially when these opponents could use their native mountains to their advantage. The Heniochi were thus left to thrive under marginal Roman control, even profiting from the menace they posed to larger Roman operations: in the early second century, Trajan bribed the Heniochi with gifts in order to secure the northern flank for his Armenian war.⁷⁸

In part, the Heniochi were protected by their distance from the main Trapezus-Antioch frontier line. Closer sources of resistance could certainly face Roman retribution. Take, for example, Arrian’s plans to wage war against the Sanni, a tribe somewhere east of Trapezus that

administer and secure imperial territory, and the suppression of such small-scale violence fell within the purview of Roman governors (whether or not they chose to prioritize this mission). See Shaw 1984; Wheeler 1993a.

⁷⁵ On this region in general: Braund 1989; 1994; Dabrowa 1989. For the phrase “small wars”: Callwell 1896.

⁷⁶ Strabo, 11.12-13; Braund 1989, 31. Cf. Wheeler 2012, 134-41, who generally argues against the severity of Black Sea piracy after the reign of Augustus. For the location of this tribe, see BA 87 F4 Heniochoi; Pleiades 857153.

⁷⁷ Strabo, 11.12.

⁷⁸ Dio Cass. 68.19; Mitford 2018, 66.

refused in the early 130s to pay taxes or recognize imperial rule.⁷⁹ We do not know if this plan was ever carried out, although its articulation alone indicates that the Romans were not averse to cementing their control of eastern Anatolia through small-scale fighting. Regardless, it did not bring a permanent solution. Centuries later, the Sanni still thrived as brigands and pirates. While Procopius is evasive on the subject, it seems that they were held under imperial authority by persuasion as much as by force.⁸⁰ The political instability of the mountain regions in Anatolia is further demonstrated by Rome's conflicts with the Cietae, a tribe in the Taurus mountains that twice launched serious challenges against the authority of Rome and its client-kings.⁸¹ In 36 and 52 CE, the Romans deployed detachments from the Syrian garrison to force the Cietae into obedience.⁸² In each case the Cietae were pacified, as we must assume the Sanni would have been (at least temporarily) in Arrian's putative war. Yet the fact that the empire could defeat such small-scale threats when it focused its military resources against them should not blind us to the opportunity costs of such missions. For every soldier Rome posted back to Cappadocia to fight the Cietae, it had one fewer facing Parthia on the Syrian frontier.

We may safely suggest that these documented uprisings are only a fraction of the small-scale opposition which Rome faced; here, as almost everywhere in the ancient world, banditry was endemic.⁸³ In line with the conclusions of Chapter Three, our evidence from Asia Minor similarly indicates that this type of illicit violence tended to take place on broken ground, rather

⁷⁹ Arrian, *Perip. M. Eux.* 11; Braund 1991, 419.

⁸⁰ Procop. *Aed.* 111.6.1-14; *Wars* 1.15; Maas 2014, 339.

⁸¹ Shaw 1990a, 229-30.

⁸² Tac. *Ann.* 6.41, 12.55; Lenski 1999, 419-20.

⁸³ MacMullen 1967, 192-241; Shaw 1984; Isaac 1990, 54-100; Wheeler 1993a, 37. On the importance of policing among the activities of the Roman army: Fuhrmann 2012.

than the level plains and valleys that typically hosted conventional warfare. The exceptionally rugged physical geography of eastern Anatolia thus compromised the maintenance of Roman authority against insurgency and brigandage. For the Cietae, like the Judaeans rebels, mountains served as an incubator for political resistance. In 36, the tribe “migrated to the heights of the Tauric range, and, favored by the nature of the country, held their own against the unwarlike forces of the king [Archelaus].”⁸⁴ In 52, broken ground allowed the Cietae to rout the Roman cavalry sent against them.⁸⁵ We might similarly point to the importance of mountains in the long and contentious relationship between Rome and the mountain-dwelling Isaurians (as Brent Shaw argues), or even to Cicero’s dubious military accomplishments against insurgents at Mt. Amanus and Pindenissum.⁸⁶ We certainly cannot assume that any specific mountain in eastern Asia Minor was a site of rebellion or resistance at any given time. Yet it seems likely that in aggregate over time and space, this rugged region had more than its fair share of internal conflicts, that these struggles typically took place on or near rough terrain, and that as a result, Roman commanders on the Anatolian frontier would have frequently confronted the difficulties of broken-ground combat enumerated in Chapter One.

Literary evidence can flesh out the threat-environment which the Romans confronted on the northeastern frontier: we have ample documentation for the large-scale conflict with Persia, along with indications of internal rebellion and small-scale but endemic banditry. However, given the biases of our ancient authors towards grand conflict and inter-state politics, these texts

⁸⁴ Tac. *Ann.* 6.41: *in iuga Tauri montis abscessit locorumque ingenio sese contra imbellis regis copias tutabatur.*

⁸⁵ Tac. *Ann.* 12.55.

⁸⁶ For Isauria: Amm. 19.13; Lenski 1999; Shaw 1990a, 1990b. For Cicero: Cic. *Ad. Att.* 5.20; Plut. *Cic.* 36.

cannot reliably confirm which of these challenges the Roman frontier prioritized, or to what extent it neglected some threats in favor of others. To analyze the purpose and nature of the Anatolian frontier, we must turn instead to geographic evidence, situating the frontier within its physical environment and asking what the siting of imperial forts and the courses of Roman roads can tell us about the mission of the soldiers who garrisoned and patrolled them.

Section Two: The Geography of the Northeastern Frontier

The northeastern frontier demonstrates geographic patterns similar to the Roman conquest of Spain, albeit over a longer period and much more difficult terrain: even in the rugged heights of eastern Anatolia, the Romans tended to deploy their forces, forts, and roads along relatively low and level ground. This preference was not absolute, and there are noteworthy deviations where the Romans seem to have deliberately sought rough terrain in the construction of the northeast frontier. Yet by and large, Roman troops relinquished the mountains' defensive advantages to their restive inhabitants.

As in Spain, the distinction between level and broken ground reflected a choice between missions and opponents. In literary *topos* and, to a large extent, military reality, plains and valleys played host to large-scale wars, while hills and mountains were the realm of low-intensity counterinsurgency against rebels and brigands. For evaluating the mission of the Roman frontier, the central question thus becomes whether the Romans avoided the challenges of broken ground or confronted them head-on.

We may envision two possible scenarios, each of which should produce a recognizable pattern in the relationship between the Roman frontier and the surrounding terrain. If the

Romans adopted a direct approach to the problems of mountain brigandage and control, we would expect them to augment their tactical disadvantages on rough terrain through the construction of highland roads and forts, aimed to improve speeds of movement and preemptively deny local strongpoints to the enemy.⁸⁷ In this case, TRI scores for Roman roads and installations would be higher than the average for their surrounding areas. On the other hand, if the empire chose to avoid or ignore the challenges of broken ground in favor of high-intensity military priorities—in the northeast, the ever-present possibility of Parthian wars—we would expect its roads and fortifications to be found on leveler terrain, with TRI figures below the regional average.

Besides TRI, elevation can help us to understand the purpose of Rome's northeastern frontier. In the severe terrain of Anatolia, altitude could present military problems independent of terrain ruggedness. The winter cold was lethal at high elevations, while the characteristic transhumance and pastoralism of the mountains made these spaces more difficult and less rewarding to govern and control, and less capable of providing logistical support to substantial Roman forces. As with areas of high TRI, we would expect a frontier concerned with Parthia to avoid these challenges, and a frontier concerned with detailed pacification of borderland tribes to confront elevation head-on.

TRI is a familiar variable to this dissertation, and elevation is closely related. Yet to understand the strategic purpose of the Anatolian frontier fully, we must add viewshed (the area that Roman garrisons could see from their frontier installations) to our geographic model. Though easy to calculate in GIS software, the interpretation of this data is tricky and potentially

⁸⁷ On the “home-field advantage” for local insurgents, who could seize mountaintop strongholds in anticipation of Roman attack, see Chapter One, Section Three.

ambiguous. A large field-of-view was important both for defense against large-scale armies and for the interdiction of smaller-scale migrants and raiders; good vantage point could serve both purposes. Nevertheless, we might expect a northeastern frontier focused on high-intensity threats to feature heavy surveillance of the major, level crossing points into Parthian territory, with less thorough observation along more rugged sections of the frontier line. On the other hand, a frontier built for small-scale local control would feature extensive and equally distributed surveillance both along the frontier line and in a deeper zone on both sides of the nominal border.

Before we match the geography of the northeastern frontier against these archetypes, a brief word is necessary on our geospatial evidence. Mitford's data, the basis for the maps in this section, is based in large part on his extensive autopsy of the Turkish landscape, along with the reports of scholars and travelers dating back to the 19th century.⁸⁸ He supplements the physical remains of the Roman frontier with ancient geographic evidence, especially from the Antonine Itinerary, the Peutinger Map, and the *Notitia Dignitatum*.⁸⁹ For the frontier of the 1st and 2nd century CE, these are late records, and only the *Notitia* (at least in part) is an explicitly military document.⁹⁰ Given the potential weaknesses of this textual data, along with the scanty

⁸⁸ For other examinations of the northeastern frontier in the modern period, see (among others); Crow and French 1980; French 1983; 1988; Crow 1986. The bibliography in Mitford 2018 contains the most up-to-date list of work in this region.

⁸⁹ Hereafter *It.Ant.*, *Tab.Peut.*, and *ND*. These can be supplemented in places by Pliny, Ptolemy, and Strabo, but the focus of these authors on urban and physical (rather than military) geography limits their utility. Mitford 2018, 565-77.

⁹⁰ On the *It.Ant.* and *Tab.Peut.*: Talbert 2007, 256-70; 2010, 133-42; Purcell 2015. Mitford 2018, 570 suggests that most of the source material for *It.Ant.* reflects conditions during the reign of Caracalla. On the *ND*: Mann 1976. Cf. Goodburn and Bartholomew 1976.

archaeological record for this region, scholars such as James Crow and Everett Wheeler argue that we cannot responsibly reconstruct the geography of the Flavian frontier in Asia Minor.⁹¹

On the whole, I lean towards the more optimistic school of Mitford and David French.⁹² I maintain that the Roman northeast frontier was a product of the first century CE, for which Michael A. Speidel (using military diplomas as his evidence) estimates a garrison of between 20-25,000 soldiers in Galatia-Cappadocia.⁹³ While it is impossible to determine the exact distribution of these forces throughout the province, I follow Mitford's argument that substantial portions of this garrison were stretched along the frontier line (rather than centralized around the legionary fortresses at Samosata, Melitene, and Satala). I do not agree in all cases with Mitford's assumption, often unstated, that all the forts and fortlets he identifies were necessarily garrisoned at all times in the late 1st and 2nd century CE. Nor should we assume that Roman soldiers were confined to these installations and the roads that connected them: patrols certainly ventured into the wider countryside. What Mitford has successfully identified, however, are the foci of Roman force along the Anatolian frontier. As with Chapter Two's list of military toponyms, when taken in aggregate these sites speak to the empire's concerns and priorities in the region over the long term, testifying to Rome's willingness in certain critical locations to augment the capacities of its troops by investing in military infrastructure.

⁹¹ Crow 1986; Wheeler 1991; 2017. Wheeler (see especially 164-65) goes so far as to deny the existence of a frontier line in the northeast before the mid-3rd century, arguing that whatever forces Rome deployed in the region did not form a cohesive defense system aimed at controlling the border-zone.

⁹² French 1983; 1988; Mitford 2018. For the late-Neronian/early-Flavian origins of the frontier, see also Levick 2000, 605; Bennett 2002; 2006.

⁹³ Speidel 2009, 624. Cf. Mitford 2018, 426-98.

As I have indicated, the topographic context of the northeastern frontier suggests that the frontier's primary mission was warfare, both defensive and offensive, against the Parthian Empire. In addition to citing some of the most important evidence for Mitford's findings and reservations about them the following reconstruction proceeds north through the frontier in four sectors. Each is accompanied by at least four maps, corresponding to the variables outlined above: the first two provide TRI statistics (one as raw data, one processed with a variety of GIS generalization tools to reveal broader patterns), a third depicts elevation, and a fourth illustrates the viewsheds of the sector's military sites.⁹⁴ Where productive, additional maps examine alternative routes and sites which the Romans did not utilize, sparking discussions of the strategic disadvantages which imperial decisions could produce. In addition, each sector pairs its visual and cartographic analysis with quantitative data, comparing the TRI and elevation statistics for Roman forts, stations, and roads with randomly generated regional averages.

SECTOR ONE: SAMOSATA TO MELITENE⁹⁵

Let us begin our northward march in Samosata on the Upper Euphrates.⁹⁶ Once the capital of Hellenistic Commagene, Samosata housed a legion by approximately 72 CE.⁹⁷ This

⁹⁴ For a summary of generalization tools and their use in ArcGIS: <http://desktop.arcgis.com/en/arcmap/10.3/tools/spatial-analyst-toolbox/an-overview-of-the-generalization-tools.htm>. Viewshed maps do not necessarily account for the curvature of the earth or the limits of human vision, and are thus more accurate for areas closer to Roman installations than those farther away.

⁹⁵ For Section One, refer to Maps 4.2-6 and Tables 4.1-2.

⁹⁶ TBM 6 D5.

⁹⁷ Mitford 2018, 41-42, 84-87. Cf. Joseph. *BJ* 7.219-43; Goell 1974; Özgüç 1983.

force was the northernmost extension of the Syrian garrison, now increasingly dispersed along the frontier line.⁹⁸ Much like the fortress of Zeugma to the south, Samosata guarded a major crossing point of the Euphrates.⁹⁹ As Maps 4.2-4 indicate, this most significant installation in Commagene was surrounded by low, flat, and militarily uncomplicated territory on either side of the river.¹⁰⁰

From Samosata, two roads led north to Melitene in Cappadocia, the next legionary fortress along the Euphrates. One road ran across the Taurus mountains, while a second followed a longer, winding course along the river-bank. The mountain route crossed the broad plain north of Samosata in two branches. The eastern one, waterless in modern times, led directly to the monumental Severan bridge over the Chabina river.¹⁰¹ The western branch ran northwest past the *Tab.Peut.*'s waystation of Carbanum to Perre.¹⁰² A station in both the *It.Ant.* and *Tab.Peut.*, and identified by Mitford as a Flavian administrative center, Perre was a likely

⁹⁸ Mann 1974, 522-25; Keppie 1986, 423.

⁹⁹ Kennedy 1998; Hartmann and Speidel 2002; Mitford 2018, 84, 96. Zeugma: TBM 4 A4.

¹⁰⁰ Due to inundation by the Atatürk Dam, our TRI data underestimates the ruggedness immediately surrounding the now-submerged Samosata, though mid-20th century Turkish military maps suggest that any difference is slight. TBM 6 D5 indicates elevation changes around 100 vertical feet per mile, which would barely register in our TRI dataset.

¹⁰¹ Mitford 2018, 102, 107-11.

¹⁰² Carbanum: TBM 6 B3; *Tab.Peut.* 10 B2; Mitford 2018, 102-103. References to the *Tab.Peut.* indicate grid squares in the digital edition published (in connection with Talbert 2010) at <<http://peutinger.atlantides.org/>>

spot for a Roman fort.¹⁰³ From here, the road turned sharply to avoid the southern foothills of the Taurus, rejoining the eastern branch below the Chabina.¹⁰⁴

From the Severan bridge, the frontier road ascended the Taurus, following, according to Mitford, the “only practicable route through the gorges and abrupt mountainsides” (as we will see below, alternate paths existed to the east).¹⁰⁵ There was an imperial outpost at modern Direk Kale, the probable site of the *It.Ant.*’s Lacotena.¹⁰⁶ Archaeological finds reveal a substantial Roman presence there.¹⁰⁷ Immediately north, the road crossed the plateau at the Sincik Gates (just visible on Map 4.2) before cresting the summit of Mt. Kopal and descending to the waystation of Miasena in the Şiro river valley.¹⁰⁸ From Miasena, the frontier road climbed northwest over the northern arm of the Taurus (the modern Şakşak range), emerging into the plains southeast of Melitene.¹⁰⁹

The second route to Melitene, recorded in the *Tab.Peut.*, ran east from Samosata along the bank of the Euphrates.¹¹⁰ Low and level enough through the probable forts at Charmodara

¹⁰³ *It.Ant.* 210.3; *Tab.Peut.* 10 B2; TBM 6 B2; Mitford 2018, 87, 104-105. For the numismatic finds: Facella 2008. All references to *It.Ant.* refer to the edition by Cuntz, *Itineraria Romana*, 1929.

¹⁰⁴ Mitford 2018, 105-107.

¹⁰⁵ Mitford 2018, 118.

¹⁰⁶ *It.Ant.* 210.2; TBM 7 B4; Mitford 2018, 108, 112-17.

¹⁰⁷ Hoepfner 1966; Wagner 1983, 194; Mitford 2018, 112-17.

¹⁰⁸ *It.Ant.* 210.1; TBM 7 B2; Mitford 2018, 117-120. Though no physical evidence of Miasena remains, Mitford’s assessment of the physical landscape and the distances in *It.Ant.* indicate two possible locations (only 1.5 km apart) at crossings of the Siro.

¹⁰⁹ TBM 11 A4; Mitford 2018, 121-22, 166-70.

¹¹⁰ *Tab.Peut.* 10 B2, B3.

and Heba, the road entered rugged terrain near the Gerger river, where the important city of Juliopolis served as a collection point for rafting supplies down the Euphrates to Samosata.¹¹¹ As the road encountered ever-more broken ground along the river-bank, a temporary respite could be found in the narrow plain at Barzalo, a convenient crossing of the Euphrates and the most securely identifiable military site in this sector of the frontier.¹¹² Present on the *Tab.Peut.* and named as a fort in the 3rd century by Ammianus, the site maintained the name “Berzelo” into the 1980s.¹¹³

From Barzalo, the road traced the Euphrates through the Taurus gorge, where the exceptionally rugged terrain has badly limited exploration.¹¹⁴ The course of the road is now generally clear thanks to Mitford’s observations in the early 1970s.¹¹⁵ Mitford is confident that this curve of the Euphrates, unnavigable for riverine fleets, was well defended by the Roman army, even if it is difficult to locate their bases securely and precisely.¹¹⁶ Claudiopolis was undoubtedly a military site in Ammianus’ time, and probably housed a garrison long before; its

¹¹¹ Charmodara: *Tab.Peut.* 10 B3; TBM 8 B5; Mitford 2018, 101. Remains of Roman water-pipes and its strategic position near the mouth of the Chabina suggest a military function (though see an alternate argument in French 1983, 94). Heba: *Tab.Peut.* 10 B3; TBM 8 D3; Mitford 2018, 127. Mitford’s positioning here assumes an error in the mileage of *Tab.Peut.*, but his identification is supported by local finds of military inscriptions: see French 1983, 75. Juliopolis: TBM 9 D4; Mitford 2018, 129-31. While Mitford notes that the potential error in *Tab.Peut.*’s mileage for Heba, along with the general spacing of sites in this section of the document, would call for an omitted waystation in the vicinity, archaeological evidence is insufficient to establish a garrison or other official military outpost at Juliopolis.

¹¹² TBM 9 E3; Mitford 2018, 132-34.

¹¹³ Amm. Marc. 18.7.10; *Tab.Peut.* 10 B2 Barzaliium. The Atatürk dam has since inundated the site (see Mitford 2018, 134).

¹¹⁴ Mitford 2018, 123.

¹¹⁵ Mitford 2018, 134-42. See also: French 1983, 71-82.

¹¹⁶ Mitford 2018, 123-25.

placement by Mitford at modern Tillo is speculative, but persuasive.¹¹⁷ To the north, archaeological evidence survives from a Roman fortlet at Kerefto, a small outpost commanding traffic along the gorge.¹¹⁸ 15 km to the west, the fort of Metita sat somewhere at the mouth of the Siro valley. It housed a cohort by the time of the *Notitia Dignitatum*, and Mitford argues that a garrison was in place well before.¹¹⁹

Skirting below the heights of the Şakşak mountains, the frontier road emerged onto level ground near the strategic crossing of the Euphrates at Tomisa, proceeding west from there to Melitene.¹²⁰ A longstanding waypoint on the Persian Royal Road, the Tomisa crossing was a geographic fixture in Romano-Parthian relations, serving in the first century CE as the probable launching point for invasions by both Paetus and Corbulo.¹²¹ Writing under Augustus, Strabo identified a fortress of the then-still-independent Cappadocians at Tomisa itself.¹²² After the Flavian militarization, Roman troops were probably garrisoned nearby in the *Tab.Peut.*'s Corne (modern Cafer Kale), where locals reported that a sizeable fort was flooded by the Euphrates in

¹¹⁷ Amm. Marc. 10.7.10 (in which “Claudias” is listed as the sister-fort to Barzalo); TBM 9 E2, 10 F4; Mitford 2018, 136-37. Mitford’s identification is based in part on the mileage in *Tab.Peut.* 10 B2 (“Glaudia”), in part on Tillo’s position near one of the few practicable crossings of the Euphrates in the Taurus gorge.

¹¹⁸ TBM 10 E3; Mitford 2018, 139.

¹¹⁹ TBM 10 D3; Mitford 2018, 142. This positioning requires slight alteration of the mileage in *Tab.Peut.* 10 B2.

¹²⁰ I have intentionally omitted from analysis the fort at Sis Kale (TBM 10 B3), securely dated to the Justinianic period by archaeological evidence. Mitford 2018, 152.

¹²¹ Tac. *Ann.* 13.7, 15.12. Mitford 2018, 157.

¹²² Strabo, 12.2.1.

the late 1980s.¹²³ Corne was potentially supported by small garrisons in a fortlet 6 km upstream and the waystation of Ad Aras just across the river.¹²⁴

Taking Mitford's data as the starting point for GIS analysis, a preponderance of evidence indicates that Rome's primary concern in this sector was securing and monitoring low and level ground. The relatively low TRI and elevation figures for Roman sites and roadways suggest this conclusion (especially in light of alternatives which better penetrated the Taurus mountains), as does the strength of Roman surveillance at the most likely points of Parthian invasion. While the geographic configuration of Sector One suggests that the Romans paid some attention to the problems of low-intensity mountain warfare, by-and-large the military infrastructure in this region was built with the Parthians in mind.

The Roman preference for low and level ground is apparent in a visual survey of Maps 4.2-4. Consider for instance the sharp turn of the western frontier road at Perre, and the precision with which it skirts the Taurus foothills on its way to the Chabina river. Note as well how on Map 4.3 the road between Barzalo and Metita avoids for as long as possible the 400-800 m TRI terrain marked in light red. Rome's bases in the Taurus follow the same pattern: on Map 4.2, Barzalo, Claudiopolis, and Metita are visibly associated with pockets of level terrain. Even on the direct, high-altitude route over the Taurus, Lacotena and Miasena have relatively low elevations (as seen on Map 4.4), positioned well below the heights of Mt. Kopal.

¹²³ *Tab.Peut.* 10 B2; TBM 10 A2; Mitford 2018, 153-55.

¹²⁴ TBM 10 A2; Mitford 2018, 160-62. Though marked as a civilian site on Mitford's map, Ad Aras appears as a station on *Tab.Peut.* 10 B2.

As seen in Tables 4.1 and 4.2, quantitative analysis supports this cartographic impression, confirming that the Roman frontier avoided broken ground more than confronting it.¹²⁵ Table 1 gives average TRI and elevation statistics for the dozen fortresses, forts, and waystations in the first sector of the northeastern frontier (along with several local sites discussed below). Averages are given for 200 m and 1 km radii: the first to approximate the engineering challenges of building at these sites, the second to capture the tactical difficulties of patrolling and fighting in their environments. Each location's TRI and elevation averages are given a regional percentile rank, in this case in reference to 1,000 randomly selected points along the frontier between Samosata and Melitene. When we aggregate the percentile-ranks for Roman fortresses, forts, and waystations, it is clear that the Romans preferred gentler terrain in Commagene: at both 200 m and 1 km radii, the TRI scores around Roman sites fall in the 22nd percentile for the sector, while elevation is in the 26th. While there are certainly some Roman installations with middling statistics (Lacotena for TRI; Lacotena, Miasena, and Claudiopolis for elevation), on the whole these probable bases for Roman force fall well below the regional mean.

As seen in Table 4.2, the same pattern holds in the statistical analysis of Roman roads. Calculated in six segments (alongside a number of alternative local routes discussed below), the TRI statistics for the frontier roads in Sector One fall in the 32nd percentile when compared to the regional norm.¹²⁶ Elevation statistics are only slightly higher, averaging to the 37th percentile. Even if we exclude the two road segments between Samosata and the Chabina river, which lie

¹²⁵ As seen by the shading in the "TRI Mean," most of these sites were quite rugged in absolute terms; the Anatolian mountains dwarf the broken ground see in previous chapters. We are concerned here with the Romans' choices relative to their various options in this region, and my TRI analysis in this chapter is based almost entirely on percentile ranks, rather than absolute statistics.

¹²⁶ I have given the statistic for the 1 km radii around Roman roads; TRI figures are slightly higher for 200 m radii, averaging to the 34th percentile.

almost entirely in the plains, the figures for the four segments of mountain road are unremarkable: only the high road over the Taurus clears the regional mean for TRI (even then, only by a few percent).

To be sure, the empire did not enjoy unrestricted choice in placing its forts and building its roads (or, more frequently, selecting pre-existing routes to improve).¹²⁷ Without dynamite and heavy machinery, there was an upper limit to the Romans' ability to reshape rugged terrain. Nevertheless, a variety of evidence suggests that the empire could have extended itself onto higher and more rugged terrain, but chose not to. Take for example the direct route over the Taurus, mentioned above: while its overall TRI and elevation figures are underwhelming (if still higher than the regional mean), over shorter segments this road's statistics speak to the tremendous ingenuity of Roman engineers. Ascending from Lacotena to the Sincik Gates, the frontier road has a 1 km TRI of 407 m (69th percentile). Near the summit of Mt. Kopal, the 1 km TRI average is 465 m (81st percentile). We find even more impressive statistics further to the north where the frontier ascends the Pontic mountains (see Sector Four, below). The most rugged section of the Roman road here has a TRI average around 660 m (97th percentile with reference the entire northeastern frontier). While we should not assume that the Romans could replicate this feat of engineering on any patch of ground with the same statistical profile, these figures indicate that the much lower TRI averages of Sector One reflect a choice to avoid the mountains, rather than the simple inability to build over them.

Evidence in the Taurus mountains for local, non-Roman transportation networks leads to a similar conclusion that the empire intentionally ignored more rugged alternatives when

¹²⁷ Cf. Mitford 2018, 118.

choosing how to construct its frontier. Mitford identifies numerous caravan tracks in this region, shown in dashed lines and numbered in Map 4.6. These were heavily traveled during the Ottoman period; Mitford argues that they were also used in antiquity.¹²⁸ The Romans could certainly have employed them when necessary—Track 4, running parallel to the official road between Lacotena and Miasena, may have seen especially frequent imperial usage—but the empire did not select them for incorporation into the frontier system.¹²⁹ Without waystations and engineering improvements, Roman soldiers would have found these to be more difficult avenues for projecting force.

Table 4.2 gives statistical profiles for these local routes as well as the official Roman roads: comparison between the two throws the empire's preferences into stark relief. The 1 km TRI figures for local routes nearly reach the 60th percentile of the regional mean (compared to 32nd for the Romans). Elevation figures stand at the 64th percentile (compared to the Roman 37th). For individual segments of the caravan tracks, TRI and elevation figures above the 80th percentile are not uncommon.¹³⁰ Possessed of overwhelming military force and engineering capacity, the Romans could have secured and improved any of these paths for their own use. The fact that they did not speaks strongly to the priorities of imperial decision-makers.

A visual survey of Map 4.6 also indicates that by avoiding these more difficult routes (as well as some key sites along them), the Romans denied themselves ready access to large swaths of mountainous and dangerous space. For experienced locals, these rudimentary tracks enabled wide-ranging movement across the “bubble” of territory between the high Taurus road and its

¹²⁸ Among others, Mitford 2018, 142-45.

¹²⁹ Mitford 2018, 108.

¹³⁰ See especially Tracks 6-10, in the Taurus heights overlooking the Euphrates.

lower counterpart on the Euphrates. While detachments from the probable forts of Barzalo and Claudiopolis might risk patrols up local routes from time to time, our evidence for frontier deployment indicates that the empire made no permanent commitment to monitor and interdict movement in this mountainous zone.

The Romans were similarly uninterested in installing garrisons at a number of key highland sites where a mix of defensive terrain and symbolic importance produced potential “hot-spots” of anti-Roman resistance. I have selected four (though many more certainly existed) to include on Map 4.6, and in Table 4.1’s quantitative analysis. Arsameia ad Nymphaeum, Arsameia ad Euphratem, and Nemrud Dağ were all important sites for Commagene’s Antiochene monarchy: the first two were readily defensible palaces (Mitford describes the terrain around Arsameia ad Nymphaeum as “almost impregnable”), while Nemrud Dağ was a major religious center and home to the Antiochene royal tombs.¹³¹ Given the Antiochenes’ violent resistance to Roman annexation, we might suspect that any of these defensible and symbolic spaces of royal power might have attracted insurgent activity, and thus Roman attention.¹³² Further north, Kerar Kale was one of a number of sites dominating movement along the surrounding caravan-tracks; later home to a Seljuk castle, it was a natural position from which to control passage through the Taurus mountains.¹³³ The Romans do not appear to have established a standing military or administrative presence at any of these sites. The statistics on Table 4.1 suggest why: although their 1 km TRI figures only average in the 54th percentile, this is 31 points higher than the

¹³¹ Mitford 2018, 111. See further: Goell 1957; Versluys 2017, 16.

¹³² *ILS* 9198; Joseph. *BJ* 7.219-43; Suet. *Vesp.* 8; TBM 7 B4 (Arsameia ad Nymphaeum), 7 C4 (Nemrud Dağ), 8 E1 (Arsameia ad Euphratem); Mitford 2018, 41-42. For the argument for local resistance against the Romans, see especially Wagner 1983, 194 (along with Mitford 2018, 117).

¹³³ TBM 7 D1; Mitford 2018, 144-45.

corresponding statistic for Roman sites in this sector.¹³⁴ Faced with a difficult opportunity to secure the mountainous Taurus interior, the Romans chose a hands-off approach instead, providing little infrastructural support for counterinsurgency and policing operations in the mountains.

If we turn from the variables of TRI and elevation to consider the viewshed analysis in Map 4.5, we see a similar Roman concern for level ground: Sector One of the frontier provided its most thorough surveillance on and near the plains which formed the most likely sites of Parthian warfare. South of the mountains, Roman installations had a mostly unbroken field of vision along the Euphrates from Samosata to Arsameia ad Euphratem (though we should wonder how much detail Roman guards could make out at a distance from their watchposts).¹³⁵ As we can see on Maps 4.2-4, this scope corresponds with the plains of Commagene, a probable front in any war with the Parthian empire.¹³⁶ Surveillance is similarly thorough from Metita along the northern end of the Taurus gorge, past the strategically crucial crossing at Tomisa, and into the plains around Melitene.¹³⁷

The viewshed from Roman posts was notably less complete along the Taurus gorge itself. Despite Mitford's assertion that this region must have been heavily guarded, his placement of Roman sites leaves a substantial section of unmonitored frontier near Claudiopolis, as well as

¹³⁴ The differences in 200 m TRI (32 percentile-points), 200 m elevation (27 points), and 1 km elevation (26 points) are broadly comparable.

¹³⁵ This point holds even if we bear in mind that the view from the fortress at Samosata is exaggerated in our modern data by the reservoir of the Atatürk dam

¹³⁶ Mitford 2018, 84 notes the major crossing at Samosata.

¹³⁷ Despite the mountains on the Parthian side of the Euphrates, this area was evidently a major battleground in Rome's eastern wars. Mitford 2018, 89.

smaller gaps along the Euphrates below Metita.¹³⁸ The Roman field of vision was similarly patchy below the gorge in the southern Taurus mountains, where the confluence of the Gerger and Euphrates rivers appears unmonitored by any Roman installation. Finally, the mountainous “bubble” between the two frontier roads fell almost entirely outside the viewshed of the Roman frontier. To be sure, some of these surveillance deficiencies would have been addressed by frequent patrols, especially along the river-road. Moreover, geography would have made permanent surveillance of some of these areas unnecessary: sections of the Euphrates were impossible to cross, even for knowledgeable locals, and portions of the Taurus heights were simply uninhabitable (though as we will see at the end of this chapter, these areas were smaller than we might expect). On the whole, however, Roman surveillance in Sector One concentrated on areas of likely Parthian contact and conflict; the empire took less care to monitor and interdict low-intensity threats moving through the mountains.

This is not to say that the imperial authorities were entirely oblivious to small-scale resistance in this sector of the frontier: there is some evidence for a more direct Roman approach to the control of the mountainous interior. The frontier road running through Lacotena and Miasena could certainly have been used to project force against mountain bandits (though it also offered advantages for large-scale warfare, connecting the legions at Samosata and Melitene by a route that was both shorter than the riverine alternative and more difficult for a Parthian surprise attack to sever).¹³⁹ This route seems at times to seek altitude and broken ground, cutting directly across the summit of Mt. Kopal rather than following the easier local route through the valley

¹³⁸ Mitford 2018, 123-25.

¹³⁹ My thanks to J.E. Lendon for suggesting the latter strategic advantage.

east of Lacotena.¹⁴⁰ Roman construction of roads and outposts in the heart of the Taurus mountains suggests that the empire recognized the difficulties of forcibly dominating the highlands, and that it designed segments of the frontier system with this mission at least partially in mind.

Similarly, the Roman road through the Taurus gorge suggests some concern for controlling East-West movement along the Taurus range, even if the imperial strongpoints along this route failed to provide continuous surveillance over the frontier. Along the course of this road, rugged terrain made high-intensity operations impossible for Romans and Parthians alike: Rome's choice to extend its military infrastructure into the gorge suggests some concern with small-scale raiding (though patrols along the route could just as easily interdict Parthian spies and *provocateurs*, and this low-altitude road would have been the only practicable option in winter when snows closed the direct route to the west).¹⁴¹

On the whole, however, Sector One gives a consistent (if not entirely uncomplicated) pattern for Roman frontier construction, indicating an imperial preference for low and level terrain. Using military infrastructure to augment their ability to project force, the Romans devoted most of their attention and resources to areas where the Parthian threat was strongest, even as this choice to prioritize plains and valleys came with notable consequences for local security and imperial control.

¹⁴⁰ Formed by the Çat river (TBM 7 C3), the advantages of this valley are made particularly clear by the generalized TRI figures of Map 4.3. We see a similar decision north of Miasena, where the road climbs the southeast heights of the Şakşak mountains rather than taking a more westerly route across what Maps 4.3 and 4.4 indicate is lower and easier terrain.

¹⁴¹ Mitford 1989, 330.

SECTOR TWO: MELITENE TO ZIMARA¹⁴²

Shorter and simpler than its neighbor to the south, Sector Two demonstrates a similar trend in the frontier's relationship with the mountains. We begin in Melitene, home to the southernmost of Cappadocia's two legions.¹⁴³ The garrison was *Legio XII Fulminata*, sent to Melitene by Titus in 71 CE and remaining there (at least in the form of *vexillationes*) until the composition of the *Notitia* over three centuries later.¹⁴⁴ The exact location of its fortress is now unknown, but substantial archaeological remains were still visible in the mid-20th century.¹⁴⁵ *Leg. XII* not only covered the strategic crossing downstream at Tomisa, but also dominated the triangular plain watered by the Melas river, the largest expanse of flat, agricultural land north of the Taurus mountains.

As seen in Maps 4.7-10, the frontier followed a single road north from Melitene, although major support roads led west toward the cities of Sebasteia and Caesarea. The *It.Ant.* and *Tab.Peut.* agree that Ciaca was the next base north; it housed an *ala* by the time of the *ND*.¹⁴⁶ The road continued along the Euphrates past the river-port of Sartona, an important stop on the flow of supplies to Melitene, before curving north to avoid the gorge below modern Keban.¹⁴⁷

¹⁴² For Sector Two, refer to Maps 4.7-10 and Tables 4.3-4.

¹⁴³ TBM 11 A4; Mitford 2018, 171-182.

¹⁴⁴ Joseph. *BJ* 7.18; *ND Or.* 38.6, 14; Mitford 2018, 172-73.

¹⁴⁵ Gabriel 1940, 264-68; Mitford 2018, 174-78.

¹⁴⁶ *It.Ant.* 209.4; *ND Or.* 38.21; *Tab.Peut.* 10 B2; TBM 11 A2; Mitford 2018, 186-87.

¹⁴⁷ TBM 11 B1; Mitford 2018, 187-92.

Near the confluence of the Euphrates, Arapkir, and Arsanias rivers lay the fort of Dascusa.¹⁴⁸

Recorded on the *It.Ant.*, *Tab.Peut.*, and *ND*, Dascusa was a major military hub protecting the Arapkir valley; Mitford lists it as “the principal defensive point of this vulnerable and important section of the frontier.”¹⁴⁹

North of Dascusa, the frontier road split as it approached the Antitaurus. One branch turned west, climbing into the mountains along high but level terrain between the Çit and Arapkir rivers (its strategic purpose is perplexing: see below). The other picked its way along the Euphrates through the Antitaurus gorge. In addition to numerous fortlets and watch-posts identified by archaeological remains, these routes were guarded by four waystations. On the western branch, the Romans probably established a presence at Vereuso and Zenocopi.¹⁵⁰

Mitford’s positions for these sites follow the distances in the *Tab.Peut.* and his own estimation of likely stopping-points; neither offers substantial archaeological remains. We may more securely identify the Roman stations on the eastern road. Remnants of a 2nd century auxiliary fort survive for Sabus, listed as a Roman strongpoint in all three of our textual sources.¹⁵¹ Remains of an

¹⁴⁸ Körpinik hüyük was another, nearby site of potential interest: TBM 12 D4; Mitford 2018, 193-97. Numismatic finds in the suggest Roman activity, including at the time of Flavian militarization, but current evidence struggles to confirm Körpinik hüyük as a base for Roman control.

¹⁴⁹ *It.Ant.* 177.1; *ND Or.* 38.22; *Plin. HN* 5.83, 6.27; *Tab.Peut.* 10 B2; TBM 12 D3; Mitford 2018, 193 (on Roman occupation of the Arapkir valley), 199-201 (on Dascusa). For a strikingly different location of Dascusa well to the east of the Euphrates: Howard-Johnston 1983, 254 (and cf. Wheeler 1991, 506-507). Note that *Tab.Peut.* includes two intermediate stations between Ciaca and Dascusa; Mitford argues that the cartographer is mistaken, and that these sites were located on the support roads heading west from Melitene (Mitford 2018, 187).

¹⁵⁰ Vereuso: *Tab.Peut.* 10 B1; TBM 13 C5, Mitford 2018, 217. Zenocopi: *Tab.Peut.* 10 B1; TBM 13 B4; Mitford 2018, 219.

¹⁵¹ *It.Ant.* 209.2; *ND Or.* 38.3, 11; *Tab.Peut.* 10 B1; TBM 12 C1; Gregory 1998, II.43-45; Mitford 2018, 208-12.

aqueduct and bridge put the *It.Ant.*'s Teucila at modern Geruşla.¹⁵² To the west of this outpost, the perilous river-road rejoined the route over the Antitaurus, and proceeded north to Zimara, where a Roman garrison is confirmed by epigraphy and the *Tab.Peut.*'s icon for the site.¹⁵³

A visual survey of Maps 4.7-9 demonstrates the Melitene-Zimara sector's tendency to avoid mountains and broken terrain. On Map 4.7, the three largest military installations in this region—Dascusa, Sabus, and Zimara—all sit on relatively low and level terrain. At higher resolutions it becomes clear that Teucila and Zenocopi follow the same trend, finding narrow pockets of level ground in the midst of more rugged space. Similarly, the course of the frontier road skirts rough terrain where it can: note on Map 4.7 how the road bends away from the riverbank between Ciaca and Körpinik hüyük, and on Maps 4.8 and 4.9 how the routes diverge to avoid Mt. Harmancik.

Statistical analysis (following the same methods as in Sector One) confirms this impression. As seen on Table 4.3, the average TRI and elevation figures for Roman sites fall below the mean for terrain between Melitene and Zimara. The average Roman statistics are even lower if we leave aside the mountainous waystations of Vereuso and Zenocopi, the only sites on this list without strong evidence for a longstanding military presence. On Table 4.4, the TRI and elevation percentiles for Roman roads are somewhat higher, with both routes through the Antitaurus mountains falling above Sector Two's averages. Yet Roman roads pale in comparison to the local alternatives over Mt. Harmancik, with TRI figures in the 85th percentile and elevation figures in the 90th.

¹⁵² *It.Ant.* 209.1; TBM 13 D3; Mitford 2018, 234.

¹⁵³ *It.Ant.* 208.5; *Tab.Peut.* 10 B1; TBM 13 B1; Mitford 2018, 240-46.

On the whole, TRI and elevation data suggest that level ground and high-intensity warfare continued to be Rome's priority. Viewshed analysis for Sector Two largely supports this interpretation. On Map 4.10, the frontier maintained a consistent line of surveillance along the Euphrates from Melitene as far as Ciaca. While the Roman viewshed is notably patchy from Ciaca to the Arsanias river, large-scale assaults in this quarter were prevented by the *massif* west of the Euphrates (see Map 4.9), and the signaling tower north of Sartona could see the western descents from these mountains reasonably well.¹⁵⁴ Surveillance intensifies between Dascusa and Ciaca, as the Romans monitored the corridor of relatively level terrain leading east down the Arsanias valley to Arsamosata.¹⁵⁵ Between Ciaca and Zimara, the quality of Roman surveillance decreased markedly: Rome had little to fear from Parthia in this rugged stretch of the Antitaurus mountains, and the frontier works here seem to have made little effort either to monitor the Euphrates (frequently but not entirely impassable in the gorge south of Zimara), or to continuously survey the broken ground between the two frontier roads.¹⁵⁶

As in Sector One, the layout of the Roman frontier shows some concern for broken ground. The most notable example is the bifurcated frontier road north of Dascusa. As noted, neither road pushes onto as high or broken ground as it might (see the local alternatives on Map 4.7) and surveillance from Roman fortifications was unremarkable. Yet the only plausible strategic purpose for the western road was to augment the Romans' ability to fight in the surrounding mountains. The route through Vereuso and Zenocopi is longer than the eastern

¹⁵⁴ The frontier viewshed notably excludes the major crossing of the Euphrates used in Ottoman times by the Keban Ferry, approximately 10 km downstream from the Arsanias. Mitford suggests a probable Roman watchtower here, but can provide no evidence and does not map the site. Mitford 2018, 191.

¹⁵⁵ Near the site of Paetus' defeat in 63 CE. Tac. *Ann.* 15.10; TBM 2 C3; BAAtlas 89 B2.

¹⁵⁶ Mitford 2018, 214-21.

alternative; as Table 4.4 indicates, it was only slightly less rugged and substantially higher (and thus more vulnerable to winter snows). Unlike the high road through Lacotena in Sector One (itself substantially shorter than the riverine parallel), the Vereuso route makes less sense as a safeguard in case the Parthians severed the Roman front-line. In geographic terms, the most likely site for a Parthian invasion was in the plains at Dascusa, where Mitford identifies only a single frontier road; bifurcation occurs further north, in terrain that made anti-Parthian missions improbable but counterinsurgency quite likely. Even if these routes did not penetrate the worst of the mountains themselves, regular patrols there could divide the mountaineers and deny them access to surrounding valleys.

Once again, our emerging picture of the Roman frontier is strategically complex: the Romans could have multiple missions in eastern Anatolia, and could build elements of the frontier to suit both. Yet, as in Sector One, the frontier works between Melitene and Zimara seem to have been influenced primarily by the threat of Parthia across the Euphrates, and by the need to control what level ground the region offered in order to succeed in this high-intensity struggle.

SECTOR THREE: ZIMARA-NICOPOLIS-SATALA¹⁵⁷

Moving north into Armenia Minor, we enter the most geographically and analytically complicated sector of the northeastern frontier. In Sector Three, even more than in previous regions, we see evidence for the frontier's tension between two sets of priorities: the support of inter-imperial warfare and the suppression of small-scale brigandage. While sticking to low and

¹⁵⁷ For Sector Three, refer to Maps 4.11-16 and Tables 4.5-7.

level ground remains the trend, there are signs here of compromise and Roman extension into the highlands. The Roman empire made some effort to control the rugged interior of Armenia Minor, even if this remained a secondary mission and fell short of what was required for deep and detailed territorial control.

As Map 4.15's schematic shows in simplified form, the Armenian frontier consisted of four main routes (along with numerous secondary paths). Two support roads linked Nicopolis to Zimara and Satala. The frontier proper ran from Zimara to Satala in two courses: a northern route through Haris and Ad Dracones as well as a river-road through Suisa.

Let us begin with the Nicopolis support roads, easily the worst-documented components of the Armenian frontier. Along with the Euphrates and the road along it, these two routes encompassed a vast and exceptionally rugged triangle of Armenia Minor within the Roman frontier zone. From Zimara, a route ran north through Ladana: mentioned in Ptolemy but none of the ancient itineraries, Mitford tentatively argues that this "high, fertile plain" housed a Roman waystation.¹⁵⁸ Further north, the *Tab.Peut.* identifies stopping points at Caleorissa (probably modern Babsu, which still features large amounts of reused Roman ashlar) and Oleoberda (in the valley of the Upper Halys, perhaps at Girigizir).¹⁵⁹ The best contemporary evidence for the Zimara-Nicopolis support road is a milestone of 129 CE from Aşkar, about 10

¹⁵⁸ Ptol. *Geog.* 5.7.2; TBM 14 B2; Mitford 2018, 283.

¹⁵⁹ Caleorissa: *Tab.Peut.* 10 B1; TBM 17 B5; Mitford 2018, 285. Oleoberda: *Tab.Peut.* 9 B5; TBM 17 B4; Mitford 2018, 285-86.

km southeast of Nicopolis; the route was evidently important enough to receive attention in connection with Hadrian's northeastern tour.¹⁶⁰

Nicopolis itself was a crucial Roman city on both cultural and logistical grounds: the metropolis of Armenia Minor and seat of the imperial cult, it was also the last major depot along the important military road running east from Ankara.¹⁶¹ The *Tab.Peut.*'s use of a fort icon, along with the city's size and importance, suggest a substantial military presence.¹⁶² From Nicopolis, both the *It.Ant.* and *Tab.Peut.* record a second support road running east to join the northern frontier line at Ad Dracones; as Map 4.14 shows, it was relatively well monitored by Roman garrisons. The *It.Ant.* includes a waystation at Olotoedariza, located on a stretch of level ground near the route's midpoint.¹⁶³ Defended by an *ala* in the *Notitia Dignitatum*, Olotoedariza may well have held a garrison as early as the 1st century CE, guarding the vital link between Nicopolis and the forward edge of the Armenian frontier.¹⁶⁴

About 10 km past Olotoedariza, the Nicopolis-Satala support road split in two to trace relatively level ridge-lines running above a precipitous river valley.¹⁶⁵ The southern branch was met by the main frontier roads running north across the Antitaurus mountains from the Euphrates. Coming together into a single route just before Ad Dracones, the roads proceeded

¹⁶⁰ Mitford 2018, 68-70, 286, 526 (Cf. *CIL* III.12154). Alternately named Akşar in TBM 17.

¹⁶¹ TBM 17 B2; Mitford 2018, 288-93. Cf. Strabo, 12.3.28.

¹⁶² *Tab.Peut.* 9 A5.

¹⁶³ *It.Ant.* 207.6; TBM 18 C2; Mitford 2018, 571.

¹⁶⁴ *ND Or.* 38.17; Mitford 2018, 295 argues to the contrary, that this site "is too far in rear of the frontier to have held a garrison."

¹⁶⁵ TBM 18, 19.

east to Satala, completing the northern side of the Armenian triangle. For much of its course, the road hugged the level banks of the Batahu river, a southern tributary of the Lycus. Mitford places four Roman stations along this road, the last of Peutinger's seven between Zimara and Satala.¹⁶⁶ Only Ad Dracones can be securely located; the waystations of Cunissa, Haza, and Ziziola are based primarily on the distances recorded in the *Tab.Peut.* (and, in the case of Haza, the *It.Ant.*).¹⁶⁷

Having surveyed the supply roads linking Nicopolis with Zimara and Satala, let us turn to the third and longest side of the Armenian triangle: the *It.Ant.*'s route along the Euphrates itself. From Zimara, the road ran northeast to Analiba, situated in the plains at the mouth of the Kuraçay river.¹⁶⁸ An auxiliary garrison was probably based here, guarding the nearby crossing of the Euphrates at modern İliç (though the crossing itself notably falls outside the fort's viewshed).¹⁶⁹ The road proceeded northeast, well above the Euphrates gorge and past the waystation of Sinervas (hesitantly associated with the archaeological remains of modern İhtik) before descending to leveler ground at the mouth of the Kömür river, the probable location of the *It.Ant.*'s Carsaga.¹⁷⁰ From Carsaga, the road clung tightly to the Euphrates riverbank. A Roman

¹⁶⁶ *Tab.Peut.* 9 A5, 10 A1, 10 B1.

¹⁶⁷ Ad Dracones: *Tab.Peut.* 10 B1 (note the use of a fort icon); TBM 19 E2; Mitford 2018, 322-25. Cunissa: *Tab.Peut.* 10 A1; TBM 20 C2; Mitford 2018, 325-26. Haza: *It.Ant.* 207.8; *Tab.Peut.* 10 A1 Hassis; TBM 20 D2; Mitford 2018, 326. Ziziola: *Tab.Peut.* 9 A5; TBM 20 D2; Mitford 2018, 326.

¹⁶⁸ *It.Ant.* 208.4; Ptol. 5.7.4; TBM 14 C3; Mitford 2018, 256-58. Note that Analiba is included in *Tab.Peut.* 10 B1, which mistakenly places it on the support road between Zimara and Nicopolis.

¹⁶⁹ Analiba was garrisoned by *Coh. IV Raetorum* in the *ND*. The same unit appears in Arrian's army against the Alani, implying a long and stable deployment in Cappadocia. *Arr. Ektax.* 1; *ND Or.* 38.28.

¹⁷⁰ Sinervas: *It.Ant.* 208.3; TBM 14 E2; Mitford 2018, 261-62. Perhaps cf. Ptol. *Geog.* 5.7.2 (Sinibra); Strabo, 12.3.28 (Sinoria). Carsaga: *It.Ant.* 208.2; TBM 15 B2; Mitford 2018, 264. Note to the contrary, BAtlas 89 A1.

garrison of Arauraca probably took advantage of the level ground near the modern village of Ardosh; soldiers certainly held the fort of Suisa in the middle of the broad Erzincan plain, where Mitford observed archaeological remains in 2003.¹⁷¹ The road turned north from Suisa, crossing the mountains through a pass closed by winter snow, before descending to Satala.¹⁷²

Marking the northeast corner of the Armenian triangle, Satala was a major Roman military base by 71 CE.¹⁷³ A fort, surrounded in the second century by a thriving city, housed Cappadocia's northern legion (*XVI Flavia Firma* before Trajan's Parthian War, *XV Apollinaris* thereafter).¹⁷⁴ Like most Roman bases in the region, Satala fell on relatively level and quite fertile ground; it could also supplement its supplies from the nearby Lycus valley.¹⁷⁵ Though capable of dispatching troops to the rear to secure the Armenian triangle, the positioning of Satala suggests that its primary target was the Parthians to the east. The city sat at the end of the primary route against Artaxata, the Armenian capital for much of the Romano-Parthian conflict, and the Roman base served as the main mustering ground for Trajan's invasion of Armenia Major and later wars under Lucius Verus.¹⁷⁶

¹⁷¹ Arauraca: *It.Ant.* 208.1; *ND Or.* 38.29 (cf. *Arr. Ektax.* 3, 18); TBM 15 D2 Mitford 2018, 267-69. Suisa: *It.Ant.* 207.12; *ND Or.* 38.23 (cf. *Arr. Ektax.* 8) TBM 20 D5; Mitford 2018, 271-74. See also French 1983, 85, who locates Suisa further north.

¹⁷² Mitford 2018, 280.

¹⁷³ *It.Ant.* 207.9; *ND Or.* 38.13; *Suet., Vesp.* 8; *Tab.Peut.* 9 A5; TBM 21 C5; Mitford 2018, 327-47.

¹⁷⁴ Keppie 1986, 421 (note the debate on the exact date of *Leg. XVI's* arrival from Antioch); Mitford 2018, 332-33 (cf. *Inscriptions* 64-66, 68). For the archaeology of Satala: Lightfoot 1998.

¹⁷⁵ Mitford 2018, 346.

¹⁷⁶ *Dio Cass.* 68.19.2; Lightfoot 1990, 115-18; Mitford 2018, 60-66, 332. There is no indication that the Romans ever constructed an official road east of Satala, but the route was certainly well known to them: see *Tab.Peut.* 9 A5 – 10 A4; Mitford 2018, 327-30.

Finally, we come to the last element of the Roman frontier in Armenia Minor, the roads leading north from the Euphrates through Haris and on to Ad Dracones.¹⁷⁷ Though the *Tab.Peut.* gives only a single route, three roads provide direct links between Zimara and Haris: labeled (from west to east) A, B, and C by Mitford, the first turns north from the river-road between Zimara and Analiba, the second between Analiba and Sinervas, and the third at Carsaga and the K m r river.¹⁷⁸ Mitford identifies Road A as the primary frontier route, with B and C receiving substantially less Roman attention.¹⁷⁹

Peutinger records three waystations guarding these lateral routes across the Armenian triangle, all on Road A. Mitford's positioning of Bubalia on the upper Kuru ay river is extremely tentative; his identification of Elegarsina is somewhat more secure, but still uncertain.¹⁸⁰ However, we may confidently locate Haris, the third station, at modern Melik erif; 19th and 20th century scholars record abundant evidence, now lost, for the presence of a fort.¹⁸¹ Mitford also locates a fort at modern  engerli, slightly west of Road C. Though it is not mentioned in the itineraries, there are archaeological and epigraphic finds to indicate that this was the base of a cohort during the second century CE.¹⁸²

¹⁷⁷ Mitford 2018, 251-54.

¹⁷⁸ *Tab.Peut.* 10 B1.

¹⁷⁹ Mitford 2018, 300-18.

¹⁸⁰ Bubalia: *Tab.Peut.* 10 B1; TBM 14 B2; Mitford 2018, 303. Elegarsina: *Tab.Peut.* 10 B1; TBM 18 C5; Mitford 2018, 305.

¹⁸¹ *Tab.Peut.* 10 B1; TBM 19 B2; Mitford 2018, 318. Cf. Bor  1840, 369; Cumont and Cumont 1906, 326-30. In the case of Haris, and this case alone, I have listed as certain a site which appears as uncertain in the TBM maps. The evidence presented in Mitford's text is sufficient, in my view, to fully justify the placement of Haris at Melik erif.

¹⁸² TBM 19 B3; Mitford 2018, 315-18 and Inscription 54.

To a considerable extent, our now familiar tools of TRI and elevation analysis reveal a similarly familiar pattern in this sector's geospatial organization (even if the tentative positioning of numerous Roman installations cautions against overly granular analysis). On Map 4.11, sites such as Analiba, Carsaga, Haris, and Cunissa seem to seek out leveler terrain in the midst of the mountains. The data generalization tools in Map 4.12 suggest that this was a broader pattern, with almost all Roman forts and stations sitting on or near zones of 0-400 m TRI. When we bring in the elevation data of Map 4.13, we may further argue that the Romans refused in almost all cases to build their centers of force-projection and control at extreme altitudes; only Ad Dracones is in the mountains proper. Imperial roads, more securely located in general than Roman forts and waystations, similarly preferred lower ground, as seen on Map 4.13 (albeit with some exceptions discussed below). Furthermore, while the visual chaos of Map 4.11's raw TRI data makes it difficult to discern patterns in the ruggedness of imperial routes, the simplified Map 4.12 reveals how Roman engineers tended to work their way over the least rugged ground available: note especially the courses of the lateral roads as they wound wind north from the Euphrates to Haris, and the route of the northern support road between Olotoedariza and Ad Dracones.

As seen on Tables 4.5 and 4.6, statistical analysis broadly confirms our visual evidence, with aggregated statistics dispelling concerns over any individual site. Percentile ranks for Roman installations fall in the low-20s for TRI and the low-30s for elevation. Only Haris and Elegarsina clear the regional average for ruggedness; only Ad Dracones lies substantially above the mean for elevation (though a number of other sites score in the 50-60th percentile). Roman roads are only slightly higher and more rugged: TRI averages fall at the 31st and 33rd percentile (for 1 km and 200 m, respectively), with elevation scores averaging to the 40th percentile. Only

Road B is more rugged than the regional mean, and only it and the road from Ad Dracones to Satala possessed above-average elevation.

By and large, our TRI and elevation data suggests that the Roman frontier in Sector Three was concerned primarily with low and level areas, the types of space that matched both the practical requirements and Roman preconceptions of large-scale warfare. To an extent, viewshed analysis supports this picture, suggesting the continued importance of the Parthians in this theater. Surveillance was particularly good around Satala, the most likely mustering ground for Roman invasions into Parthia and the primary redoubt against Parthian attacks coming the other direction. By the same token, the Roman viewshed is patchier in areas where large-scale campaigning was less likely. Surveillance of the Euphrates between Analiba and the plain below Suisa was inconsistent; the practically impenetrable Capotes mountains forestalled any major incursion here.¹⁸³ The Romans were content to monitor a couple major crossings of the Euphrates near Analiba and Carsaga, and to leave small-scale traffic across the remainder of this frontier unmonitored by any permanent military architecture.¹⁸⁴

However, inconsistencies in the Roman road-courses spoil a perfect pattern of broken-ground avoidance. For instance, we may wonder why the long road from Nicopolis to Satala, the northern side of the Armenian triangle, takes the route it does instead of following a lower and

¹⁸³ Mitford 2018, 271 n. 16. The Suisa plain itself is notably invisible to Roman positions; perhaps the accessibility of this plain to cavalry patrols rendered permanent watch-posts unnecessary.

¹⁸⁴ Patrols on land and the river itself would have done something to address these gaps. The Euphrates is mostly navigable downstream between Suisa (mod. Erzincan) and the crossing at İliç, though gorges prevent crossings in several places. Naval Intelligence 1942, vol. 1, 178, 181-82.

sometimes leveler path along the Lycus.¹⁸⁵ We may ask as well why the road from Suisa to Satala forced its way over the heights between Mt. Ak and Mt. Aga, especially because this route was impassable during the winter.¹⁸⁶ Could it not instead have followed a gentler path to the west, avoiding the worst of the mountains to meet the northern frontier road at Haza? Finally, why did the Romans need the mountain roads outlined in the *Tab. Peut.* at all? Crossing the rugged center of the Zimara-Nicopolis-Satala triangle, this road was hardly shorter or easier than the one along the Euphrates, yet evidently received substantial imperial attention and investment despite traversing mountainous ground.

As shown in Map 4.16, the GIS technique of Least-Cost Path analysis (LCP) confirms that the imperial frontier roads in Armenia Minor were more rugged in places than necessary. Used in the previous chapter to examine Cestius Gallus' march through Beth Horon to Jerusalem, LCP constructs the least rugged route possible over a given landscape (i.e. the route with the lowest cumulative TRI score). LCP routes were calculated for five pairs of sites, shown in the key to Map 4.16.¹⁸⁷ As this map shows, only parts of the river-road east of Carsaga and the road from Suisa to Satala follow the least rugged routes possible. The Zimara-Nicopolis-Satala triangle tended to “suck-in” the Roman roads towards its mountainous center. The Zimara-Nicopolis road runs to the east of the LCP route, closer to the foothills of Mt. Kizil. The western half of the Zimara-Suisa route runs miles north of the LCP route along the Euphrates,

¹⁸⁵ BAtlas 87 identifies a potential minor road along the Lycus through Arauraca, and both Naval Intelligence 1942, vol. 2 fig. 113 and imagery from OpenStreetMap suggests the route would have been practicable, though it may have been vulnerable to seasonal flooding. Mitford's maps give no indication of such a route beyond the potential Ottoman road in TBM 17 A1-C1, and their coverage of the Lycus valley is minimal.

¹⁸⁶ Mitford 2018, 280.

¹⁸⁷ While LCP routes were calculated in reference to the raw TRI data shown on Map 4.11, Map 4.16 uses an elevation base-map for ease of viewing.

approaching the southern slopes of Mt. Vank. The northern side of the Armenian triangle runs far south of the course predicted by LCP, choosing the high and rugged path through Ad Dracones instead of the somewhat gentler valley of the Lycus river (where the *Barrington Atlas* suggests a minor Roman route).

Perhaps most notably, LCP analysis reveals how sharply the direct frontier road between Zimara and Nicopolis breaks from the Romans' preference for lowland construction. In terms of TRI, the most efficient route from Zimara to Nicopolis (the dashed red line on Map 4.16) is identical for most of its course with the Euphrates road to Suisa. This predicted route turns due north shortly before Suisa, passing west of Mt. Ak towards Haza, and then turning east to join the final segment of the existing road along the Batahu river. The Roman roads which ran north from the Euphrates to Haris were a far more rugged choice. Compare the TRI statistics for actual Roman roads on Table 4.6 with the figures for LCP routes on Table 4.7. Rome's roads through the center of the Armenian triangle had TRI scores in the 33rd to 66th percentile (for Roads A and C, and Road B, respectively), far higher than the 15th percentile rank they could have achieved had they followed the easiest possible path.

The divergence of several Roman roads from their "ideal" LCP paths indicates the presence in Sector Three of competing military priorities, and a degree of imperial interest in pacifying Armenia Minor's mountainous interior. In the face of easier alternatives, the Romans extended frontier infrastructure up-country, sometimes onto severely rugged terrain: the roads through Haris and Ad Dracones presented substantial engineering and operational challenges that the empire might simply have avoided. Map 4.14 suggests that these choices had strategic benefits for Roman counterinsurgency and policing. For "internal space" behind an imperial border, the Zimara-Nicopolis-Satala triangle is quite well surveilled. No foreign threat required

detailed observation of the Nicopolis-Satala support road, or the surveillance of the highlands south of Ad Dracones: the quality of the Roman viewshed in these areas suggests Roman attention to the issues of local control in rugged space. The very existence of the lateral roads through Haris suggests a similar concern with monitoring and interrupting movement across the rugged interior.

We should not overstate the shift in the frontier's mission and geographic disposition in Sector Three. Though higher than the most efficient alternatives, imperial roads through the interior were predominantly lower and leveler than the regional average.¹⁸⁸ Moreover, while throwing roads across the center of the Armenian triangle was likely a step towards local control, large areas of rugged and unmonitored space remained, and many inhabitants of these regions would have lived their lives at a safe distance from Roman military force. Still, a geospatial analysis of the frontier between Zimara and Satala stresses the strategic contingency of Roman development and the empire's zero-sum balancing act between missions of large-scale warfare in the plains and small-scale policing in the mountains, a balance that began to shift as the frontier moved north into ever-more-mountainous territory.

¹⁸⁸ Only Road B clears the regional average for TRI or elevation: see Table 4.6.

SECTOR FOUR: SATALA TO TRAPEZUS¹⁸⁹

We come now to the final segment of the Romans' northeastern frontier, running from Satala to Trapezus on the Black Sea coast.¹⁹⁰ While there is evidence here for familiar trends, the empire appears to have struck a different balance in its Pontic deployment. In Sector Four, the Romans took unusually direct steps to control the mountains and their inhabitants, enhancing their ability to project military force by building roads and waystations in the highlands.

From Satala, the frontier road descended through the northern foothills of the Antitaurus to cross the Lycus river. The Roman station of Domana, recorded in both the *It.Ant.* and *Tab.Peut.*, lay on the northern edge of this valley; garrisoned in the *ND*, it probably held at least a small force in the first and second centuries.¹⁹¹ From Domana, the frontier road curved around the western slopes of Mt. Hurlar, encountering substantially broken ground even as it avoided the mountain's peak. The road split in two at the Kanis river. One path traced low river-valleys, following the Kanis downstream before turning northeast towards Trapezus. The other took a higher and more direct route, running almost due north over the worst of the Pontic heights.

The *It.Ant.* records the stations of the longer, western route. Two depots, Sedisca and Thia, lay on the Kanis river. While relatively low (see Map 4.19), Map 4.17 indicates that even in this narrow valley the terrain was quite rugged.¹⁹² Although Mitford's placement of both

¹⁸⁹ For Sector Four, refer to Maps 4.17-20, and Tables 4.8-9.

¹⁹⁰ For the purposes of this chapter, I leave aside the Roman fortifications running east from Satala along the Black Sea as far as the Caucasus, maritime bases with a fundamentally different strategic purpose from the inland forts to the south.

¹⁹¹ *It.Ant.* 217.3; *ND Or.* 38.4, 12; *Tab.Peut.* 9 A5; TBM 21 C3; Mitford 2018, 353-54.

¹⁹² Sedisca: *It.Ant.* 217.2; TBM 21 B1; Mitford 2018, 360-61. Thia: *It.Ant.* 217.1; TBM 22 C4; Mitford 2018, 361-62.

Sedisca and Thia are reasonably secure, neither shows signs of a permanent military presence. From the Kanis, the Roman road climbed through the Zigana pass, controlled in all likelihood by a cohort, before following the Pyxites river downstream.¹⁹³

The eastern route is depicted in the *Tab.Peut.*, though its earliest section is difficult to pin down: of the three roads which led north from the Kanis, Mitford argues that the westernmost saw the most Roman use.¹⁹⁴ However, by the time the roads merge south of Medocia, the frontier route is clear enough, and truly severe.¹⁹⁵ The Peutinger Map records high-altitude waystations at Patara and Frigidarium, both probably on the western slopes of Mt. Çakirgöl.¹⁹⁶ The road crested the Pontic range just north of Pylae, where Xenophon's men caught their first sight of the sea.¹⁹⁷ A difficult "shortcut," bearing no signs of Roman improvement, ran west from Pylae to the Zigana pass, while the frontier road continued down a ridgeline, passing through a probable waystation at Gizenenica before rejoining the western route at modern Maçka (the *Tab.Peut.*'s Magnana, the *It.Ant.*'s Ad Vicensimum).¹⁹⁸ The reunified frontier road followed the Pyxites river to the sea, terminating at the major commercial and naval port of Trapezus.¹⁹⁹

¹⁹³ *It.Ant.* 216.6; *ND Or.* 38.37; TBM 22 B2; Mitford 2018, 362-65.

¹⁹⁴ Mitford 2018, 355-56. The position of Solonenica is especially uncertain; this is perhaps *Tab.Peut.*'s an alternate name for *It.Ant.*'s Sedisca. *Tab.Peut.* 9 A4; TBM 22 E4; Mitford 2018, 355-56.

¹⁹⁵ *Tab.Peut.* 9 A4, TBM 22 E3; Mitford 2018, 368.

¹⁹⁶ Patara: *Tab.Peut.* 9 A4, TBM 22 E3; Mitford 2018, 370. Frigidarium: *Tab.Peut.* 9 A3, TBM 22 D2; Mitford 2018, 370-71.

¹⁹⁷ *Tab.Peut.* 9 A3; *Xen. Anab.* 4.7.19-27; TBM 22 D2; Mitford 2018, 373-76.

¹⁹⁸ Gizenenica: *Tab.Peut.* 9 A3; TBM 23 C5; Mitford 2018, 379. Ad Vicensimum/Magnana: *It.Ant.* 216.5; *Tab.Peut.* 9 A3; TBM 23 C4; Mitford 2018, 381. Mitford's fortlet at Hortokop (TBM 23 C4) is a later construction: Mitford 2018, 379.

¹⁹⁹ *Tab.Peut.* 9 A2; TBM 23 D1; Mitford 2018, 383-404. Trapezus is marked as a fortress on Maps 10-12 due to the presence of the sizeable *Classis Pontica* (see Wheeler 2012); it did not hold a legion.

As I have said, there are numerous signs that the Romans stuck to their general principles of avoiding high and rugged ground in constructing this final sector of the frontier. As Map 4.19 shows, every element in this region except the high road through Pylae adopted low-elevation routes where it could. The western road through the Pontic mountains was particularly precise: running mostly through the valleys of the Kanis and Pyxites rivers, it entered the mountains as briefly as possible through the Zigana Pass. While the very high TRI figures for the Pontic region make Maps 4.17 and 4.18 more difficult to read, we can still see in places the Roman preference for level ground. Note the positioning of Thia in a rare pocket of 200-400 m TRI on Map 4.18, and on Map 4.17 how the frontier routes followed thin corridors of relatively smooth ground north of Domana, along the Kanis river, and on the Pyxites south of Ad Vicensimum.

Statistical profiling for Roman roads and waystations shows similar results. As Table 4.8 shows, the low road through the mountains has very low elevation figures compared to the regional average. Its TRI scores were relatively low as well, especially for a 200 m radius.²⁰⁰ Rome's likely centers of military control along this route have similarly low TRI and elevation statistics; Table 4.9's average percentile ranks for these sites (Sedisca, Thia, Zigana, and Ad Vicensimum/Magnana) are well below Sector Four's random sample.

That said, the direct route running through Pylae over the Pontic range marks a striking divergence from typical Roman behavior on the northeastern frontier. The southern portion of this road (between the Kanis river and Frigidarium) appears on Maps 4.17 and 4.18 to have been laid out with no reference to the ruggedness of the terrain. This is especially true if Mitford is correct that the western route through Sedisca was the main Roman road, rather than the gentler,

²⁰⁰ The roads from Satala to the Kanis river and from Ad Vicensimum to Trapezus similarly fall well below the regional mean in TRI and elevation.

eastern path through Solonenica.²⁰¹ Portions of the high frontier road line have local TRI scores approaching a staggering 900 m, and as Map 4.19 shows, the Roman route positively seemed to seek altitude, rather than avoiding it. Between Medocia and Frigidarium, it is hundreds of meters higher than necessary up the slopes of Mt. Çakirgöl.²⁰² Table 4.9's statistical profile for the high road itself is perhaps less impressive than we might expect, though it clears the regional mean in all categories. The stations along this road, however, were on particularly severe terrain. As seen on Table 4.8, sites on the Pylae route had percentile scores in the low-60s for TRI, and in the high-60s for elevation. Along the bitterest heights of the frontier road, Medocia, Patara, Frigidarium, and Pylae all exceed the 90th percentile for elevation.

Further evidence for imperial willingness to cut through mountainous territory comes from the tantalizingly uncertain Roman fort at Mochora. Though unmentioned by the itineraries, Mochora held a garrison at the time of the *Notitia Dignitatum*; Mitford confidently places it at the modern village of Mollaali (where the 1 km TRI mean reaches the 81st percentile).²⁰³ If Mochora had a Roman detachment in the 1st and 2nd centuries, it would be an ideal base from which to secure the otherwise unguarded pocket between the two Pontic frontier roads. As the viewshed data on Map 4.20 shows, a base in Mochora could monitor and interdict movement along the tracks nearby (as in the Taurus mountains, paths far higher and more rugged than the official Roman roads). In isolation, restive mountaineers in this area could prey on the major frontier arteries to the east and west, protected by the landscape from Roman retribution. A

²⁰¹ Mitford 2018, 355-56.

²⁰² The road north of Pylae similarly eschews the Larhan river valley, though the higher ridge-line it follows is less rugged than the valley floor (which was choked by vegetation, according to Mitford 2018, 371).

²⁰³ *ND Or.* 38.38; TBM 22 D3; Mitford 2018 371-73.

Roman military presence at Mochora would thus represent a clear and direct use of frontier infrastructure to combat highland insurgency, denying the advantages of broken ground to potential rebels.

When combined with evidence for frontier construction on unusually high and rugged ground, Map 4.20's viewshed information suggests Sector Four's unusually intense focus on low-intensity threats. In the southern half of this sector, Parthian warfare can explain the intense surveillance along the frontier between Satala and Domana, where the Roman viewshed projected east into the valley (clearly visible on Map 4.17) that provided the easiest route to and from Persia.²⁰⁴ High-intensity conflict is less able to justify the quality of Rome's view west down the Lycus, visible from the Roman watchtowers north of Satala.²⁰⁵ In the Pontic mountains themselves, the Parthian menace had no bearing on the almost unbroken line of surveillance running north from Solonenica to Ad Vicensimum. This area was too rugged for large-scale military activity, and north of the Arsacid area of influence—to the east were the Heniochi, mountaineers with a tradition of hostility to Roman rule.²⁰⁶ With its clear field of vision several kilometers in advance of an exceptionally high ridge-road (which allowed easier movement of patrols from well-distributed waystations), the Roman frontier here reflects a primary mission of defense against low-intensity raiding.

²⁰⁴ This sector of the frontier would serve as the launching point for Trajan's invasion of Armenia and Arrian's attack on the Alani, and was the first to fall to Sapor's invasion in 256 CE. Mitford 2018, 232-33.

²⁰⁵ The western extent of this viewshed, some 40 km down the river, certainly exaggerates the capacity of human vision from these watchtowers.

²⁰⁶ Dio Cass. 68.19; Strabo, 11.12-13; BAtlas 87 F4 Heniochoi; Mitford 2018, 66.

In the Pontic mountains, Rome bracketed a border-zone between the eastern ridge-road and the lower, western alternative through the Zigana Pass. The empire potentially controlled movement within this zone with a mountainous fort at Mochora, and appears to have carefully monitored entry into this zone from the east by potentially hostile migrants and raiders. The design of the Roman frontier in this area reflects an attempt, unprecedented in scale on the northeastern frontier, to control rugged space and forestall low-intensity threats. While elements of this frontier stick to lower and leveler terrain (and we have seen hints of a similar mission to the south, especially in the design of Sector Three), to a significant extent the frontier in Sector Four was designed to control the Pontic highlands and their inhabitants, not simply to allow Roman forces to march south from Trapezus towards more pressing, high-intensity battlefronts. Expanding tremendous energy and engineering ingenuity to build and maintain military infrastructure over rugged terrain, the Romans augmented their ability to inflict and threaten violence in the Pontic mountains.

That said, our data from Sector Four should not overshadow the general trends in Roman frontier construction in the northeast. When set against a digital model of the physical environment, Mitford's reconstruction of the Roman frontier shows a clear (if not unvaried) preference for low and level ground. By way of conclusion, the following section sets the layout and strategic purpose(s) of the northeastern frontier within the broader historiography on Roman strategy and defense, before examining the costs of this frontier's design for imperial control and authority in eastern Anatolia.

Section Three: The Purpose of the Northeastern Frontier

Since Edward Luttwak's *Grand Strategy of the Roman Empire* (1976), numerous scholars have advanced broad theories on the purpose of Roman frontier systems. Perhaps the greatest shortcoming of Mitford's otherwise remarkable *East of Asia Minor* is his general avoidance of such synthetic debates.²⁰⁷ While the literature on this topic is too voluminous to review in full, it is productive to compare the geospatial preferences of the northeastern frontier with some leading interpretations of Roman military borders and the strategic intent of their designers, demonstrating how a GIS approach offers new insight into long-standing debates.²⁰⁸

To the limited extent that he suggests the broader purposes of the northeastern frontier, Mitford's views are closest to Luttwak's model of high-imperial military policy. In general, Mitford envisions a Roman frontier in Anatolia similar to the northern systems of fortification that formed the basis for Luttwak's theories.²⁰⁹ Roman roads and fortifications were rationally distributed, forward-looking, and highly ambitious: both against Parthians and smaller-scale opponents, this frontier was designed to mobilize and concentrate force against any foreign incursion.²¹⁰

Luttwak faced a legion of challengers, especially on the argument that the Romans possessed something akin to modern "grand strategy."²¹¹ A radically different vision of frontier

²⁰⁷ Mitchell 2019.

²⁰⁸ For brief histories of frontier studies, see Birley 2002.

²⁰⁹ Mitchell 2019.

²¹⁰ For a similar and more recent argument: Breeze and Jilek 2005.

²¹¹ Mann 1979; Millar 1982. The best survey of this debate is Wheeler 1993a.

policy (or lack thereof) emerged in Benjamin Isaac's studies of the eastern (and especially Arabian) frontiers.²¹² For Isaac, imperial frontiers were most concerned with internal control and the pacification of nominally "Roman" territory; their garrisons were armies of occupation more than defense.²¹³ To the extent that Roman troops in the East looked forward beyond the frontier, it was for offensive warfare against the Parthians, rather than "preclusive defense" against a variety of foreign opponents.²¹⁴

Isaac's views drew critique in the early 1990s from Everett Wheeler, who objected both to Isaac's general denial of Roman strategic thought and to his specific interpretation of the eastern frontiers.²¹⁵ While not endorsing Luttwak's overly schematic vision of Roman policy, Wheeler advances a moderate position that the Romans carried out complex and rational strategic planning, even if they lacked the bureaucratic and rhetorical forms that characterize modern grand strategy.²¹⁶ He sees the eastern frontier, particularly the segment which along the Euphrates facing Parthia, as a fundamentally defensive system designed to repulse Parthian and Persian incursions (in later work, Wheeler suggests that the bulk of the Roman frontier postdates the Sassanid revival).²¹⁷ While its garrison may also have served to guarantee internal control

²¹² Isaac 1990.

²¹³ Isaac 1990, 54-160.

²¹⁴ Isaac 1990, 19-53. Cf. Whittaker 2000, *passim* and especially 310.

²¹⁵ Wheeler 1993a and 1993b.

²¹⁶ This perspective is at least partially acceded to in Whittaker 2000.

²¹⁷ Wheeler 1993a, 35-36. For the argument on dating the frontier, see Wheeler 2017.

over provincial territory, this “open frontier” made little effort to secure anything but the most strategically critical crossing points into Parthia and Armenia.²¹⁸

While admittedly leaving aside other work (most notably the archaeologically focused studies of the *Limeskongress*, and Whittaker’s view of borders as zones of cultural and economic exchange), let us take these three perspectives as the major “camps” on the military purpose of imperial frontiers.²¹⁹ Which of these three—Luttwak’s system of “preclusive defense” against all challengers, Wheeler’s more limited notion of carefully planned anti-Parthian defense, and Isaac’s vision of borderland occupation and offensive belligerence into Parthian territory—best fits our geographic reconstruction of the northeastern frontier?

Let us start with the question of Roman strategy itself. While it is not my intention in this chapter to enter the semantic fray of the grand strategy debate, the consistent relationship in our data between Rome’s northeastern frontier and the Anatolian landscape suggests a high degree of geographic knowledge and rational planning. We need not adopt Luttwak’s sometimes anachronistic views of “scientific frontiers” and centralized doctrine in order to concede that Roman decision-makers in the northeast operated within a shared mental framework concerning their broader strategic goals and the impact of broken ground on military operations. Despite arguments from Isaac (as well as Mann and Millar), the frontier’s consistent (though not absolute) avoidance of rugged and elevated terrain speaks to a Roman *modus operandi* in

²¹⁸ Wheeler 2007.

²¹⁹ Whittaker 1994 (orig. 1989); Birley 2002.

mountainous country.²²⁰ When it comes to the existence of Roman strategy in the Anatolian borderlands, my GIS analysis best supports Wheeler's arguments.

When it comes to the purpose of this strategy, and the fundamental nature of the Roman mission in the northeast, my findings suggest a new balance between the positions of Luttwak, Isaac, and Wheeler. As I have argued, the geographic disposition of the frontier suggests that its primary mission in most places was large-scale Parthian warfare: the frontier system was designed to monitor and control the low and level space which both tactical consideration and cultural predilection made suitable for high-intensity campaigning and pitched battle. The northeastern frontier's Parthian priorities match elements of both Isaac and Wheeler, who respectively emphasize the Roman garrison's utility in either offensive or defensive warfare. A GIS approach cannot ultimately indicate whether the frontier was an offensive staging ground or defensive line. Sitting astride the major east-west routes across Anatolia and the Euphrates, Roman garrisons were just as capable of projecting force forward into Parthia as they were of receiving invaders coming from the other direction. Moreover, despite its problems as a general rule for frontier deployment, Luttwak's "preclusive defense" correctly identifies Rome's preference for interdicting incoming threats on the far side of the frontier, relying on a tactical offensive for strategic defense. Regardless, geospatial modeling reveals important information about Roman priorities in the northeast: much like the literary sources in this chapter's opening section, imperial decision-makers saw Parthia as their greatest threat, and structured much of the frontier based on the strategic considerations of large-scale warfare.

²²⁰ Mann 1979; Millar 1982; Isaac 1990.

Conversely, the general geospatial patterns in Rome's northeast frontier caution against overextending Isaac's view of garrisons as forces of occupation and local control. There are certainly places where the geography of the Roman frontier supported such a mission, most notably the roads through Haris and Ad Dracones in Sector Three. Yet direct approaches to broken ground and its inherent problems of banditry and rebellion are the exception, not the rule. Moreover, while it is certainly true that Roman units positioned for a Parthian war could be redeployed for counterinsurgency and policing behind the frontier line, the lack of forts, waystations, and (most importantly) roads would have made this a more difficult mission. Despite Isaac's refusal to accept the deployment of Roman troops as evidence for specific missions, we can and should recognize that the geography of the frontier and its infrastructure provides crucial evidence for the empire's military intentions and concerns.²²¹ As Isaac himself argues in reference to the Lebanon mountains, "mountainous territory inhabited by accomplished guerrilla fighters...can be permanently occupied only by an army which is constantly prepared to interfere, regularly patrols the countryside, visits every village, and protects its own communications. Only a permanent presence in the area, not a passing army can effectively control such brigandage."²²² Simply put, our available evidence suggests that the Roman frontier in Commagene, Cappadocia, and Armenia Minor was not designed to facilitate this sort of detailed counterinsurgency.

Similarly, a GIS approach argues against Luttwak's vision of an even-handed, defensive frontier aimed at controlling movement across a boundary line. Apart from the exceptional system of monitoring and control in the Pontic mountains, the Roman frontier was not well

²²¹ Isaac 1990, 5-6. Note criticism in Wheeler 1993a, 10-11.

²²² Isaac 1990, 61.

surveilled in the rugged areas where Parthian conflict was unlikely. While we need not belabor the point against Luttwak, critiqued for decades for his overly schematic approach, it is worth noting that, despite its provenance in *East of Asia Minor*, our data does not always support Mitford's own elusive and understated conception of the frontier's purpose. The Romans did not deploy their considerable resources to secure an unbroken line of demarcation against territories to the east; to the extent they conceived of such a mission, it took low priority in the face of Parthian threats.

By way of conclusion, let us turn from the historiographic implications of the northeast frontier and its missions to ask what costs the empire bore for its calculated neglect of low-intensity warfare in eastern Anatolia. It is impossible, especially in the absence of detailed survey archaeology, to fully reconstruct the economic and demographic patterns of this region in antiquity. However, GIS analysis suggests that the layout of the Roman frontier relinquished control over large areas of populated and productive territory.²²³

While broken ground imposed quite stringent restrictions on military activity, its impact on economic productivity was more gentle.²²⁴ Civilians could survive and even thrive in landscapes too rugged and elevated for easy military access. Consider Maps 4.21 and 4.22, which use the slope of the ground to estimate its long-term suitability for agriculture and pasturage. According to agricultural scientists at the University of Kentucky, farming can be sustainably practiced at slopes up to 20° (with appropriate measures to manage erosion), while

²²³ Cf. Shaw 1986, 71 on the relative prosperity and high population of the Taurus mountains.

²²⁴ Note especially Leveau 1977, and cf. Shaw 1986, 79.

slopes of up to 30° can support grazing.²²⁵ Maps 4.23 and 4.24 give a different form of proxy data for agricultural suitability, depicting the modern vegetation of Eastern Turkey; areas of cropland would likely have been most favorable for ancient farmers, while grassland and shrubland would have supported herders.²²⁶

To be sure, neither set of maps is an unproblematic reflection of economic activity in the ancient world. Maps 4.21 and 4.22 leave aside variables such as hydrology and soil composition, all of which are crucial to productive agriculture. Maps 4.23 and 4.24 raise a familiar problem of historical GIS: the vegetation patterns of Anatolia have changed since antiquity (though limited industrial development in the mountains reduces alterations to the environment from human activity). However, as rough metrics of the ancient terrain's suitability for sustainable civilian settlement, these maps suggest widespread habitation and economic productivity in the mountains of the northeast. Life on such terrain could hardly have been comfortable, but our data indicates that through a combination of small-scale agriculture, herding, and banditry, it was quite possible.²²⁷

As a result, the configuration of Rome's military frontier in the northeast was poorly matched to the economic and demographic landscape in which it sat. To return to the theoretical language of John Landers *The Field and the Forge*, even in the mountains of eastern Anatolia (as in much of the pre-industrial world) civilian society was organized around extensive space, with

²²⁵ While there is no direct calculation to convert slope to TRI, in our data-set a grid square with a slope of 30° would likely have a TRI above 400 m.

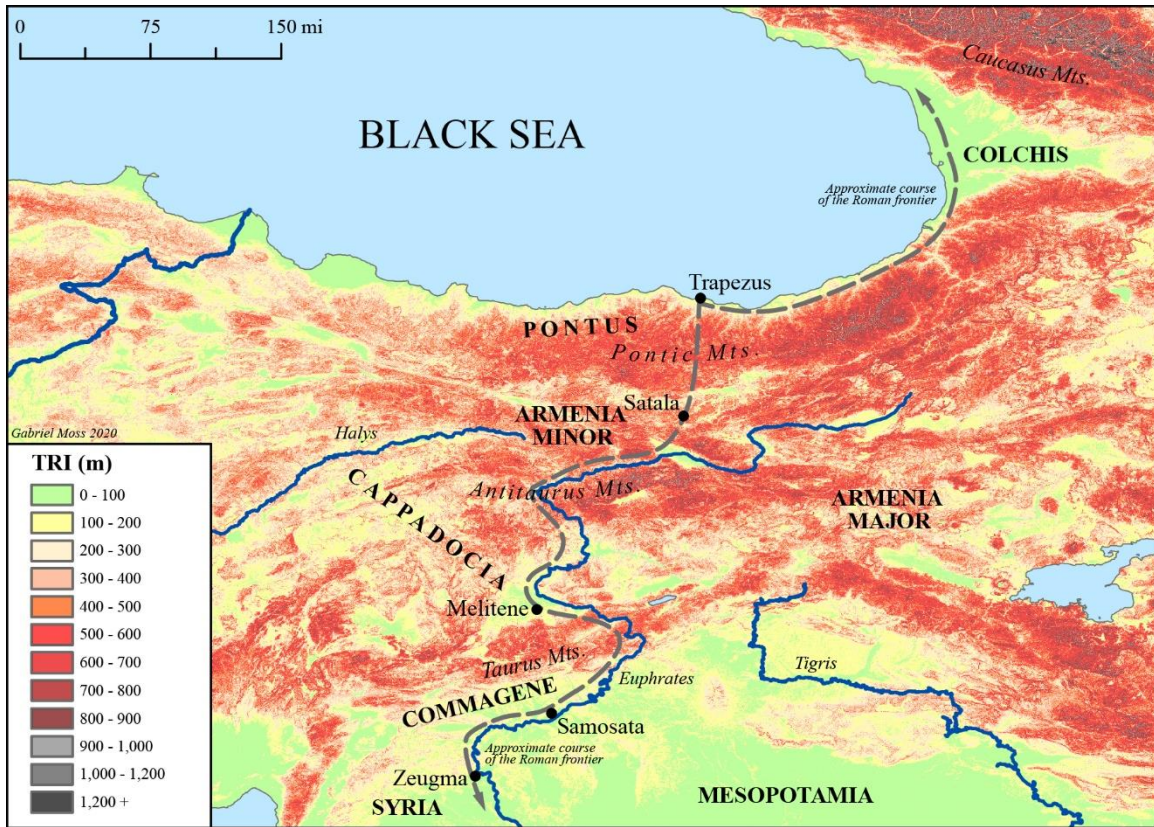
²²⁶ From the European Space Agency's GlobCover 2009 dataset: http://due.esrin.esa.int/page_globcover.php

²²⁷ Cf. Braudel 1995 (orig. 1949), 43.

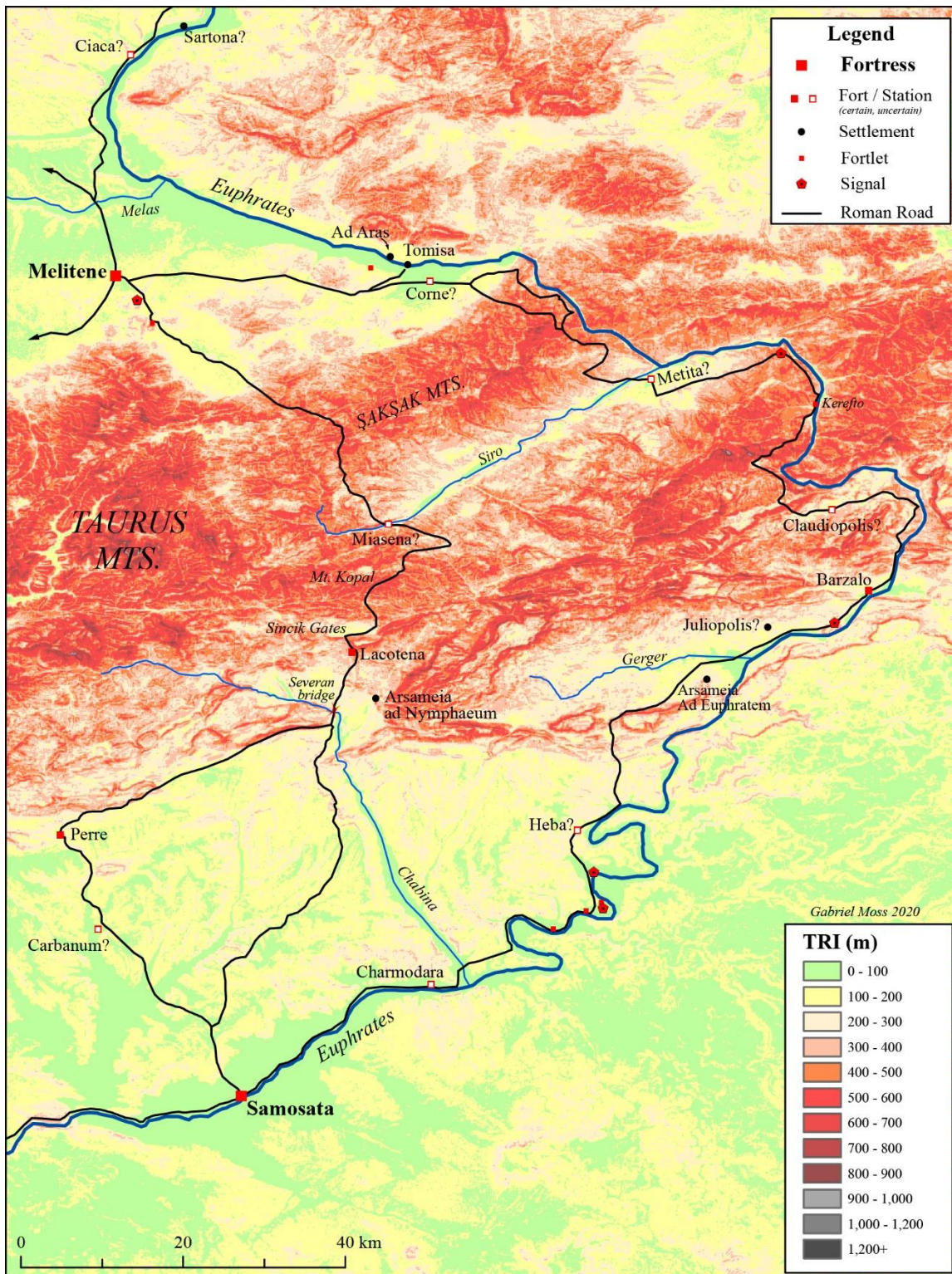
the population and its economic resources spread relatively evenly across the territory.²²⁸ The Roman frontier, on the other hand, was linear and nodal: it concentrated force at specific points (forts and waystations) and along specific corridors (roads). These lines and nodes were positioned to secure the scattered lowlands along the frontier, not to project force into the surrounding mountainous expanse where much of the subject population lived.

Well suited for the support of large-scale campaigns, the Roman frontier was generally maladapted to enforcing territorial control in the border-zone itself. Rome's Parthian priorities thus came with a sizeable opportunity cost. The price of imperial lack of interest may never have been an existential threat to Roman rule itself: as this chapter's first section noted, the army successfully crushed the few rebellions our sources care to record. Yet a holistic approach to the northeastern frontier, taking into account not only our literary evidence but also the physical disposition of Roman forces across the landscape, paints a picture of a shallow empire in eastern Anatolia. Due to Roman political priorities and the physical structure of the land itself, wide tracts of nominally imperial space and large numbers of nominally imperial subjects lived beyond the effective reach of Roman military force. Rome could have done more to control the hinterlands of Commagene, Cappadocia, and Armenia Minor. A geospatial history of this region indicates that they chose not to.

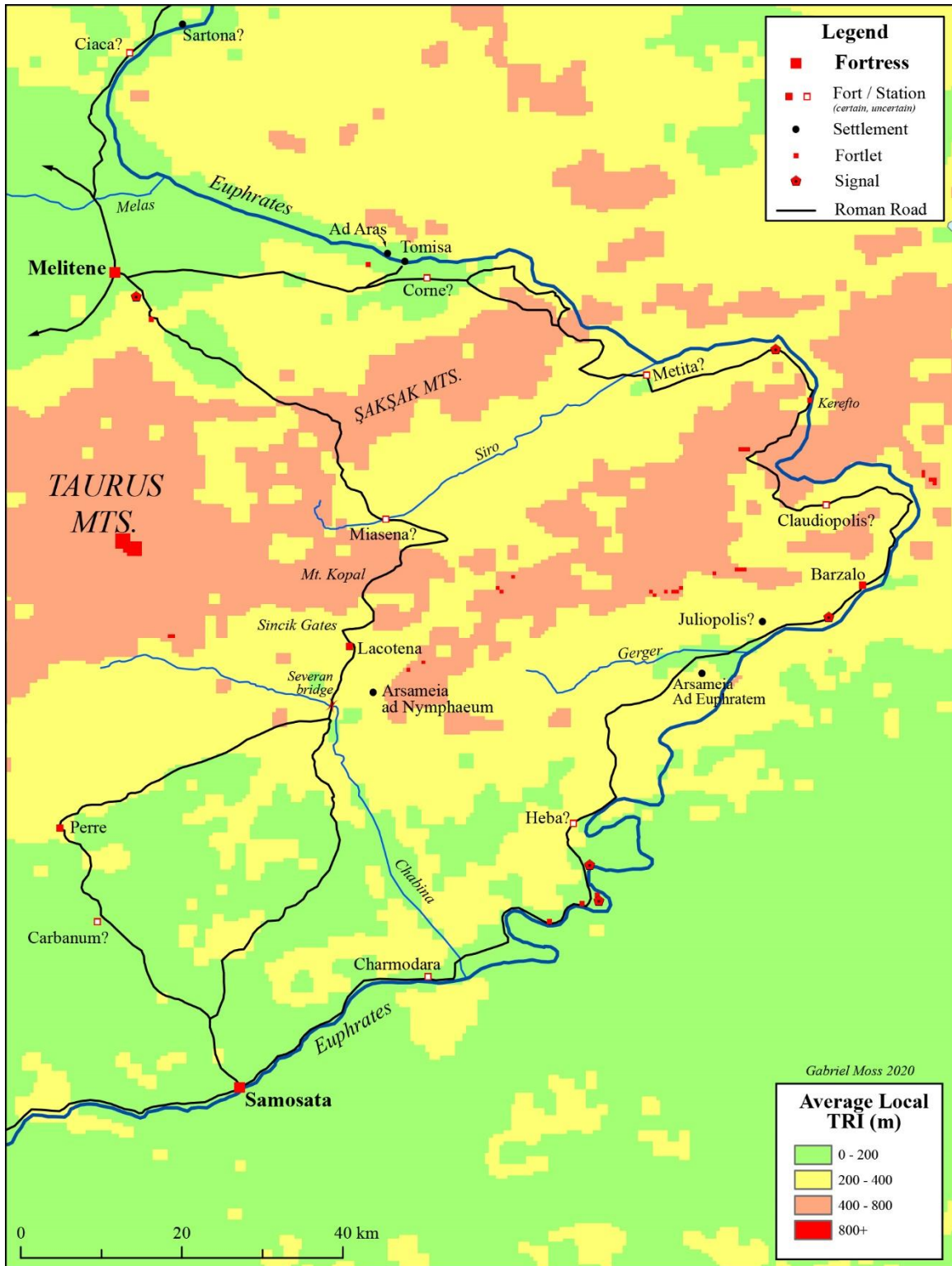
²²⁸ Landers 2003.



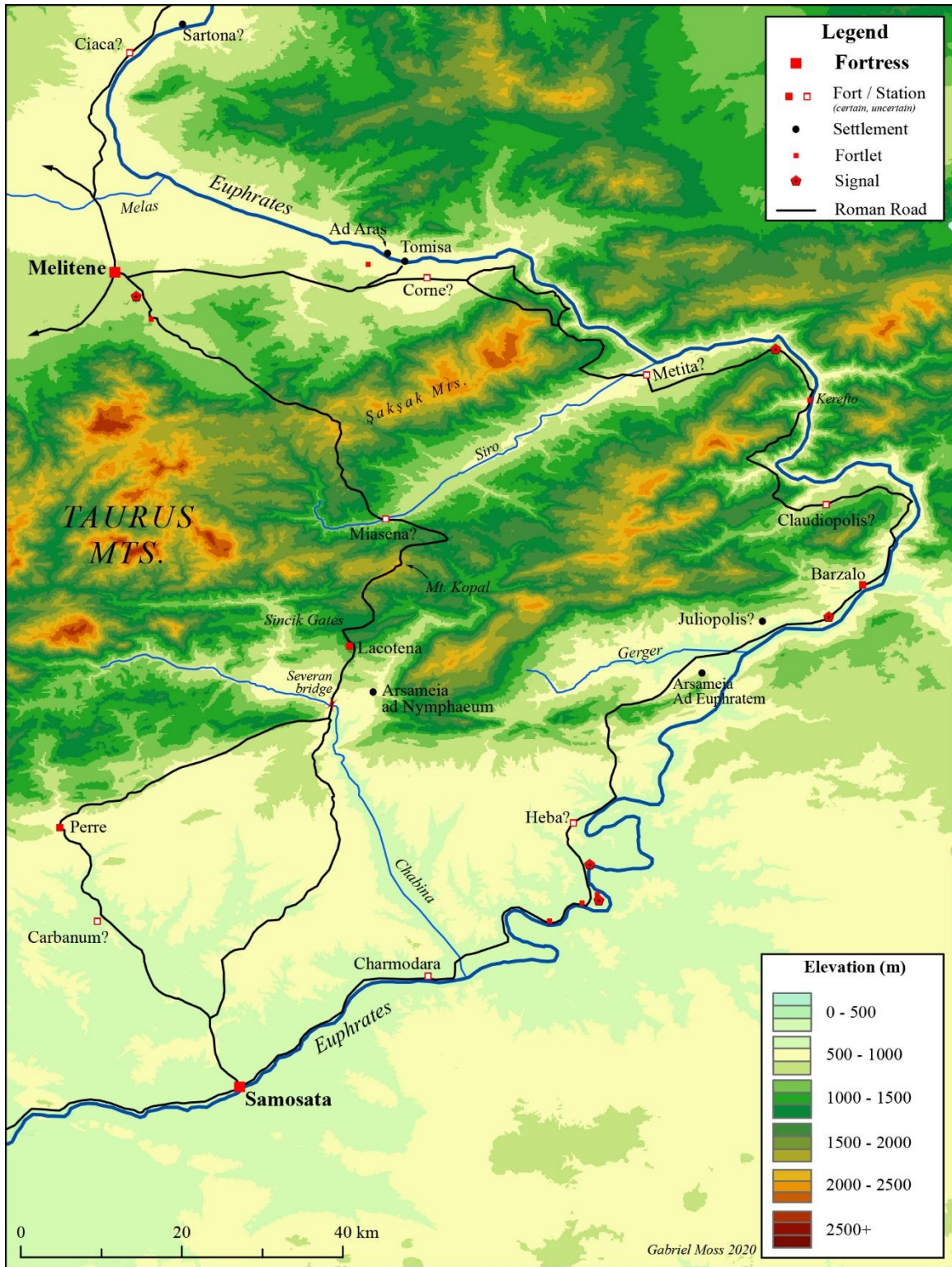
Map 4.1: Northeastern Frontier TRI Overview



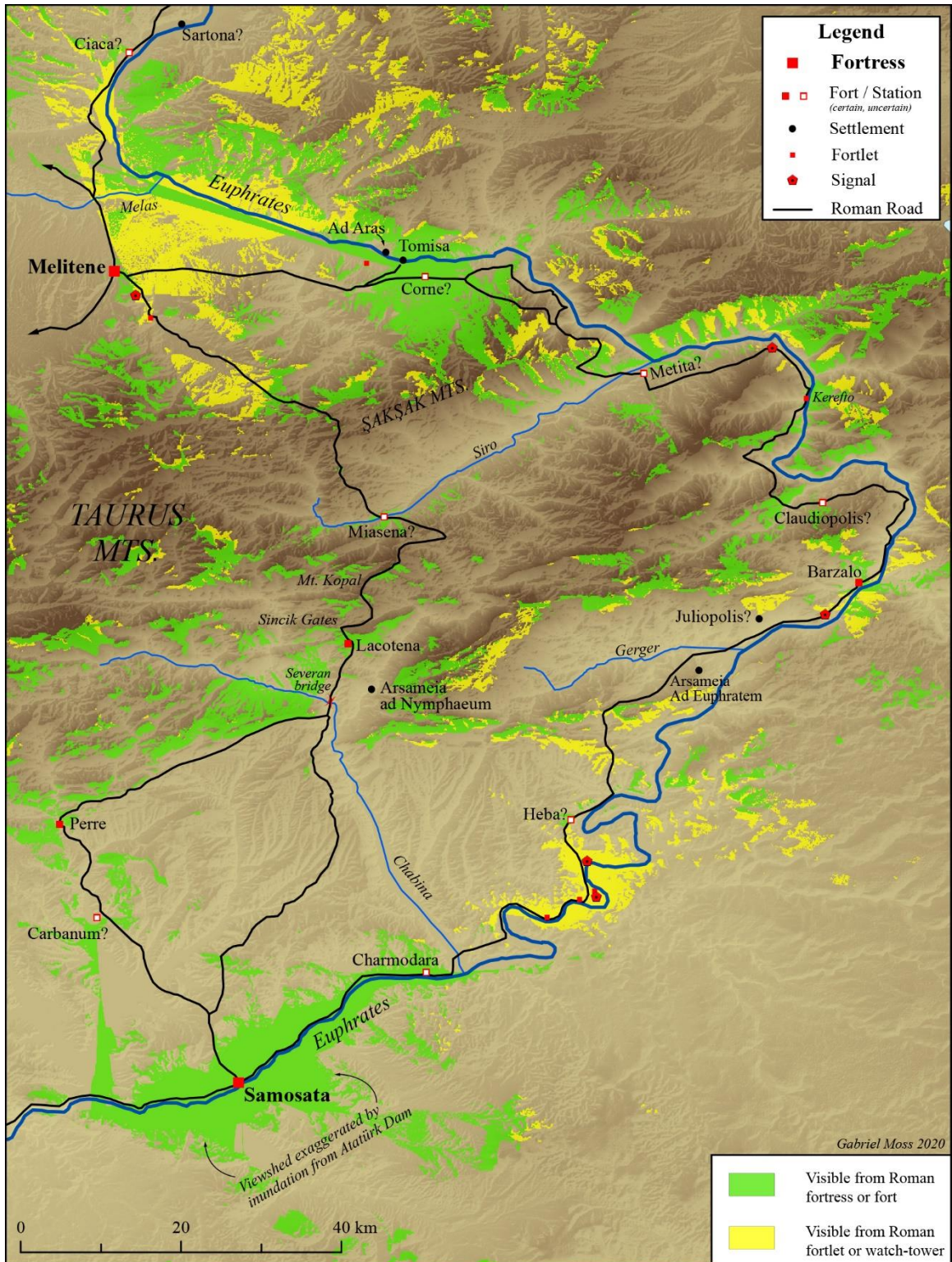
Map 4.2: Sector One TRI



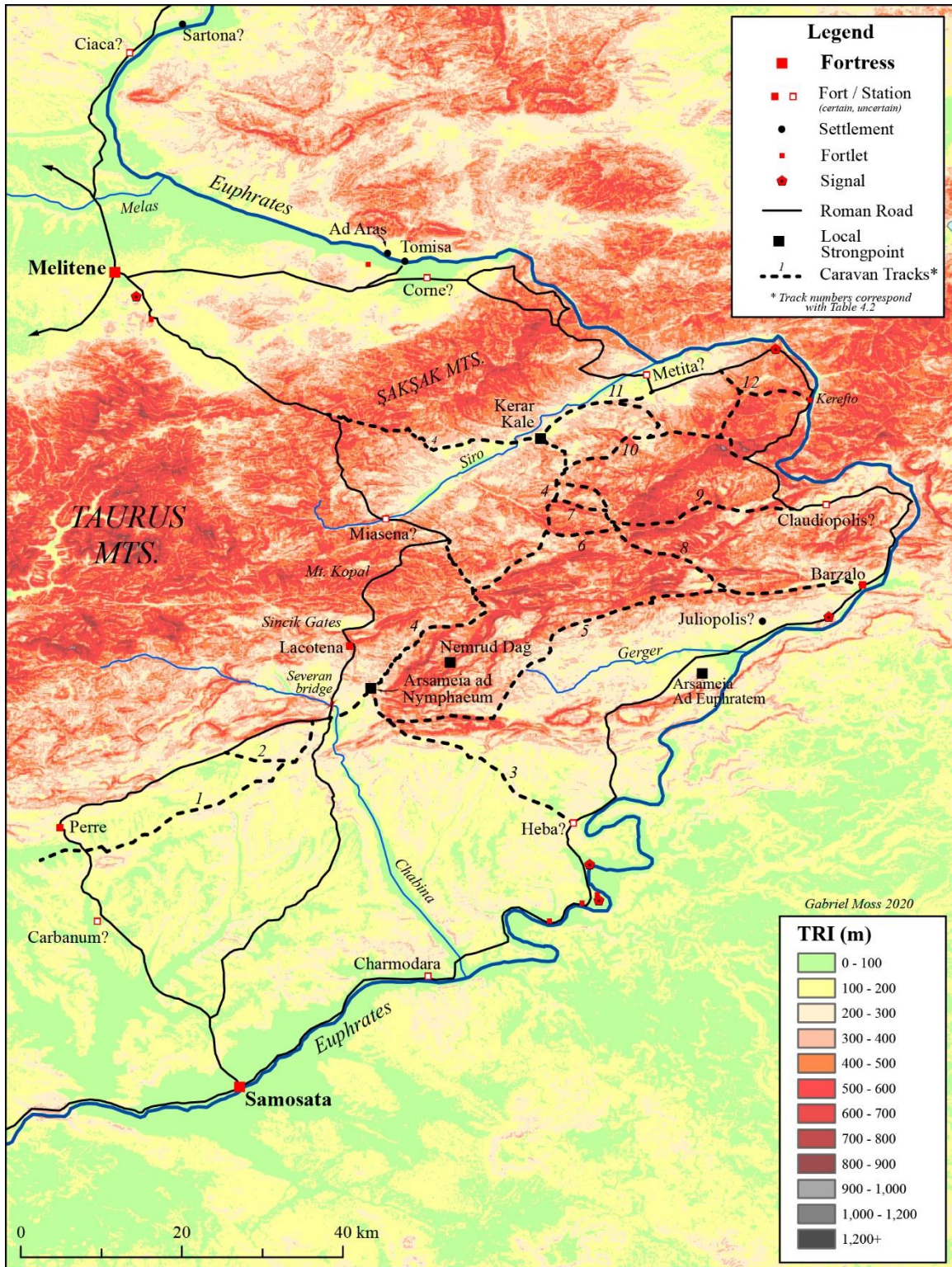
Map 4.3: Sector One TRI (Generalized)



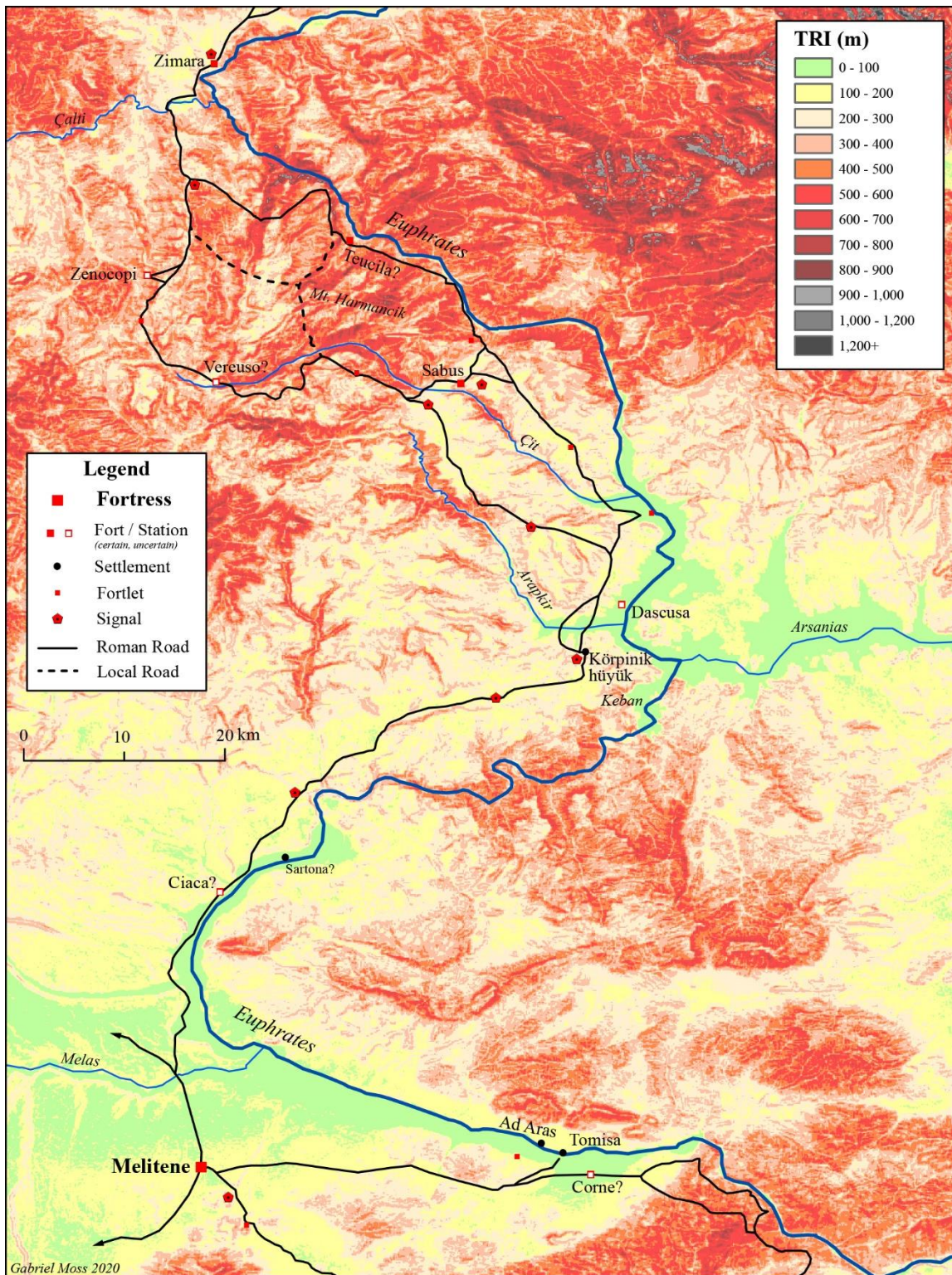
Map 4.4: Sector One Elevation



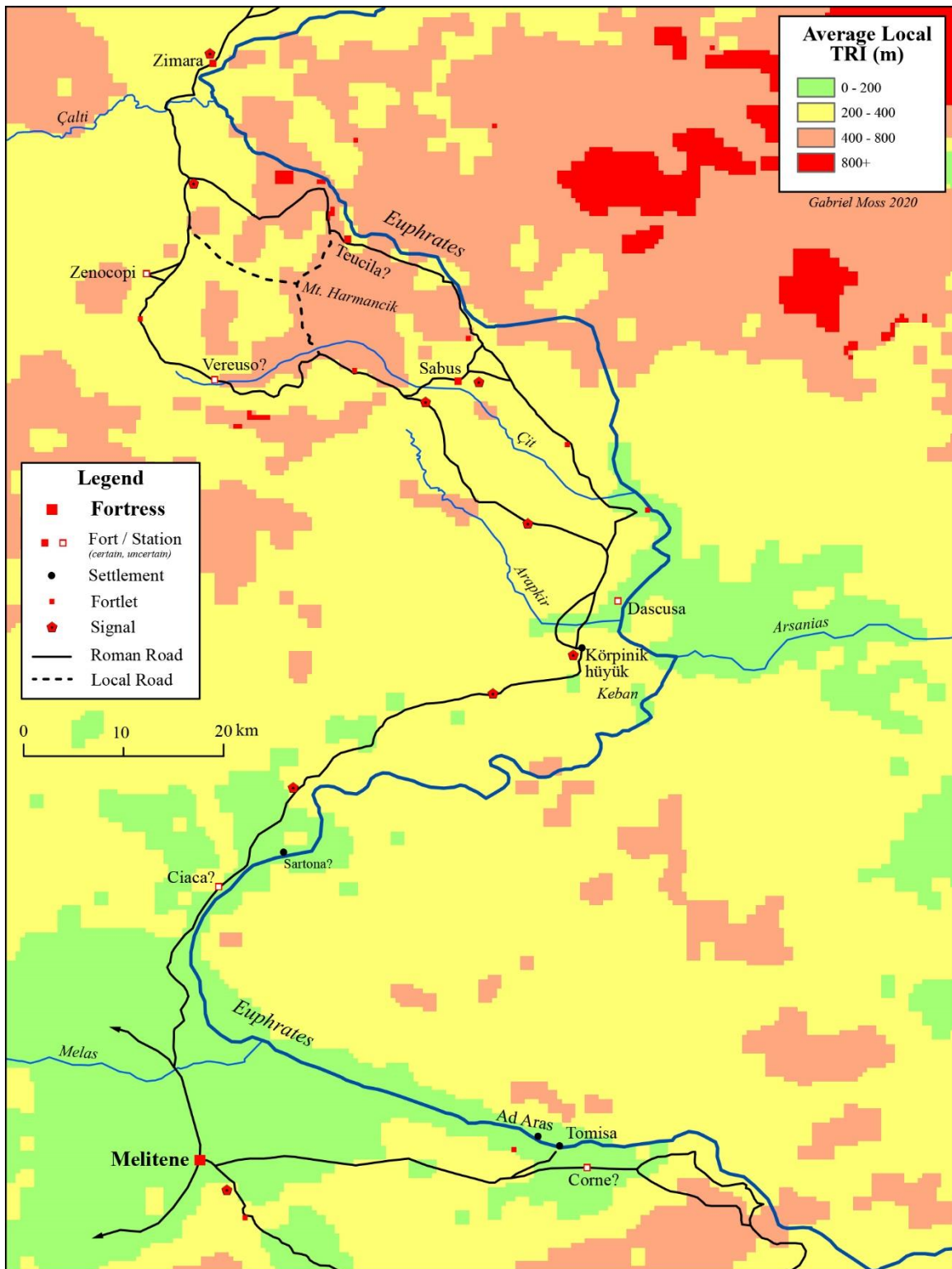
Map 4.5: Sector One Viewshed



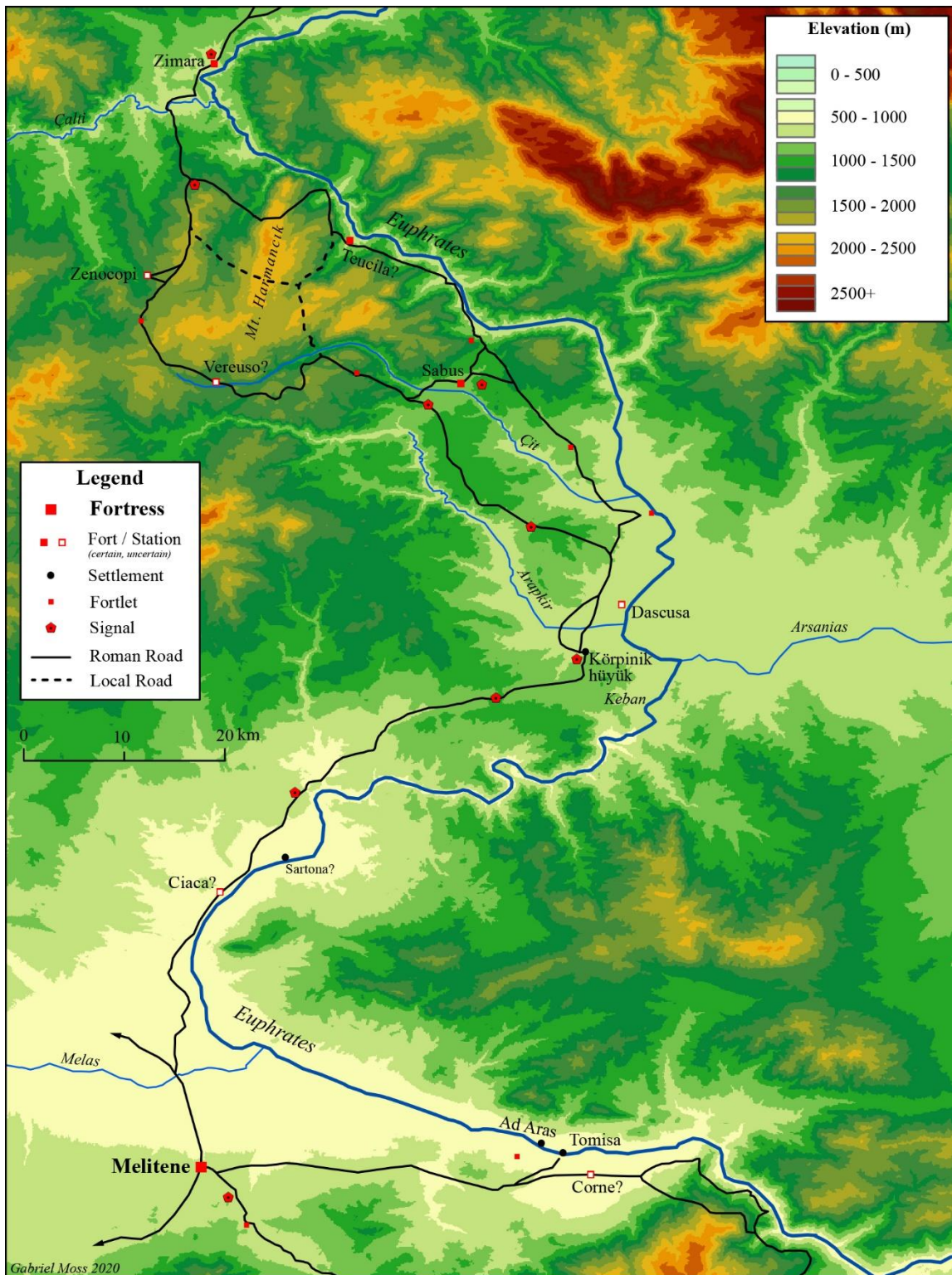
Map 4.6: Alternative Routes and Local Strongholds in Sector One



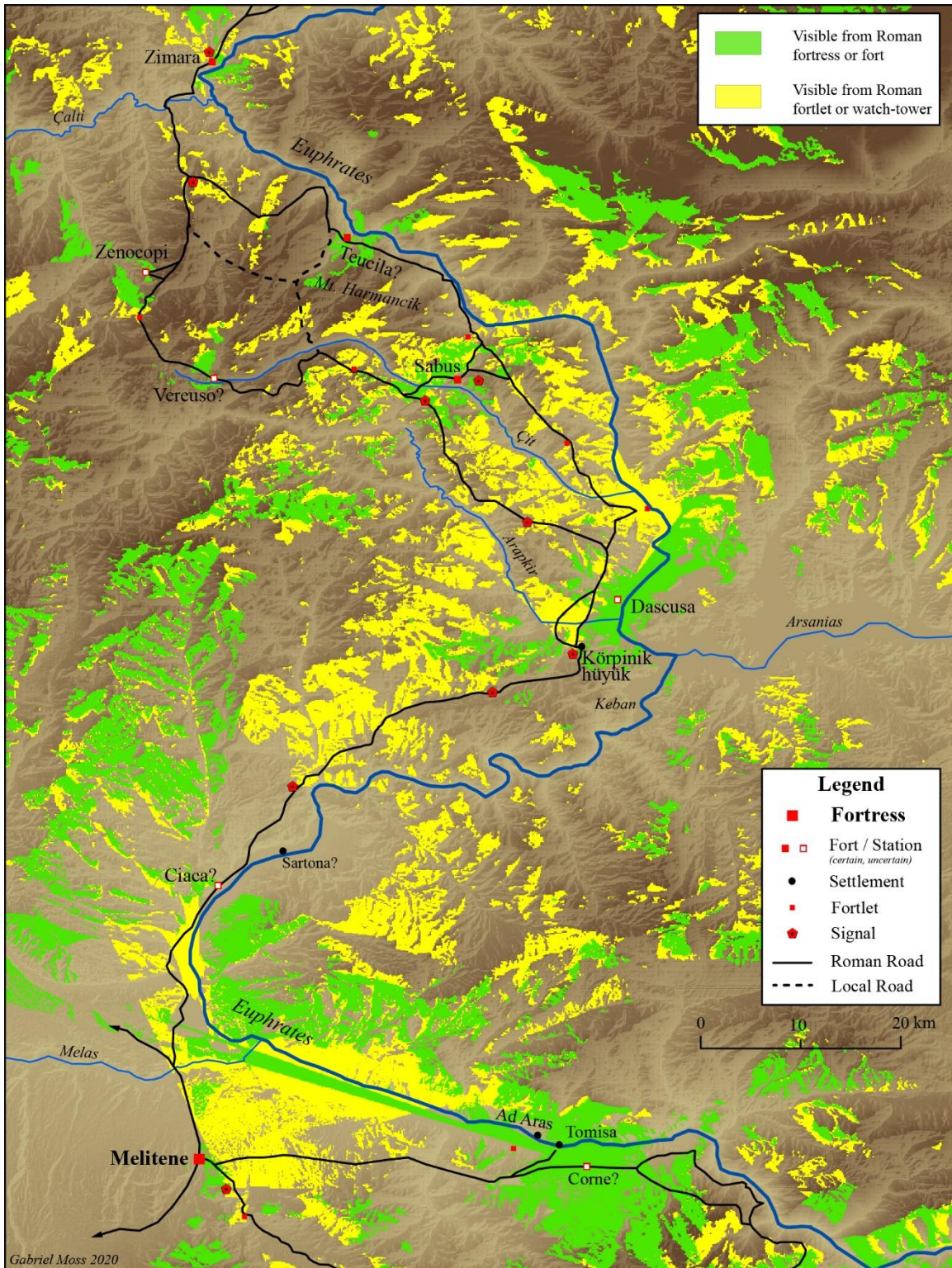
Map 4.7: Sector Two TRI



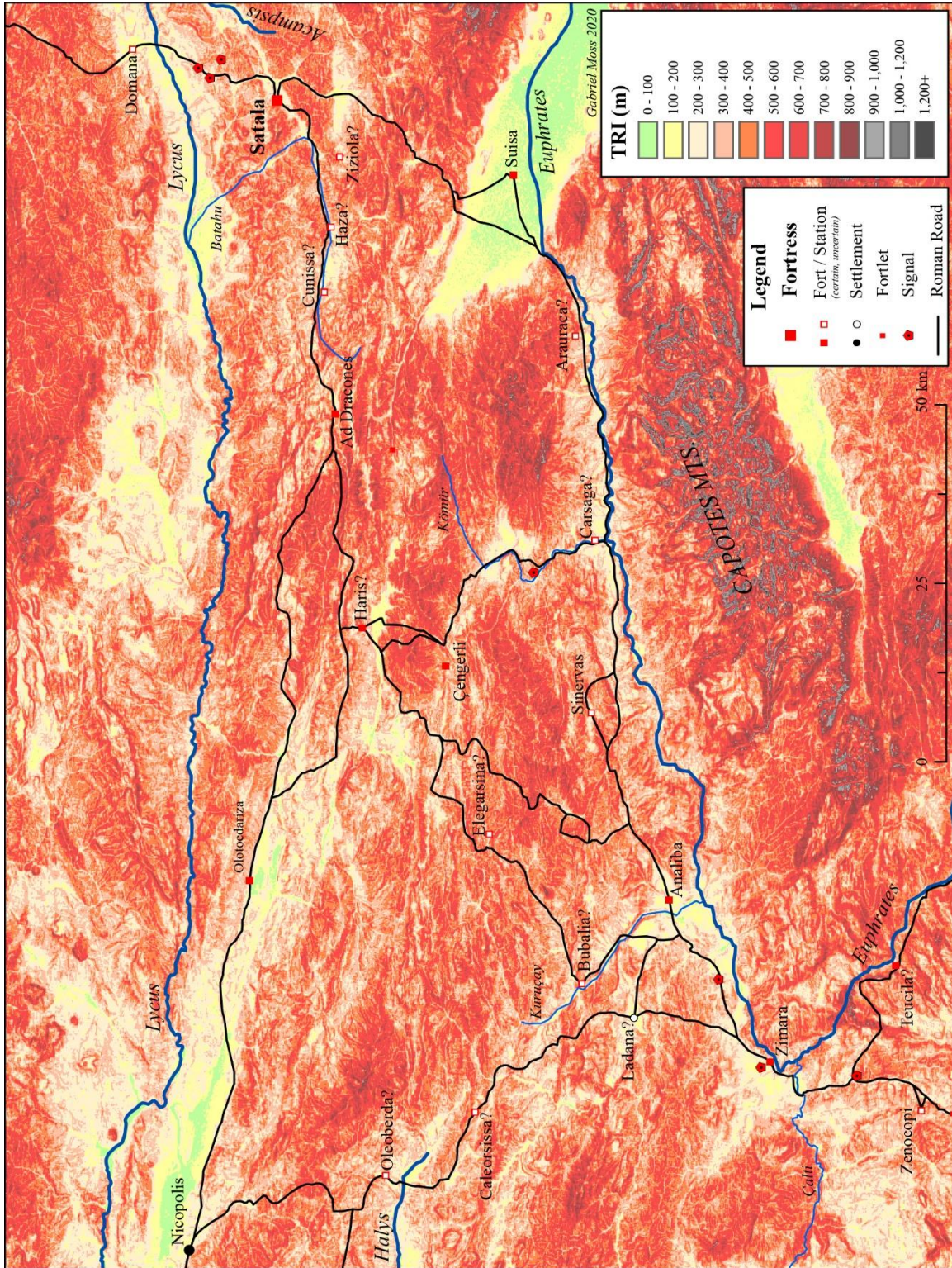
Map 4.8: Sector Two TRI (Generalized)



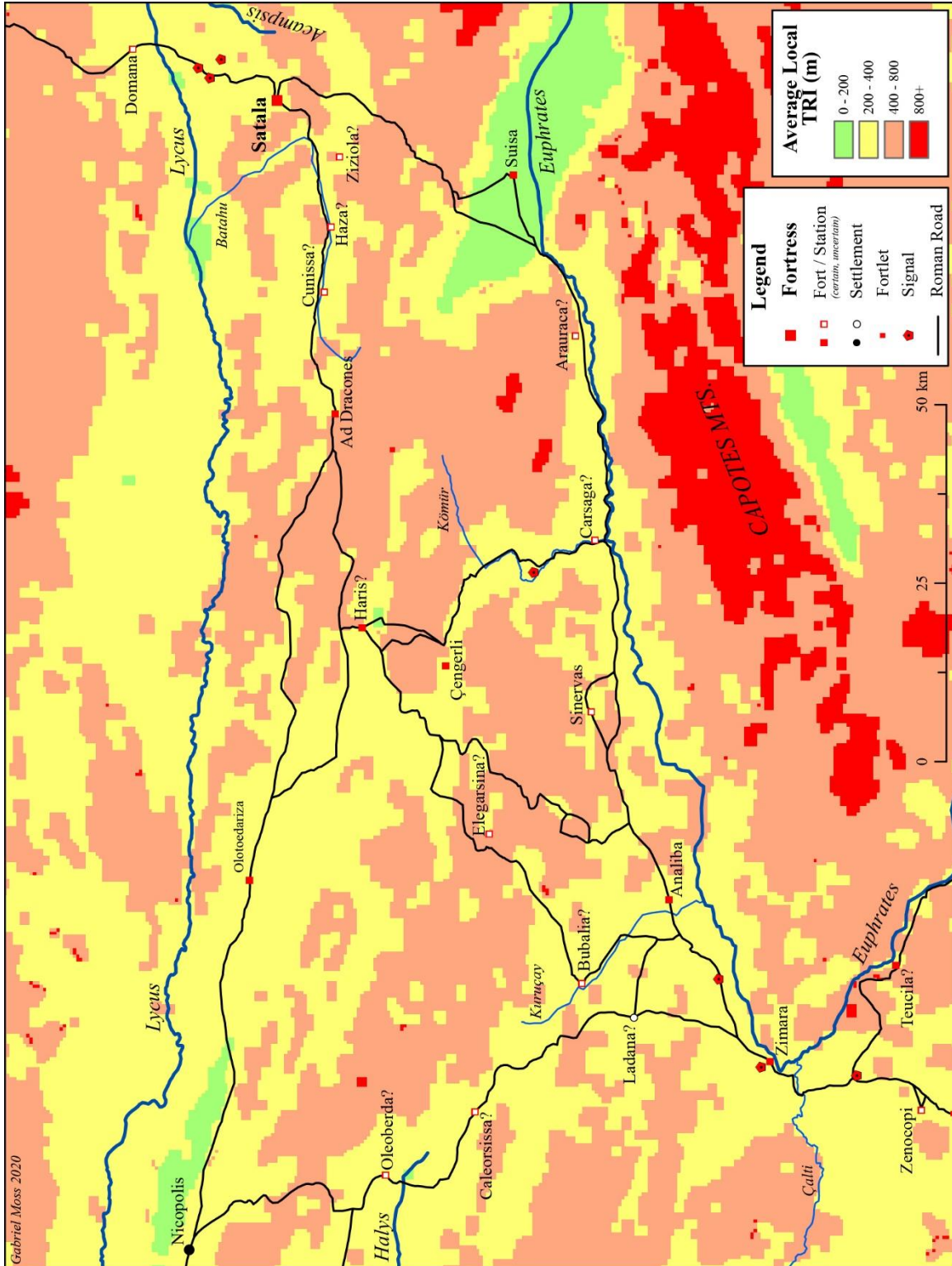
Map 4.9: Sector Two Elevation



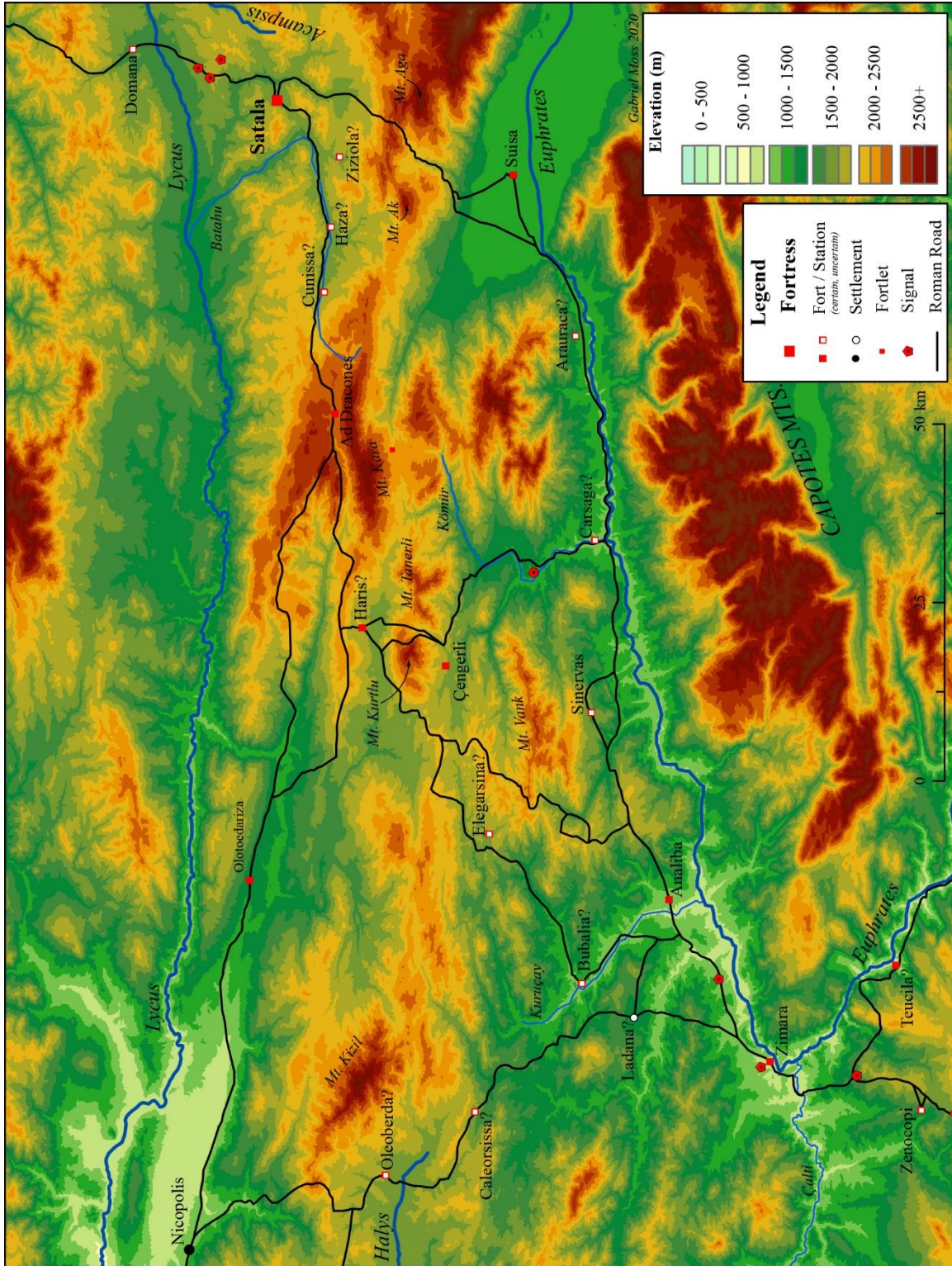
Map 4.10: Sector Two Viewshed



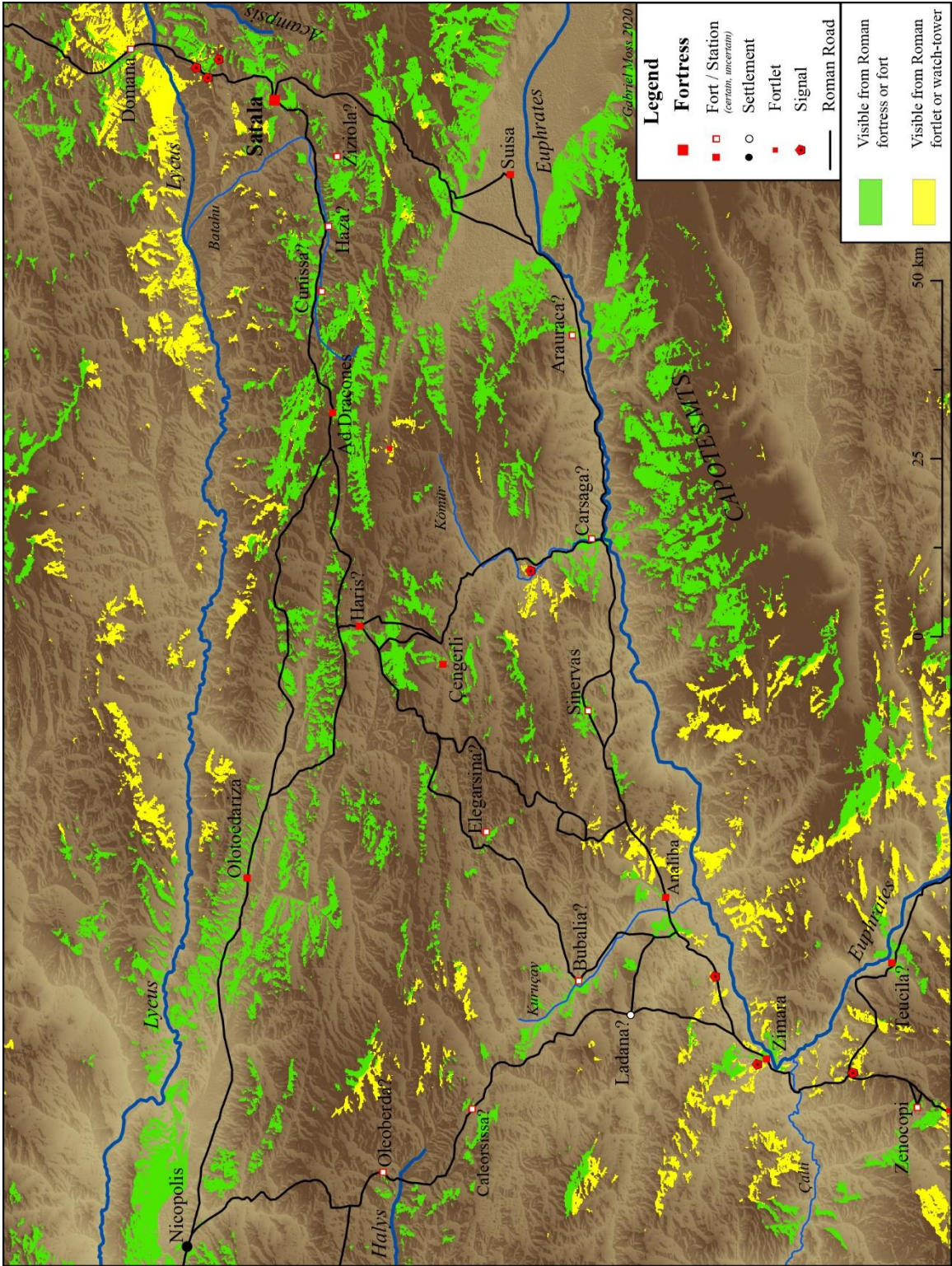
Map 4.11: Sector Three TRI



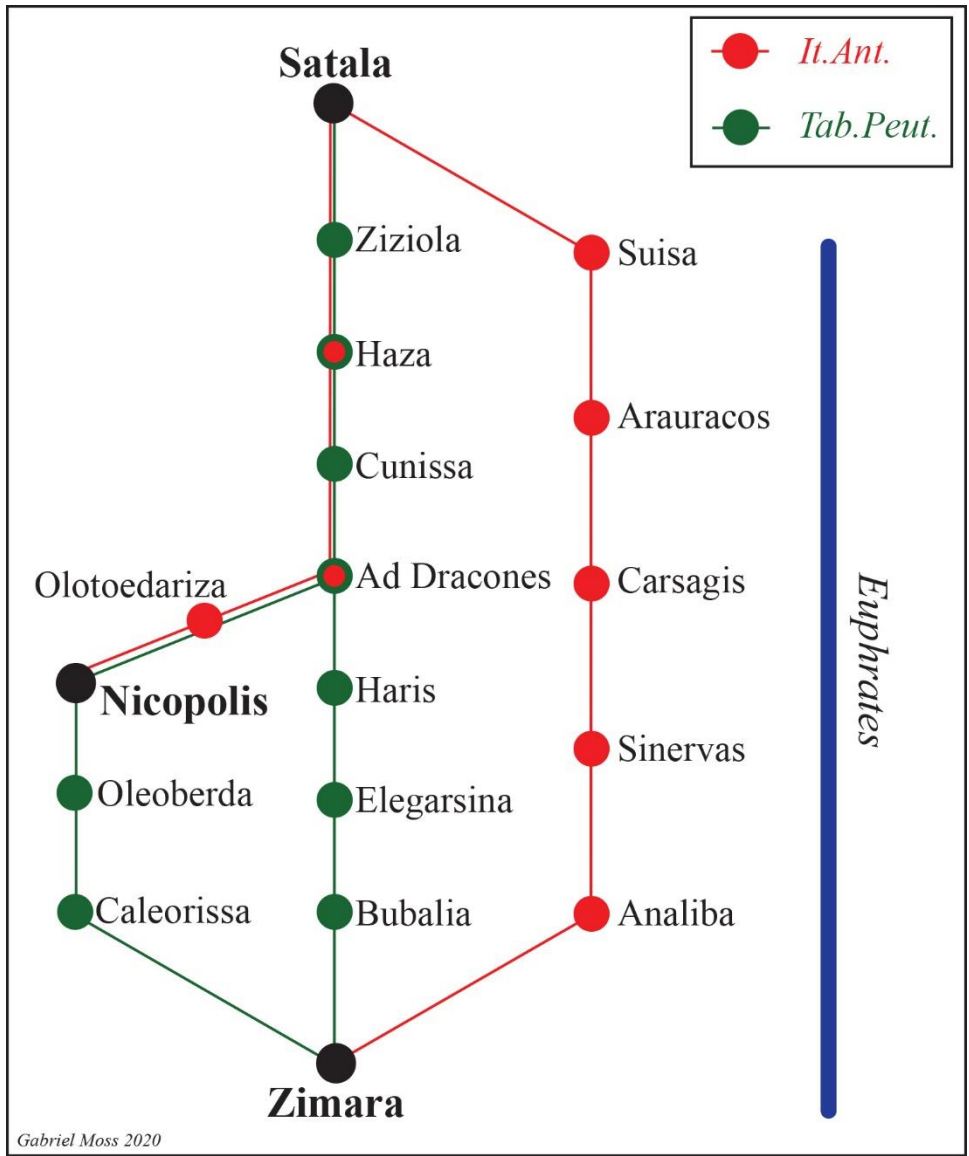
Map 4.12: Sector Three TRI (Generalized)



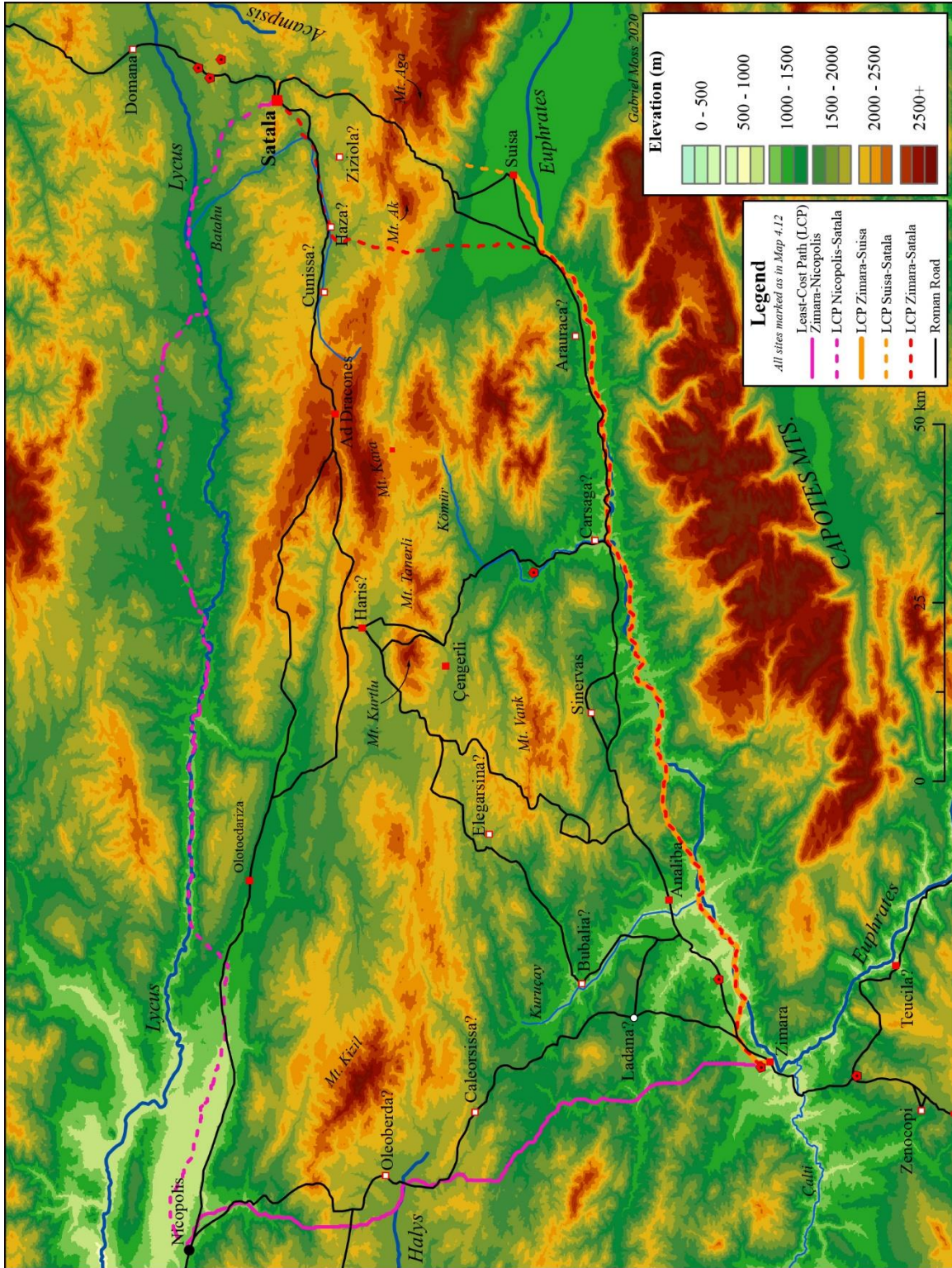
Map 4.13: Sector Three Elevation



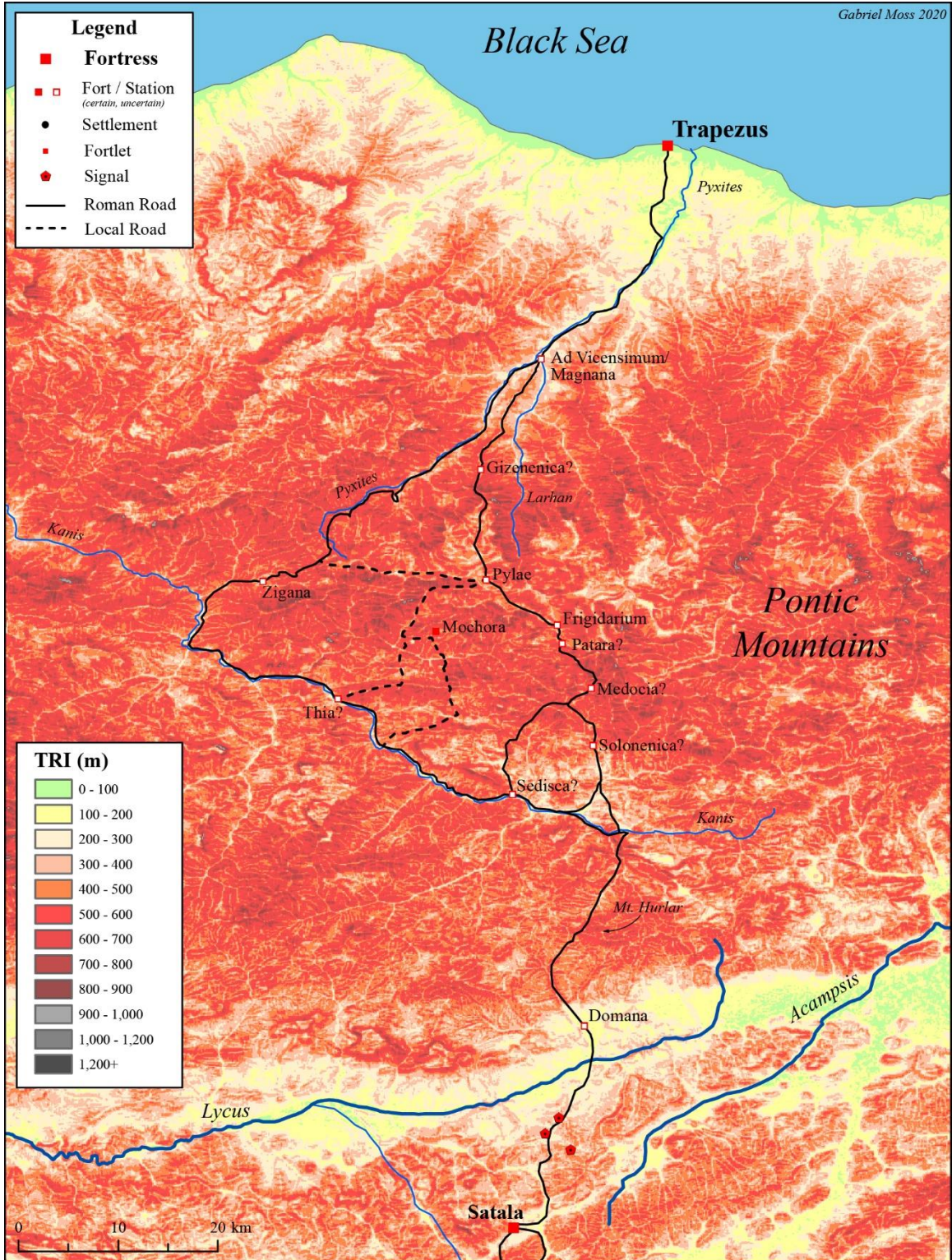
Map 4.14: Sector Three Viewshed



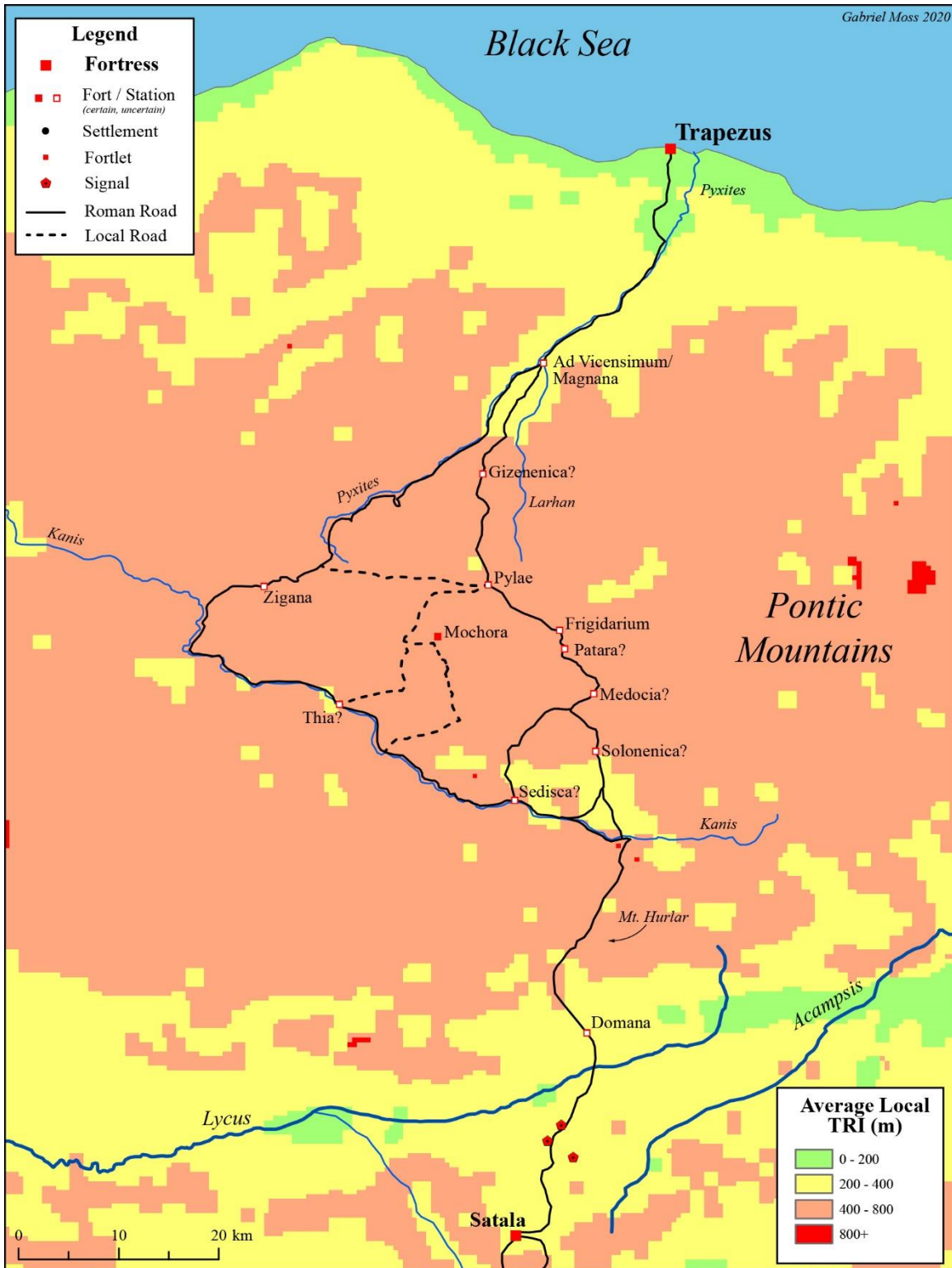
Map 4.15: Sector Three Schematic

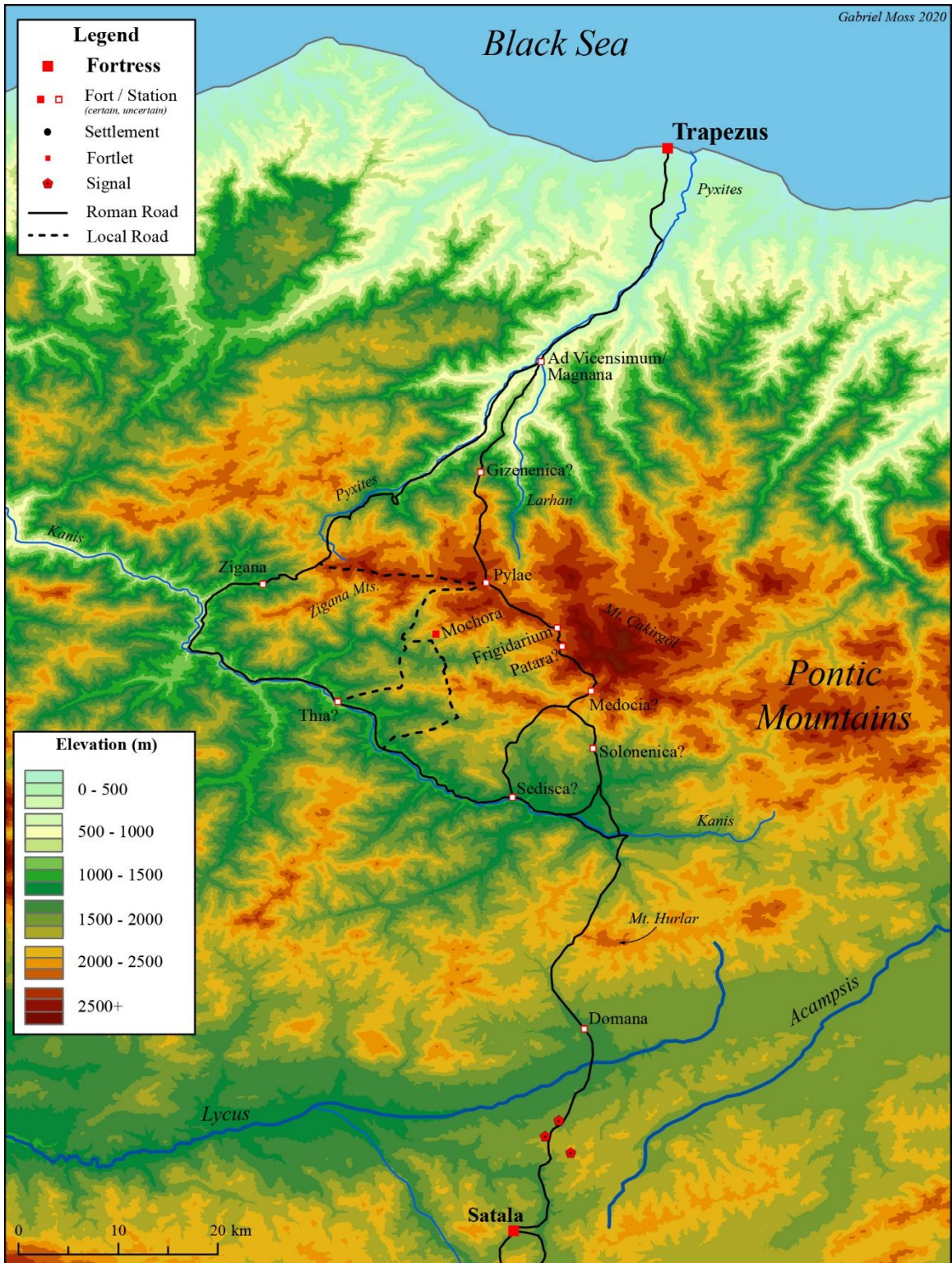


Map 4.16: Least-Cost Path Analysis of Sector Three

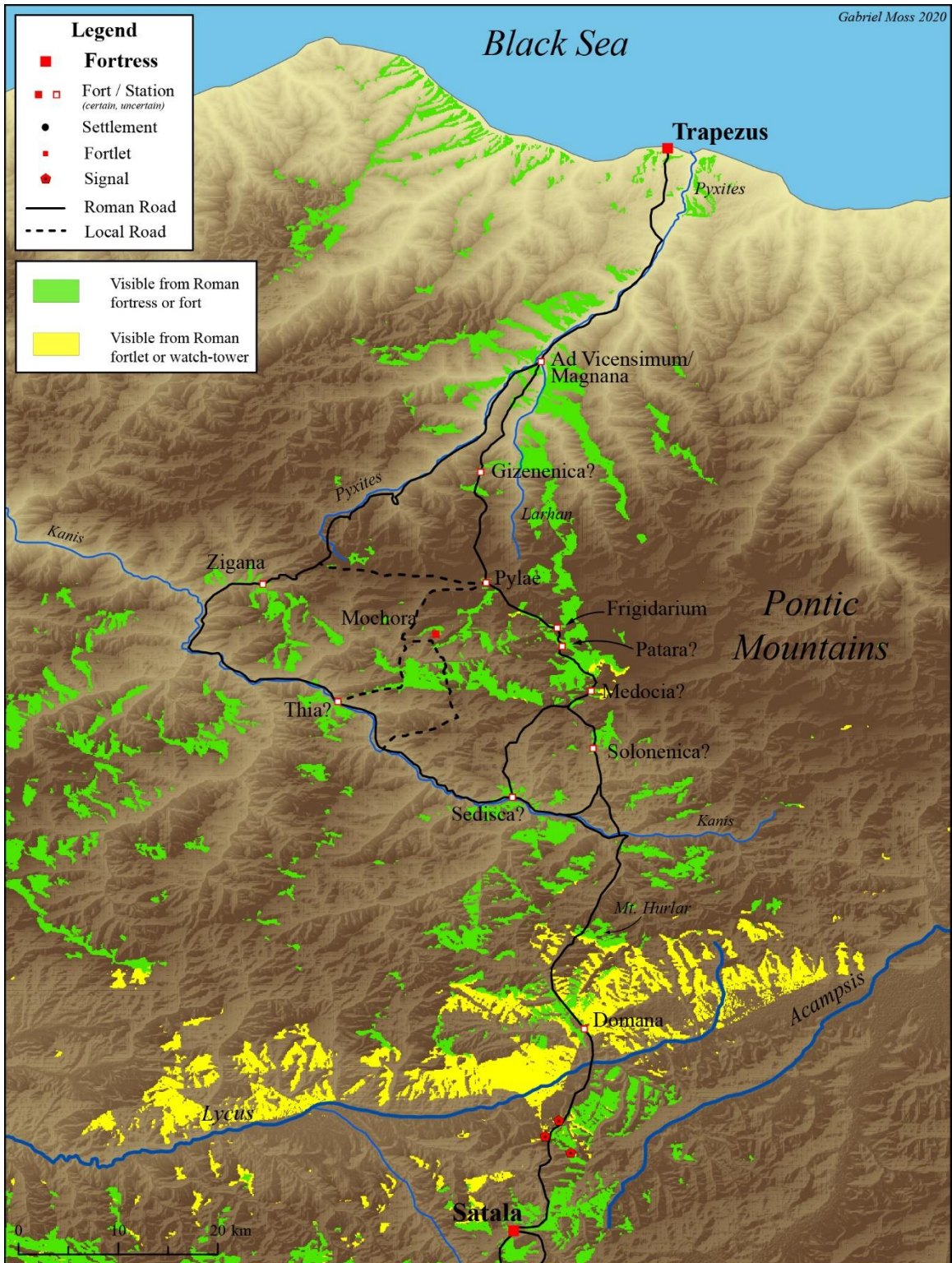


Map 4.17: Sector Four TRI

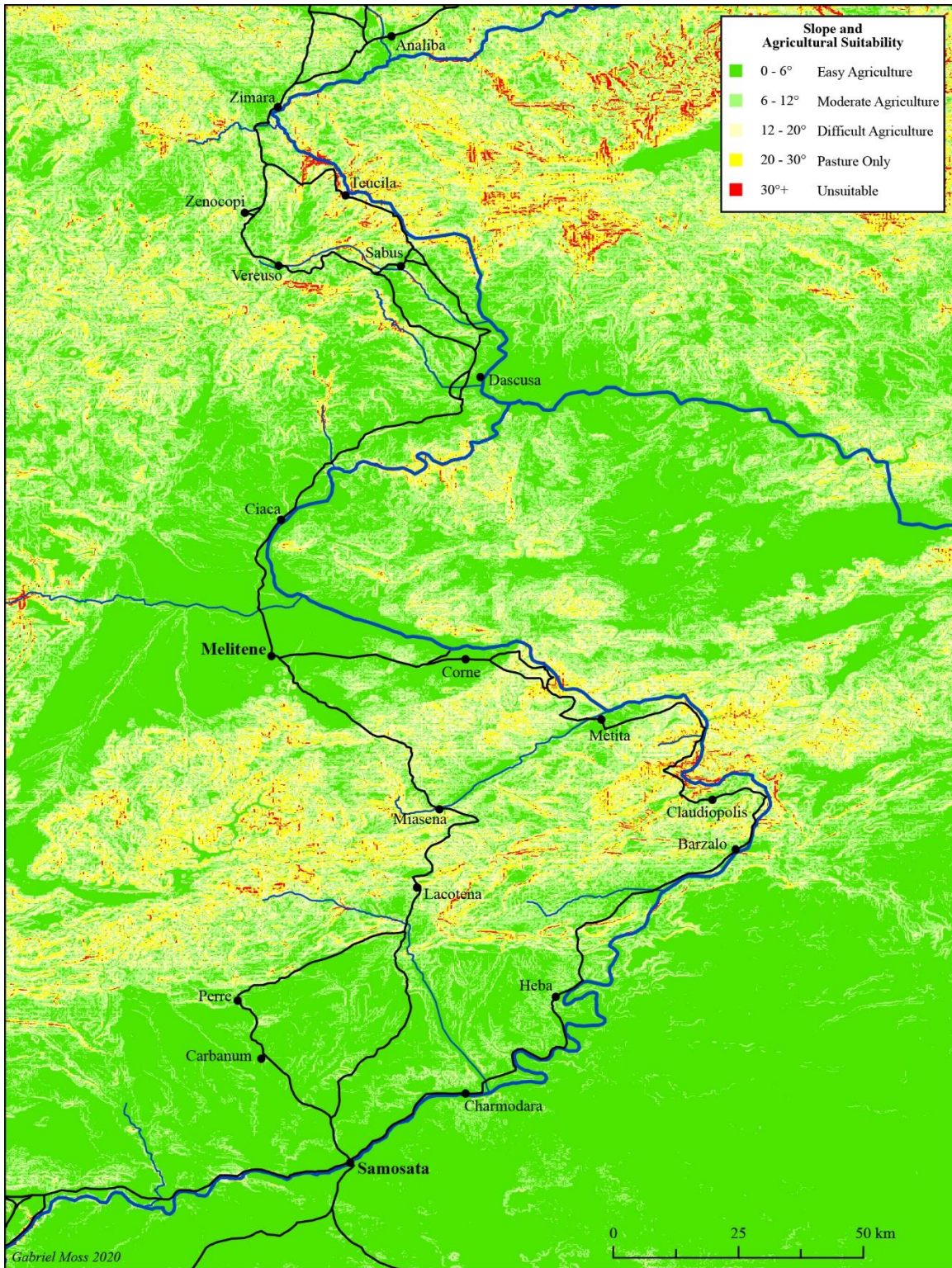




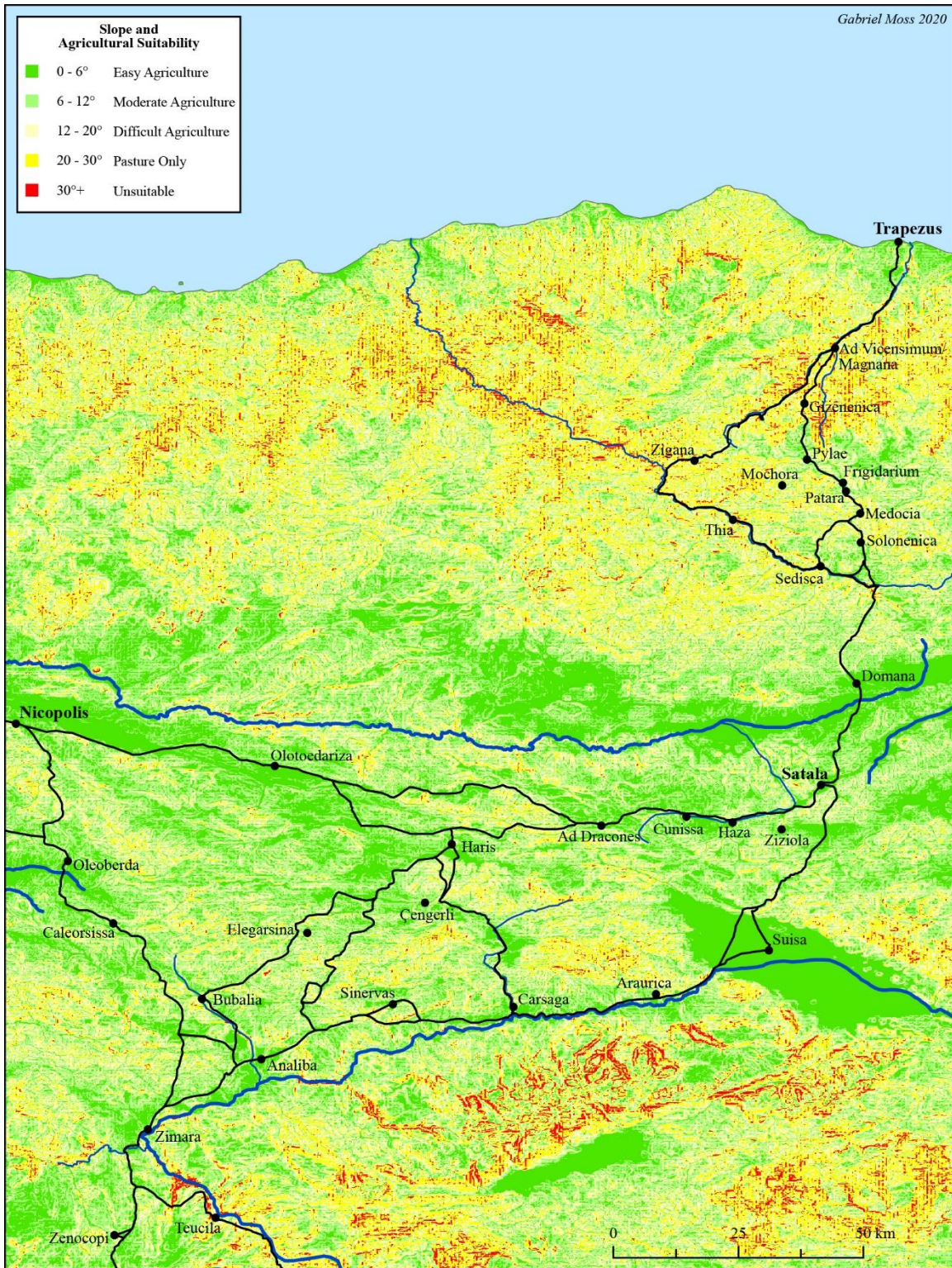
Map 4.19: Sector Four Elevation



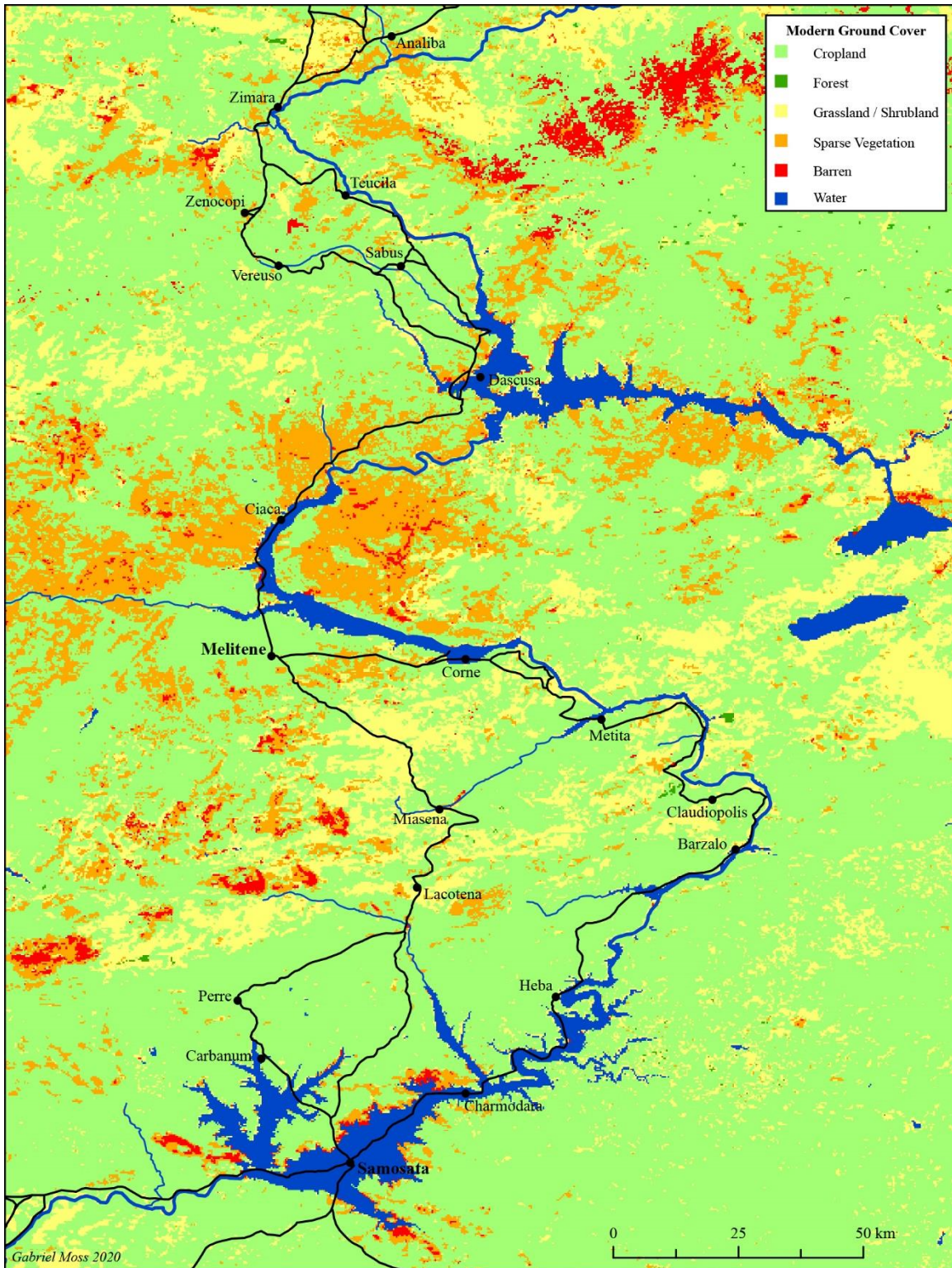
Map 4.20: Sector Four Viewshed



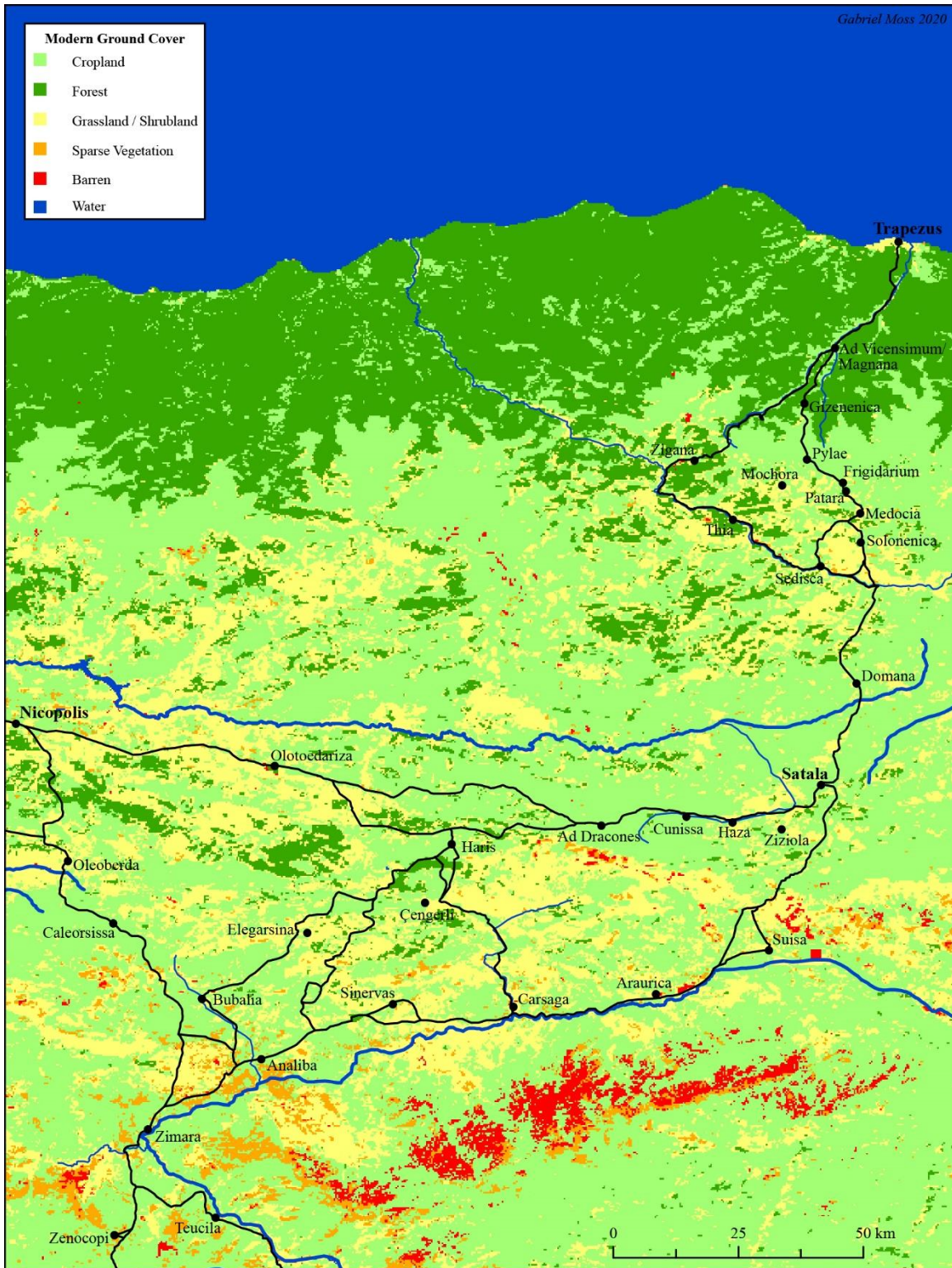
Map 4.21: Slope and Agricultural Suitability, Sectors One and Two



Map 4.22: Slope and Agricultural Suitability, Sectors Three and Four



Map 4.23: Modern Ground Cover, Sectors One and Two



Map 4.24: Modern Ground Cover, Sectors Three and Four

Name	Type	TRI Mean (200 m)	Percentile Rank	TRI Mean (1 km)	Percentile Rank
Samosata	Fortress	0.00	0.00	0.00	0.00
Melitene	Fortress	117.04	0.11	119.50	0.10
Carbanum?	Fort/Station	192.13	0.31	91.84	0.06
Perre	Fort/Station	164.45	0.23	187.12	0.29
Lacotena	Fort/Station	362.37	0.62	391.99	0.66
Miasena?	Fort/Station	209.96	0.35	324.39	0.53
Charmodara	Fort/Station	0.00	0.00	2.93	0.02
Heba?	Fort/Station	164.39	0.23	191.06	0.30
Barzalo	Fort/Station	110.86	0.10	136.24	0.14
Claudiopolis?	Fort/Station	235.01	0.39	249.02	0.41
Metita?	Fort/Station	199.39	0.33	152.47	0.19
Corne?	Fort/Station	0.00	0.00	1.02	0.01
Arsameia Ad Nymphaeum	Local Strongpoint	254.26	0.43	290.35	0.47
Nemrud Dag	Local Strongpoint	410.89	0.71	468.68	0.81
Arsameia Ad Euphratem	Local Strongpoint	312.22	0.52	268.40	0.43
Kerar Kale	Local Strongpoint	296.60	0.50	271.40	0.44
		AVERAGE (Roman)	0.22	AVERAGE (Roman)	0.23
		AVERAGE (Local)	0.54	AVERAGE (Local)	0.54
Name	Type	Elevation Mean (200 m)	Percentile Rank	Elevation Mean (1 km)	Percentile Rank
Samosata	Fortress	530.00	0.00	530.00	0.00
Melitene	Fortress	801.53	0.40	802.75	0.39
Carbanum?	Fort/Station	568.94	0.10	539.14	0.04
Perre	Fort/Station	681.32	0.27	691.28	0.28
Lacotena	Fort/Station	1203.85	0.64	1208.25	0.64
Miasena?	Fort/Station	922.17	0.47	997.45	0.52
Charmodara	Fort/Station	530.00	0.00	530.01	0.01
Heba?	Fort/Station	569.94	0.10	592.55	0.12
Barzalo	Fort/Station	534.11	0.06	555.41	0.07
Claudiopolis?	Fort/Station	959.85	0.50	969.40	0.50
Metita?	Fort/Station	749.79	0.36	729.26	0.32
Corne?	Fort/Station	675.00	0.25	675.00	0.25
Arsameia Ad Nymphaeum	Local Strongpoint	688.55	0.28	732.39	0.33
Nemrud Dag	Local Strongpoint	1941.67	0.96	1891.55	0.95
Arsameia Ad Euphratem	Local Strongpoint	817.67	0.41	778.80	0.37
Kerar Kale	Local Strongpoint	934.56	0.49	896.19	0.46
		AVERAGE (Roman)	0.26	AVERAGE (Roman)	0.26
		AVERAGE (Local)	0.53	AVERAGE (Local)	0.52

Table 4.1: Sector One Sites TRI and Elevation

Name	Type	TRI Mean (200 m)	Percentile Rank	TRI Mean (1 km)	Percentile Rank
Samosata-Perre-Chabina	Roman	185.70	0.30	172.07	0.25
Samosata-Chabina	Roman	144.84	0.17	143.63	0.16
Chabina-Lacotena-Miasena-Melitene	Roman	327.46	0.55	330.55	0.54
Taurus Gorge: Samosata to Gerger Cay	Roman	88.94	0.07	103.25	0.07
Taurus Gorge: Gerger Cay to Kerefto	Roman	294.64	0.49	302.39	0.49
Taurus Gorge: Kerefto to Melitene	Roman	279.80	0.47	269.82	0.43
Local 1: Adiyaman-Chabina	Local	169.44	0.24	177.71	0.27
Local 2	Local	182.85	0.29	189.21	0.30
Local 3: Arsameia ad Nymphaeum-Heba	Local	222.46	0.37	236.46	0.40
Local 4: Chabina-Arsameia ad Nymphaeum-Kerar Kale-Melitene	Local	343.61	0.58	360.62	0.59
Local 5: Arsameia ad Nymphaeum-Barzalo	Local	382.30	0.66	372.18	0.62
Local 6	Local	451.93	0.78	429.67	0.74
Local 7	Local	456.26	0.79	421.73	0.72
Local 8: Puturge-Juliopolis	Local	440.42	0.77	431.66	0.74
Local 9	Local	507.49	0.88	483.36	0.85
Local 10: Puturge	Local	418.23	0.72	427.18	0.73
Local 11: Kerar Kale	Local	270.07	0.45	255.23	0.42
Local 12: Kerefto	Local	486.16	0.84	454.35	0.78
		AVERAGE (Roman)	0.34	AVERAGE (Roman)	0.32
		AVERAGE (Local)	0.61	AVERAGE (Local)	0.60
Name	Type	Elevation Mean (200 m)	Percentile Rank	Elevation Mean (1 km)	Percentile Rank
Samosata-Perre-Chabina	Roman	696.85	0.29	703.69	0.29
Samosata-Chabina	Roman	649.55	0.22	646.60	0.21
Chabina-Lacotena-Miasena-Melitene	Roman	1298.32	0.68	1281.59	0.68
Taurus Gorge: Samosata to Gerger Cay	Roman	593.87	0.14	598.78	0.13
Taurus Gorge: Gerger Cay to Kerefto	Roman	858.06	0.44	862.13	0.43
Taurus Gorge: Kerefto to Melitene	Roman	956.89	0.50	951.24	0.50
Local 1: Adiyaman-Chabina	Local	717.68	0.32	727.36	0.32
Local 2	Local	792.00	0.39	800.45	0.39
Local 3: Arsameia ad Nymphaeum-Heba	Local	820.62	0.41	822.72	0.41
Local 4: Chabina-Arsameia ad Nymphaeum-Kerar Kale-Melitene	Local	1152.12	0.61	1185.97	0.63
Local 5: Arsameia ad Nymphaeum-Barzalo	Local	1128.27	0.60	1142.59	0.60
Local 6	Local	1711.57	0.86	1716.59	0.86
Local 7	Local	1624.49	0.82	1638.69	0.82
Local 8: Puturge-Juliopolis	Local	1611.00	0.82	1602.96	0.82
Local 9	Local	1661.90	0.84	1642.94	0.83
Local 10: Puturge	Local	1580.66	0.80	1553.47	0.80
Local 11: Kerar Kale	Local	929.13	0.48	942.15	0.49
Local 12: Kerefto	Local	1488.45	0.77	1461.83	0.75
		AVERAGE (Roman)	0.38	AVERAGE (Roman)	0.37
		AVERAGE (Local)	0.64	AVERAGE (Local)	0.64

Table 4.2: Sector One Routes TRI and Elevation

Name	Type	TRI Mean (200 m)	Percentile Rank	TRI Mean (1 km)	Percentile Rank	Elevation Mean (200 m)	Percentile Rank	Elevation Mean (1 km)	Percentile Rank
Melitene	Fortress	117.04	0.11	119.50	0.10	801.53	0.16	802.75	0.16
Ciaca?	Fort/Station	176.82	0.23	128.00	0.12	690.11	0.03	702.17	0.04
Dascusa	Fort/Station	0.00	0.00	25.29	0.02	820.00	0.18	821.49	0.19
Sabus	Fort/Station	250.30	0.45	285.53	0.53	1090.20	0.48	1061.61	0.44
Teucila?	Fort/Station	354.17	0.69	405.95	0.81	932.95	0.32	1011.25	0.38
Vereuso?	Fort/Station	275.74	0.51	337.42	0.66	1487.10	0.81	1521.41	0.83
Zenocopi	Fort/Station	327.07	0.64	390.71	0.77	1438.35	0.77	1459.29	0.79
Zimara	Fort/Station	223.73	0.36	263.60	0.46	888.83	0.27	921.02	0.29
		AVERAGE	0.37	AVERAGE	0.43	AVERAGE	0.38	AVERAGE	0.39

Table 4.3: Sector Two Sites TRI and Elevation

Name	Type	TRI Mean (200 m)	Percentile Rank	TRI Mean (1 km)	Percentile Rank
Melitene to Dascusa	Roman	138.20	0.14	144.73	0.14
River Road: Dascusa-Zimara	Roman	323.96	0.64	332.63	0.64
Mountain Road: Dascusa-Zimara	Roman	319.65	0.62	326.16	0.62
Local Antitaurus Routes	Local	447.38	0.85	436.03	0.86
		AVERAGE (Roman)	0.47	AVERAGE (Roman)	0.47
Name	Type	Elevation Mean (200 m)	Percentile Rank	Elevation Mean (1 km)	Percentile Rank
Melitene to Dascusa	Roman	819.03	0.18	825.61	0.19
River Road: Dascusa-Zimara	Roman	1178.88	0.55	1184.03	0.55
Mountain Road: Dascusa-Zimara	Roman	1398.35	0.74	1373.39	0.72
Local Antitaurus Routes	Local	1674.09	0.91	1668.73	0.90
		AVERAGE (Roman)	0.49	AVERAGE (Roman)	0.49

Table 4.4: Sector Two Routes TRI and Elevation

Name	Type	TRI Mean (200 m)	Percentile Rank	TRI Mean (1 km)	Percentile Rank
Zimara	Fort/Station	223.73	0.06	263.60	0.07
Teucila?	Fort/Station	354.17	0.32	405.95	0.46
Analiba	Fort/Station	190.10	0.03	220.14	0.03
Ladana?	Fort/Station	182.59	0.03	199.35	0.02
Sinervas	Fort/Station	215.17	0.05	314.38	0.16
Bubalia?	Fort/Station	299.49	0.17	339.34	0.22
Carsaga?	Fort/Station	157.45	0.02	228.89	0.04
Arauraca?	Fort/Station	385.76	0.41	393.63	0.40
Suisa	Fort/Station	106.40	0.01	107.30	0.00
Caleorsissa?	Fort/Station	407.44	0.48	389.24	0.38
Oleoberda?	Fort/Station	333.91	0.26	324.73	0.17
Elegarsina?	Fort/Station	461.37	0.65	440.91	0.61
Olotodariza	Fort/Station	273.26	0.12	239.29	0.05
Çengerli	Fort/Station	392.34	0.43	381.03	0.36
Haris?	Fort/Station	459.64	0.64	373.52	0.33
Ad Dracones	Fort/Station	366.89	0.35	415.60	0.50
Cunissa?	Fort/Station	273.14	0.12	291.78	0.12
Haza?	Fort/Station	306.03	0.18	331.94	0.20
Ziziola?	Fort/Station	352.35	0.31	371.94	0.32
Nicopolis	City	294.74	0.16	254.48	0.07
Satala	Fortress	340.38	0.28	350.50	0.25
		AVERAGE	0.24	AVERAGE	0.23
Name	Type	Elevation Mean (200 m)	Percentile Rank	Elevation Mean (1 km)	Percentile Rank
Zimara	Fort/Station	888.83	0.01	921.02	0.01
Teucila?	Fort/Station	932.95	0.01	1011.25	0.03
Analiba	Fort/Station	982.15	0.03	1013.66	0.03
Ladana?	Fort/Station	1334.58	0.21	1343.79	0.21
Sinervas	Fort/Station	1608.84	0.40	1636.12	0.41
Bubalia?	Fort/Station	1075.00	0.06	1117.32	0.07
Carsaga?	Fort/Station	1052.10	0.05	1081.67	0.05
Arauraca?	Fort/Station	1295.94	0.18	1334.10	0.20
Suisa	Fort/Station	1176.40	0.10	1176.06	0.10
Caleorsissa?	Fort/Station	1706.44	0.47	1715.24	0.48
Oleoberda?	Fort/Station	1785.95	0.56	1789.97	0.57
Elegarsina?	Fort/Station	1737.22	0.51	1759.53	0.53
Olotodariza	Fort/Station	1324.45	0.20	1340.28	0.21
Çengerli	Fort/Station	1777.72	0.55	1794.35	0.57
Haris?	Fort/Station	1811.00	0.58	1828.52	0.60
Ad Dracones	Fort/Station	2323.24	0.94	2366.43	0.96
Cunissa?	Fort/Station	1768.15	0.54	1776.39	0.55
Haza?	Fort/Station	1685.11	0.45	1714.28	0.48
Ziziola?	Fort/Station	1751.79	0.52	1774.92	0.55
Nicopolis	City	1101.11	0.07	1108.83	0.06
Satala	Fortress	1762.28	0.53	1742.94	0.50
		AVERAGE	0.33	AVERAGE	0.34

Table 4.5: Sector Three Sites TRI and Elevation

Name	TRI Mean (200 m)	Percentile Rank	TRI Mean (1 km)	Percentile Rank
Zimara-Nicopolis Support Road	341.57	0.28	345.51	0.23
Nicopolis-Ad Dracones Support Road	347.95	0.31	357.09	0.28
Ad Dracones-Satala	361.54	0.34	375.57	0.33
Zimara-Suisa-Satala River Road	296.06	0.17	309.76	0.15
Zimara-Ad Dracones (Road A)	364.32	0.34	376.43	0.34
Road B	431.81	0.55	448.18	0.64
Carsaga-Haris (Road C)	363.79	0.34	374.64	0.33
Zimara-Ladana	349.11	0.31	341.23	0.22
	AVERAGE	0.33	AVERAGE	0.32
Name	Elevation Mean (200 m)	Percentile Rank	Elevation Mean (1 km)	Percentile Rank
Zimara-Nicopolis Support Road	1465.08	0.29	1465.73	0.29
Nicopolis-Ad Dracones Support Road	1657.61	0.43	1663.43	0.44
Ad Dracones-Satala	1894.58	0.67	1929.41	0.71
Zimara-Suisa-Satala River Road	1347.10	0.22	1368.48	0.22
Zimara-Ad Dracones (Road A)	1587.12	0.39	1599.80	0.39
Road B	1896.02	0.67	1893.27	0.67
Carsaga-Haris (Road C)	1618.69	0.40	1615.00	0.40
Zimara-Ladana	1246.61	0.15	1253.48	0.15
	AVERAGE	0.40	AVERAGE	0.41

Table 4.6: Sector Three Routes TRI and Elevation

Name	TRI Mean (1 km)	Percentile Rank	Elevation Mean (1 km)	Percentile Rank
Zimara-Nicopolis	350.01	0.25	1428.52	0.26
Zimara-Suisa	288.34	0.11	1114.51	0.07
Suisa-Satala	358.15	0.28	1785.92	0.56
Nicopolis-Satala	264.03	0.07	1261.41	0.15
Zimara-Satala	306.78	0.15	1271.06	0.16
	AVERAGE	0.17	AVERAGE	0.24

Table 4.7: Sector Three Least-Cost Path Analysis

Name	Type	TRI Mean (200 m)	Percentile Rank	TRI Mean (1 km)	Percentile Rank
Satala	Fortress	340.38	0.24	350.50	0.23
Domana	Fort/Station	255.67	0.12	210.00	0.06
Sedisca?	Fort/Station	320.71	0.21	416.21	0.37
Thia?	Fort/Station	392.70	0.34	443.81	0.44
Zigana	Fort/Station	389.45	0.34	472.22	0.53
Solonenica?	Fort/Station	509.69	0.65	460.82	0.49
Medocia?	Fort/Station	628.40	0.91	616.21	0.94
Patara?	Fort/Station	529.92	0.71	533.37	0.74
Frigidarium	Fort/Station	542.20	0.74	518.79	0.69
Pylae	Fort/Station	474.51	0.55	470.26	0.52
Gizenenica?	Fort/Station	521.41	0.68	549.95	0.79
Ad Vicensimum / Magnana	Fort/Station	237.93	0.10	295.72	0.15
Mochora	Fort/Station	443.70	0.46	559.34	0.81
Trapezus	Fortress	39.61	0.00	37.09	0.00
		AVERAGE	0.43	AVERAGE	0.48
		PONTIC MTS AVERAGE	0.52	PONTIC MTS AVERAGE	0.59
		LOW ROAD AVERAGE	0.25	LOW ROAD AVERAGE	0.37
		HIGH ROAD AVERAGE	0.62	HIGH ROAD AVERAGE	0.62
Name	Type	Elevation Mean (200 m)	Percentile Rank	Elevation Mean (1 km)	Percentile Rank
Satala	Fortress	1762.28	0.55	1742.94	0.52
Domana	Fort/Station	1573.72	0.37	1583.26	0.38
Sedisca?	Fort/Station	1300.26	0.22	1362.67	0.24
Thia?	Fort/Station	1099.35	0.17	1204.46	0.19
Zigana	Fort/Station	1242.06	0.20	1327.10	0.22
Solonenica?	Fort/Station	1679.95	0.47	1715.77	0.49
Medocia?	Fort/Station	2315.50	0.93	2327.30	0.94
Patara?	Fort/Station	2469.58	0.97	2423.09	0.97
Frigidarium	Fort/Station	2387.65	0.96	2388.48	0.97
Pylae	Fort/Station	2428.56	0.97	2450.70	0.97
Gizenenica?	Fort/Station	1743.35	0.53	1616.47	0.41
Ad Vicensimum / Magnana	Fort/Station	428.56	0.04	490.02	0.05
Mochora	Fort/Station	2015.35	0.79	1991.23	0.77
Trapezus	Fortress	43.00	0.00	34.40	0.00
		AVERAGE	0.51	AVERAGE	0.51
		PONTIC MTS AVERAGE	0.57	PONTIC MTS AVERAGE	0.56
		LOW ROAD AVERAGE	0.16	LOW ROAD AVERAGE	0.18
		HIGH ROAD AVERAGE	0.69	HIGH ROAD AVERAGE	0.69

Table 4.8: Sector Four Sites TRI and Elevation

Name	Type	TRI Mean (200 m)	Percentile Rank	TRI Mean (1 km)	Percentile Rank
Low Road through Zigana	Roman	415.87	0.39	466.29	0.51
High Road through Pylae	Roman	477.51	0.56	487.89	0.58
Satala-Kanis River	Roman	366.26	0.29	373.45	0.28
Ad Vicensimum-Trapezus	Roman	170.78	0.04	198.19	0.04
Zigana-Pylae	Local	521.73	0.68	556.86	0.81
Thia-Pylae	Local	544.03	0.74	558.87	0.81
Near Mochora	Local	538.76	0.73	525.60	0.71
		AVERAGE (Roman)	0.32	AVERAGE (Roman)	0.35
		AVERAGE (Local)	0.72	AVERAGE (Local)	0.78
Name	Type	Elevation Mean (200 m)	Percentile Rank	Elevation Mean (1 km)	Percentile Rank
Low Road through Zigana	Roman	1166.46	0.18	1257.65	0.20
High Road through Pylae	Roman	1879.89	0.66	1821.04	0.60
Satala-Kanis River	Roman	1639.07	0.42	1664.91	0.45
Ad Vicensimum-Trapezus	Roman	245.32	0.02	312.41	0.02
Zigana-Pylae	Local	2484.37	0.97	2412.18	0.97
Thia-Pylae	Local	1848.10	0.63	1878.26	0.67
Near Mochora	Local	1771.58	0.56	1745.05	0.52
		AVERAGE (Roman)	0.32	AVERAGE (Roman)	0.32
		AVERAGE (Local)	0.72	AVERAGE (Local)	0.72

Table 4.9: Sector Four Routes TRI and Elevation

CONCLUSION

This dissertation has explored the interaction of terrain, force, and control in the Romans' literary imagination and in a variety of real-world environments. Outlining Rome's distaste for warfare on broken ground through the narrative *topoi* of hill and mountain combat, Chapter One argued that in Roman decision-makers' own conception, their empire was strongest and most secure in the plains. Chapter Three gave the clearest evidence that this perception was correct: not only were the early military victories of the Jewish Revolt won thanks to the defensive advantages of broken ground, but the very decision to risk insurrection can also be linked to the Jews' belief in the protection of rough terrain. At the same time, while Chapters Two and Four mapped out Rome's aversion to broken ground in both short-term conquest and long-term garrisoning, they also revealed Roman flexibility and adaptability. We traced the evolution of Roman strategy in the Iberian peninsula: while river valleys and coastal plains always formed the core of Rome's Spanish provinces, commanders learned through painful experience the threat posed by their unpacified neighbors in the hills. Gradually and tentatively they began to redeploy their forces upland against these enemies. We saw a similar tension on Rome's northeastern frontier between the lowland menace of the Parthian Empire and the smaller-scale concerns of brigandage and insurgency in the Anatolian mountains. While the patterns of Roman deployment responded primarily to the Parthian threat, survey across hundreds of miles of frontier has revealed evidence for local variation, as well as indications that at least in some places the Roman garrison was a force of occupation as well as defense.

How, then, do these findings alter our broader vision of the Roman empire as an institution of violence and control? By any estimate, Roman imperialism was remarkably successful (at least from the perspective of its mostly Roman beneficiaries). Despite the obstacles of time, distance, and organic energy, Rome conquered and held an empire rarely matched in the pre-modern world. Major revolts were surprisingly rare and, at least in the long-run, unsuccessful.¹ Between Hannibal's departure from Italy in 203 BCE and the "barbarian" incursions of the third century CE, the basic integrity of the Roman state was never successfully challenged by foreign foes.

Traditionally, credit for the success of the Roman empire has gone in large part to the quality of its army as a fighting force. This dissertation gives no cause to reject that thesis, even in reference to broken ground. In the military worldview of Chapter One and the real-world examples of Chapters Two, Three, and Four, the Roman army could fight and win on rough terrain. In retort to disasters such as the semi-mythical Caudine Forks or the very real Beth Horon and Teutoberg Forest, the Romans could boast of victories at the River Aous, Thermopylae, and Masada. Whatever its preference for relatively level terrain, sections of the northeastern frontier discussed in Chapter Four extended Roman force into regions that may lie beyond the reach even of the 21st century Turkish state.² We should not (like the Galileans treated in Chapter Three) be too quick to doubt the relentless tenacity of Rome's military culture and the capacity of its army for violence on broken ground.

¹ See especially Gambash 2015, though note Woolf 2002 on the probable frequency of minor insurrections. Cf. Kulikowski 2016.

² Mitford 2018, which makes passing reference throughout to territories controlled by the PKK and other separatist groups. Cf. Braudel 1995 (orig. 1949), 40; Shaw 1990b, 264.

Nevertheless, this dissertation uncovers a certain vulnerability to the Roman “war machine.” Whatever the ideology of *imperium sine fine* might claim, Roman control was limited even within its own nominal borders. In Rome’s mostly small-scale struggles to win and hold control over its weaker neighbors, broken ground did not usually cause significant defeats; Beth Horon is exceptional in this respect. Yet the costs of warfare on rugged terrain deterred military intervention and sapped the credibility of Roman threats, shaping the dynamics of imperial control. When violence stopped being an efficient tool, Roman rulers fell back on persuasion or *laissez-faire* neglect, accepting a shallower and more tenuous level of authority in the process. In rare cases, the Romans might withdraw completely from regions they could not efficiently dominate: as Brent Shaw argues, the empire abandoned Mauretania in the 3rd century when the challenge and costs of controlling the Atlas mountains and their foothills proved too great to sustain.³

Such fundamental pragmatism, the Romans’ flexibility in balancing the costs of empire with its material and ideological benefits, is this dissertation’s most significant conclusion. The Romans emerge as canny and efficient wielders of power; as Tacitus puts it, “we value the power of empire, and dismiss its vanities.”⁴ The success and duration of their rule depended not just on the ability of Roman armies to win, but also on the prudence of Roman generals to know when not to fight. While individual generals might have been incompetent or simply unlucky, Roman

³ Shaw 1986, 69. The withdrawal from the Antonine fortifications in lowland Scotland provides a similar example, though the landscape here was “broken” more by hydrology and vegetation than mountains. Later, the Sassanid Emperor Sapor advised the Romans to adopt a similar policy towards Armenia and Mesopotamia, since the cost of controlling these provinces endangered the stability of the remainder of the empire (needless to say, Sapor had a vested interest in Rome’s eastern policies).

⁴ Tac. *Ann.* 15.31: *...nostri apud quos vis imperii valet, inania tramittuntur.*

commanders as a group did not blunder their way to imperial dominance.⁵ However poorly a minimalist reading of literary evidence reflects on the Roman capacity for strategic thought, the reconstructions of imperial action in Chapters Two and Four suggest a sophisticated understanding of terrain, force, and control. While neither entirely consistent over time and space nor necessarily “grand,” Roman strategy understood the effects of the physical environment, and adjusted the deployment of imperial resources accordingly.

Let us turn from this dissertation’s vision of Romans as conquerors and rulers of the Mediterranean world to its broader methodological contributions. What emerges most strikingly is the potential of GIS technology, when carefully and thoughtfully used, for the study of the ancient world. This dissertation argues in particular for the benefits of merging the impressive digital resources now available for ancient cultural geography with the sizeable and sophisticated physical geography datasets being developed by natural scientists. Although GIS is now a standard component of the archaeologist’s toolkit, it remains at best an ancillary skill in the eyes of the historical community. While technology is not a panacea for the challenges of ancient scholarship, digital approaches such as those attempted here have the potential to advance a variety of research questions, and GIS can be a valuable complement to more traditional skills of historical inquiry.

This dissertation also challenges traditional approaches to mapping the Roman world. It has its intellectual genesis in the standard map, found in any number of textbooks and monographs, of the Roman Empire at its Trajanic height: a shaded block of territory stretching outwards from the Mediterranean, its edges marked by a solid line dividing Roman and foreign

⁵ Contra Mann 1974, among others.

space. For decades, historians have recognized this map and its sharp divides as convenient fictions. We know that Rome both claimed and exercised power beyond its nominal borders, that these borders were never impermeable, and even that the “Roman-ness” of the shaded area within our map’s frontier varied place-to-place and time-to-time. With the sophisticated data and mapping techniques now available, it becomes possible to match a nuanced understanding of “Roman” territory’s shifting administrative and cultural dynamics with equally nuanced maps. By focus on one type of terrain—broken ground—and its impact on one facet of imperial rule—military force—this dissertation takes an instructive first step towards more creative, more accurate, and more useful ways of mapping the Roman Empire.

To this end, the TRI datasets that inform much of the analysis in Chapters Two, Three, and Four will be released online under open license. It is my hope that they may prove useful to future scholarship. I make no claim to offer a definitive statement on terrain, force, and control in the Roman world, nor on the specific application of these concepts in Spain, Judaea, and Asia Minor. However, by providing a set of tools to analyze the relationship between rulers, subjects, and the physical landscape, I hope to inspire discussion and future research on the topographic dynamics of the Roman empire, and of pre-modern imperialism more broadly.

Let us consider some directions which such future research productively might take. My case studies in Chapters Two, Three, and Four by no means exhaust the areas where Rome faced the challenges of controlling broken ground. As already noted, Brent Shaw has produced important studies (albeit entirely devoid of maps) on the Roman frontier in Mauretania Tingitana, as well as the “internal frontier” of Isauria-Cilicia.⁶ The Lebanon mountains and

⁶ On Mauretania: Shaw 1986. On Isauria-Cilicia: Shaw 1990a, 1990b.

surrounding badlands were similarly difficult spaces for the Romans to control; the lava fields of Trachonitis (in what is now southern Syria) were a particularly notable bandit haven throughout antiquity.⁷ The Alps, quantitatively the most imposing mountains of the Roman world, formed a troublesome external and internal frontier at various stages of Rome's expansion. Future work might even consider the Apennines within Italy itself: although Livy's narrative of wars against the Samnites and other mountain-tribes in the early republic are, at best, deeply questionable sources of geographic information, archaeological surveys of the Italian mountains provide valuable supplementary data.⁸

In addition, my case studies have not explored the processes of taking, losing, and holding power in their chosen regions across the full duration of Roman history. More work remains to be done on the topographical patterns in Rome's later Spanish wars, particularly in the prolonged Celtiberian and Lusitanian conflicts of the mid-2nd century BCE and Augustus and Agrippa's final push into Cantabria in the far northwest.⁹ For Judaea, further study is required to compare the spatial dynamics of the Jewish revolt of 66-73 with the uprising under Simon bar Kochba in the 130s CE.¹⁰ Chapter Four leaves room for additional work on eastern Anatolia under the late Roman and Byzantine empires.¹¹

⁷ Bowersock 1983, ch. 1; Isaac 1984; 1990, 56-68; Millar 1993, 63.

⁸ Oakley 1995.

⁹ The former wars are extensively (if imperfectly) documented in App. *Hisp.* 44-98. For secondary scholarship, see especially Simon 1962. For the Cantabrian wars and early Roman garrisoning in the northwest, see Syme 1979; Jones 1976.

¹⁰ Eshel 2008.

¹¹ Van Dam 2002.

Beyond expanding the geographical and chronological boundaries of the inquiry, I hope that future work on this topic will more fully intertwine the study of military affairs with the social, cultural, and material histories of Roman imperialism. As noted in the Introduction, this dissertation explores imperial control as a product of force, violence, and fear, what Michael Mann describes as “military” and “despotic” power.¹² I have focused primarily on the ability of the Roman army to enact and threaten violence on different types of terrain, and how this ability (and local perceptions thereof) affects a particular, fundamentally antagonistic relationship of domination and resistance between Rome and its provincial subjects. Due to limitations of time and space, I have not fully investigated the effects of broken ground within the “civilian” sphere of the Roman provinces. I have suggested that highlanders’ relative immunity from military force made them more likely to rebel against Roman authority; we should similarly ask how economic and social life in the hills and mountains was shaped by the difficulty and distance of Roman violence. In particular, the methods of this dissertation may be used for a more effective analysis of brigandage and the other forms of low-level violence long seen as endemic to rugged terrain.¹³ This dissertation has primarily considered such forms of local violence as affronts to Roman order and threats to imperial security, adopting the perspective of the empire’s metropolitan center.¹⁴ Future research should consider brigandage and *latrocinia* from a local point-of-view, as economic strategies and tools for self-help in the absence of effective state institutions.

¹² Mann 1984, esp. 188-189; 1986, ch. 3.

¹³ See especially Shaw 1984, but also Braudel 1995 (1949), 33, 40; Shaw 1986; 1990a; 1990b; Fuhrmann 2012.

¹⁴ Expressed, among many other places, in Suet. *Aug.* 32; *Tib.* 37.

On these and other questions, future work should expand upon this dissertation through the fuller consideration of archaeological evidence. While I have made some use of physical evidence (particularly in Chapter Four), this dissertation is primarily based on the careful reading and GIS-enabled analysis of historical texts. Archaeology has much to say about the disposition of Roman force in the provinces, and even more to contribute on the lived experience of Roman imperialism. It is my hope that archaeologists and regional experts find this dissertation's conclusions about the relationship between terrain, force, and control in the Roman world (along with its GIS techniques and data) useful in future projects.

In its study of both the discourse and the reality of warfare on broken ground, this dissertation may also prove useful beyond the field of Roman studies, to scholars of empires and imperialism in other times and places. One of my goals, particularly in Chapter One, has been to challenge the idea of a “timeless” relationship between humanity and the natural world, to ground my analysis of mountain combat rigorously in the discourse of Roman military literature, rather than in assumptions about the transhistorical function of mountains in world history. While rugged terrain presented a similar set of physical and logistical challenges to the empires of the pre-modern world, culture also played a role in the success and shape of military activity there.¹⁵ Certainly, ancient Greek discourse on mountain combat largely matches later Roman material—as J.E. Lendon argues, Homer, Herodotus, and Thucydides were the main progenitors of later Roman battle *topoi*—and we may see a similar discomfort with broken ground in Xenophon's flight through Anatolia, or among Thucydides' Spartan hoplites, pinned down by

¹⁵ On the importance of cultural approaches to global military history, see Lynn 2003; Lee 2011.

skirmishers amid the rocks of Sphacteria.¹⁶ Yet we must ask how the Jewish tradition saw rugged ground, when the hills of Judaea were as much a refuge from foreign conquest as an obstacle to the Jews' own state-building ambitions.¹⁷ What of the Parthians, whose military tradition emerged in the very different physical context of the Eurasian steppe? What of the Franks and their descendants in medieval Europe, whose military mindset was born in a northern European landscape "broken" by heavy forests? What of the Incas and their predecessors in South America, who built their power upon terrain far more rugged than the Romans would ever face?

Future work must weigh the cultural peculiarities of pre-modern warfare with the physical realities of battle and campaign in the mountains; with this balance properly struck, the door opens to new progress in the growing field of comparative imperial history.¹⁸ On a physical level, rough terrain impacted other empires in ways similar to the Roman experience: as Brent Shaw puts it, mountains were fundamentally different from the plains because pre-modern powers lacked "the technological powers available to the modern absolutist state."¹⁹ How did other aspiring empires respond to this technological "limit of the possible," both at the level of cultural discourse and of military action? Did hills and mountains pose the same challenges to the great empires of Mesopotamia and Persia (or, looking even further afield, of India and China)? Need we entirely limit this type of analysis to the pre-modern world? As I write, the most powerful empire of the early 21st century negotiates its withdrawal from Afghanistan, bled

¹⁶ Lendon 2017a; 2017b. On the battle of Pylos/Sphacteria: Thuc. 4.29-36.

¹⁷ *Josh.* 10.11; *1 Macc.* 3.13-26. See discussion in Chapter Three above.

¹⁸ See, among others: Graf 2005; Day 2008; Morris and Scheidel 2009; Scheidel 2009; Vasunia 2011; Ando and Richardson 2017; Lee 2020 (forthcoming).

¹⁹ Shaw 1990b, 269-70.

to a stalemate (at best) after nineteen years of warfare with a mountaineer militia. The methods outlined in this dissertation provide one approach to such questions, using modern technology to reflect on a *longue durée* relationship between human societies and their physical environment.

BIBLIOGRAPHY

- Abad Casal, L., S. Keay, and S. Ramallo Asensio. *Early Roman Towns in Hispania Tarraconensis*. Portsmouth, RI: JRA, 2006.
- Adema, S. *Speech and Thought in Latin War Narratives*. Leiden: Brill, 2017.
- Almagro-Gorbea, M. "From Hillforts to Oppida in 'Celtic' Iberia." In *Social Complexity and the Development of Towns in Iberia*, ed. B. Cunliffe and S. Keay, 175–208. Oxford: OUP, 1995.
- Alston, R. *Soldier and Society in Roman Egypt: A Social History*. London: Routledge, 2002.
- Álvarez Martínez, J.M., et al., eds. *Tabula Imperii Romani J-30: Valencia*. Madrid: Instituto Geográfico Nacional, 2001.
- Ando, C., and S. Richardson, eds. *Ancient States and Infrastructural Power*. Philadelphia: University of Pennsylvania Press, 2017.
- Andrade, N. "Ambiguity, Violence, and Community in the Cities of Judaea and Syria." *Historia* 59, no. 3 (2010): 342–70.
- Andreotti, G.C. "Rome and Iberia: The Making of a Cultural Geography." In Bianchetti 2016, 274–97.
- Arendt, H. *On Violence*. New York: Harcourt, 1970.
- Armenti, J. "On the Use of the Term 'Galileans' in the Writings of Josephus Flavius: A Brief Note." *JQR* 72, no. 1 (1981): 45–49.
- Astin, A.E. *Cato the Censor*. Oxford: Clarendon, 1978.
- Aujac, G. "The 'Revolution' of Ptolemy." In Bianchetti 2016, 313–34.
- Aviam, M. "The Fortified Settlements of Josephus Flavius and Their Significance Against the Backgrounds of the Excavations of Yodfat and Gamla." In *The Great Revolt in Galilee*, ed. O. Guri-Rimon, 39–54. Haifa: Hecht Museum, 2008.
- . "Yodfat." *NEAHL* 5 (2008): 2076–78.
- Badian, E. "The Prefect at Gades." *CPhil* 49, no. 4 (1954): 250–52.
- . "The Early Historians." In *Latin Historians*, ed. T.A. Dorey, 1–38. London: Routledge, 1966.

- Bagnall, R., ed. *Research Tools for the Classics: The Report of the American Philological Association's Ad Hoc Committee on Basic Research Tools*. Chico, CA: Scholars Press, 1980.
- Ball, W. *Rome in the East*. 2nd ed. London: Routledge, 2016.
- Bane, R.W. "The Development of Roman Imperial Attitudes and the Iberian Wars." *Emerita* 44 (1976): 409–20.
- Bannard, P. "Military Training." In *A Companion to Ancient Education*, ed. M. Bloomer, 483–95. Hoboken, NJ: Wiley, 2015.
- Barbieri, G. "Iacchetani, Lacetani e Laetani." *Athenaeum* 21 (1943): 113–21.
- Bar-Kochva, B. "Seron and Cestius at Beith Horon." *PEQ* 108, no. 1 (1976): 13–21.
- Beltrán, A., and A. Tovar. *Contrebia Belaisca I: El Bronce de Botrrita*. Zaragoza: University of Zaragoza, 1982.
- Bennett, J. "The Cappadocian Frontier: From the Julio-Claudians to Hadrian." In *Freeman 2002*, 301–309.
- . "The Origins and Early History of the Pontic-Cappadocian Frontier." *Anat. St.* 56 (2006): 77–93.
- Berlin, A. "Romanization and Anti-Romanization in Pre-Revolt Galilee." In *The First Jewish Revolt: Archaeology, History, and Ideology*, ed. A. Berlin and A. Overman, 57–73. London: Routledge, 2002.
- and A. Overman, eds. *The First Jewish Revolt: Archaeology, History, and Ideology*. London: Routledge, 2002.
- Bianchetti, S. *Brill's Companion to Ancient Geography*. Leiden: Brill, 2016.
- Birley, A.R. "Fifty Years of Roman Frontier Studies." In *Freeman 2002*, 1–11.
- Biro, P., and J. Dresch. *La Méditerranée et le Moyen-Orient*. Paris: Presses Universitaires de France, 1953.
- Bivar, A.D.H. "The Political History of Iran under the Arsacids." In *The Cambridge History of Iran*, ed. E. Yarshater, 3:21–97. Cambridge: CUP, 1983.
- Blázquez, J.M. "El Impacto de la Conquista de la Hispania en Roma (154–83 a.C.)." *Klio* 41 (1963): 168–86.

- Blech, M. "Adolf Schulten, the German Archaeological Institute and Field Research in Hispania." In Morillo 2006, 25–36.
- Bloom, J. *The Jewish Revolts Against Rome, A.D. 66-135: A Military Analysis*. Jefferson, NC: McFarland, 2010.
- Boré, E. *Correspondance et mémoires d'un voyageur en orient*. Paris: Olivier-Fulgence, 1840.
- Bosworth, A.B. "Arrian and the Alani." *Harv. Stud.* 81 (1977): 217–55.
- Bowersock, G.W. *Roman Arabia*. Cambridge, MA: Harvard University Press, 1983.
- Braudel, F. *Civilisation matérielle, économie et capitalisme*. Paris: Colin, 1979.
- . *The Mediterranean and the Mediterranean World in the Age of Philip II*. trans. S. Reynolds. Vol. 1. Berkeley, CA: University of California Press, 1995 (orig. 1949).
- Braund, D. "Coping with the Caucasus: Roman Responses to Local Conditions in Colchis." In French 1989, 1:31–43.
- . "Roman and Native in Transcaucasia from Pompey to Sucessionianus." In Maxfield 1991, 419–23.
- . *Georgia in Antiquity*. Oxford: Clarendon, 1994.
- . "Piracy under the Principate and the Ideology of Imperial Eradication." In Rich 2002, 195–212.
- Breeze, D. *The Frontiers of Imperial Rome*. Barnsley: Pen and Sword, 2011.
- . "The Role of Water in Defining the Limits of the Roman Empire." In Vagalinski 2015, 17–18.
- and S. Jilek. "Strategy, Tactics, Operation: How Did Frontiers Actually Work." In Visy 2005, 141–46.
- Briscoe, J. *A Commentary on Livy: Books XXXI-XXXIII*. Oxford: Clarendon, 1973.
- . *A Commentary on Livy: Books XXXIV-XXXVII*. Oxford: Clarendon, 1981.
- . *A Commentary on Livy: Books XXXVIII-XL*. Oxford: OUP, 2008.
- . "The Fragments of Cato's Origines." In *Colloquial and Literary Latin*, ed. E. Dickey and A. Chahoud, 154–60. Cambridge: CUP, 2011.
- . *A Commentary on Livy: Books XLI-XLV*. Oxford: OUP, 2012.

- Brodersen, K. "The Geographies of Pliny and His 'Ape' Solinus." In Bianchetti 2016, 298–310.
- Broughton, T.R.S. *Magistrates of the Roman Republic*. New York: APA 1952.
- Brunt, P.A. "Josephus on Social Conflicts in Roman Judaea." *Klio* 59 (1977): 149–53.
- Bryer, A., and D. Winfield. *The Byzantine Monuments and Topography of the Pontos*. Washington: Dumbarton Oaks, 1985.
- Burillo Mozota, F. "Sobre El Territorio de Los Lusones, Belos y Titos en el Siglo II a. de C." In *Estudios en Homenaje al Dr. Antonio Beltrán Martínez*, 529–49. Zaragoza: University of Zaragoza, 1986.
- Callwell, C.E. *Small Wars*. 3rd ed. Lincoln, NE: University of Nebraska Press, 1996 (orig. 1896).
- Campbell, B. "Teach Yourself How to Be a General." *JRS* 77 (1987): 13–29.
- . "War and Diplomacy: Rome and Parthia, 31 BC-AD 135." In Rich 1993, 213–40.
- Cary, M. *The Geographic Background of Greek and Roman History*. Oxford: OUP, 1949.
- Cepas Palanca, A., J. Guitart i Duran, and G. Fatás Cabeza, eds. *Tabula Imperii Romani K/J-31: Pyrenées Orientales-Baleares*. Madrid: Instituto Geográfico Nacional, 1997.
- Champion, C., ed. *Roman Imperialism*. Malden, MA: Blackwell, 2004.
- Chaplin, J, and C. Kraus, eds. *Livy*. Oxford: OUP, 2009.
- Citino, R. "Military Histories Old and New: A Reintroduction." *Amer. Hist. Rev.* 112, no. 4 (2007): 1070–90.
- Cline, E. *Jerusalem Besieged*. Ann Arbor, MI: University of Michigan Press, 2010.
- Cohen, S.J.D. *Josephus in Galilee and Rome: His Vita and Development as a Historian*. Leiden: Brill, 1979.
- Cornell, T.J. "The Formation of the Historical Tradition of Early Rome." In *Past Perspectives*, ed. I.S. Moxon, J.D. Smart, and A.J. Woodman, 67–86. Cambridge: CUP, 1986.
- . "The End of Roman Imperial Expansion." In Rich 2002, 139–70.
- ed. *The Fragments of the Roman Historians*. Oxford: OUP, 2013.
- Cornwell, H. *Pax and the Politics of Peace: Republic to Principate*. Oxford: OUP, 2017.

- Corzo, R., and M. Toscano. *Las Vias Romanas de Andalucia*. Seville: Consejería de Obras Públicas y Transportes, 1992.
- Corzo Sanchez, R. “La Secunda Guerra Punica En Baetica.” *Habis* 6 (1975): 213–40.
- Cotton, H.M. “The Date of the Fall of Masada: The Evidence of the Masada Papyri.” *ZPE* 78 (1989): 157–62.
- Coulston, J.C.N. “Roman, Parthian, and Sassanid Tactical Developments.” In Freeman 1986, 1.59–75.
- Crow, J.G. “A Review of the Physical Remains of the Frontiers of Cappadocia.” In Freeman 1986, 2.77–91.
- and D.H. French. “New Research on the Euphrates Frontier in Turkey.” In Hanson 1980, 3:903–12.
- Cumont, F., and E. Cumont. *Voyage d’exploration archéologique dans le Pont et la Petite Arménie*. Brussels: Lamertin, 1906.
- Curchin, L. *Roman Spain: Conquest and Assimilation*. London: Routledge, 1991.
- . *The Romanization of Central Spain: Complexity, Diversity and Change in a Provincial Hinterland*. London: Routledge, 2003.
- Curran, J.R. “The Long Hesitation: Some Reflections on the Romans in Judaea.” *G&R* 52, no. 1 (2005): 70–98
- . “The Jewish War: Some Neglected Regional Factors.” *CW* 101 (2007): 75–91.
- Dabrowa, E. “Roman Policy in Transcaucasia from Pompey to Domitian.” In French 1986, 1:67–76.
- . “‘Ostentasse Romana Arma Satis’: The Military Factor in Roman-Parthian Relations Under Augustus and Tiberius.” In Freeman 2002, 275–79.
- . “Military Colonization in the Near East and Mesopotamia under the Severi.” In Hodgson 2017, 373–78.
- Davis, P. *100 Decisive Battles: From Ancient Times to the Present*. Santa Barbara, CA: ABC-CLIO, 1999.
- Day, D. *Conquest*. Oxford: OUP, 2008.
- De Sanctis, G. *Storia dei Romani*. Vol. 4.1. Milan: Fratelli Bocca, 1923.

- Del Pozzo, F. *Il Console M. Porcio Catone in Spagna nel 195 av. Chr.* Vicenza, 1921.
- Delbrück, H. *Geschichte der Kriegskunst im Rahmen der politischen Geschichte*. Vol. 1. Berlin: Stilke, 1900.
- Dilke, O.A.W. *Greek and Roman Maps*. Baltimore: Johns Hopkins University Press, 1985.
- Ditsch, D.C., et al. “Managing Steep Terrain for Livestock Forage Production.” University of Kentucky, Cooperative Extension Service. Frankfort, KY: University of Kentucky—College of Agriculture, 2006. < <http://www2.ca.uky.edu/agcomm/pubs/id/id158/id158.pdf>>
- Dobson, M. *The Army of the roman Republic: The Second Centry BC, Polybius and the Campus at Numantia*. Oxford: Oxbow, 2007.
- Du Picq, A. *Études sur le Combat*. Paris: Hachette, 1880.
- Dyczek, P. “Remarks on Supply of the Roman Army from the Point of View of the Valetudinarium at Novae (Moesia Inferior).” In Freeman 2002, 2:685–94.
- Dyson, S. *The Creation of the Roman Frontier*. Princeton, NJ: Princeton University Press, 1987.
- Eckstein, A. “Bellicosity and Anarchy: Soldiers, Warriors, and Combat in Antiquity.” *IHR* 27, no. 3 (2005): 481–97.
- . *Rome Enters the Greek East*. Malden, MA: Blackwell, 2008.
- Edwell, P. “War Abroad: Spain, Sicily, Macedon, Africa.” In *A Companion to the Punic Wars*, ed. D. Hoyos, 320–38. Hoboken, NJ: Blackwell, 2011.
- Engels, D. *Alexander the Great and the Logistics of the Macedonian Army*. Berkeley, CA: University of California Press, 1978.
- Erdkamp, P. *Hunger and the Sword: Warfare and Food Supply in Roman Republican Wars (264 - 30 B.C.)*. Amsterdam: Gieben, 1998.
- ed. *A Companion to the Roman Army*. Malden, MA: Blackwell, 2007
- Eshel, H. “The Bar Kochba Revolt.” In *The Cambridge History of Judaism*, ed. S. Katz, 4:105–27. Cambridge: CUP, 2008.
- Evans, R. *Roman Conquests: Asia Minor, Syria, Armenia*. Barnsley: Pen and Sword, 2011.
- Facella, M. “Hellenistic, Roman, and Byzantine Coins from the Necropolis of Perrhe.” In *Patris Pantropos Kommagene*, ed. E. Winter, 207–26. Bonn: Habelt, 2008.

- Fagan, G. "Violence in Roman Social Relations." In *The Oxford Handbook of Social Relations in the Roman World*, ed. M. Peachin, 467–95. Oxford: OUP, 2011.
- Farmer, W.R. *Maccabees, Zealots, and Josephus*. New York: Columbia University Press, 1956.
- Farr, T. P. et al. "The Shuttle Radar Topography Mission." *Review of Geophysics* 45, no. 2 (2007): 183–216.
- Fatás Cabeza, G. "Sobre Suessetanos y Sedetanos." *Archivo Español de Arqueología* 44, no. 123 (1971): 109–25.
- . *Contrebia Belaisca II: Tabula Contrebiensis*. Zaragoza: University of Zaragoza, 1980.
- et al., eds. *Tabula Imperii Romani K-30: Madrid*. Madrid: Unión Académica Internacional, 1993.
- Feldman, L. "The Term 'Galileans' in Josephus." *JQR* 72, no. 1 (1981): 50–52.
- Fernández-Galiano, M. "Sobre El Nombre de Sigüenza." *Eclás* 17 (1973): 291–302.
- Fink, R. *Roman Military Records on Papyrus*. Oxford: OUP, 1971.
- Forsythe, G. *Livy and Early Rome: A Study in Historical Method and Judgment*. Stuttgart: Steiner, 1999.
- Freeman, P., and D. Kennedy, eds. *Defence of the Roman and Byzantine East*. Oxford: BAR, 1986.
- et al., eds. *Limes XVIII*. Oxford: Archaeopress, 2002.
- French, D. "New Research on the Euphrates Frontier: Supplementary Notes 1 and 2." In Mitchell 1983, 71–101.
- . *Roman Roads and Milestones of Asia Minor*. Oxford: BAR, 1988.
- and S. Mitchell. "Recent Archaeological Research in Turkey." *Anat. St.* 22 (1972): 11–62.
- and C.S. Lightfoot, eds. *The Eastern Frontier of the Roman Empire: Proceedings of a Colloquium Held at Ankara in September 1988*. Oxford: BAR, 1989.
- Freyne, S. "The Revolt from a Regional Perspective." In Berlin and Overman 2002, 43–56.
- Frier, B. *Libri Annales Pontificum Maximorum: The Origins of the Annalistic Tradition*. Rome: AAR, 1979.

- Fuhrmann, C. *Policing the Roman Empire*. Oxford: OUP, 2012.
- Funke, P., and M. Haake. "Theatres of War: Thucydidean Topography." In *Brill's Companion to Thucydides*, ed. A. Rengakos and A. Tsakmakis, 369–84. Leiden: Brill, 2006.
- Gabelia, A. "Sebastopolis: A Fortification of the 'Pontic Limes.'" In Vagalinski 2015, 291–96.
- Gabriel, A. *Voyages archéologiques dans la Turquie Orientale*. Paris: de Boccard, 1940.
- Gambash, G. *Rome and Provincial Resistance*. London: Routledge, 2015.
- García y Bellido, A. "Los Auxiliares Hispanos en los Ejércitos Romanos de Ocupación." *Emerita* 31 (1963): 213–26.
- Geva, H. "Jerusalem's Population in Antiquity: A Minimalist View." *Tel Aviv* 41, no. 2 (2014): 131–60.
- Gichon, M. "Cestius Gallus' Campaign in Judaea." *PEQ* 113, no. 1 (1981): 39–62.
- Gilliver, C. "The Roman Army and Morality in War." In *Battle in Antiquity*, ed. A. Lloyd, 219–38. London: Duckworth, 1996.
- . *The Roman Art of War*. Charleston, SC: Tempus, 1999.
- . *Caesar's Gallic Wars*. Oxford: Taylor & Francis, 2003.
- . "The Augustan Reform and the Structure of the Imperial Army." In Erdkamp 2007, 183–200.
- Gils, L. van, I. de Jong, and C. Kroon, eds. *Textual Strategies in Ancient War Narrative*. Leiden: Brill, 2019.
- Goell, T. "The Excavation of the 'Hierothesion' of Antiochos I of Commagene on Nemrud Dag (1953-1956)." *BASOR* 147 (1957): 4–21.
- . "Samosata Archaeological Excavations." In *NGS Research Reports, 1967 Projects*, 83–109. Washington: NGS, 1974.
- Goldsworthy, A. *The Roman Army at War: 100 BC - AD 200*. Oxford: Clarendon, 1996.
- . *Roman Warfare*. London: Cassell, 2000.
- Goodburn, R., and P. Bartholomew, eds. *Aspects of the Notitia Dignitatum*. Oxford: BAR, 1976.
- Goodman, M. *The Ruling Class of Judaea: The Origins of the Jewish Revolt against Rome AD 66-70*. Cambridge: CUP, 1987.

- . “Judaea.” In *CAH*², 10:737–81. 1996.
- . “Current Scholarship on the First Revolt.” In Berlin and Overman 2002, 15–24.
- Goukowsky, P., ed. *Appien, Histoire Romaine, Tome VI, L’Ibérique*. Paris: Belles Lettres, 1997.
- Graf, D. “Rome and China: Some Frontier Comparisons.” In Visy 2005, 157–65.
- Graham, D. “Trajan’s Parthian War.” *Classicum* 40, no. 1 (2014): 35–39.
- Grau, L., and C. Bartles, eds. *Mountain Warfare and Other Lofty Problems: Foreign Perspectives on High-Altitude Combat*. Fort Leavenworth, KS: Foreign Military Studies Office, 2011.
- Greenough, J.B., L. D’Ooge, and M. Grant Daniell. *Commentary on Caesar’s Gallic War*. Boston: Ginn, 1898.
- Gregory, I., and P. Ell. *Historical GIS: Technologies, Methodologies, and Scholarship*. Cambridge: CUP, 2007.
- , I., and A. Geddes, eds. *Toward Spatial Humanities: Historical GIS and Spatial History*. Bloomington, IN: Indiana University Press, 2014.
- Gregory, S. *Roman Military Architecture on the Eastern Frontier*. Amsterdam: Hakkert, 1997.
- Gren, E. *Kleinasien und der Ostbalkan in der wirtschaftlichen Entwicklung der römischen Kaiserzeit*. Uppsala: Lundequistska, 1941.
- Gruen, E. “The Expansion of the Empire Under Augustus.” In *CAH*², 10:147–97. Cambridge: CUP, 1996.
- Hanson, V.D. *The Western Way of War*. Berkeley, CA: University of California Press, 1989.
- . *Carnage and Culture*. New York: Anchor, 2002.
- Hanson, W.S. “Why Did the Roman Empire Cease to Expand?” In Freeman 2002, 25–34.
- and L.J.F. Keppie, eds. *Limes XII*. Oxford: BAR, 1980.
- Har-El, M. “Jerusalem and Judaea: Roads and Fortifications.” *Biblical Archaeologist* 44, no. 1 (1981): 8–19.
- Harris, W.V. *War and Imperialism in Republican Rome*. Oxford: Clarendon, 1979.
- . “Roman Expansion in the West.” In *CAH*², 8:107–62. 1989.

- . *Roman Power*. Cambridge: CUP, 2016.
- Hartmann, M., and M.A. Speidel. “Roman Military Forts at Zeugma: A Preliminary Report.” In Freeman 2002, 259–68.
- Hauschild, T. *Arquitectura Romana de Tarragona*. Tarragona: Excm. Ajuntament de Tarragona, 1983.
- Hengel, M. *The Zealots: Investigations into the Jewish Freedom Movement in the Period from Herod I until 70 AD*. Translated by D. Smith. Edinburgh: T.&T. Clark, 1961.
- Hodgson, M., and P. Bresnahan. “Accuracy of Airborne Lidar-Derived Elevation: Empirical Assessment and Error Budget.” *Photogrammetric Engineering and Remote Sensing* 70, no. 3 (2004): 331–39.
- Hodgson, N., P. Bidwell, and J. Schachtman, eds. *Limes XXI*. Oxford: Archaeopress, 2017.
- Hoepfner, W. “Direk Kale. Ein unbekanntes Heiligtum in Kommagene.” *Ist. Mitt.* 16 (1966): 157–77.
- Holmes, T. R. *The Roman Republic and the Founder of Empire*. Oxford: Clarendon, 1923.
- Horde, P., and N. Purcell. *The Corrupting Sea*. Malden, MA: Blackwell, 2000.
- Horsley, R. “Power Vacuum and Power Struggle in 66-7 C.E.” In Berlin and Overman 2002, 87–109.
- Howard-Johnston, J.D. “Byzantine Anzitone.” In Mitchell 1983, 239–90.
- Howe, T., and L. Brice, eds. *Brill’s Companion to Insurgency and Terrorism in the Ancient Mediterranean*. Leiden: Brill, 2016.
- Hoyos, D., ed. *A Companion to Roman Imperialism*. Leiden: Brill, 2013.
- . “The Numantine War, 154-133 BC.” In Whitby 2017, ch. 42.
- and J.C. Yardley. *Hannibal’s War: Books 21-30*. Oxford: OUP, 2009.
- Hughes, J. D. *Environmental Problems of the Greeks and Romans*. 2nd ed. Baltimore: Johns Hopkins University Press, 2014.
- Isaac, B. “Bandits in Judaea and Arabia.” *Harv. Stud.* 88 (1984): 171–203.
- . “Luttwak’s ‘Grand Strategy’ and the Eastern Frontier of the Roman Empire.” In French 1989, 1:231–34.

- . *The Limits of Empire: The Roman Army in the East*. Oxford: Clarendon, 1990.
- . “An Open Frontier.” In *The Near East under Roman Rule: Selected Papers*, 403–26. Leiden: Brill, 1998a.
- . “Limes and Limitanei in Ancient Sources.” In *The Near East under Roman Rule: Selected Papers*, 345–87. Leiden: Brill, 1998b.
- Isserlin, R. “A Cost-Control Model for Imperial Frontiers?” In Hodgson 2017, 711–18.
- Janni, P. *La Mappa e Il Periplo. Cartografia Antica e Spazio Odologico*. Rome: Bretschneider, 1984.
- Jarvis, A., et. al. “Hole-Filled SRTM for the Globe Version 4.” CGIAR Consortium for Spatial Information, 2008. <<http://srtm.csi.cgiar.org>>
- Jimenez-Ayora, P., and M.A. Ulubasoglu. “What Underlies Weak States? The Role of Terrain Ruggedness.” *European Journal of Political Economy* 39 (2015): 167–83.
- Jones, R.F.J. “The Roman Military Occupation of North-West Spain.” *JRS* 66 (1976): 45–66.
- Jossa, G. *Flavio Giuseppe, Autobiografia*. Naples: D’Auria, 1992.
- . “Josephus’ Action in Galilee during the Jewish War.” In Parente 1994, 265–78.
- Keay, S. *Roman Spain*. London: British Museum, 1988.
- . “Recent Archaeological Work in Roman Iberia (1990-2002).” *JRS* 93 (2003): 146–211.
- Keegan, J. *The Face of Battle*. New York: Penguin, 1976.
- Kennedy, D., ed. *The Twin Towns of Zeugma on the Euphrates: Rescue Work and Historical Studies*. Portsmouth, RI: JRA, 1998.
- and D. Riley. *Rome’s Desert Frontier from the Air*. Austin, TX: University of Texas Press, 1990.
- Keppie, L.J.F. “Legions in the East from Augustus to Trajan.” In Freeman 1986, 2:411–29.
- . “Armies on Frontiers: Myth and Realities.” In Maxfield 1991, 455–57.
- Kiechle, F. “Die ‘Taktik’ des Flavius Arrianus.” *Bericht der römisch-germanischen Kommission* 45 (1984): 87–129.

- Knapp, R. *Aspects of the Roman Experience in Iberia*. Valladolid: University of Valladolid, 1977.
- . “Cato in Spain, 195/194 B.C.: Chronology and Geography.” In *SLLRH*, ed. C. Deroux, 2:21–56. Brussels: Latomus, 1980.
- Koon, S. *Infantry Combat in Livy’s Battle Narratives*. Oxford: Archaeopress, 2010.
- Kromayer, J, and G. Veith. *Antike Schlachtfelder: Bausteine zu einer antiken Kriegsgeschichte*. Berlin: Weidmann, 1903-1931.
- Kulikowski, M. *Imperial Triumph*. London: Profile, 2016.
- Kyrychenko, A. “The Roman Army on the Eastern Frontiers in Greco-Roman, Jewish, and Christian Sources: A Comparative Study.” In Vagalinski 2015, 431–34.
- Landers, J. *The Field and the Forge: Population, Production, and Power in the Pre-Industrial West*. Oxford: OUP, 2003.
- Lazenby, J.F. *Hannibal’s War: A Military History of the Second Punic War*. Warminster: Aris & Phillips, 1978.
- Le Bohec, Y. “Roman Wars and Armies in Livy.” In *A Companion to Livy*, ed. B. Mineo, 114–24. Hoboken, NJ: Wiley, 2015.
- Le Roux, P. *L’Armée romaine et l’organisation des provinces Ibériques*. Paris: de Boccard, 1982.
- Lee, A.D. “Morale and the Roman Experience of Battle.” In *Battle in Antiquity*, ed. A. Lloyd, 199–217. London: Duckworth, 1996.
- Lee, W., ed. *Warfare and Culture in World History*. New York: New York University Press, 2011.
- . “Conquer, Extract, and Perhaps Govern: Organic Economies, Logistics, and Violence in the Preindustrial World.” In *A Violent World? A Global History of Early Modern Violence and its Restraint*, ed. E. Charters, M. Houllemare, and P. Wilson. Manchester: Manchester University Press, 2020 (forthcoming).
- Lendon, J.E. “The Rhetoric of Combat: Greek Military Theory and Roman Culture in Julius Caesar’s Battle Descriptions.” *Cl. Ant.* 18, no. 2 (1999): 273–329.
- . *Soldiers and Ghosts: A History of Battle in Classical Antiquity*. New Haven, CT: Yale University Press, 2005.
- . “Battle Description in the Ancient Historians, Part I: Structure, Array, and Fighting.” *G&R* 64, no. 1 (2017a): 39–64.

- . “Battle Description in the Ancient Historians, Part II: Speeches, Results, and Sea Battles.” *G&R* 64, no. 2 (2017b): 145–67.
- Lenski, N. “Assimilation and Revolt in the Territory of Isauria, from the 1st Century BC to the 6th Century AD.” *JESHO* 42, no. 4 (1999): 413–65.
- Lepper, F.A. *Trajan’s Parthian War*. Oxford: OUP, 1948.
- Leveau, P. “L’opposition de la montagne et de la plaine dans l’historiographie de l’Afrique du Nord antique.” *Annales de Géographie* 86 (1977): 201–205.
- Levene, D.S. *Livy on the Hannibalic War*. Oxford: OUP, 2010.
- Levick, B. *Tiberius the Politician*. London: Routledge, 1976.
- . “Greece (including Crete and Cyprus) and Asia Minor from 43 B.C. to A.D. 69.” In *CAH*², 10:641–75. 1996.
- . “Greece and Asia Minor.” In *CAH*², 11:604–34. 2000.
- Liebmann-Frankfort, T. *La Frontière orientale dans la politique extérieure de la république romaine*. Brussels: Palais des Académies, 1969.
- Lightfoot, C.S. “Trajan’s Parthian War and the Fourth-Century Perspective.” *JRS* 80 (1990): 115–26.
- . “Survey Work at Satala: A Roman Legionary Fortress in North-East Anatolia.” In *Ancient Anatolia*, ed. R. Matthews, 273–84. London: British Institute of Archaeology at Ankara, 1998.
- . “A Journey of a Lifetime: The Roman Limes on the Euphrates.” [review of Mitford 2018] *JRA* 32 (2019): 904–16.
- Lintott, A. “What Was the ‘Imperium Romanum’?” *G&R* 28, no. 1 (1981): 53–67.
- Lloyd, A. *Battle in Antiquity*. London: Duckworth, 1996.
- Loftus, F. “The Anti-Roman Revolts of the Jews and the Galileans.” *JQR* 68, no. 2 (1977): 78–98.
- Luttwak, E. *The Grand Strategy of the Roman Empire*. Baltimore: Johns Hopkins University Press, 1976.
- Lynn, J. *Battle: A History of Combat and Culture*. Boulder, CO: Westview, 2003.

- Maas, M. "The Shaping Hand of the Environment: Three Phases of Development in Classical Antiquity." In *Aspects of Ancient Institutions and Geography: Studies in Honor of Richard J. A. Talbert*, ed. L. Brice and D. Slootjes, 333–46. Leiden: Brill, 2014.
- MacMullen, R. *Enemies of the Roman Order*. Cambridge, MA: Harvard University Press, 1966.
- Magie, D. *Roman Rule in Asia Minor*. Princeton, NJ: Princeton University Press, 1950.
- Mann, J.C. "The Frontiers of the Principate." In *ANRW*, 2:508–33. Berlin: De Gruyter, 1974.
- . "What Was the Notitia Dignitatum For?" In *Aspects of the Notitia Dignitatum*, ed. R. Goodburn and P. Bartholomew, 1–10. Oxford: BAR, 1976.
- . "Power, Force, and the Frontiers of Empire." *JRS* 69 (1979): 175–83.
- Mann, M. "The Autonomous Power of the State: Its Origins, Mechanisms and Results." *European Journal of Sociology* 25, no. 2 (1984): 185–213.
- . *The Sources of Social Power*. Vol. 1. Cambridge: CUP, 1986.
- Martínez Gázquez, J. *La Campaña de Catón en Hispania*. Barcelona: Ariel, 1974.
- Mason, S. *A History of the Jewish War: A.D. 66-74*. Cambridge: CUP, 2016.
- Mattern, S. *Rome and the Enemy: Imperial Strategy in the Principate*. Berkeley, CA: University of California Press, 1999.
- Matthews, S. "Pompey versus Caesar, 49-45 BC." In Whitby 2017, ch. 55.
- Maxfield, V., and M. Dobson. *Limes XV*. Exeter: University of Exeter Press, 1991.
- McNeill, J.R. "Woods and Warfare in World History." *Environmental History* 9, no. 3 (2004): 388–410.
- Meyers, E. "Sepphoris: City of Peace." In Berlin and Overman 2002, 110–20.
- Millán León, J. "La Batalla de Ilipa." *Habis* 17 (1986): 283–303.
- Millar, F. "The Emperor, the Senate, and the Provinces." *JRS* 56 (1966): 156–66.
- . *The Emperor in the Roman World*. London: Duckworth, 1977.
- . "Emperors, Frontiers, and Foreign Relations, 31 B.C. to A.D. 378." *Britannia* 13 (1982): 1–23.
- . *The Roman Near East*. Cambridge, MA: Harvard University Press, 1993.

- Miller, S. “Josephus on the Cities of Galilee: Factions, Rivalries, and Alliances in the First Jewish Revolt.” *Historia* 50, no. 4 (2001): 453–67.
- Mitchell, S., ed. *Armies and Frontiers in Roman and Byzantine Anatolia*, Oxford: BAR, 1983.
- . “The Balkans, Anatolia, and Roman Armies across Asia Minor.” In Mitchell 1983, 131–50.
- . “Review: T.B. Mitford, *East of Asia Minor*.” *JRS* 109 (2019): 324–27.
- Mitford, T. “High and Low Level Routes across the Taurus and Antitaurus.” In French 1989, 2:329–33.
- . “The Inscriptions of Satala (Armenia Minor).” *ZPE* 115 (1997): 137–67.
- . *East of Asia Minor*. Oxford: OUP, 2018.
- Monson, A., and W. Scheidel, eds. *Fiscal Regimes and the Political Economy of Premodern States*. Cambridge: CUP, 2015.
- Monteiro, L. “Ethnicity and Conflict in the Roman Conquest of Spain.” In *TRAC 2007: Proceedings of the Seventeenth Annual Theoretical Roman Archaeology Conference*, ed. C. Fenwick, M. Wiggins, and D. Wythe, 53–61. Oxford: Oxbow, 2008.
- Mora, G. “Roman Military Archaeology in Spain: A History of Research.” In Morillo 2006, 11–24.
- Morillo, A., and J. Aurrecochea, eds. *The Roman Army in Hispania: An Archaeological Guide*. León: University of León, 2006.
- Morley, N. *The Roman Empire: Roots of Imperialism*. London: Pluto, 2010.
- Morris, I., and W. Scheidel, eds. *The Dynamics of Ancient Empires: State Power from Assyria to Byzantium*. Oxford: OUP, 2009.
- Napoleon III. *History of Julius Caesar*. Vol. 2. New York: Harper & Brothers, 1866 (orig. 1865).
- Naval Intelligence Division. *Turkey*. Geographical Handbook Series, B.R. 507. Oxford: Naval Intelligence Division, 1942.
- Nissen, H. *Kritische Untersuchungen über die Quellen der vierten und fünften Dekade des Livius*. Berlin: Weidmann, 1863.
- Nunn, N., and D. Puga. “Ruggedness: The Blessing of Bad Geography in Africa.” *The Review of Economics and Statistics* 94, no. 1 (2012): 20–36.

- Oakley, S.P. *The Hill-Forts of the Samnites*. London: British School at Rome, 1995.
- . *A Commentary on Livy Books VI-X*. Oxford: Clarendon, 1997.
- Ober, J. “Tiberius and the Political Testament of Augustus.” *Historia* 31 (1982): 306–28.
- Oliva Prat, M. *Ullastret: Guía de las Excavaciones y su Museo*. 3rd ed. Gerona: Diputación Provincial de Gerona, 1970.
- Opitz, R.S. “Airborne Laserscanning in Archaeology: Maturing Methods and Democratizing Applications.” In *Digital Methods and Remote Sensing in Archaeology*, ed. M. Forte and S. Campana, 35–50. Ann Arbor, MI: Cham Springer, 2016.
- and D.C. Cowley, eds. *Interpreting Archaeological Topography: Lasers, 3D Data, Observation, Visualisation, and Applications*. Oxford: Oxbow, 2012.
- O’Sullivan, P. “A Geographical Analysis of Guerrilla Warfare.” *Political Geography Quarterly* 2, no. 2 (1983): 139–50.
- Owens, E. “The Second Punic War.” In Whitby 2017, ch. 31.
- Ozguç, N. “Samsat Kazıları, 1982.” *Kazı Sonuçları Toplantıları* 5 (1983): 111–12.
- F. Parente and J. Sievers, eds. *Josephus and the History of the Greco-Roman Period*. Leiden: Brill, 1994.
- Parker, S.T. “Peasants, Pastoralists, and ‘Pax Romana’: A Different View.” *BASOR* 265 (1987): 35–51.
- Pellicer, M., V. Hurtado, and M. La Bandera. “Corte Estratigráfico de la Casa de Venus.” In *Itálica*, 29–73. Madrid: Ministerio de Cultura, 1982.
- Pittenger, M.R.P., *Contested Triumphs: Politics, Pageantry, and Performance in Livy’s Republican Rome*. Berkeley, CA: University of California Press, 2008.
- Pogorzelski, R. “Orbis Romanus: Lucan and the Limits of the Roman World.” *TAPA* 141, no. 1 (2011): 143–70.
- Poidebard, A. *La Trace de Rome dans le Désert de Syrie*. Paris: Geuthner, 1934.
- Prontera, F. “Strabo’s Geography.” In Bianchetti 2016, 239–58.
- Purcell, N. “Itineraries.” In *OCD*⁵. 2015.
- Rajak, T. *Josephus: The Historian and his Society*. London: Duckworth, 1983.

- Ramsay, W.M., and A.M. Ramsay. "Roman Garrisons and Soldiers in Asia Minor." *JRS* 18 (1928): 181–90.
- Rankov, B. "Do Rivers Make Good Frontiers?" In *Visy* 2005, 175–81.
- Rappaport, U. "Where Was Josephus Lying—In his Life or in the War?" In *Parente* 1994, 279–89.
- Rawlings, L. "The Gallic Wars, 61-51 BC." In *Whitby* 2017, ch. 52.
- . "Invasions of Britain, 55 and 54 BC." In *Whitby* 2017, ch. 53.
- Rawson, E. "Prodigy Lists and the Use of the *Annales Maximi*." *CQ* 21, no. 1 (1971): 158–69.
- Reno, W. "Insurgent Movements in Africa." In *The Routledge Handbook of Insurgency and Counterinsurgency*, ed. P. Rich and I. Duyvesteyn, 157–71. London: Routledge, 2012.
- Reuter, H.I., A. Nelson, and A. Jarvis. "An Evaluation of Void Filling Interpolation Methods for SRTM Data." *International Journal of Geographic Information Science* 21, no. 9 (2007): 983–1008.
- Rich, J. "Valerius Antias and the Construction of the Roman Past." *BICS* 48 (2005): 137–61.
- and G. Shipley, eds. *War and Society in the Roman World*. London: Routledge, 2002.
- Richardson, J.S. *Hispaniae: Spain and the Development of Roman Imperialism, 218-82 BC*. Cambridge: CUP, 1986.
- . *The Romans in Spain*. Oxford: Blackwell, 1996.
- . *The Language of Empire: Rome and the Idea of Empire from the Third Century BC to the Second Century AD*. Cambridge: CUP, 2008.
- Riley, S., S. DeGloria, and R. Elliot. "A Terrain Ruggedness Index That Quantifies Topographic Heterogeneity." *Intermountain Journal of Sciences* 5, no. 1–4 (1999): 23–27.
- and R. Malecki. "A Landscape Analysis of Cougar Distribution and Abundance in Montana, USA." *Environmental History* 28, no. 3 (2001): 317–23.
- Ritterling, E. "Zur Erklärung von Arrians Ektaxis." *Wiener Studien* 24 (1902): 359–72.
- Roll, I. "Terrestrial Transportation of the Roman Army in the East: The Case of Judaea/Palaestina and its Road Network." In *Visy* 2005, 157–65.

- Roller, D. *A Historical and Topographical Guide to the Geography of Strabo*. Cambridge: CUP, 2018.
- Roth, J. “The Size and Organization of the Roman Imperial Legion.” *Historia* 43, no. 3 (1994): 346–62.
- . *The Logistics of the Roman Army at War*. Leiden: Brill, 1999.
- . “Siege Narrative in Livy: Representation and Reality.” In *Representations of War in Ancient Rome*, ed. S. Dillon and K.E. Welch, 125–172. Cambridge: CUP, 2006.
- Rowland, M. “Landscape and Climate Change.” In *Handbook of Landscape Archaeology*, ed. D. Thomas, 386–95. London: Routledge, 2008.
- Russell, F. “Roman Counterinsurgency Policy and Practice in Judaea.” In Howe 2016, 248–81.
- Sabin, P. “The Face of Roman Battle.” *JRS* 90 (2000): 1–17.
- Saddington, D. “The Roman Government and the Roman Auxilia.” In Visy 2005, 63–69.
- Sauer, E., et al. “Innovation at Persia’s Frontiers: Sasanian Campaign Bases and Defensive Barriers.” In Vagalinski 2015, 327–31.
- Scheidel, W., ed. *Rome and China: Comparative Perspectives on Ancient World Empires*. Oxford: OUP, 2009.
- . “The Early Roman Monarchy.” In *Fiscal Regimes and the Political Economy of Premodern States*, ed. A. Monson and W. Scheidel, 229–57. Cambridge: CUP, 2015.
- Schulten, A. *Numantia*. Munich: Von Bruckmann, 1914.
- . “Iliturgi.” *Hermes* 63 (1928): 288–301.
- . *Geschichte von Numantia*. Munich: Piloty und Loehle, 1933.
- . *Fontes Hispaniae Antiquae*. Vols. 3 and 4. Barcelona: University of Barcelona, 1935–1937.
- Schwartz, S. “Josephus in Galilee: Rural Patronage and Social Breakdown.” In Parente 1994, 290–306.
- Scullard, H.H. “A Note on the Battle of Ilipa.” *JRS* 26, no. 1 (1936): 19–23.
- . *Scipio Africanus in the Second Punic War*. Cambridge: CUP, 1930.
- . *Scipio Africanus: Soldier and Politician*. Ithaca, NY: Cornell University Press, 1970.

- Shaw, B. "Bandits in the Roman Empire." *P&P* 105 (1984): 3–52.
- . "Autonomy and Tribute: Mountain and Plain in Mauretania Tingitana." *ROMM* 41–42 (1986): 66–89.
- . "Bandit Highlands and Lowland Peace: The Mountains of Isauria-Cilicia." *JESHO* 33, no. 2 (1990a): 199–233.
- . "Bandit Highlands and Lowland Peace: The Mountains of Isauria-Cilicia (continued)." *JESHO* 33, no. 3 (1990b): 237–70.
- . "War and Violence." In *Late Antiquity: A Guide to the Postclassical World*, ed. G. W. Bowersock, P. Brown, and O. Grabar, 130–69. Cambridge, MA: Harvard University Press, 1999.
- Shean, J. "Hannibal's Mules: The Logistical Limitations of Hannibal's Army and the Battle of Cannae, 216 B.C." *Historia* 45, no. 2 (1996): 159–87.
- Sherwin-White, A.N. *Roman Foreign Policy in the East: 168 BC to AD 1*. London: Duckworth, 1984.
- . "Roman Involvement in Anatolia, 167-88 B.C." *JRS* 67 (1977): 62–75.
- Simon, H. *Roms Kriege in Spanien, 154-133 v. Chr.* Frankfurt am Main: Klostermann, 1962.
- Smith, P. *Scipio Africanus and Rome's Invasion of Africa*. Amsterdam: Gieben, 1993.
- Southern, P. *The Roman Army: A Social and Institutional History*. Santa Barbara, CA: ABC-CLIO, 2006.
- Speidel, M.A. "The Development of the Roman Forces in Northeastern Anatolia." In *Heer und Herrschaft im römischen Reich der hohen Kaiserzeit*, ed. M.A. Speidel, 595–631. Stuttgart: Franz Steiner Verlag, 2009.
- Stillwell, R, W. MacDonald, and M.H. McAllister, eds. *Princeton Encyclopedia of Classical Sites*. Princeton, NJ: Princeton University Press, 1976.
- Stoffel, E. *Guerre de César et d'Arioviste et premières opérations de César en l'an 702*. Paris: Impr. Nationale, 1890.
- Sumner, G.V. "Roman Policy in Spain before the Hannibalic War." *Harv. Stud.* 72 (1968): 205–46.
- . "Proconsuls and Provinciae in Spain, 218/7-196/5 BC." *Arethusa* 3 (1970): 85–102.

- . “Notes on Provinciae in Spain (197-133 BC).” *CPhil.* 72, no. 2 (1977): 126–30.
- Syme, R. “The Conquest of North-West Spain.” In *Legio VII Gemina*, ed. A.V. González, 79–107. Leon: Diputación Provincial de Leon, 1970.
- . “The Subjugation of Mountain Zones.” In *Roman Papers*, ed. A. Birley, 5:648–60. Oxford: Clarendon, 1988.
- Symonds, M. *Protecting the Roman Empire: Fortlets, Frontiers, and the Quest for Post-Conquest Security*. Cambridge: CUP, 2017.
- Syon, D., and Z. Yavor. “Gamala.” *NEAEHL* 5 (2008): 1739–42.
- Talbert, R., *The Senate of Imperial Rome*. Princeton, NJ: Princeton University Press, 1984.
- . “Mapping the Classical World: Major Atlases and Map Series 1872-1990.” *JRA* 5 (1992): 5–38.
- . ed. *Barrington Atlas of the Greek and Roman World*. Princeton, NJ: Princeton University Press, 2000.
- . “Author, Audience and the Roman Empire in the Antonine Itinerary.” In *Herrschen und verwalten: Der Alltag der römischen Administration in der Hohen Kaiserzeit*, ed. Haensch and Heinrichs, 256-70. Köln: Böhlau, 2007.
- . *Rome’s World: The Peutinger Map Reconsidered*. Cambridge: CUP, 2010.
- . *Challenges of Mapping the Classical World*. New York: Routledge, 2018.
- Taylor, D. *Roman Republic at War*. Barnsley: Pen and Sword, 2017.
- Thorne, J. “Battle, Tactics, and the Emergence of the Limites in the West.” In *Erdkamp 2007*, 218–34.
- Tovar, A. *Iberische Landeskunde: Baetica*. Baden-Baden: Valentin Koerner, 1974.
- . *Iberische Landeskunde: Lusitanien*. Baden-Baden: Valentin Koerner, 1976.
- . *Iberische Landeskunde: Tarraconensis*. Baden-Baden: Valentin Koerner, 1989.
- Tsafirir, Y., L. Di Segni, and J. Green. *Tabula Imperii Romani: Iudaea and Palestina*. Jerusalem: Israel Academy of Sciences and Humanities, 1994.
- Tucker, R., and E. Russell, eds. *Natural Enemy, Natural Ally: Toward an Environmental History of Warfare*. Corvallis, OR: Oregon State University Press, 2004.

- Tweedie, F. "The Case of the Missing Veterans: Roman Colonisation and Veteran Settlement in the Second Century B.C." *Historia* 60, no. 4 (2011): 458–73.
- Ungern-Sternberg, J. von. "Livy and the Annalistic Tradition." In *A Companion to Livy*, ed. B. Mineo, 167–77. Malden, MA: Wiley Blackwell, 2015.
- Vagalinski, L., and N. Sharankov, eds. *Limes XXII*. Sofia: National Archaeological Institute, Bulgarian Academy of Sciences, 2015.
- Vallejo, J. "Cuestiones Hispánicas en las Fuentes Griegas y Latinas." *Emerita*, no. 11 (1943): 142–79.
- Van Dam, R. *Kingdom of Snow: Roman Rule and Greek Culture in Cappadocia*. Philadelphia: University of Pennsylvania Press, 2002.
- Varga, D. *The Roman Wars in Spain: The Military Confrontation with Guerrilla Warfare*. Barnsley: Pen and Sword, 2015.
- Vasunia, P. "The Comparative Study of Empires." *JRS* 101 (2011): 222–37.
- Versluys, M.J. *Visual Style and Constructing Identity in the Hellenistic World*. Cambridge: CUP, 2017.
- Vetters, W., and H. Zabehlicky. "The Northern, Southern, and Eastern Frontiers and the Climate c. AD 200." In Freeman 2002, 67–70.
- Visy, Z. "Similarities and Differences in the Late Roman Defense System on the European and Eastern Frontiers." In Freeman 2002, 71–75.
- . ed. *Limes XIX*. Pécs: University of Pécs, 2005.
- . "Some Notes on the Development of the Military Road Network of the Roman Empire." In Hodgson 2017, 69–78.
- Wagner, G. "Vorarbeiten zur Karte 'Ostengrenze des römischen Reiches' in TAVO." In *Limes XI*, ed. J. Fitz, 669–703. Budapest: Akad. Kiado, 1977.
- Wagner, J. "Dynastie und Herrscherkult in Kommagene. Forschungsgeschichte und neuere Funde." *Ist. Mitt.* 33 (1983): 177–224.
- Walbank, F.W. *A Historical Commentary on Polybius*. Vol. 1. Oxford: Clarendon, 1957.
- . *A Historical Commentary on Polybius*. Vol. 2. Oxford: Clarendon, 1967.
- Walsh, P.G. "The Negligent Historian: 'Howlers' in Livy." *G&R* 5, no. 1 (1958): 83–88.

- . *Livy: His Historical Aims and Methods*. Cambridge: CUP, 1961.
- . *Livy Book XXI*. Bristol: Bristol Classical Press, 1985.
- Weber, M. *Economy and Society*. Trans. E. Fischhoff. Berkeley, CA: University of California Press, 1978 (orig. 1921).
- Weber, W. *Josephus und Vespasian: Untersuchungen zu dem Judischen Krieg des Flavius Josephus*. Berlin: W. Kohlhammer, 1921.
- Wheeler, E. "The Roman Legion as Phalanx." *Chiron* 9 (1979): 303–18.
- . "Rethinking the Upper Euphrates Frontier: Where Was the Western Border of Armenia?" In Maxfield 1991, 505–11.
- . "Methodological Limits and the Mirage of Roman Strategy: Part I." *JMH* 57, no. 1 (1993a): 7–41.
- . "Methodological Limits and the Mirage of Roman Strategy: Part II." *JMH* 57, no. 2 (1993b): 215–40.
- . "The Laxity of Syrian Legions." In *The Roman Army in the East*, ed. D. Kennedy, 229–276. Ann Arbor, MI: JRA, 1996.
- . "Roman Treaties with Parthia: Volkerrecht or Power Politics." In Freeman 2002, 287–92.
- . "The Army and the Limes in the East." In Erdkamp 2007, 235–66.
- . "Roman Fleets in the Black Sea: Mysteries of the Classis Pontica." *Acta Classica* 55 (2012): 119–54.
- . "Roman-Armenian Borders, Part I: The Upper Euphrates Frontier." In Hodgson 160–68.
- Whitby, M., and H. Sidebottom, eds. *The Encyclopedia of Ancient Battles*. Hoboken, NJ: Wiley, 2017.
- Whittaker, C.R. *Frontiers of the Roman Empire*. Baltimore: Johns Hopkins University Press, 1994 (orig. 1989).
- . "Frontiers." In *CAH*², 11:293–319. 2000.
- . "Grand Strategy, or Just a Grand Debate?" In *Rome and Its Frontiers*, ed. Whittaker, 28–49. London: Routledge, 2004.
- Woolf, G. *Becoming Roman: The Origins of Provincial Civilization in Gaul*. Cambridge: CUP, 1998.

———. “Roman Peace.” In Rich 2002, 171–94.

Zeitlin, S. “Who Were the Galileans? New Light on Josephus’ Activities in Galilee.” *JQR* 64, no. 3 (1974): 189–203.

Ziegler, K.H. *Die Beziehungen zwischen Rom und dem Partherreich*. Wiesbaden: Franz Steiner, 1964.