Barbarians Through the Gate: Warfare, Mobility, and the Political Economy of Conquest in Pre-Colonial Eurasia, 1-1500 CE

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On the morning of May 29, 1453, Constantine XI, Autocrat of the Romans, stood atop the Theodosian Walls in Constantinople. Built during the rule of one of his many predecessors, Theodosius II, the walls had been an impenetrable barrier against foreign invaders for more than a millennium. Numerous forces, including Avars, Arabs, Vikings, Bulgars, and Turks, had tried and failed to get over or through those walls to take the Queen of Cities. For centuries, the walls had kept at bay the cavalries from the east that had ravaged the formerly glorious Roman Empire.

But by that late spring day in 1453, the world had changed. Constantine would have looked out at a massive besieging force of Ottoman Turks. Descended from steppe cavalry warriors, the Ottoman army blended the mobility and martial skill of their steppe ancestors with the latest innovations in military technology found in sedentary societies. The combination had proved irresistible, and the Ottoman force arrayed before Theodosius II's great legacy was about to usher out the medieval period, the Roman state which had existed for more than two thousand years, and the idea of walls – even the very best of them – as a true barrier to capable forces. The outcome of May 29, 1453 was not in doubt. Indeed, the defenders had held one final Christian service in the Hagia Sofia the night before (an event which would not be repeated until the aftermath of World War I). The real question was what would Sultan Mehmed II and his forces *do* with Constantinople once they had it?

History informs us of some of the options conquering armies had. They could simply take charge of a city, replacing some or all of the old top strata of elites with their own and take up the process of collecting and spending revenues that already existed. Alternatively, they could take the movable wealth of the land and move on, taking it back to their own primary holdings. Even a conqueror intending to add the lands permanently to his domain would still be very tempted to

immediately extract wealth from newly conquered lands to enrich the more established parts of his empire.[1] Another option was to simply raze the city to the ground.[2]

Ultimately, Constantine XI did not survive to see May 30, 1453, and the city fell, becoming the greatest prize in Ottoman history. Sultan Mehmed II, in victory, plotted a middle course between these options. Ottoman soldiers looted, pillaged, and massacred within certain bounds, while the core holdings of the Roman state – the great and ancient buildings and what little remained of its riches – were seized by the Sultan. Yet, in short order, Constantinople became the capital of the Ottoman Empire and would remain so until its own collapse in the 20th century. The sacking of Constantinople in 1453 was violent and rapacious, but ultimately definitive – the conquerors did not move on; they remained and supplanted the prior rulers.

Mehmed's choice was one faced by conquerors for thousands of years across the globe. How does one handle a defeated city? We consider this question anew and argue that the nature of the attacking force helps dictate the choice. Highly mobile forces have the capacity – and develop the tendency – to venture forth for the purpose of violent, total expropriation even in defiance of their regent. The results of sieges in these cases are highly extractive in nature. Even when they have the intention of permanently claiming new land, the centrality of raiding and looting behavior for mobile military elites mean that permanent conquest is also associated with pillaging. Meanwhile, groups with less mobile military forces develop different strategic tendencies due to their different offensive capacities and "exit" opportunities. They more often

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[1] Indeed, the Romans themselves had done this ritualistically for centuries. New conquests were heavily looted, funding the grand excesses of the city of Rome, and the expensive professional armies that had won the territory in the first place.
[2] For example, the Hunnic destruction of Aquileia by Atilla in 452 was so complete that the city effectively ceased to exist, and its refugees would help found Venice.

bow to leaders' less rapacious tendencies and more likely to collaborate in the establishment of new sedentary political orders with long time-horizons.

We innovate on traditional analyses of group mobility and extraction – "roving" banditry – by considering an additional wrinkle: the differences between the mobility of groups, *per se*, and the mobility of the forces they lead. Mobile groups had the ability to move around, freeing them from constraints that encouraged stationary tactics of over-time extraction through the option of migration. Yet the forces they led did not always have the option of easy exit from the group and its hierarchy. This distinction is crucial to understanding the political economy of conquest. Specifically, we focus on the importance of force mobility above and beyond group mobility in describing a victor's behavior after urban capture. The key was not necessarily the disposition of entire factions and their leaders, but rather the ability of military elites to defect from leaders that did not condone rapacious extraction.

In common political-economic parlance, we discuss the different tendencies to act as roving rather than stationary bandits. Mobile groups with relatively immobile military forces – such as the migratory Visigoths and Franks – were liable to engage in rapacious extraction while itinerant, but had a greater tendency to adopt the posture of the stationary bandit, taking up a position to extract slowly and in perpetuity over time as the new dominant force over conquered domains. Conversely, mobile groups with relatively mobile military forces – notably nomadic cavalry forces from the steppe, as well as those with unique and far-ranging naval capacities, such as the Vikings – displayed resilient tendencies to take on the role of roving bandits, being far more likely to treat urban combat as an opportunity for looting and destruction.

We test our expectations by looking at urban conquest events from 1 AD to 1500, assessing how the mobile nature of the attackers – both elites and the common soldier - coincided with their choice to pillage and destroy their conquest, rather than maintain it for future holding. Our period of interest covers a variety of regions – Europe, the Middle East, the Indian Subcontinent, along with Inner, East, and Southeast Asia – between the high-water mark of Eurasian imperial domination c.1 AD and the onset of European colonialism.[3] During that period, we find a strong and robust relationship in which force mobility is positively associated with rapacious extraction and destruction while group mobility is not. This indicates that the ability of the bandit himself to move is not as important as the mobility of the appendages that he uses to extract.

This study presents the moment of conquest not simply one of tragedy (which it very often was, to horrifying degrees), but also one of strategy and political economy. Leaders faced a heavy tension between the wealth and success of their new acquisitions as well as the need to compensate troops and enrich the support base. Very often, leaders with highly mobile forces either chose the most destructive and extractive option, or acceded to ravaging by their capricious subordinates who might otherwise abandon the ruler.

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[3] The first century AD saw a Eurasian landmass concurrently dominated by regionally dominant entities including the Roman, Parthian, Kushana, Satavahana, and Han Chinese empires.

The Political Economy of Predation

Oft-cited models of extraction imagine leaders with differing levels of confidence in their future access to local resources. Rulers with a firm, secure, grasp on political control view their own aggrandizement over longer time horizons—limited taxation becomes preferable to ruthless expropriation. Mancur Olson (1993) advanced a famous variant of this premise with his "stationary" versus "roving" bandits framework:

"Under anarchy, uncoordinated competitive theft by "roving bandits" destroys the incentive to invest and produce, leaving little for either the population or the bandits. Both can be better off if a bandit sets himself up as a dictator—a "stationary bandit" who monopolizes and rationalizes theft in the form of taxes. A secure autocrat has an encompassing interest in his domain that leads him to provide a peaceful order and other public goods that increase productivity." Olson 1993, 567

Olson's thesis draws a stark distinction between the ruinous effects of "competitive theft" and the long-run productive dividends of a ruler with "an encompassing interest in his domain".

Accordingly, it follows that efforts to extract resources from local actors are more likely to be measured, and thus take on an institutional character, where the ruler expects he, or his dynasty, will rule a domain in perpetuity. This framework is commonly deployed in political science and economics research on the conditions in which rulers adopt (or abandon) predatory postures in settings characterized by weak states, such as contemporary Afghanistan and the Eastern DRC (Murtazashvili & Murtazashvili 2020; Sánchez De La Sierra 2020). Given its broad historical scope, our argument also intersects with recent work concerning the technological and political constraints on wealth creation over the long span of pre-modernity. For example, Hendrickson, Salter, & Albrecht (2018) posit a link between military technology and economic prosperity that hinges on the basic requirement of defending economic output from predation and destruction. Geloso & Salter (2020) likewise propose that a state's ability to defend itself (i.e. adequate state capacity) from predation accounts for the oft-cited association between economic

prosperity and state capacity. We offer a complementary extension to this research agenda by highlighting the foundations of predatory behavior among atypically rapacious actors in the classical and medieval periods. Finally, we build on recent work that focuses on specific pre-modern transitions from roving to stationary banditry (Svendsen 2020; Young 2016) by examining two types of mobility associated with roving bandit behavior in pre-modern Eurasia: group mobility and force mobility.

Mobility and Rapacious Extraction

Beyond its abstract connotation, the "roving bandit" metaphor corresponds with the behaviors of discrete historical groups whose predation was consequential to the political and economic trajectories of empires, societies, and entire continents (Bennett 2022; Ko, Koyama, & Sng 2018; Turchin 2013). The leaders of these groups – Mongols, Goths, Huns, Vikings, etc. – were also faced with choices in how to extract, either venturing forth to pillage and extort before moving on, or extracting slowly from their possessions over time, leaving some portion for the residents. In line with Olson's framework, these groups initially lacked an "encompassing interest" in conquered realms, and behaved as such. They were depicted by their victims (and sometimes themselves) as rapacious loot-seekers entitled to the fruits of conquest.

The underlying importance of mobility to extractive behavior is straight-forward. It is relatively easy for mobile groups to engage in (literally) roving banditry. Less mobile groups cannot range far and wide to extract and cannot as quickly or fluidly move on to other targets upon a successful raid. Thus, they are encouraged to set up camp and extract from the local population under an assumption of longer time horizons.

Yet this model misses one key point of differentiation: the mobility of groups, per se, as compared to the mobility of their component military forces. A leader may command an entire people or migratory military band, able to move from place to place, not required to stay in one location to preserve and hold power. The ruler's "court", extended household, or faction may travel with them, and wherever they go becomes the center of their temporary domains. Most political groupings in pre-modern (but post-Paleolithic) times were far less mobile, with their power rooted in specific locations and settled populations that must be closely managed in order to maintain power and control. Group-level mobility is often associated with migratory Germanic confederations that bombarded the Late Roman Empire—Goths, Vandals, Alemanni, Franks, Burgundians, etc. The Eastern Roman Empire faced comparable menaces during the medieval period, as Turkic nomad migrations brought new rivals into the Near East. These factions were all mobile in the sense that they relocated from distant areas *en masse*.

On the other hand, a mobile group's military forces might also differ in mobility, with many leaders presiding over plodding infantry retinues. Such an army was not rapidly mobile. Other armies, however, were based heavily on units of quick, lighter cavalry. The most notable of these were the steppe horsemen that provided nightmares to sedentary inhabitants of Europe and Asia for more than 2,000 years. Highly mobile, these forces could range over long distances, take loot in raiding activities, and move on. While nomadic steppe forces are most obvious, others attained mobility through other means. The Vikings, for example, were uniquely mobile during their peak years due to the long range of the longboat and their ability to navigate oceans and rivers, reaching distant locations quickly and with little warning.

In combination, these two different categories – group mobility and force mobility – imply four possibilities. First, there were those migratory factions composed of highly-mobile

cavalry-based militaries. The most obvious such example was the Mongol Empire, which featured itinerant, pastoral-nomadic tribes comprising the most famous steppe army in world history. Another possibility is of a mobile group that relies on less mobile fighting forces. The Germanic "barbarian" forces that occupied Northern Europe in the first centuries AD are a classic example. These groups were highly mobile, without large, developed centers of power that needed continuous elite presence. Yet their armies were largely based around warriors on foot. And though they would over time cross great distances, they did this mostly over periods of decades and even centuries.

The next possibility is of the immobile faction with mobile forces. This is most seen in the settled conquest states formed by hyper-mobile polities in our first category, after they had accumulated enough in specific locations that war leaders became settled potentates. Archetypal cases include the post-Mongol states, India's Delhi Sultanate, as well as the Ottoman Empire after the conquest of Constantinople. Political power and competition became linked to major power centers, even as their military forces retained much of the ancestral reliance on mobile cavalry elites.

The final category is the immobile groups with immobile forces. This is common of most sedentary polities in relatively urbanized parts of the world for their time. Examples include Western European kingdoms in the Middle Ages, the sedentary domains of East Asia, or the Eastern Roman Empire in Late Antiquity, with leadership and political competition largely delineated by persistent territories, capital cities, coupled with armies heavily reliant on foot soldiers and small numbers of heavily armored cavalry.

Incentives to transition from roving to stationary bandits operated on both rulers and military elites where the group is mobile but military forces are relatively immobile. This is

primarily a function of two dynamics: First, less mobile military elites – for example, infantry war bands – are relatively ineffective against enemy targets and defensive armies, all else equal, compared to mobile cavalry forces that can cover large distances and strike with greater surprise. A smaller contingent of highly-mobile defectors can extract a greater amount of plunder than their relatively immobile foot-soldier counterparts, lowering the opportunity costs of "solo" plundering relative to collaboration with the ruler in measured extraction. Second, this martial advantage, paired with strictly logistical advantages of mobility, ameliorates the collective action problem faced by defectors seeking a rival patron—one more amenable to rapacious extraction. The first defector of a low mobility type faced higher opportunity costs as a solo bandit, along with a higher risk of punitive consequences given their low capacity for physically evading loyalist forces. The prospect of this likely outcome was a deterrent in and of itself. Conversely, high mobility elites were better positioned to "exit" their political allegiances and enter the service of a rival leader in need of their distinctive martial qualities (Manz 2015, 130, 145; Chaliand 2004, 30; Kradin 2003, 84; Twitchett 2000, 118; Bosworth 1968, 112, 200). Self-sufficient cavalry bands were simply better suited for evading the consequences of treachery and faced lower opportunity costs associated with private pursuit of loot, with a second-order consequence that defections might cascade until the leader condoned rapacious extraction or was replaced by a leader who would.

The leaders of tribal cavalry confederations were able to assemble a large, powerful, force in a short period of time. Yet a coalition built on unmeasured avarice went from boon to a burden for rulers who sought to transform their conquests into territorial possessions, even bona fide polities. Military elites had the motive and means to defect if a leader restricted their

predatory drives (Kradin 2003, Barfield 2001, 10, 85; Bosworth 1968, 15). Elite exit capabilities encouraged permanent ruptures between rulers and their forces.

The political circumstances of Tughril I, founder of the Seljuk Empire, illustrate this tension well. Tughril personally led an invasion of the Near East with Turkic nomad armies, ultimately establishing himself as the ruler of an expansive sedentary realm. His interests were now more consistent with those of Olson's "stationary bandit" who seeks to cultivate long-run prosperity. This was not the case for his followers, who invoked a "right" to loot captured cities at the cost of their leader's future tax revenues (Manz 2021, 94, 95). The possibility of defection was ever-present, as rivals abounded. Charismatic kin (and non-kin) stood to gain from the displeasure of powerful chiefs and their mobile retinues. No less than Attila the Hun was beholden to rapacious underlings for political survival:

"The defeat and loss of men in 451 brought Attila's leadership into question. A tribal chief's power, the assurance that his commands will be obeyed, rests upon his success in serving the interests of his tribesmen. Even before 451 Attila had worried about rivals within the tribe; his secretaries kept a list of those of them who had fled to the Romans… In 452, after he had led the tribe to defeat in Gaul, Attila had to deliver a victory (and its accompanying booty) so that his continued leadership might be assured. The Italian campaign is best understood as the result of such tribal politics." (DeVries 2017, 11)

In this model, military elites have a greater incentive to collaborate with their erstwhile ruler in governing conquered sedentary realms to the extent that defection is costly. Rulers of itinerant infantry war bands were better positioned to enjoy collaborative relationships with military elites compared to their counterparts reliant on highly mobile forces. In the following section we describe a novel data-collection effort focused on post-siege behavior and present empirical evidence for our claims.

Describing the Data

In total, we evaluate 820 instances of successful urban capture based on entries in Miller & Bakar's (2023) Historical Conflict Event Dataset (HCED), which includes historical and contemporary battles covered by popular compendiums on the subject. We exclude all failed attempts at capture since they, by definition, do not present the circumstance we are focused on: the choice made by *victors* after an urban conquest attempt. In Figure 1, we present a histogram of the number of observations in our dataset by decade.

Figure 1. Count of Successful Urban Capture Events by Decade: 1-1500 AD
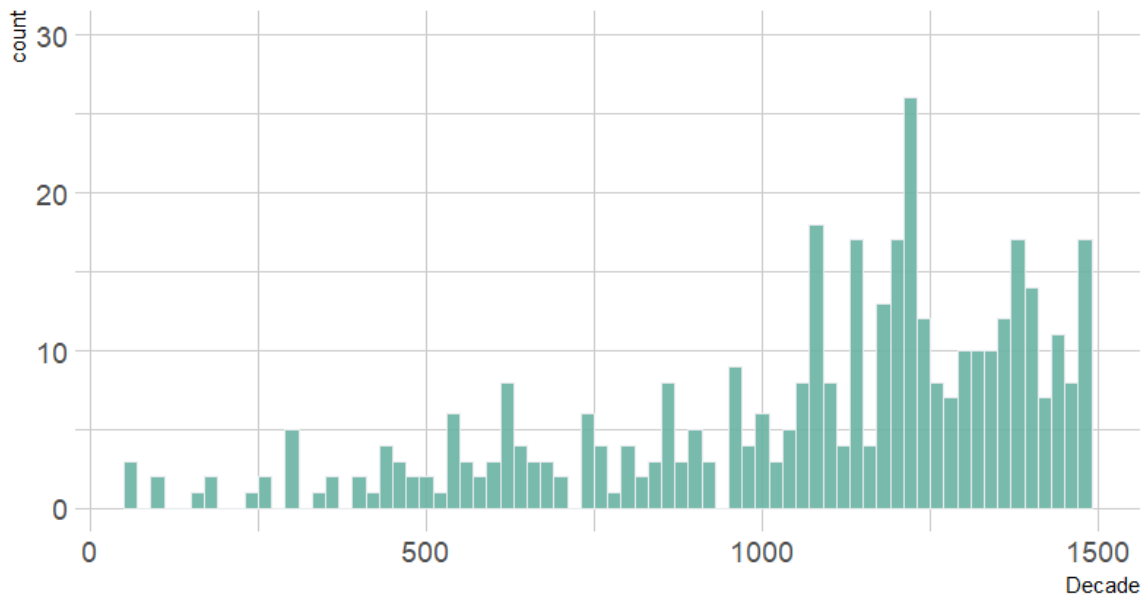
We should note that European history is overrepresented in the extant English-language literature. In addition to Europe, regions that had more interactions with European powers are more likely to be described in detail in ways that increase their likelihood of being in our model. As a result, about forty-six percent of all observations concern a city in Europe. A further thirty-

one percent and eight percent of observations took place in the Middle East and the Indian Subcontinent, respectively. This leaves only seven, six, and three percent each for East Asia, Inner Asia, and Southeast Asia, respectively. Undoubtedly, this is an overrepresentation of Europe and the Middle East in our data. Future iterations of this project will make further efforts to expand some of the existing data sources to offer more balance and completeness. Figure 2 below shows the locations of successful urban capture attempts and indicates whether the victor engaged in rapacious extraction or urban destruction.

Figure 2. Location of Rapacious Extraction and Urban Destruction Events: 1-1500 AD
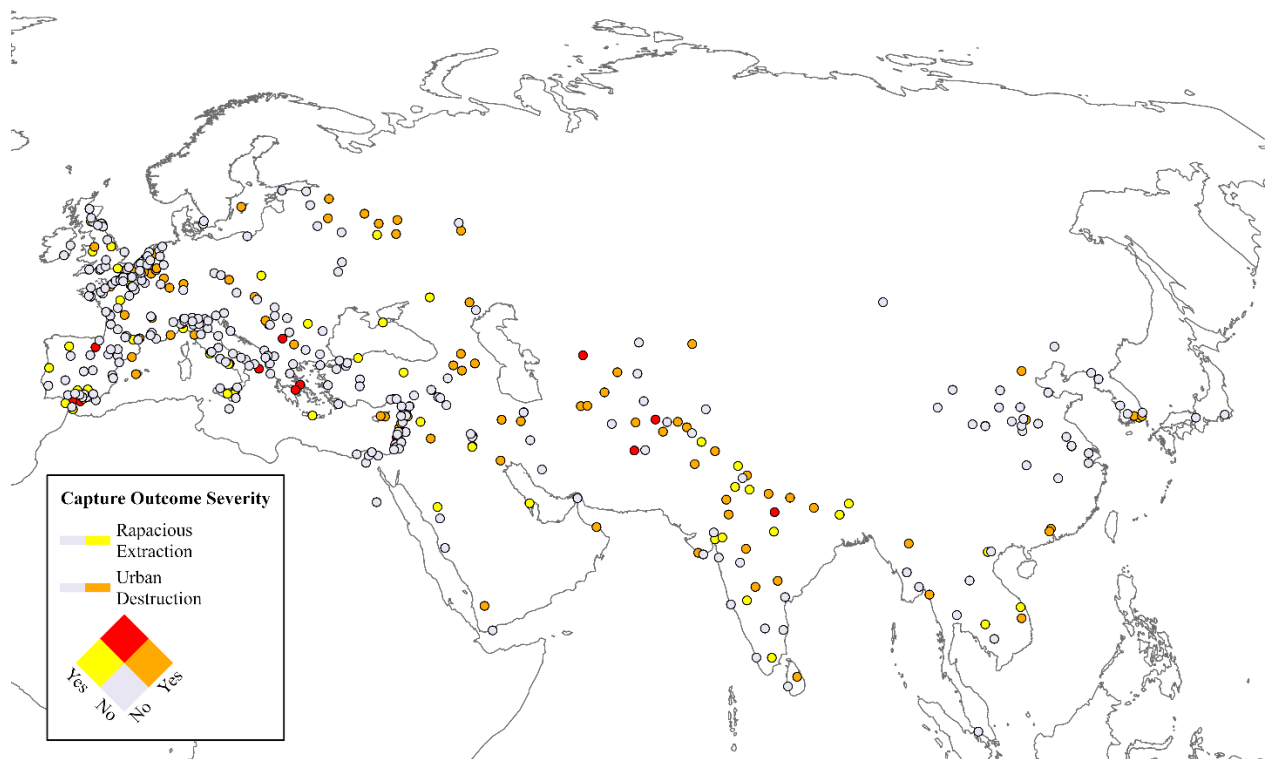
In any endeavor such as ours, a great helping of humility is required. Even in the best of situations, we rely on the information that is extant, surviving as much as a thousand years or more. It is ultimately through a great deal of luck that complete accounts survive to tell us about any but the most significant battles and sieges. Even after considering the ravages of time on the survival of centuries-old texts, there are additional barriers to useful information making it into

the English language and making its way into the rather incomplete datasets that we begin our analysis with.

As a result, while we attempt to stretch our research beyond the well-trod ground of Western Europe, we can do so only incompletely. This must necessarily raise our uncertainty in our results, at least insofar as they generalize to a set of conditions for which our data are incomplete at describing. We proceed through the rest of the paper attempting to make the most of what is available and to make our work as complete as possible, but we recognize that this is a goal we will not perfectly succeed at. All research on historical topics should be approached in this way, and our paper is no exception.

Defining Key Measures

Our main question is whether the conquering aggressors engaged in rapacious extraction and destruction upon their victory. This proves to be somewhat more challenging to define than may be initially apparent. Extant historical descriptions of post-victory consequences are often imprecise and focus on other details without explicitly mentioning whether widespread wealth extraction occurred. Some historical documents pursue a more literary style, and focus on individual stories or use well-worn historical tropes to describe events generically. Many tears were shed and shouts made to deities that had forsaken their people. But that does not necessarily lead to clear evidence of the level of looting and extraction done after the battle.

We respond to this difficulty by using two measurement approaches. The first is exclusive and defines **Rapacious Extraction (Exclusive)** as occurring only when the sources positively identify that it occurred with explicit language and detail. This is exclusive because we leave out cases from this classification where extraction likely occurred but for which we lack explicit proof in the sources. The second measure, **Rapacious Extraction (Inclusive)**, adds in cases for

which the sources imply rapacious extraction without explicitly stating it. This comes through the discussion of the way the population were treated, abused, etc. In these cases, it is unlikely that significant abuse would be delivered on a population without also expropriating their wealth. Thus, in our second measure, we include these likely, but not explicitly confirmed cases. In total, about twenty percent of our cases meet our exclusive definition, while about forty-five percent meet the inclusive definition. Our third outcome variable, **Urban Destruction**, takes a value of 1 if sources indicate physical destruction of an urban center, at scale (e.g. "partially destroyed", "left in ruins").

Our main explanatory variables are measures of attacking group mobility and the mobility of the attacking group's forces. **Group Mobility** is defined as a demonstrated capacity for group-wide migratory movement. The movement of entire tribes and confederations altered the incentive structure of conquest for Germanic, Arab, Nordic, and Turkic groups over the long course of our timeframe. These factions might dwell in a particular area for decades, but maintained a detached (if not downright predatory) relationship with more permanent fixtures of the economic and political landscape—e.g. urban settlements. This variable takes a value of 2 if historical sources indicate that the group engaged in mass migrations and there were no indications of intent to establish a permanent presence (e.g. designating a capital). Of course, leaders and elites were unlikely to fully qualify as "sedentary" immediately upon arrival. We assign a value of 1 if fewer than 30 years have past since the group's arrival at a location, regardless of demonstrated intent to establish durable political control. A faction that has been in a location for more than 30 years and made clear attempts to establish a permanent presence takes a value of 0, indicating that it qualifies as a full-fledged sedentary state. Moreover,

successors to sedentary entities are also coded as 0 unless sources highlight a migratory tendency.

Our **Force Mobility** variable indicates that a group, migratory or not, relied on forces with greater mobility than foot-soldiers. The most notorious mobile forces were cavalry-based armies from the steppe, which were used by various peoples for thousands of years, attacking from the steppe lands to plunder and, on occasion, establish a more permanent political presence. Notable examples includes the various Mongol polities that dominated Eurasia in the 13th and 14th centuries and Turkic polities that swept across the Eastern Mediterranean and Middle East from the 10th century onwards, culminating in the Ottoman Empire.

Steppe-based groups tended to follow a common trajectory outside the confines of Inner Asia. They had nomadic origins, though many would develop into sedentary peoples after accumulating substantial land holdings. Yet their militaries still relied on highly mobile cavalry forces that could raid, harry, and quickly penetrate enemy territory. Moreover, they frequently engaged in extractive military campaigns in which movable wealth rather than land was the purpose of the aggression despite emanating from a geopolitically-rooted entity with sedentary governance structures (urban taxation, regulation, etc.). Similarly, maritime plunderer persisted among settled Viking kingdoms given the mobility of military elites relative to the infantry default. Though, of course, a littoral or riverine mode of conveyance limited the striking capabilities of Norse warriors in a distinctive way.

Given that mobility and striking distance go hand-in-hand, it's plausible that mobile actors are more likely to capture urban areas that are further from their core territorial holdings. Any actor, regardless of mobility is more likely to engage in rapacious extraction if they do not believe the target is a viable addition to their governed domains. Accordingly, we include a

Boundary Distance variable that measures the distance between a captured city and the offensive actor's boundaries at the first year of that century. For example, the boundary distance value associated with the Mongol sack of Baghdad in 1258 is equal to the distance between Baghdad and the domains of Genghis Khan's tribe c.1200.

we also include several geographic covariates that plausibly confound the relationship between group mobility, or reliance on mobile forces, and tendencies toward rapacious extraction and destructiveness. First, we include a measure of logged **River Distance**, as such features are attractive to migratory groups and facilitate mobility. Second, we include two measures of location accessibility, the presence of **Unforested Terrain** and **Terrain Ruggedness**. Armies in unforested climatic zones and topographically flat areas are plausibly both more exposed to roving bandits and easier prey for rapacious invaders of any kind. Conversely, I include dummy variables for situation on an **Island** or **Peninsula** given that states in either have both a defensive advantage, broadly speaking, and less exposure to Inner Asian threats, specifically.

Table 1 reports the results for several linear probability models testing the proposed relationships between mobility and post-conquest treatment of captured urban areas. Models 1-5 use the inclusively coded rapacious extraction variable as an outcome, revealing a robust substantively and statistically significant relationship between force mobility, but not group mobility, and rapacious extraction. Yet neither form of mobility is a statistically significant predictor of rapacious extraction defined such that urban destruction episodes are not assumed to involve rapacious extraction. These results suggest that that urban destruction is the signature trait of groups – migratory or not – relying on mobile forces. We test this specific proposition in and display the results in Table 2. As expected, force mobility, but not group mobility, is a robust predictor of urban destruction. An offensive force reliant on mobile forces is about twenty-

seven percent more likely to engage in wholesale destruction after successfully capturing an

urban area. These results also indicate that the apparent effect of group mobility disappears when

controlling for force mobility.

Table 1. Reliance on Mobile Forces Only Predicts Rapacious Extraction Episodes that Involve Urban Destruction

Variable	Rapacious Extraction (Inclusive)					Rapacious Extraction (Exclusive)				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Group Mobility	0.06		0.05		0.002	-0.004		0.0004		-0.02
	(0.04)		(0.04)		(0.04)	(0.04)		(0.04)		(0.05)
Force Mobility		0.25**		0.26**	0.26**		0.09		0.08	0.09
		(0.06)		(0.06)	(0.07)		(0.06)		(0.07)	(0.07)
Boundary Dist.			-0.01	-0.02^	-0.02^			-0.02^	-0.02^	-0.02^
(log)			(0.01)	(0.01)	(0.01)			(0.01)	(0.01)	(0.01)
River Dist.			0.003	0.01	0.01			0.002	0.003	0.003
(log)			(0.01)	(0.01)	(0.01)			(0.02)	(0.01)	(0.02)
Unforested			0.03	0.02	0.02			0.04	0.04	0.04
Terrain			(0.06)	(0.05)	(0.05)			(0.06)	(0.06)	(0.06)
Ruggedness			0.001	0.002	0.002			0.02	0.02	0.02
(log)			(0.02)	(0.02)	(0.02)			(0.02)	(0.02)	(0.02)
Island			-0.06	-0.01	-0.01			0.07	0.09	0.09
			(0.10)	(0.10)	(0.10)			(0.10)	(0.11)	(0.11)
Peninsula			-0.10	-0.07	-0.07			0.06	0.07	0.07
			(0.07)	(0.07)	(0.07)			(0.07)	(0.07)	(0.07)
N	392	392	357	357	357	392	392	357	357	357
Region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Century FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.16	0.2	0.18	0.22	0.22	0.06	0.07	0.08	0.08	0.08
Adj. R-squared	0.12	0.15	0.12	0.16	0.15	0.01	0.02	0.01	0.01	0.01

Note: Numbers in cells are OLS regression coefficients with standard errors in parentheses.

^ = *p*<0.10; * = *p*<0.05; ** = *p*<0.0

Table 2. Reliance on Mobile Forces Predicts Urban Destruction; Group Mobility Does Not

Variable	Urban Destruction				
	Model 1	Model 2	Model 3	Model 4	Model 5
Group Mobility	0.09*		0.09*		0.04
	(0.04)		(0.04)		(0.04)
Force Mobility		0.26**		0.29**	0.27**
		(0.06)		(0.07)	(0.07)
Boundary Dist.			-0.0002	-0.02*	-0.02*
(log)				(0.01)	(0.01)
River Dist.			0.004	0.005	0.01
(log)			(0.02)	(0.01)	(0.01)
Unforested			-0.03	-0.04	-0.04
Terrain			(0.06)	(0.06)	(0.06)
Ruggedness			0.01	0.004	0.01
(log)			(0.02)	(0.02)	(0.02)
Island			-0.017	-0.12	-0.13
				(0.10)	(0.10)
Peninsula			-0.0091	-0.10	-0.09
				(0.07)	(0.07)
N	392	392	357	357	357
Region FE	Yes	Yes	Yes	Yes	Yes
Century FE	Yes	Yes	Yes	Yes	Yes
R-squared	0.16	0.2	0.18	0.22	0.22
Adj. R-squared	0.12	0.15	0.12	0.16	0.15

Note: Numbers in cells are OLS regression coefficients with standard errors in parentheses.

$^\wedge = p<0.10$; $* = p<0.05$; $** = p<0.01$

These results are, in aggregate, both rich and unevenly consistent with historiographic tropes. First, we do find some evidence for greater rapaciousness among groups (mobile or not) with highly mobile military forces, but only insofar as they are more likely to engage in urban destruction—we cannot be confident that such groups were more likely to engage in rapacious extraction than those with less mobile forces. On the other hand, a penchant for destruction

following rapacious extraction – the former almost certainly preceded the latter – is consistent with the expectations of a roving bandit framework. Specifically, competitive pillagers rationally deny access to their rivals.

Our tentative findings also have implications for historically-oriented research into the determinants of inter-regional wealth disparities (i.e. "The Great Divergence") leading up to the onset of European global expansion. The roving bandits that took on the Western Roman Empire were, as a whole, no more rapacious than the typical sedentary actor during the period under investigation. It's possible that the relatively tame nature of "high group mobility; low force mobility" factions that seeded the Western European landscape spared that region a (more) prolonged economic nadir. Groups such as Vikings were exceptions that proved the rule. They were more destructive than, say, the Visigoths over the long run but were ultimately restricted to shores, navigable rivers, and land-bound supplies. Inertia waned; Northmen turned into Normans. Conversely, the roving bandits emanating from Inner Asia ensured that outright urban destruction would permanently hamper long-run economic prosperity throughout large swathes of the Middle East, East Asia, and the Indian Subcontinent.

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