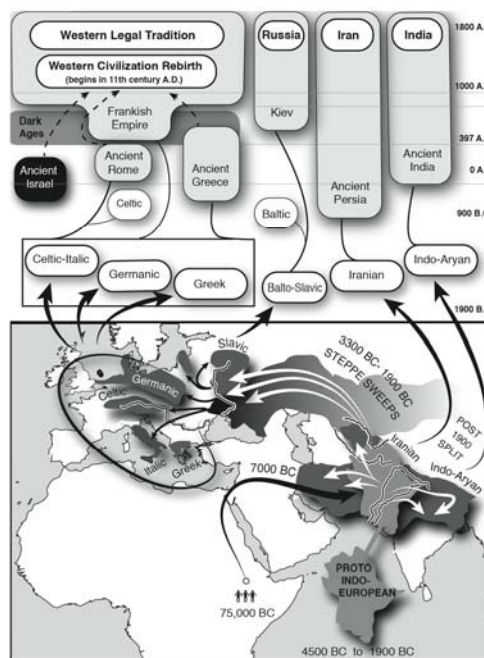


WESTERN LEGAL PREHISTORY: RECONSTRUCTING THE HIDDEN ORIGINS OF WESTERN LAW AND CIVILIZATION

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Western legal prehistory aims to reconstruct some of the earliest proto-legal and cultural developments that gave rise to Western legal systems and the rule of law. So construed, our understanding of Western legal prehistory is currently highly undeveloped. One reason for this fact is methodological: without the aid of written sources, reconstructions of human prehistory can prove difficult. Recent advances in a broad range of cognate fields have, however, now accumulated past a critical tipping point, and we are now in a secure enough position to begin to reconstruct important aspects of Western legal prehistory.

This Article draws upon and develops these contemporary findings to reconstruct the most plausible genealogical shape of Western legal prehistory. In the process, it reaches a somewhat surprising conclusion. On the traditional view, the most important traditions relevant to the rise of Western law and Western Civilization are said to have originated in ancient Greece, Rome, and Israel. This traditional view is, however, based primarily on historical sources, and the reconstructions in this Article suggest that important precursors of these traditions very likely emerged much earlier and much further to the East. In fact, some of the most important traditions relevant to the emergence of large-scale civilizations with the rule of law in the West would appear to represent just one branch a much larger and richer family of traditions, which began to emerge around 4500 BC in the Eastern-Iran-Bactria-Indus-Valley region. Beginning at this early time, this region began to produce one of the very first ancient civilizations to arise within our natural history as a species (viz., the “Harappan” or “Indus Valley” Civilization), and the people in this region must have therefore developed some of the very first cultural traditions that were specifically adapted to sustaining large-scale civilizations with incipient law. I will be arguing that these ancient developments most likely had a much closer and much more intimate relationship to some of the earliest precursors of Western tradition than has commonly been recognized because these precursors of Western tradition ultimately originated closer to ancient Bactria—which is an area directly adjacent to the Indus Valley—during this very same time period. The reconstructions developed in this Article will thus allow me to decipher what I take to be the most plausible early genealogical shape of our legal family tree, and to suggest a number of important but underappreciated relationships that obtain between our modern Western traditions and a range of other Eurasian traditions with which the West has typically been contrasted.

In today’s world, it is, moreover, especially important that we try to reconstruct the genealogical structure of Western legal prehistory and obtain a better understanding of our deep past. There is now an accumulating body of empirical work, which suggests that we can explain a broad range of features of modern societies in terms of the

origins of their laws. This literature suggests that legal origin variables can have strong effects on issues as diverse as corporate governance structure, labor regulations, the robustness of capital markets, and even literacy and infant mortality rates. Whether and how a modern society functions best would thus appear to depend at least in part on the origins of their legal traditions. At the same time, however, both the present legal origins literature and much comparative law scholarship distinguish primarily between the civil- versus common-law origins of a nation's legal system, or between both of these types of Western law and various non-Western legal systems; and the findings of this literature have not yet been fully harmonized with the swath of known difficulties that many developing nations have faced in transitioning to large-scale societies with the rule of law regardless of their civil- or common-law origins. The family trees that are employed in the current literature are, moreover, typically identified from the historical record and therefore fail to detect any relevant relations that might have arisen in human prehistory. They tend to focus on a conception of law as a set of publicly stated rules and procedures that are largely exogenous to the underlying cultural traditions and psychological attitudes that tend to support flourishing legal systems. They therefore fail to detect the kinds of emergent cultural traditions (including the culturally emergent psychological attitudes) that first allowed humans to transition from hunter-gatherer forms of life into larger-scale civilizations with the rule of law.

The reconstruction offered here will, by contrast, allow us to see almost half of the large-scale megaempires that have arisen throughout world history—including all those that have arisen in the modern West—as having a shared cultural origin that goes much further back in time. The tradition in question first emerged with some of our very first human forays out of hunter-gatherer living and into settled agricultural living with large-scale civilizations and incipient legal traditions. An understanding of this deeper family tree should therefore have important empirical implications. This work can, for example, be used to help explain why certain exportations of Western-style legal institutions have worked so well while others have not. This work can also be used to identify a number of important but underappreciated features of Western traditions that are shared with these broader Eurasian traditions and have been playing a critical—if underappreciated—role in helping to sustain various forms of social complexity and economic development over the course of world history. Hence, this work can help us understand better some of the full causes and conditions of our modern success in the West. Inquiries of this kind should have special urgency today, given the massive exportations of Western law and Western legal institutions to so many other parts of the world and given the increased pressures toward Westernization that are being felt around the globe.

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I. INTRODUCTION

Western law and Western civilization are often said to be parts of a distinctive tradition, which differentiates them from their counterparts in the “East” and explains many of their special capacities and characteristics. Within the legal academy, this view finds one of its most insightful and influential proponents in Harold J. Berman. In *Law and Revolution: The Formation of the Western Legal Tradition*, Berman begins his seminal work with the following simple but consequential lines: “This book tells the following story: that once there was a civilization called ‘Western’; that it developed distinctive ‘legal’ institutions, values, and concepts; [and] that these Western legal institutions, values, and concepts were consciously transmitted from generation to generation . . . and thus came to constitute a ‘tradition’”¹ In Berman’s version of the story,

1. HAROLD J. BERMAN, *LAW AND REVOLUTION: THE FORMATION OF THE WESTERN LEGAL TRADITION* 1 (1983).

Western civilization (including its incipient legal traditions) began with a return to the texts of three more primordial traditions: those of ancient Greece, Rome, and Israel.² The basic story that Western civilization finds its origins in ancient Greek, Roman, and Hebrew culture is, however, so familiar and so pervasive that it has rarely—until recently—been questioned in the West.³ The story has illuminated a broad range of topics, arising from a diverse set of fields and over a wide expanse of time.⁴

This Article nevertheless develops a novel set of arguments, rooted in recent findings from a broad range of cognate fields, to suggest that this standard story may be incomplete and even potentially misleading. If we are genuinely interested in understanding our origins in a way that will shed light on why the West has exhibited such distinctive capacities for large-scale human civilization and the rule of law, then the story we commonly tell ourselves starts abruptly in the middle and leaves out some of the most formative (and potentially transformative) dimensions of the truth. Western law and Western civilization are not just the outgrowths of three particularly creative cultures, which straddled the transition from human prehistory into human history and developed in either southeastern Europe or the Near East. Rather, the West appears to be descended from a much deeper cultural tradition, which extends all the way back to some of our first human forays out of hunter-gatherer modes

2. See *id.* at 3 (“The West, from this perspective, is not Greece and Rome and Israel but the peoples of Western Europe *turning* to the Greek and Roman and Hebrew texts for inspiration . . .”); see also *id.* (noting that this return also involved a transformation of these texts in critical ways).

3. See, e.g., ELIAS BICKERMAN & MORTON SMITH, *THE ANCIENT HISTORY OF WESTERN CIVILIZATION* 12 (1976) (“Thus the history of Greece, Israel, and Rome is our own past. . . . To put it in a nutshell, the Greco-Roman civilization shaped the agricultural civilization of the following centuries, of which our industrial civilization is the direct continuation.”); see also *id.* (claiming that the modern world “derived most of its present culture from the Arabic and European heirs of Greece, Rome, and Israel”); JACK A. GOLDSTONE, *WHY EUROPE?: THE RISE OF THE WEST IN WORLD HISTORY, 1500–1850*, at vii (2009) (“For most of the nineteenth and twentieth centuries, students learned about . . . the story of the ‘rise of the West.’ This story started with the emergence of democracy and philosophy in ancient Greece and Rome; continued with the rule of Europe’s kings and knights in the Middle Ages; moved on to the arts and explorations of the Renaissance; and concluded with the military, economic, and political domination of the world by the nations of Western Europe and North America. The peoples of . . . Asia were mentioned only when they encountered European explorers or colonizers—their ‘history’ thus beginning with European contact and conquest.”). I say that this story has not been challenged “until recently” because there is now an emerging school of world historians who have begun to challenge the standard picture and emphasize the more global roots of Western traditions. See *id.* at viii (“In the last dozen years, a group of young economic and social historians has made some new and surprising arguments about World History. Instead of seeing the rise of the West as a long process of gradual advances in Europe while the rest of the world stood still, they have turned this story around. They argue that societies in Asia and the Middle East were the world leaders in economics; in science and technology; and in shipping, trade, and exploration until about AD 1500.”); *id.* at viii n.1 (“These historians include Kenneth Pomeranz, R. Bin Wong, Jack Goldstone, James Lee, Dennis Flynn, Robert Marks, the late Andre Gunder Frank, the late James Blaut, John Hobson, and Jack Goody, among many others. They are sometimes called the ‘California School,’ because many of these scholars worked at universities in California.”). The present project might be understood as falling broadly within this new tradition.

4. Readers interested in a graphic representation of this traditional story should consult Figure 1, *infra*.

of subsistence and into settled agricultural living. There are, moreover, now compelling reasons to believe that some of the earliest relevant traditions originated not in ancient Greece, Rome, or Israel, but rather *much earlier* and *in and around the Indus Valley* (which is a region that spans the northwestern portions of the Indian subcontinent) along with some eastern parts of modern-day Iran and ancient Bactria.

Beginning in about 4500 BC and lasting until approximately 1900 BC—and hence long before the rise of ancient Greece, Rome or Israel—the Indus Valley region gave rise to one of the very first large-scale civilizations in our natural history as a species: the so-called “Harappan” (or “Indus Valley”) civilization.⁵ This ancient civilization was part of a much larger and highly integrated social complex, with strong ties to ancient Bactria and the eastern parts of modern-day Iran. This Article argues that we are likely culturally descended in part from this much more ancient set of traditions: we have likely inherited (and modified) important cultural traditions from the ancient Eastern-Iran-Bactria-Indus-Valley region, which traditions are highly relevant to the emergence and stability of large-scale civilizations with the rule of law, through an unbroken chain of cultural transmission that has operated through an immense number of generations. If this is true, then our failure to understand our genealogical relationship to this ancient social complex in the East has limited our self-understanding in critical respects and may be preventing us from realizing useful aspects of our traditions—including, in some cases, those aspects that make our current traditions in the West so capable of supporting large-scale human civilizations with the rule of law.

We live in an era in which it is, moreover, especially important to decipher the deepest origins of Western law and civilization. Scholars within the emerging “legal origins” tradition have now produced an impressive body of empirical work, which suggests that we can explain a broad range of features of modern societies in terms of the origins of their laws.⁶ This literature suggests that legal origin variables can have strong effects on issues as diverse as corporate governance structure, la-

5. BRIDGET ALLCHIN & RAYMOND ALLCHIN, ORIGINS OF A CIVILIZATION: THE PREHISTORY AND EARLY ARCHAEOLOGY OF SOUTH ASIA 113–83 (1997) (describing three periods: period of agricultural expansion into Indus Valley (beginning in 4500 BC); period of Early Harappan Incipient Urbanism (3500 BC–2600 BC); and mature Harappan period (2600 BC–1900 BC)); *see also id.* at 183–205 (describing the people and culture of the Harappan period). It should be noted that the period from 4500 BC until 3500 BC is thus typically understood as pre-Harappan and as laying the foundation for the mature Harappan Civilization. *Id.*

6. This tradition began in 1997, with the publication of *Legal Determinants of External Finance*, by Rafael La Porta, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny. *See* Rafael La Porta et al., *Legal Determinants of External Finance*, 52 J. FIN. 1131, 1131–32 (1997) [hereinafter La Porta et al., *Legal Determinants*]. Since that time, a number of other articles that develop this basic theme have, however, been published. *See, e.g.,* Juan C. Botero et al., *The Regulation of Labor*, 119 Q.J. ECON. 1339 (2004); Rafael La Porta et al., *The Quality of Government*, 15 J.L. ECON. & ORG. 222 (1999) [hereinafter La Porta et al., *Quality*]; Paul G. Mahoney, *The Common Law and Economic Growth: Hayek Might be Right*, 30 J. LEGAL STUD. 503 (2001).

bor regulations, the robustness of capital markets, and even literacy and infant mortality rates.⁷ Although starting from a very different framework in comparative law and legal history, James Whitman at Yale Law School has similarly traced important aspects of Western law to its origins.⁸ In *Western Legal Imperialism: Thinking About the Deep Historical Roots*, Whitman argues that the expansionary tendencies of Western law should be understood as arising in part from its origin in the Greek city-states and the special socio-cultural dynamics inherent in that early situation.⁹ Whether we approve of these expansionary tendencies or not, our ability to influence them in meaningful ways will almost certainly be enhanced by a better understanding of the factors that tend to produce and sustain them. Inquiries of these kinds should, in fact, have special urgency today, given the massive exportation of Western law and Western legal institutions to so many other parts of the world and given the increased pressures toward Westernization that are being felt around the globe.¹⁰

If legal origin variables can have important consequences like these, and if we hope to study these causal relations accurately and in greater detail, then we plainly need to know the correct structure of our legal family tree. At the same time, however, both the present legal origins literature and much comparative law scholarship distinguishes primarily between the civil- versus common-law origins of a nation's legal system,¹¹

7. See Botero et al., *supra* note 6, at 1379; La Porta et al., *Quality*, *supra* note 6, at 261; Mahoney, *supra* note 6, at 504, 506.

8. James Q. Whitman, *Western Legal Imperialism: Thinking About the Deep Historical Roots*, 10 THEORETICAL INQUIRIES L. 305, 309 (2009).

9. See *id.* ("I am going to trace the rise of Western law as a diffusing tradition to two aspects of Western legal history. First and foremost, I will emphasize the fact that Western law began in Antiquity primarily as the law internal to *city-states*, and only very gradually spread into the countryside. . . . The gradual spread of Western law from city to country established a pattern of diffusion that has continued down to the present.").

10. See, e.g., *id.* at 306 ("We live in an age of massive efforts to transplant Western institutions to every corner of the globe. The end of the Cold War inspired Westerners of every stripe to carry their law to the rest of the world, and the two decades since 1989 have been an era of determined Westernization. Some of these post-Cold War efforts to Westernize the globe have been so weird that they almost beggar description: One thinks, for example, of the occupation of Iraq, where the first contingent of American officials included an eager 24-year-old charged with the task of setting up a stock exchange on the American model. But most of the efforts have involved the routine, if intensive and often aggressive, work of familiar international institutions: the World Bank, the International Monetary Fund, the various international human rights agencies and organizations. All of these institutions have been heavily engaged in exporting Western law to the rest of the world." (footnote omitted)).

11. See, e.g., Kurt Schwerin, *Comparative Law Reflections: A Bibliographical Survey*, 79 NW. U. L. REV. 1315, 1317 (1985) ("Traditionally, comparative law has always meant the comparison of the systems of common law and civil law . . ."); David M. Foster, *Politics, Legal Origins, and the Roots of Modern Economic Institutions 2* (Mar. 25, 2005) (unpublished Seminar Paper for Advanced Issues in Corporate Governance, Harvard Law School), http://www.law.harvard.edu/programs/corp_gov/papers/Foster-Brudney_June.2005.pdf ("Legal origins theorists have not reached a consensus about the precise mechanism through which legal origins affect corporate ownership structure, but the empirical results linking legal origins to financial development are quite impressive. In general, the empirical results suggest that common law countries are more financially developed than civil law coun-

or between both of these types of Western law and various non-Western legal systems;¹² and the findings of this literature have not yet been fully harmonized with the swath of known difficulties that many developing nations have faced in transitioning to large-scale societies with the rule of law *regardless of their civil- or common-law origins*.¹³ The family trees that are employed in these literatures are, moreover, typically identified from the historical record and therefore fail to detect any relevant relations that might have arisen in human prehistory; they also tend to focus on a conception of law as a set of publicly stated rules and procedures that are largely exogenous to the underlying cultural traditions and psychological attitudes that tend to support flourishing legal systems.¹⁴

The story told here will, by contrast, allow us to see almost half of the large-scale megaempires¹⁵ that have arisen throughout world history (and, in fact, the majority in both the West and much of the East, other than China) as arising from a shared cultural origin that goes much further back in time. Examples of such empires from ancient times will include the Roman, Athenian, Macedonian, Byzantine, Hittite, Mauryan, Achaemenid, and Parthian empires; examples from the medieval period will include the Umayyad, Abassid, Sassanid, Carolingian, Danish, Mughal, Hapsburg, and German empires; and examples from more modern times will include the Portuguese, Spanish, Russian, Swedish, Dutch, British, French, Austro-Hungarian, German, Italian, and—most recent-

tries and that countries whose laws originated from the French Civil Code have particularly weak financial development.”).

12. See, e.g., Schwerin, *supra* note 11, at 1317 (“Lawson is tempted to say that, with certain exceptions, these two systems, the common law bloc and the civil law bloc (‘western laws’), now prevail everywhere. He speaks of western laws ‘in order to exclude oriental laws such as Jewish Law, Hindu Law, Mohammedan Law, and the indigenous laws of the Far East’”); Whitman, *supra* note 8, at 311 (“Nor, I will risk asserting, are the other great Eurasian legal traditions quite like that of the West.”).

13. See generally Barry R. Weingast, *Why Developing Countries Prove So Resistant to the Rule of Law* (Stanford Ctr. for Int’l Dev., Working Paper No. 382, 2009) (discussing the difficulties developing countries face in adopting a rule of law); see also JEFFREY D. SACHS, *THE END OF POVERTY: ECONOMIC POSSIBILITIES FOR OUR TIME* 18–19 (2005) (“If economic development is a ladder with higher rungs representing steps up the path to economic well-being, there are roughly one billion people around the world, one sixth of humanity, who live . . . too ill, hungry, or destitute even to get a foot on the first rung of the development ladder. . . . The greatest tragedy of our time is that one sixth of humanity is not even on the development ladder. A large number of the extreme poor are caught in a poverty trap, unable on their own to escape from extreme material deprivation.”).

14. Rafael La Porta et al., *The Economic Consequences of Legal Origins*, 46 J. ECON. LITERATURE 285, 286 (2008).

15. I will be using the term “megaempire” in the way that Peter Turchin—a leading expert on state formation—has recently used it, to refer to any empire that covers 1,000,000 or more square kilometers. See Peter Turchin, *A Theory for Formation of Large Empires*, 4 J. GLOBAL HIST. 191, 202–03 tbl.2 (2009). There is obviously some arbitrariness in this definition, but it will allow me to draw on his work to make several critical observations later in this Article. See discussion *infra* Part 4.C. Importantly, all of the megaempires identified in the main text meet Turchin’s criterion for being a “megaempire.”

ly—American empires.¹⁶ These empires were all formed among so-called “Indo-European” cultural groups,¹⁷ and these groups do not appear to have faced the same difficulties in producing and sustaining large-scale societies with the rule of law that many developing nations have faced in more recent times. I believe that features of their common cultural origins will help to explain why.

Another reason to get the story of our origins right is that the right story can place recent debates over the relationship between Western law and modern economic development in a new light.¹⁸ It is now common to note that, ever since the 1820s, certain nations—beginning first with England and the Netherlands—have entered into a period of seemingly unprecedented economic growth and prosperity.¹⁹ If we hope to sustain and spread this prosperity, then we clearly need to understand what produces it. Because these developments began in particular nineteenth-century societies, many economic historians have sought to explain these developments by focusing on features that were perceived as new or unique to nineteenth-century England and the Netherlands.²⁰

16. Readers interested in a graphic depiction of how these megaempires are genealogically related should consult Figures 22, 24.4, and 25, *infra*.

17. The term “Indo-European” was used as a linguistic category, after the discovery that certain Eastern languages in India and Iran are genealogically related (*viz.*, related by common ancestry) to the dominant languages in Europe. *See, e.g.*, BENJAMIN W. FORTSON IV, *INDO-EUROPEAN LANGUAGE & CULTURE: AN INTRODUCTION* 8–9 (2d ed. 2010) (“Following the British colonial expansion into India, a language came to the attention of Western scholars knowledgeable in Greek and Latin that ushered in a new way of thinking about such matters. . . . This was a turning point in the history of science. For the first time the idea was put forth that Latin was not derived from Greek, but that they were both ‘sisters’ (as we would now call them) of each other, derived from a common ancestor no longer spoken. . . . [These insights] mark[ed] the beginning of the scientific study of the language family now called Indo-European . . .”). Soon thereafter, it was discovered that many of the cultural groups that speak Indo-European languages also have a range of important cultural similarities, which suggest a common origin and allow for the term “Indo-European” to be extended from language families to cultural traditions. *See id.* at 18–24.

18. As Thomas Ulen has observed, “[t]he search for explanations of what causes growth and how growth can become the standard human condition has ranged far and wide and recently has looked to law as a possibly central causal factor.” Thomas S. Ulen, *The Role of Law in Economic Growth and Development* 2 (Apr. 27, 2010) (unpublished manuscript prepared for the Bonn Law & Economics workshop).

19. *See, e.g., id.* at 2–3 (“Modern economic growth, by which I mean ‘sustained economic growth,’ began in the early 19th century (or possibly the mid-18th century) in northern Europe, principally in the United Kingdom and the Netherlands. There had been no discernible increase in human well-being during the first millennium of the modern era, and the best estimate is that average per capita income increased by 50 percent during the 800 years between 1000 A.D. and 1800 A.D. . . . Between 1820 and 2000 average per capita income and total world output of goods and services increased substantially.” (footnote omitted)); *see also* ANGUS MADDISON, *CONTOURS OF THE WORLD ECONOMY, 1–2030 AD: ESSAYS IN MACRO-ECONOMIC HISTORY* 69–81 (2007); 1 ANGUS MADDISON, *THE WORLD ECONOMY: A MILLENNIAL PERSPECTIVE* 19 (2006); SACHS, *supra* note 13, at 32–35.

20. *See, e.g.*, GOLDSTONE, *supra* note 3, at 14 (“For most of the last 200 years, Europeans justified their sudden rise to global domination in terms of their own superior virtues. Singling out elements in their history borrowed from ancient Greece and Rome and proceeding through the Renaissance, Europeans prided themselves on having achieved special insights into nature. They congratulated themselves on having greatly developed their cities and their trade, sometimes forget-

Common explanations have thus pointed to factors like the specific laws of property and contract that were in play in these countries,²¹ their predominantly Protestant value systems,²² their tolerance toward (and spirit of) technological innovation,²³ and their relative openness to scientific discovery—to name a few.²⁴ These proposed explanations have had a number of important policy consequences with global reach, starting with various programs of foreign investment to spur technological development in the 1960s and 1970s,²⁵ and proceeding (in large part by way of the so-called “Washington Consensus” of the 1990s) to various attempts to export specific Western legal institutions to developing nations by conditioning foreign aid on their adoption.²⁶ Unfortunately, most economists now agree that this series of projects has largely failed.²⁷ Recent economic difficulties in the West have similarly made it clear that we may not fully understand how best to sustain the project of economic development and prosperity in our own case.²⁸

ting that when they joined the global trading circuits, great cities and immense trade already existed in Asia.”).

21. For one of the classic pieces developing this view, see DOUGLASS C. NORTH & ROBERT PAUL THOMAS, *THE RISE OF THE WESTERN WORLD: A NEW ECONOMIC HISTORY* 132–45 (1973).

22. See, e.g., GOLDSTONE, *supra* note 3, at 41–42 (“Two basic proposals attempt to explain how religious factors could have produced a unique Western path to riches: One proposal is that Western religion is generally different from Eastern religion. Western religion, it is suggested, is more active . . . Eastern religions, by contrast, are more passive . . . But we should also consider a second claim, first expressed by the German sociologist Max Weber. Weber argued that one particular Western religion—the Calvinist Protestantism that arose in the Reformation of the sixteenth century—is what made the West different.”).

23. See, e.g., *id.* at 18 (“David Levine, for example, has argued that technological changes began to intensify in Europe from about AD 1000 . . .”); Ulen, *supra* note 18, at 4 (“When modern economists, beginning with Sir Roy Harrod, Evsey Domar, and Robert Solow, first turned their attention to economic growth, they characterized the growth process as one that was technical and, at root, driven by improvements in the technology of production.”).

24. See, e.g., GOLDSTONE, *supra* note 3, at 136–61; see generally JOHN HENRY, *THE SCIENTIFIC REVOLUTION AND THE ORIGINS OF MODERN SCIENCE* (3d ed. 2008) (discussing the scientific revolution in Europe).

25. Ulen, *supra* note 18, at 5 (“The policy implications of the Harrod-Domar and Solow models of economic growth were seized upon in the 1960s and 1970s to guide [sic] aid and advice to the developing countries.”).

26. *Id.* at 8 (“[T]he ‘Washington consensus’ of the early 1990s had as one of its premises that aid should be conditional on the recipient’s adopting institutions that were thought to be conducive to modern economic growth—such institutions (and policies) as fiscal discipline, privatization of state-owned enterprises, trade liberalization, and deregulation.”).

27. See, e.g., *id.* (“There is now general agreement that the reform experiences of the 1990s, conducted under the Washington consensus, were not successful.”); *id.* at 5 (“The result of this (perhaps misguided) application of the Harrod-Domar and Solow models to development was grim failure. . . . The lack of progress of development in the poor countries through the 1980s gave rise to searches for better theories of growth and better methods of helping the poor nations.”); see also THE WORLD BANK, *ECONOMIC GROWTH IN THE 1990S: LEARNING FROM A DECADE OF REFORM*, at xi–xiii (2005) [hereinafter *WORLD BANK*]; Dani Rodrik, *Goodbye Washington Consensus, Hello Washington Confusion? A Review of the World Bank’s Economic Growth in the 1990s: Learning from a Decade of Reform*, 44 J. ECON. LITERATURE 973, 974 (2006).

28. See, e.g., Edmund L. Andrews, *Greenspan Concedes Flaws in Deregulatory Approach*, N.Y. TIMES, Oct. 23, 2008, at B1; see also Michael J. Zimmer, *Unions & the Great Recession: Is Transnation-*

The story developed in this Article suggests that these projects may all be failing for a similar reason: however well-intentioned they may have been, they have been attempting to generate explanations of modern economic development and the rule of law without a broad enough understanding of its place within the larger span of world history and prehistory.²⁹ Sometimes, an inadequate understanding of the achievements of other societies, along with various misconceptions about their true familial relations, have resulted in false distinctions being drawn between Western traditions and many others.³⁰ At other times, an inadequate understanding has resulted in an exaggerated focus on a small set of purported distinctions to explain modern economic development and the rule of law.³¹ In either case, the explanations have proven either wrong, or at least insufficient, and it should therefore be unsurprising that many of the policy recommendations based on them have proven largely ineffective.

The story developed here will, by contrast, suggest that recent developments in nineteenth-century England and the Netherlands (and, by extension, now in America) should be understood as only the most recent in a long line of historic and prehistoric developments within a much larger family of societies, each of which shares a common cultural source, builds upon a common cultural tradition (which includes a notable propensity toward trade), and has often exhibited unprecedented economic and political success for its time. When trying to understand the sources of modern economic development and the rule of law, an important part of the story will therefore almost certainly lie in features that modern Western societies *share* with this broader tradition. (In making this claim, I do not mean to suggest—of course—that these shared features will supply the sole explanation for the relevant developments in any given society, but I do mean to suggest that these shared features will provide a critical missing link in the full explanatory story.) If we hope

alism the Answer?, 15 EMP. RTS. & EMP. POL'Y J. 123, 128 (2011) (noting the resurgence of neoliberal economic theory after the Great Recession).

29. Jack Goldstone has made a similar charge in *Why Europe?: The Rise of the West in World History 1500–1850*. GOLDSTONE, *supra* note 3, at vii–viii. Here, he observes the traditional story that Western tradition has been a mostly autonomous series of inventions in Europe. *Id.* He counters that standard view with the idea that “[t]he rise of the West was . . . relatively recent and sudden and rested to a large degree on the achievements of other civilizations and not merely on what happened in Europe.” *Id.* at viii.

30. See, e.g., *id.* at 19 (noting that differences in birth rates and population increases have been exaggerated); *id.* at 52–57 (noting that differences in propensity for trade have been exaggerated); *id.* at 111–12 (noting that differences in rates of taxation have been exaggerated); *id.* at 120–35 (noting that differences in technological prowess, over sufficiently long time spans, have been exaggerated); *id.* at 99–108 (noting that amount of jurisdictional competition, in the sense of competition among individual states, between Eastern and Western states has been exaggerated); *id.* at 136–61 (noting that differences in commitment to scientific discovery have been exaggerated).

31. *Id.* at 14–15 (cataloguing a series of explanations that have been proffered, all of which focus on purportedly unique features of the West).

to understand our own routes to success, then we will therefore need to identify the specific features of this shared tradition that might have this explanatory significance.

Over the course of this Article, I will try to identify what some of these features might be, but my primary goal, with respect to this particular topic, will be to urge that we refocus some of our collective explanatory inquiries and research programs to address this critical question. Almost no scholarly attention has been paid to this particular question to date, because almost all legal and economic historians have been assuming that the relevant modern developments in the West have a unique cultural origin, which distinguishes them from many of the broader patterns of Indo-European social complexity that appear in the world historical record. If, however, these modern developments are better understood as just one branch of a much broader and much more ancient family of Indo-European traditions, which are themselves highly relevant to the emergence and stability of social complexity,³² then this scholarship has been seeking explanations of Western success in an overly narrow range of phenomena.³³ This fact would help explain some of the deficiencies with many of our modern explanatory projects, and we should expect that new research programs, which aim to identify the shared and causally efficacious features of this larger family of traditions, will prove capable of producing a range of important, new insights. Because of these facts, I believe it is much more important at this stage to urge collective pursuit of this refocused question than to claim a final and definitive answer to it. Still, I do have some preliminary views on how to answer the question as well, and I will present these views in the body of this Article.

The claims I will be arguing for in this Article are admittedly large ones, and they challenge views that most of us have grown up with and take for granted. Because of this, I understand that I bear an additional burden to present my arguments as clearly as possible. To that end, I have included graphic representations of many of the events that I describe, and these graphic representations have been constructed to orient the reader at critical stages of the argument. I have also begun the Arti-

32. When I use the term “social complexity,” I will be using the typical hunter-gatherer band as a standard against which this complexity can be measured. Relative to the typical hunter-gatherer band, a society will be said to have more “social complexity” to the degree that it governs increased populations and population densities and exhibits increased levels of social hierarchy, division of labor, and professional and political specialization.

33. It is—of course—well known that Western civilization is an Indo-European civilization, and Indo-European scholars have identified a large number of shared traits that Indo-European societies typically share. This type of comparative perspective has not, however, played a prominent role in legal or economic history, because most scholars believe that early Indo-European (or “Proto-Indo-European”) societies engaged in a primarily tribal and pastoralist form of life, and therefore had little to offer in terms of cultural traditions relevant to sustaining larger scale forms of social complexity with the rule of law. This is a view that I will be challenging.

cle with a graphic depiction of the larger story that I will be telling, as seen from a bird's eye perspective, and which the reader might reference from time to time for further orientation. I have written the Section headings in such a way that the Table of Contents doubles as an outline of the larger argument (which the reader might consider skimming with this in mind before proceeding any further), and I have included a comprehensive table (Table 1) at the very end of the Article that compiles all of the relevant evidence and argumentation in one place.³⁴ This last table should prove especially helpful to experts on the origins of the Proto-Indo-European languages and peoples, because experts will be familiar with the very broad range of evidence that arguably speaks to the underlying issues.

Finally, I have adopted a particular argumentative strategy that will, I hope, help to present the larger argument in easily digestible stages. In the next Part, Part II, I will offer a set of preliminary remarks aimed at framing the larger project and clarifying its scope and significance. Because I will be trying to detect genealogical relations that pierce the veil of history and go much further back into human prehistory, a threshold question will be how to approach these questions methodologically. Many of the early parts of this Article will seek to answer that question.

After preliminary remarks in Part II, Part III will begin to develop the relevant methodology by arguing that our earliest transitions from hunter-gatherer modes of subsistence (in which there are typically no recognizable legal systems, as distinct from moral systems) into more complex forms of society (in which incipient legal systems tend to arise and differentiate themselves from moral systems) correlates strongly with the emergence of major linguistic families at a decisive point in our human prehistory. An understanding of the roots of certain forms of prehistoric linguistic expansion should therefore prove helpful for identifying some of the earliest prehistoric developments of the special cultural traditions needed to sustain large-scale civilizations with the rule of law.

Part IV will then build on a number of known models of linguistic expansion to develop a novel model (the so-called "riverine-agricultural" model of linguistic expansion), which—I will argue—is a better model than the existing alternatives in the literature, for present purposes, because it is more highly sensitive to the precise levels of material, economic, and social development that existed during the relevant periods of transition. This model will allow me to suggest that certain specific classes of linguistic and archaeological facts are highly relevant to determining the prehistoric structure of our legal family tree. (When I speak of "legal family trees," I refer to the genealogical relationships that obtain between different legal traditions. When I speak of "legal traditions," I

34. See *infra* Table 1, pages 1698 to 1702.

will mean to distinguish phenomena not primarily by their *legal content*, however, but rather by the broader cultural traditions and culturally emergent psychological attitudes that tend to support legal systems with these different contents in the first place.)

More specifically, Part IV will argue that the earliest riverine-agricultural civilizations should be understood as simultaneously producing both the first major language families and the first cultural traditions capable of supporting incipient legal traditions. Because historical linguists have been able to decipher the prehistoric structure of the developments of modern language families, their findings can then be combined with a range of other archaeological and linguistic facts, including the riverine-agricultural model of linguistic expansion, to begin to reconstruct the prehistoric genealogical structure of the relevant traditions in the West. The riverine-agricultural model of linguistic expansion can also be used to pin many of these linguistic developments down to more specific features of the archaeological record. Given the nature of this methodology, I should acknowledge that it will depend, at least in part, on certain robust correlations, which I will seek to establish, between the transmission of native languages and the transmission of certain aspects of native culture that are relevant to the emergence and stability of different forms of human social structure.

Part V will then apply this methodology to relevant parts of the archaeological and linguistic record to argue for a specific prehistoric origin for our Western legal traditions (including the cultural traditions that support them) in what I will call the “Eastern-Iran-Bactria-Indus-Valley” region. I will suggest that some of the most important of these traditions most likely emanated into this larger region from the Indus Valley in the period from approximately 4500 BC until approximately 1900 BC, and I will present what I believe to be the most plausible shape of the more complex developments within this larger family of traditions.

In order to do this, Part V will begin with three novel arguments for an intermediate socio-linguistic proposition, which I will call the “Eastern Proto-Indo-European Expansion Thesis.” This thesis states that, between approximately 4500 BC and 1900 BC, the Indus Valley region (including the surrounding areas of ancient Bactria and modern-day eastern Iran) played the most central, the most significant, and the most enduring focal point for the prehistoric coordination and expansion of the Indo-European language family, and also for the development of several key Indo-European cultural innovations, which have made subsequent Indo-European groups particularly well adapted to transitioning into and sustaining large-scale societies with the rule of law. The claim that the people of the Indus Valley Civilization spoke a dialect (or dialects) of Proto-Indo-European reflects a distinct minority position in the literature, and the three novel arguments for the Eastern Proto-Indo-European Expansion Thesis should therefore be understood as contrib-

uting to a number of larger debates about the origins of the Indo-European peoples and languages as well. Debates over the location of the Proto-Indo-European “homeland” have, however, proven incredibly contentious,³⁵ and I therefore want to make an important clarification from the start. Although I cannot sidestep these controversies altogether, I want to emphasize that the story I will be developing does not exclude the possibility that earlier Proto-Indo-European speaking groups might have originated further to the west (from a place like Anatolia) and then migrated into the Indus Valley region in around 4500 BC. Indeed, I deem this contention to be not only possible but also highly probable, for reasons I will explain below.³⁶ This particular contention—which I take to speak to the more traditional Proto-Indo-European “homeland” question—is nevertheless fully consistent with the Eastern Proto-Indo-European Expansion Thesis that I will be developing here because my thesis is that, *wherever the earliest Proto-Indo-European speaking groups might have originated*, some of them (or their descendants) ultimately inhabited the Eastern-Iran-Bactria-Indus-Valley region from about 4500 BC until about 1900 BC, where they underwent a special set of social and cultural transformations that would expand from this region to have world-historical significance. In order to keep the distinction between my thesis and more traditional “homeland” theses clear, I have labeled it an “expansion” thesis. The Eastern Proto-Indo-European Expansion Thesis should prove controversial enough, without its being conflated with something it is not.

Part V will then harmonize the Eastern Proto-Indo-European Expansion Thesis with a much broader range of relevant linguistic and archaeological evidence to argue for a particular (and much more detailed and revised) story of our earliest origins. As already noted, this story will be consistent with an Anatolian origin for some of the earliest Indo-European peoples but will suggest that the Eastern-Iran-Bactria-Indus-Valley region is the most probable source of a number of subsequent Proto-Indo-European cultural innovations that have proven especially relevant to the emergence and stability of large-scale social complexity in a broad range of Indo-European traditions from around the world. I will also begin to describe an important but underappreciated set of early relationships that I believe to obtain between our current Western traditions and a range of other traditions that have typically been contrasted with the West. This revised story will, finally, allow me to depict what I believe to be the most plausible prehistoric family tree for the Indo-European cultural traditions relevant to producing and sustaining large-

35. EDWIN BRYANT, *THE QUEST FOR THE ORIGINS OF VEDIC CULTURE: THE INDO-ARYAN MIGRATION DEBATE* 4 (2001); J.P. MALLORY & D.Q. ADAMS, *THE OXFORD INTRODUCTION TO PROTO-INDO-EUROPEAN AND THE PROTO-INDO-EUROPEAN WORLD* 442–44 (2006).

36. See *infra* notes 104–05 and accompanying text.

scale civilizations with the rule of law. We will also have a revised, and somewhat transformed, understanding of some of the deepest legal origin variables that should prove relevant to a broad range of explanatory projects.

Readers who would like to jump ahead and view the final results of these arguments will find an illustration of the final phylogenetic tree I that I will be proposing in Figure 25 at page 1670. They will find a brief depiction of the traditional story of the origins of Western law and Western civilization in Figure 1 at page 1517, and a brief sketch of the alternative story I will be proposing in Figures 2 and 3 at pages 1532 and 1537 respectively. For a much more complete and detailed rendition of the revised origins story I will be proposing, they may consult Figures 24.1 to 24.4 (along with the accompanying text) at pages 1639, 1650, 1652, 1660, and 1670. Experts interested in seeing the larger body of evidence that I believe this revised origins story can render coherent—and, indeed, can *uniquely* render coherent—will find a compilation of the relevant evidence and argumentation in Table 1 on pages 1698–1702. Table 1 also compares the explanatory power of this new story against a range of more familiar “homeland” theories in the literature, and illustrates why I believe that the present story has decisive advantages over those other theories.

When considering the arguments in this Article, one should always remember that the transition from small-scale society into complex states with the rule of law has proven extremely difficult for many social groups. It is therefore notable that so many of the large-scale civilizations in world history—including all those mentioned earlier in this Introduction—have arisen within so-called “Indo-European” cultural traditions, despite the rather extreme geographic, social, and genetic diversity otherwise displayed by these groups.³⁷ The larger set of arguments in this Article can therefore be understood as proposing a specific explanation for why these many divergent (and often competing) Indo-European groups have exhibited such strong capacities to support transitions to large-scale civilization and the rule of law. If the arguments in this Article prove true, then these otherwise disparate groups are, in an important sense, culturally descended from a much more ancient set of cultural traditions, which first began to emerge in the Eastern-Iran-Bactria-Indus-Valley region as early as 4500 BC, and was one of the very first ever to

37. The term “Indo-European” was used as a linguistic category, after the discovery that certain Eastern languages in India and Iran are genealogically related (*viz.*, related by common ancestry) to the dominant languages in Europe. See, e.g., FORTSON, *supra* note 17, at 8–9 (noting how the British expansion into India and subsequent discovery of Sanskrit as a language related to Greek and Latin prompted recognition of the Indo-European language family). Soon thereafter, it was discovered that many of the cultural groups that speak Indo-European languages also have a range of important cultural similarities, which suggest a common origin as well, and allow for the term “Indo-European” to be extended from language families to cultural traditions. See *id.* at 18–24.

solve the problem of emergent, large-scale social complexity within our natural history as a species.

II. ON THE ORIGINS OF WESTERN LAW AND WESTERN CIVILIZATION

In this preliminary Part, I will do five things to help orient the reader and frame the larger project in this Article. In Section A, I will tease out the most important features of the traditional view of the origins of Western law and civilization. In Section B, I will explain why our traditional origins story typically begins where it does—at the dawn of history in ancient Greece, Rome, and Israel. I will, however, then go on to explain why we can no longer responsibly stop our inquiries into our origins here, given a number of contemporary advances in a broad range of cognate fields. If we hope to understand the full story of the origins of the West, then we need to begin looking much further back into human prehistory and try to reconstruct plausible accounts of these earlier periods as well.

In Section C, I will describe how these earlier periods have typically been pictured and suggest the need for an alternative. Section D will then present an alternative, by sketching out the revised origins story that I hope to establish over the course of this Article. The primary purpose of this sketch will be to orient the reader for the substantive arguments that will begin in Part III, and later Parts will develop this story in much greater detail. In Section E, I will then briefly gesture toward some of the larger consequences of this changed understanding of our earliest cultural origins.

A. *The Traditional Origins Story*

Let us begin by considering the traditional way that scholars have tended to picture the origins of our Western legal traditions. Figure 1 contains a graphic representation of the traditional story, as it is depicted in Harold Berman's influential and widely accredited work on this topic, and as it will be described in the remainder of this Subsection.

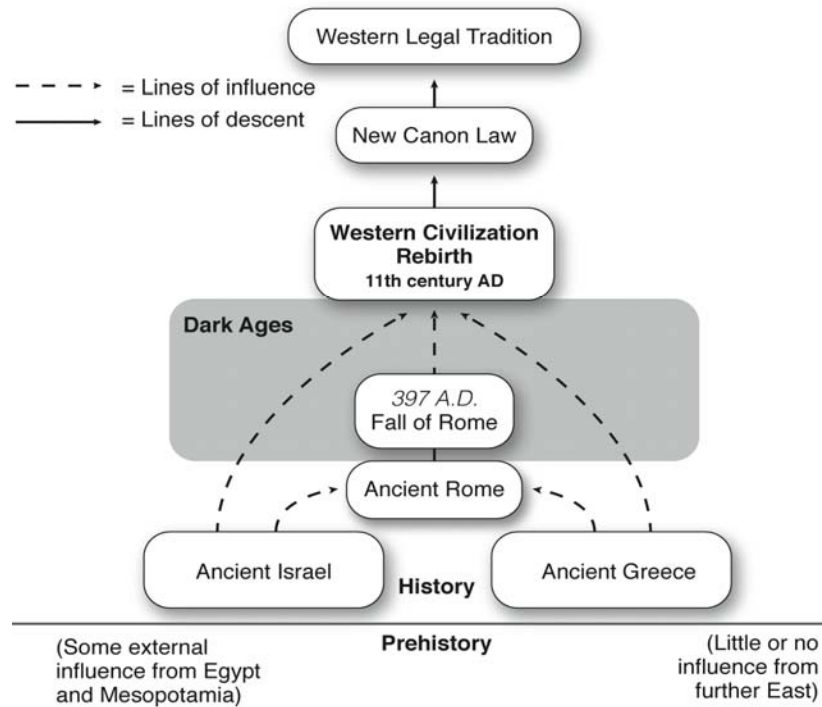
According to Berman, and as shown in Figure 1, what we call the "Western legal tradition" began only in the eleventh century AD, with the Gregorian Reformation and Investiture Struggle, which gave rise to the first recognizably modern Western legal system.³⁸ This was the "new system of canon law" of the Roman Catholic Church, which subsequently developed into a range of secular legal systems as well.³⁹ When Berman uses the term "Western," he is therefore referring not primarily to a

38. BERMAN, *supra* note 1, at 85–119 (arguing that specific events in the eleventh century allowed for the creation of the Western legal tradition).

39. *Id.* at 115–19.

geographical phenomenon, but rather to a historical-cultural one: *viz.*, to a set of “peoples whose legal tradition stems from these events” in the eleventh century.⁴⁰ To say that Western traditions “stem” from these

FIGURE 1
THE ORIGINS OF WESTERN LAW AND WESTERN CIVILIZATION
(TRADITIONAL STORY)



events is to make two distinct (but reciprocally reinforcing) claims: first, that there are direct and empirically discoverable lines of cultural and historical continuity between these early events and the subsequent traditions of the West; and, second, that the people who carry on these traditions self-consciously trace their origins, at least in part, to the events in question—with the result that they share a sense of being part of a single community with great temporal depth and consciously turn to this tradition for inspiration from time to time. When defined in this way, the West “is not . . . simply an idea; it is a community.”⁴¹

40. *Id.* at 2.

41. *Id.*

It is, moreover, a community that has proven especially well-adapted to developing and maintaining large-scale human civilizations along with the legal systems that help make them possible.⁴² To understand how this came to be, one must first look back to the complex set of events that helped raise western Europe out of the Dark Ages and into its first new stages of incipient urbanism and modern state building. The picture that emerges from this examination is not one of a civilization that rose by its own bootstraps. Rather, as Berman has shown, based on a wealth of historical evidence, this growth was greatly inspired by the rediscovery of certain ancient Greek, Roman, and Hebrew texts during the tenth and eleventh centuries AD.⁴³ Berman recognizes, of course, that certain aspects of these earlier traditions had also survived since the fall of the Roman Empire in 397 AD—sometimes in inchoate form and mainly by being embedded in Germanic folk tradition.⁴⁴ Still, as he points out, the tenth and eleventh centuries witnessed revolutionary social changes, which largely gave birth (or at least rebirth) to the project of civilization in the West.⁴⁵ These new developments depended not only on the survival and succession of earlier traditions during the Dark Ages but also on a renewed and more self-conscious appropriation of critical aspects of this deeper heritage.⁴⁶ As Berman puts the point: “Israel, Greece, and Rome became spiritual ancestors of the West not primarily by a process of survival or succession but primarily by a process of adoption: the West adopted them as ancestors.”⁴⁷ By doing so, the West became more conscious of its cultural origins and was able to begin drawing upon and amplifying those parts of its heritage that were better suited to the maintenance of large-scale civilization with the rule of law.⁴⁸

Interestingly enough, however, the story we tell ourselves about the origins of Western civilization typically stops here. If, for example, one hopes to inquire further into the origins of ancient Rome, one is apt to come across statements like the following one from *Roman Law in European History*:

Rome was [originally] a small community on the left bank of the river Tiber not far from its estuary. Its people believed that they were descended from refugees from the city of Troy after its sack by

42. The long list of empires that have arisen among Indo-European groups is a clear sign of this adaptability. See *supra* notes 15–17 and accompanying text.

43. BERMAN, *supra* note 1, at 3 (“What accounted for the major part of [these earlier traditions] influence[s] were the rediscoveries, reexaminations, and receptions of the ancient texts.”).

44. *Id.* (“Some Roman law, to be sure, survived in the Germanic folklaw and, more important, in the law of the church . . .”).

45. *Id.* at 4 (“[T]here was a radical discontinuity between the Europe of the period before the years 1050–1150 and the Europe of the period after the years 1050–1150.”); see also *id.* at 95–119.

46. See *id.* at 3–10 (describing “tradition” in the West to include organic growth, “with each generation consciously building on the work of previous generations”).

47. *Id.* at 3 (internal quotation marks omitted).

48. *Id.* at 3–10.

the Greeks. Their law was a set of unwritten customs, passed on orally from generation to generation to the next, which were regarded as part of their folk heritage as Romans.⁴⁹

Similarly, if one hopes to inquire into the origins of ancient Greek tradition, one is apt to come across statements like this one: “The origins of Greek law were situated within the confines of the *polis* itself.”⁵⁰

With regard to Hebrew culture, the West has had an even more complicated relationship. One should never forget that, given Berman’s definition of the “West,” and given his account of how this self-identified community first got started, the original people of the West “could be identified very simply as the people of Western Christendom,” since “from the eleventh to the fifteenth centuries the community of th[e]se people was manifested in their common allegiance to a single spiritual authority, the Church of Rome.”⁵¹ For this reason, Western civilization has often exhibited a deep (and sometimes even violent) aversion to viewing any aspects of its Hebrew tradition as anything other than the original revelations of its spiritual leaders.⁵²

In more modern times, the West has, of course, also begun to display varying levels of ambivalence toward the authority of its religious traditions, but—interestingly enough—even some of the most outspoken Western critics of these traditions, such as Friedrich Nietzsche, have tended to accept the proposition that the traditions themselves introduced something altogether new into the course of world history—in part so that they could bash it.⁵³ And so we are left with a common understanding of the origins of Western law and civilization as arising from a

49. PETER STEIN, *ROMAN LAW IN EUROPEAN HISTORY* 3 (1999).

50. Claude T. Aiken IV, *Sources of Law and Modes of Governance: Ethnography and Theory in Second Life*, 10 U. PITT. J. TECH. L. & POL’Y 1, 22 (2009); see also CHARLES FREEMAN, *THE GREEK ACHIEVEMENT: THE FOUNDATION OF THE WESTERN WORLD* 11 (1999) (noting that during the romantic period, “the Greeks were [often] presented as an isolated race of genius who laid the foundations of European civilization”); *id.* at 434 (“The Greeks provided the chromosomes of Western civilization. One does not have to idealize the Greeks to sustain that point. Greek ways of exploring the *cosmos*, defining the problems of knowledge (and what is meant by knowledge itself), creating the language in which such problems are explored, representing the physical world and human society in the arts, defining the nature of value, describing the past, still underlie the Western cultural tradition.”); *id.* at 442 (claiming that “Greek culture was born within the cockpit of the city,” and attributing to the Greeks the “birth of political thought,” among other things).

51. BERMAN, *supra* note 1, at 2.

52. See generally BRYANT, *supra* note 35, at 14–18 (describing some negative European reactions to arguments that Western civilization might have origins outside of Europe); *id.* at 22–29 (“The Indomania of early British Orientalists ‘did not die of natural causes; it was killed off’ and replaced by an Indophobia initiated by Evangelicism and Utilitarianism, epitomized by Charles Grant and James Mill, respectively.”).

53. See, e.g., FRIEDRICH NIETZSCHE, *A GENEALOGY OF MORALS* 31 (Alexander Tille ed., William A. Hausemann trans., 1897) (arguing that it is with Judaism that the “*slave-revolt in morality begins*: that revolt, which has a history of two thousand years behind it, and which to-day is only removed from our vision, because it—has been victorious”); *id.* at 33 (arguing that “Israel, with its vengeance and transvaluation of all values, has so far again and again triumphed over all other ideals, over all nobler ideals”); *id.* at 43 (explicitly linking these developments to the rise of modern civilization).

distinctive combination of three remarkable cultures, which straddled the fateful transition from human prehistory into human history and which must have witnessed remarkably creative outbursts of spiritual and intellectual energy.

The traditional story also typically acknowledges some earlier influences from two of the first non-Western human civilizations: namely, those of ancient Egypt and Mesopotamia.⁵⁴ No one, however, suggests that ancient Greece, Rome, or Israel are culturally *descended* from these earlier civilizations (including even by adoption), and hence these influences are correctly viewed as more external.⁵⁵ In any event, the standard story typically includes no reference whatsoever to the Indus Valley region⁵⁶ or to the surrounding areas of eastern Iran or Bactria, and it is this larger region—which ultimately lies much further to the East—that will be the main focus of the current Article. Hence, if our subject is the earliest origins of Western law and Western civilization, then the standard story really does locate the first relevant origins in ancient Greece, Rome, and Israel—as depicted in Figure 1 above.⁵⁷

B. Why the Traditional Story Stops Where It Does, and Why We Need to Look Further Back

I have no interest in challenging the role that ancient Greece, Rome, or Israel have played in shaping Western civilization, and indeed, I recognize that our self-conscious appropriation of these traditions has led to an increase in self-understanding, which has been transformative. In fact, I would like to use this Section in part to explain why, given the evolving state of our knowledge, it has often made quite a bit of sense—at least until quite recently—to begin the story of our origins in this traditional fashion. I also want to use this Section, however, to explain why I believe that things have begun to change in this regard. Contemporary

54. See, e.g., BICKERMAN & SMITH, *supra* note 3, at 17–58, 79–80 (discussing Egypt and Mesopotamia as part of the larger historical narrative of the West, though one that is disconnected in many ways from later developments in Greece and Rome); CHARLES R. WEBB, JR. & PAUL B. SCHAEFFER, *WESTERN CIVILIZATION: FROM ANCIENT TIMES TO THE EIGHTEENTH CENTURY* 13–20, 28–38, 63–89 (2d ed. 1958) (briefly describing Egyptian and Babylonian civilizations, before providing in-depth historical discussions of ancient Greece and Rome).

55. See, e.g., BICKERMAN & SMITH, *supra* note 3, at 79–80 (describing the “new civilization” that came afterwards in Greece and Rome as having a very different set of cultural origins); WILLIAM W. HALLO, *ORIGINS: THE ANCIENT NEAR EASTERN BACKGROUND OF SOME MODERN WESTERN INSTITUTIONS*, at xiv (1996) (“We are accustomed to acknowledging our legacy from the classical world of Greece and Rome . . .”); *id.* at xv (noting that the heritage relating to Egypt and Mesopotamia “tends to be defined by and confined to the religious realm,” and that the debt we owe to ancient Egypt and Mesopotamia is “most often relegated to the field of antiquarianism”); WEBB & SCHAEFFER, *supra* note 54, at 13–38 (suggesting that the early Greeks represented an alien intrusion which arrived long after the Egyptian and Mesopotamian civilizations had declined).

56. See BICKERMAN & SMITH, *supra* note 3, at 79–80 (providing no reference to the Indus Valley); HALLO, *supra* note 55, at xiv–xv (same).

57. See *supra* Figure 1.

developments in a range of cognate fields have now proceeded far enough that we have reached a critical tipping point and can begin to reconstruct various aspects of Western legal prehistory in a credible manner.

Beginning with the first point, everyone knows that our lines of human ancestry go much further back in time than ancient Rome and Greece. Insofar as we are interested in the origins of Western *law* and Western *civilization*, however, the typical view has been that it makes little sense to look back any further because these civilizations were not themselves part of any deeper traditions that might claim the mantle of civilization.⁵⁸ (Figure 1 indicates this feature of the traditional story by depicting ancient Greece, Rome, and Israel as undescended from any prior civilization—even if all three were influenced, in some external ways, by the civilizations in ancient Egypt and Mesopotamia.)⁵⁹ Our forefathers during the Reformation clearly believed this to be the case, as is revealed both by their patterns of attention and by their Christian understanding of their origins. These people were, however, limited—both by the resources available to them at the time and by their more limited state of knowledge and experience—to reclaiming those parts of their heritage that they were able to find in written texts by cultures with whom they had known relations. They were also limited by their literalist interpretations of Christian doctrine. Traditional historians tell us a similar origins story,⁶⁰ but they too have typically been limited, this time by the scope of their chosen subject matter, to tracing out those influences that are evidenced in the historical record (which is to say in the *written* record).

However understandable these limitations might have been at one time or from the perspective of certain disciplines, we can no longer responsibly end our inquiries here. Accumulating developments from a broad range of cognate disciplines—such as comparative and historical linguistics, archaeology, anthropology, evolutionary theory, geology, paleontology, hunter-gatherer studies, and comparative cultural and legal studies—have now advanced to a sufficient point that we can begin to

58. Berman, for example, argues that “what is known today as a legal system—a distinct, integrated body of law, consciously systematized—did not exist among the peoples of Western Europe” until the end of the eleventh and beginning of the twelfth centuries. BERMAN, *supra* note 1, at 49. He argues that there was a sharp break between this phenomenon and earlier Germanic folk law, but he also notes that this earlier law “was characteristic not only of the Germanic peoples in the period prior to the late eleventh century but also of all Indo-European peoples, from Kent to Kashmir, at one time or another in their development.” *Id.* at 61 (“Of course, there were a great many local differences from place to place and a great many changes over time; nevertheless, there was a common legal style.”). These same Indo-European traditions are, of course, the very ones that would have predated the forms of Roman law that served in large part as the basis for the emergence of “Western law” on Berman’s account.

59. See *supra* Figure 1.

60. See, e.g., GOLDSTONE, *supra* note 3, at vii–viii (describing the standard story told by economic and world historians about the origins of Western civilization).

triangulate from them to pierce the veil of history and look much further back into our cultural prehistory. Ever since the late seventeenth or early eighteenth century, we have, for example, known that the ancient Greek and Latin languages are branches of a much larger family of languages: the Indo-European family.⁶¹ Other branches of this family have been identified all across Eurasia and include Celtic, Italic, Germanic, Baltic, Slavic, Iranian, Indo-Aryan, Tocharian, Armenian, Albanian, and Anatolian.⁶² We also know that these branches all descended from a common “Proto-Indo-European” parent language, which was once spoken in a highly localized geographic area,⁶³ most likely sometime around 4500 BC. (There is actually quite a bit of controversy over this date, and I will discuss the grounds for this controversy and my reasons for suggesting 4500 BC at the appropriate time.)⁶⁴ We can therefore infer that there has been an uninterrupted chain of social contact (of dimensions that have yet to be fully explored) between the speakers of this original language and the speakers of each of these descendant languages. Because an important subset of social and cultural traditions are typically transmitted along with native languages, these linguistic facts should have important social and cultural correlates. Comparative cultural studies have, in fact, revealed a surprising degree of formal and substantive similarities between the different branches of the Indo-European family, not only at

61. MALLORY & ADAMS, *supra* note 35, at 6–11.

62. *Id.* at 12–15.

63. *Id.* at 11 (“This language family was established on the basis of systematic correspondence in grammar and vocabulary among its constituent members. The similarities were explained as the result of the dispersal or dissolution of a single ancestral language that devolved into its various daughter groups, languages, and dialects.”); *id.* at 442–43 (explaining why linguists have concluded that Proto-Indo-European must have been spoken in a relatively small geographical area at some point in time); *see also* M.L. WEST, *INDO-EUROPEAN POETRY AND MYTH 1* (2007) (“All serious students operate on the assumption of a single parent language as the historical source of all the known Indo-European languages.”).

64. There is actually a great deal of controversy over when precisely to date Proto-Indo-European. MALLORY & ADAMS, *supra* note 35, at 86–87. Given the agro-pastoralist vocabulary that is typically attributed to it, however, and given that agriculture was not developed in any of the areas where Indo-European was spoken until about 7000 BC, most investigators believe that it could not have been spoken much earlier than 7000 BC. *Id.* at 102. There is also some evidence that the Anatolian branch, which was the first to split, has no cognate word for “domestic horse,” whereas all of the other branches do. *Id.* at 109, 154. This provides some evidence suggesting that the first branch may have occurred prior to the domestication of the horse, which was in about 4000 BC. *See* DAVID W. ANTHONY, *THE HORSE, THE WHEEL, AND LANGUAGE: HOW BRONZE-AGE RIDERS FROM THE EURASIAN STEPPES SHAPED THE MODERN WORLD 200* (2007) (explaining that the earliest evidence of horse domestication occurred sometime after 4800 BCE). Because reconstructed Proto-Indo-European has an extensive Neolithic vocabulary, it cannot plausibly be older than about 8000 BC, and—because most of its branches, other than Anatolian, share a term for the wheel (which shows up in the archaeological record in about 4000 BC)—it is plausible to assign it a date of approximately 4500 BC. MALLORY & ADAMS, *supra* note 35, at 102–03. Ultimately, however, it is extremely difficult to assign a date to Proto-Indo-European without a larger theory of how the various branches might have transpired and what features of the archaeological record might evidence them. *Id.* Hence, my main reasons for assigning this date can only be understood by reading the larger account that is developed in this Article.

the level of language, but also at the level of mythology, social structure, religion, ritual, music, and poetics⁶⁵—to name a few.

For present purposes, two similarities will be of particular importance. The first is the tendency of many traditional Indo-European cultures to promote a specific division of society into three—and sometimes four—distinct classes, with one class tasked with war and ruling (the aristocratic class); a second tasked with performing various sacred and religious duties (the priestly, and often the judicial, class); a third tasked with carrying out a broad range of more common vocations related to production, such as crafts, trade, animal husbandry, and agriculture (the common class); and—in some cases—a fourth tasked with so-called “menial” or “servile” tasks (the servant class).⁶⁶ The Celtic⁶⁷ and Indian branches of the Indo-European family are, for example, some of the most geographically distant (with the former appearing primarily in modern-day Scotland and Ireland and the latter appearing primarily in modern-day India)—and yet both of these branches exhibit this precise division.⁶⁸ Within traditional Indo-European societies—including both

65. See MALLORY & ADAMS, *supra* note 35, at 423–41 (mythology); *id.* at 408–14 (religion); *id.* at 415–22 (grammar); *id.* at 266–86 (social structure); *id.* at 239–53 (material culture); *id.* at 203–18 (family and kinship). M.L. West had similarly described a broad range of poetic and mythological parallels between a host of different Indo-European societies. See generally WEST, *supra* note 63.

66. The most famous proponent of this idea was Georges S. Dumézil. See MALLORY & ADAMS, *supra* note 35, at 429–30.

67. There has been some controversy as to what the appropriate extension of the term “Celtic” is and as to whether the groups to whom the term typically refers ever thought of themselves as part of a single socio-cultural group. See J.X.W.P. Corcoran, *Introduction* to NORA CHADWICK, *THE CELTS* 17 (1970) (“It is also difficult to define concisely what is meant by Celt or Celtic.”). Still, the ancient Romans used the term to refer to the groups who inhabited most of northern and western Europe during the Roman Empire, and the Romans perceived sufficient cultural similarities among these groups to warrant a common label. See *id.* (“To the Greek and Latin writers of the second half of the first millennium B.C. the Celts were recognizable as a cultural entity occupying part of Europe. The words *Keltoi* or *Galli* (Gauls), the name used by the Romans, presumably required no explanation. In more recent times, expressions such as the ‘Celtic Fringe’ have been used freely without the necessity of explaining that the term applies to the Celts of Brittany, Britain and Ireland. These latter are the Celts, something of whose culture, languages, law and social institutions has survived into modern times. They would seem to be the inheritors of a Celtic way of life which originated in the prehistoric past.”). It is typically assumed that all or most of these groups also spoke languages that fell within the Celtic branch of the Indo-European language family. See MALLORY & ADAMS, *supra* note 35, at 15–18 (discussing the Celtic language branch).

68. For the Celts in Gaul, for example, the druids had a “period of training [that] lasted for some twenty years,” whereas the closely related “*vates*” learned disciplines that “took up to twelve years to master.” Anne Ross, *Ritual and the Druids*, in *THE CELTIC WORLD* 423, 426 (Miranda J. Green ed., 1995). Ross states that the druids “clearly correspond to the Brahmins of ancient India and the Flamines of early Rome” insofar as “all three must be seen as the representatives of and descendants from the ancient Indo-European priestly caste.” *Id.* at 431. She also observes that the “Druidic teaching was oral.” *Id.* The Druids “had control over all sacrifices, both public and private[,] . . . gave rulings on all religious questions[,] . . . [and] were also called upon to act as judges in criminal cases and in disputes about boundaries and inheritances.” BARRY CUNLIFFE, *THE ANCIENT CELTS* 190 (1997). They were also “required to spend twenty years studying the doctrine [upon which they based these activities], committing everything to memory.” *Id.* at 191. In Hinduism, as early as the Rig Veda, there was a recognition of four “divers orders of men—the priests (Brahmā or Brāhmana), the nobles (Rājanya or Kshatriya), the tillers of soil (Viç or Vaiçya), and the servile classes (Çūdra).” 1 THE

the Celtic and Indian branches—both the warrior and priestly classes have, moreover, typically been considered nobility,⁶⁹ which means that the attitudes of these traditional societies toward social authority have typically been bifurcated between two distinct social classes.

Earlier, I suggested that one of the primary goals of the current Article is to establish that certain features of our *shared* Indo-European traditions have been playing a special and underappreciated role in easing the transitions of numerous Indo-European groups from relatively simple into much more complex societies with the rule of law. I suggested that we will therefore need to inquire further into what some of those shared features might be (and stop seeking explanations for modern Western success almost solely in features of Western societies that are wholly unique or idiosyncratic to them). I also said, however, that I would try to identify some plausible candidates for this role—at least for purposes of illustration. In my view, the special and highly idiosyncratic attitude toward political authority that is currently under discussion may well be one of these special features. I say this because a widely shared attitude of this kind can help animate a robust system of checks and balances on political authority, which is perceived as legitimate by a population, and which operates by pitting two related classes of authority or two related claims of authority against one another. Widely shared attitudes like these can thus help to legitimate political power in the eyes of a population, while simultaneously placing important constraints on that power that are also perceived as legitimate. Attitudes like these would thus appear to be particularly well adapted to entering into a kind of self-reinforcing equilibrium among large groups of people, which can help create the social conditions needed for the law to maintain its perceived (and hence sometimes even real) legitimacy.

Elsewhere, I have also written about the psychological attitudes needed to sustain emergent legal systems, and about the special socio-cultural conditions in which these attitudes can arise and persist in equilibrium.⁷⁰ As a general matter, a social group must contain a special and culturally emergent sense of obligation, which contains attitudes of def-

CAMBRIDGE HISTORY OF INDIA: ANCIENT INDIA 48 (E.J. Rapson ed., 1962) [hereinafter HISTORY OF INDIA]. This later coalesced into a more strict caste system, with divisions of the same name. See *id.* at 82 (discussing whether caste system had developed by the Rig Veda period).

69. CUNLIFFE, *supra* note 68, at 190 (“Druids belonged to the social élite . . .”); *id.* at 107 (“That Celtic society was strongly hierarchic is evident from the archaeological record of burials. It is also reflected in Caesar’s stark generalization that in Gaul only two classes were of any significance, the Druids and the knights . . .”); HISTORY OF INDIA, *supra* note 68, at 82 (referring to the third class as the “commoner” class).

70. See Robin Bradley Kar, *Outcasting, Globalization, and the Emergence of International Law*, 121 YALE L.J. ONLINE 413 (2012); Robin Bradley Kar, *The Two Faces of Morality: How Evolutionary Theory Can Both Vindicate and Debunk Morality (with a Special Nod to the Growing Importance of Law)*, in NOMOS LII: EVOLUTION & MORALITY (James E. Fleming & Sanford Levinson eds., 2012); see also Robin Bradley Kar, *The Deep Structure of Law and Morality*, 84 TEX. L. REV. 877 (2006).

erence to an externally identified authority (along with its perceived warrant) and is sufficiently widespread and backed by social support, to maintain a functioning legal system. The special Indo-European attitudes toward authority that are under discussion here are typically bound up with a widely shared and socially stabilized sense of interpersonal obligation and respect for law among the relevant populations, and this complex constellation of psychological attitudes would thus appear to play the right kind of role needed to sustain an emergent legal system. If this is so, then these culturally transmitted attitudes—which contain a bifurcated attitude of deference to political authority—may well be playing a highly critical but underappreciated role in sustaining both the rule of law and the many benefits (and costs) that come with it in many Indo-European societies.

Given the nature of this last suggestion, I should acknowledge that the three- (to four-) part social division under discussion—which was first and most famously propounded by Georges Dumézil⁷¹—has received some criticism in recent years, primarily from scholars who emphasize the variability of many Indo-European groups.⁷² I am sympathetic to these criticisms, along with the caution that these scholars urge about overgeneralizing when describing particular Indo-European groups. Still, I believe that this particular division (which plays itself out in different ways in many different Indo-European groups) captures something at precisely the right level of generality for the type of explanatory project under discussion here. If the larger arguments in this Article are correct, then what we will ultimately need to explain is the very broad and seemingly unusual capacities of many Indo-European social groups and traditions, over a wide expanse of space and time, to develop from relatively simple into much more complex societies with the rule of law. We will also need to explain their relative tendencies toward stability once they have reached this level of social complexity. Hence, the features needed to explain these broad and shared tendencies will need to be equally broad or structural in form.⁷³

71. For classic development of this so-called “tripartite hypothesis” concerning the division of social roles in Proto-Indo-European societies, see generally GEORGES DUMÉZIL, *FLAMEN-BRAHMAN* (1935); GEORGES DUMÉZIL, *MITRA-VARUNA: AN ESSAY ON TWO INDO-EUROPEAN REPRESENTATIONS OF SOVEREIGNTY* (Derek Coltman trans., 2d ed. 1988).

72. See, e.g., AXEL MICHAELS, *HINDUISM: PAST AND PRESENT* 168 (Barbara Harshav trans., Princeton Univ. Press 2004) (1998) (“It is hardly tenable that the Varna order must be seen as an Indo-European tripartite division of social functions, as George Dumézil assumed. Vaiśyas, Śūdras, Untouchables, or all three together are too interchangeable as respective remnant categories vis-à-vis Brahmins and Kṣatriyas.”); see also WOUTER W. BELIER, *DECAYED GODS: ORIGIN AND DEVELOPMENT OF GEORGES DUMÉZIL’S “IDÉOLOGIE TRIPARTITE”* 17–20 (1991) (summarizing various critiques of Dumézil’s tripartite system).

73. It should be noted, in addition, that any features articulated at this high level of generality will be susceptible to the basic type of criticism under discussion here, and so susceptibility to this type of criticism cannot in itself be a criterion for excluding a candidate explanation. I mention this fact here because it will presumably apply not only to the explanation that is currently under discussion but

The three- (to four-) part social division under discussion is, moreover, precisely the right kind of candidate for playing the specific explanatory role in question. Not only is it difficult to identify other commonalities among Indo-European groups that are as fundamental and operate at such a high level of generality, but legal systems also depend upon a specific type of division of social labor, with official classes (sometimes different ones) who have the perceived authority to do things like adjudicate various disputes between parties, identify what the law is, and sometimes alter the content of the law.⁷⁴ It is therefore noteworthy that hunter-gatherer bands—which are typically much simpler and more egalitarian in social structure⁷⁵—usually lack the kinds of social hierarchies and social divisions of labor needed to fulfill these roles.⁷⁶ Hunter-gatherers also typically lack law.⁷⁷ The special, bifurcated, and highly idiosyncratic attitudes that many Indo-European groups display towards political authority would, on the other hand, seem to be very well suited to sustain the special kinds of hierarchical authority structures and divisions of role and specialization needed to sustain legal systems. If the larger arguments in this Article are correct, then we will therefore need to subject this proposal—and others like it—to much more rigorous empirical testing, and begin to study the structure and features of these special psychological attitudes in much greater detail.

The second relevant similarity between most traditional Indo-European societies is their tendency to rely on their spiritual class to act as the depositories of a complex set of oral traditions that often govern exercises of political authority. In many traditional Celtic and Indian societies, for example, these persons—who were typically called the “Druids” in Celtic culture and the “Brahmans” in Hindu culture—were initiated into the priestly class by means of a highly rigorous apprenticeship, which often lasted for well over a decade, and during which time they were required to memorize and be able to reproduce verbatim an incredibly lengthy set of epics and religious, philosophical, and legal compositions.⁷⁸

also to most other plausible candidates that we might examine as we try to identify the relevant causal factors in a more rigorous fashion.

74. H. L. A. HART, *THE CONCEPT OF LAW* 197–98 (1961).

75. Patrick McConvell, *Language Shift and Language Spread Among Hunter-Gatherers*, in *HUNTER GATHERERS: AN INTERDISCIPLINARY PERSPECTIVE* 143, 143–44 (Catherine Panter-Brick et al. eds., 2001).

76. *Id.* at 145.

77. Richard B. Lee & Richard Daly, *Introduction: Foragers and Others*, in *THE CAMBRIDGE ENCYCLOPEDIA OF HUNTERS AND GATHERERS* 1 (Richard B. Lee & Richard Daly eds., 1999).

78. See HAJIME NAKAMURA, *A COMPARATIVE HISTORY OF IDEAS* 23 (KPI 1986) (1975) (“The Vedic scriptures were transmitted by oral tradition alone in ancient times. . . . Even today, although important texts are accessible in inexpensive printed editions, these scriptures are taught orally.”); MAYA MAGEE SUTTON & NICHOLAS R. MANN, *DRUID MAGIC: THE PRACTICE OF CELTIC WISDOM* 136 (2d ed. 2002) (“The Druids organized knowledge, passed it on through oral tradition, and served the political, social, and spiritual needs of the people. The primary purpose of this emerging class of

For example, the Druids of some periods were tasked with memorizing the oral laws of Fénechus, which formed the basis for the ancient Irish law system. The Brahmins of certain periods were tasked with memorizing the oral laws of Manu, which formed the basis for traditional Hindu law. Comparative cultural scholars have found striking resemblances between these oral traditions,⁷⁹ and the earliest recorded version of the laws of Manu is typically dated back to somewhere between 200 BC and 200 AD⁸⁰—though we can be quite sure that earlier oral traditions preceded this one. When reduced to writing, the laws of Manu span a remarkable twelve chapters with 2684 provisions.⁸¹ Importantly, the members of the Indo-European spiritual classes, who were responsible for memorizing and transmitting oral traditions like these, were also often responsible for drawing on these oral traditions to advise the ruling classes on a host of spiritual, legal, and political matters.⁸²

These similarities might be of merely tangential interest to the origins of Western law and Western civilization, were it not for the similar points that can be made about those Roman traditions that ultimately inspired ours. To understand this point, it will help to trace out some of the relevant developments in reverse chronological order, beginning with the following fact: during the Great Reformation of the eleventh century AD, the Roman Catholic Church based its new canon law (and, hence, the first recognizably modern Western legal system) on the newly rediscovered Justinian Code from ancient Rome.⁸³ The Emperor Justinian

scholars and bards was to supply an increasingly sophisticated society with words and images about itself. The Druids remembered stories, songs, and myths; they knew ancestries, prophecies, pledges, treaties, alliances, and legal codes.”).

79. See, e.g., PETER BERRESFORD ELLIS, *THE CELTS: A HISTORY* 6 (Carroll & Graf Publishers 2004) (1998) (demonstrating at least seven similarities between the Vedic Laws of Manu and the Irish Laws of the Fénechus).

80. See, e.g., BURJOR AVARI, *INDIA: THE ANCIENT PAST—A HISTORY OF THE INDIAN SUB-CONTINENT FROM C. 7000 BC TO AD 1200*, at 142 (2007) (“[I]t might have been composed any time between 200 BC and AD 200 . . .”).

81. See *id.* (“consisting of 2,684 verses divided into twelve chapters”); see also *THE LAWS OF MANU*, at xvi (Wendy Doniger & Brian K. Smith trans., 1991) (noting 2685 verses).

82. See, e.g., PETER BERRESFORD ELLIS, *A BRIEF HISTORY OF THE DRUIDS* 202 (2002) (“An interesting parallel emerges here in that we find in Hindu society a class of poets emerging called *sutas* or court poets who also acted as charioteers for the warriors. The charioteer in Hindu tradition was the intimate friend of the warrior and we find just such a relationship in Irish sagas, the best known being that of Cúchulainn and Loeg Mac Riagabra.”); MANGAL SEN JINDAL, *HISTORY OF ORIGIN OF SOME CLANS IN INDIA* 30 (1992) (The “(King) was expected to rule according to the customary law and was helped in the administration by a number of functionaries,” including the “Brahman advisor of the King,” who also “composed Hymns in praise of his [patron’s] exploits . . .”); J.A. MACCULLOCH, *THE RELIGION OF THE ANCIENT CELTS* 307 (1911) (“Dio Chrysostom alleges that kings were ministers of the Druids, and could do nothing without them. This agrees on the whole with the witness of Irish texts. Druids always accompany the king, and have great influence over him. According to a passage in the *Táin*, ‘the men of Ulster must not speak before the king, the king must not speak before his Druid’ . . . This power, resembling that of many other priesthoods, must have helped to balance that of the warrior class . . .” (citations omitted)).

83. STEIN, *supra* note 49, at 49–52 (discussing the origins of Roman Catholic canon law).

had compiled this Code in 534 AD, shortly after the fall of Rome, in an attempt to salvage and reinvigorate the laws of its mature empire.⁸⁴

Although Roman laws had been developing for some time since the fall of Rome, Justinian took it as his aim to restore them as they existed in Rome's golden era, which had reached its height approximately three centuries earlier.⁸⁵ These golden-era laws were also the result of many developments, which had been taking place over the course of earlier Roman history, but—despite a number of known transformations—these earlier developments were typically understood and received by Romans as elaborations of more basic legal principles, which had been codified much earlier in 451 BC as part of the Twelve Tables of Rome.⁸⁶ The Twelve Tables of Rome were the first written laws in Roman history.⁸⁷

The story of the Twelve Tables takes us back even further—and, ultimately, to both an oral tradition and a clash between Roman social classes that is highly reminiscent of the social dynamics of many other branches of the Indo-European family. Up until 451 BC, the pontiffs—who were the Roman priestly class—had been responsible for maintaining and applying Roman legal, religious, and spiritual traditions, and these traditions had all been transmitted orally (just as in other traditional Indo-European groups).⁸⁸ The plebeians—who were the Roman class of ordinary traders, farmers, and workers—had nevertheless successfully pushed for a written codification of these oral traditions, at least as they pertained to law, in part to help ensure their impartial application.⁸⁹ (The other two social divisions in Roman society were the patricians⁹⁰ and the slaves.) The pontiffs thus “prepar[ed] a written text of the customary law, on the lines of the famous Athenian laws of Solon,”⁹¹ and the result was the Twelve Tables of Roman law. Still, when writing the Twelve

84. *Id.* at 33 (“His legal work was part of an ambitious programme to renew the ancient glory of the Roman empire in all its aspects. . . . Justinian consciously looked back to the golden age of Roman law and aimed to restore it to the peak it had reached three centuries before.”).

85. *See id.* at viii.

86. *Id.* at 7 (“During the course of the republic some features of the Twelve Tables were modified. . . . But even 500 years after the enactment of the Twelve Tables, the Romans liked to look back on the [Twelve Tables] as what the historian Livy called ‘the source of all public and private law,’ and Cicero says that schoolboys had to learn its contents by heart. The Romans had a strong feeling that their law was of long standing and had been in essentials part of the fabric of Roman life from time immemorial.”).

87. *Id.* at 3–4.

88. *Id.* at 3 (“Their law was a set of unwritten customs, passed on orally from one generation to the next, which were regarded as part of their folk heritage as Romans.”); *id.* (“In cases where the application of a customary rule to a particular case was doubtful, the interpretation of the college of pontiffs, a body of aristocrats responsible for maintaining the state religious cults, was decisive.”).

89. *Id.* at 3–4 (explaining that, in approving the Twelve Tables, citizens “did not feel that [they were] making new law to replace [the] old,” but rather were “fixing more precisely what had always, in general terms, been the law”).

90. Technically, the pontiffs were also considered to be patricians, because they were part of the social elite. They were nevertheless distinguished from other patricians, and so fell into a distinct social group. *See id.* at 3 (distinguishing the college of pontiffs from the citizen bodies of Rome).

91. *Id.*

Tables, the governing assembly “did not feel that it was making new law to replace old law; rather it was fixing more precisely what had always, in general terms, been the law (*ius*).”⁹² Indeed, “[t]he Romans had a strong feeling that their law was of long standing and had been in essentials part of the fabric of Roman life from time immemorial.”⁹³ This perception suggests that the Roman pontiffs had been preserving these oral traditions with much the same sense of sanctity that the Druids had been preserving traditions like the laws of Fénechus, and the Brahmans had been preserving traditions like the laws of Manu, for what was likely millennia prior to the dawn of human history.

Furthermore, the legal systems that have resulted from different Indo-European oral traditions exhibit parallels that suggest a deep common origin. For example, the linguists Hans Henrich Hock and Brian D. Joseph have noted the following:

In the ancient Roman, Greek, and Hittite legal traditions, one finds a parallel treatment of offenses committed by someone who is not considered a legal person—a slave, a child, a cow, or the like. In principle, several outcomes are possible; for example, declaring the offense to be a nonoffense (as is done with some juvenile offenses in the United States); providing restitution; turning the offender over to the person who suffered from the offense; and so on. What is interesting is that all three ancient traditions offer the same resolution—a choice is allowed between restitution and turning the offender over to the plaintiff. Thus, the structures of the legal codes are completely parallel, with not just one outcome being prescribed but a choice between two outcomes and, moreover, the same choices (out of several conceivable ones) being specified in all three traditions. Further, cognate vocabulary is used: Latin uses the verb *sarcire* ‘to make amends for’ and Hittite the related verb *sark-* ‘make restitution for.’ For the alternative action, of ‘giving over,’ Greek uses the verb *para-dídōmi* (root: *dō-* ‘to give’) and Latin the verb *dedere* (also from the root *dō-*). The structural parallels combined with the linguistic parallels thus permit us to infer a common origin for the legal practices being compared and even provide us with an idea of the technical legal language covering such situations in Proto-Indo-European.⁹⁴

The question therefore arises whether there is anything worthwhile to say about the common origin of these Indo-European oral traditions—with special reference to any features that might have contributed to the development of large-scale human civilizations with the rule of law in the

92. *Id.* at 4.

93. *Id.* at 7.

94. HANS HENRICH HOCK & BRIAN D. JOSEPH, LANGUAGE HISTORY, LANGUAGE CHANGE, AND LANGUAGE RELATIONSHIP: AN INTRODUCTION TO HISTORICAL AND COMPARATIVE LINGUISTICS 510–11 (Werner Winter ed., 1996) (emphasis added).

West. Contemporary developments in a broad range of cognate fields are beginning to let us investigate this question more concretely, and—given the apparent relevance of this question to the early phylogenetic structure of our Western legal traditions—we can no longer responsibly refrain from doing so.

C. Our Deeper Prehistoric Origins in Indo-European Cultures—The Traditional Story and the Need for an Alternative

The last Section left us asking whether there might be any features of our much more ancient Indo-European traditions that might help explain our seemingly unusual capacities, in the West, to produce and sustain large-scale civilizations with the rule of law. These more ancient traditions were transmitted orally from generation to generation, and—given the similarities described in the last Section between traditions as distant as those of the ancient Greeks and Hittites—this method of transmission must have been working quite well for millennia prior to the dawn of human history. These facts should not be all that surprising. It is a well-documented fact that traditional Indo-European societies employ special mnemonic techniques and special mechanisms of transmission to ensure an extraordinarily high degree of accuracy in the preservation of their oral traditions.⁹⁵

It is nevertheless precisely at this juncture that one is likely to encounter another common view, which is widespread in the secondary literature and which might seem to justify our traditional reluctance to look back any further than ancient Greece and Rome when trying to understand the origins of our Western legal traditions. This is the view that the original Proto-Indo-Europeans were little more than primitive, nomadic pastoralists, who traveled in small, mobile groups and would have therefore lacked any significant cultural contributions to the development of large-scale civilization with the rule of law.⁹⁶ This view obviously contrasts with the ones I will be defending here, because I will be arguing that our Proto-Indo-European forebearers were more likely the product of a much more complex early social and cultural history, which ended up producing one of the very first ancient civilizations within our natural history as a species. On this alternative view, our Proto-Indo-European forebearers would have therefore already had a special set of cultural inheritances, which would have helped with many of their subsequent transitions into large-scale civilizations with the rule of law.

Figure 2 depicts these two alternatives, as they will be further described in the remainder of this Section. It may help to notice that Fig-

95. FORTSON, *supra* note 17, at 33.

96. See, e.g., AVARI, *supra* note 80, at 60 (referring to original Indo-Europeans in India as “[g]roups of nomadic tribal people from eastern and southern Afghanistan”).

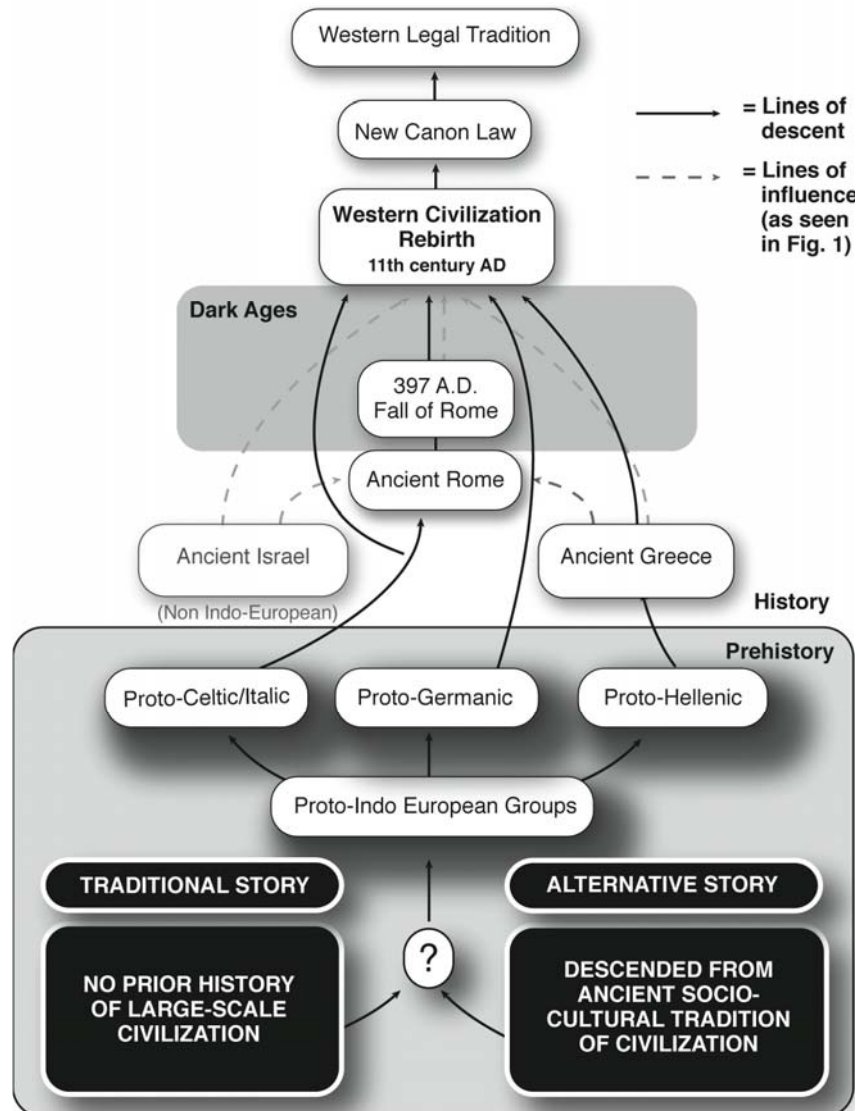
ure 2 essentially modifies and extends Figure 1 to include a more detailed depiction of human prehistory. This depiction is also informed by a number of well-known facts about the phylogenetic structure of the Indo-European language family, which will be introduced in more detail in Part V.D.

So let us consider these two alternatives. Perhaps the most familiar version of the traditional view is due to Marija Gimbutas's highly popular and influential work. According to Gimbutas (whose view is often referred to as the "Kurgan hypothesis"), the original Proto-Indo-Europeans were relatively primitive nomads who originated in the Ukraine, where they were the first to domesticate the horse, and their first real contribution to world history is that, by 3500 BC (and hence long before the dawn of human history), they had invaded and destroyed a number of much more advanced agriculturalist and matriarchally based civilizations in Old Europe.⁹⁷ A commonly perceived corollary of this view—which, interestingly enough, exhibits striking but underappreciated inconsistencies on its sleeve—is that at or around 1500 BC, these same primitive nomads entered the Indian subcontinent from the northwest, and introduced its indigenous inhabitants both to the Indo-European languages and to the first glimmers of what we now think of as Indian civilization.⁹⁸

97. See generally MARIJA GIMBUTAS, *THE KURGAN CULTURE AND THE INDO-EUROPEANIZATION OF EUROPE* (Miriam Robbins Dexter & Karlene Jones-Bley eds., 1997) [hereinafter GIMBUTAS, KURGAN CULTURE]; see also Marija Gimbutas, *The Indo-Europeans: Archeological Problems*, in GIMBUTAS, KURGAN CULTURE, *supra*, at 12, 30–31 [hereinafter Gimbutas, *Archeological Problems*]; Marija Gimbutas, *The Three Waves of the Kurgan People into Old Europe, 4500–2500 B.C.*, in GIMBUTAS, KURGAN CULTURE, *supra*, at 240, 240–41 [hereinafter Gimbutas, *Three Waves*].

98. See, e.g., AVARI, *supra* note 80, at 60 ("Groups of nomadic tribal people from eastern and southern Afghanistan started migrating to the Indian sub-continent around 1700 BC; and their movement gained momentum with the arrival, about 1400 BC, of a particular group which called itself *Arya*, or noble. . . . The Indo-Aryan culture that eventually emerged, more commonly known as the Vedic Culture, is still with us in India, forming the essential core of Hindu religion and society."); BRYANT, *supra* note 35, at 38–40 (discussing implications of Gimbutas's theory for Indian prehistory); THE ARYAN DEBATE xiii (Thomas R. Trautmann ed., 2005) ("The first position, the *immigrant Aryan* position that the Aryans came to India from outside in about 1500 BC, I will call the *standard view* because it is the interpretation that has prevailed in school and university history textbooks and in academic journals and books.").

FIGURE 2
OUR PREHISTORIC ORIGINS IN INDO-EUROPEAN SOCIETIES
(TRADITIONAL STORY v. ALTERNATIVE STORY)



In a view like Gimbutas's, the original Proto-Indo-Europeans could not have been the depositories of any more significant cultural traditions relevant to sustaining large-scale civilizations with the rule of law for the simple reason that they were neither culturally related to nor culturally

descended from any earlier human civilization. On this kind of view, the original Proto-Indo-Europeans must have therefore transitioned directly from hunter-gatherer forms of life (which typically lack these particular types of cultural traditions) to more pastoralist ones (which also typically lack them) sometime in their early prehistory in the Ukraine.⁹⁹ (Figure 2 depicts these features of the traditional view by noting—in the box in the bottom left corner of the diagram—that the traditional story is implicitly committed to the notion that early Proto-Indo-European groups would have had “no prior history of large-scale civilization.” Figure 2 then depicts the alternative possibility, which I will be developing over the course of this Article, in the box in the bottom right corner of the diagram. This latter box raises the possibility that these early Proto-Indo-Europeans may have instead been culturally descended from a much more ancient tradition of large-scale human civilization.)

Not all Indo-European scholars agree with all of the details of Gimbutas’s story,¹⁰⁰ and there is, in fact, considerable controversy over where exactly to locate the Proto-Indo-European homeland.¹⁰¹ Still, there is broad consensus among many experts that these people were relatively primitive, nomadic pastoralists who originated somewhere outside of the Indian subcontinent and who brought Indo-European culture to the Indian subcontinent sometime in or around 1500 BC.¹⁰² If some of the Western descendants of these nomads (such as the ancient Greeks and Romans) were subsequently able to develop rich cultural traditions, which were capable of supporting large-scale human civilizations with the rule of law and prompting the eventual rebirth of Western law and Western civilization, then we really should pay tribute to their immense bursts of independent creativity. If this is what had happened, then it would also make sense to begin the story we tell ourselves about the earliest origins of Western law and Western civilization right here.

But this is not—in my view—what most likely happened. To explain my growing doubts about this traditional way of looking at things,

99. See Marija Gimbutas, *Proto-Indo-European Culture: The Kurgan Culture During the Fifth, Fourth, and Third Millennia B.C.*, in GIMBUTAS, KURGAN CULTURE, *supra* note 97, at 75, 77.

100. BRYANT, *supra* note 35, at 40–41 (discussing Renfrew’s claim that the spread of Indo-European languages was achieved by the gradual spread of farming techniques, rather than by Gimbutas’s proposed horse-riding warriors, concluding that “[n]o two accounts could be more at odds than Gimbutas’s and Renfrew’s.”). Bryant also notes other criticisms of Gimbutas’s hypothesis, such as claims of archaeological misidentification and misinterpretation. *Id.* at 38–42.

101. See *id.* at 38–43; see also MALLORY & ADAMS, *supra* note 35, at 442 (discussing the “legacy of debate in which homelands have been set anywhere from the North to the South Poles, from the Atlantic to the Pacific”).

102. See BRYANT, *supra* note 35, at 38–43 (discussing consensus that Proto-Indo-European homeland arose outside of the Indian subcontinent); see also MALLORY & ADAMS, *supra* note 35, at 443 (similar). For one very notable exception in the literature, see generally COLIN RENFREW, *ARCHAEOLOGY & LANGUAGE: THE PUZZLE OF INDO-EUROPEAN ORIGINS* 183–210 (1987) (hypothesizing that Indo-European languages *may* have spread from Anatolia into the Indus Valley as part of the initial neolithic revolution that emanated eastward from the Fertile Crescent).

and my growing belief that we need to explore the alternative depicted in Figure 2, I will have to address some issues relevant to the origins of the Indo-European languages and peoples. These are difficult topics, which have garnered the attention of experts from many different fields but have thus far failed to produce much consensus.¹⁰³ These are also questions that have, from their inception in eighteenth-century German nationalist thought, often been highly politicized and held hostage to a number of unfortunate ideologies.¹⁰⁴ There is, finally, an institutional and methodological reason for the ongoing controversy over these issues: many of the experts who have weighed in on them represent a broad range of disciplines, each one of which has produced important insights that are relevant to the underlying issues, but none of which appears capable of answering the question solely on its own.¹⁰⁵ An answer to this question will therefore require triangulating numerous lines of evidence and argumentation from a broad range of fields and understanding the ways they might relate to one another to contribute to an overall picture that is not only coherent but also theoretically sound and empirically well grounded. This sort of rigorous interdisciplinary thinking is not something that the academy tends to produce on its own, but scholars working on these topics have increasingly begun to recognize the need for it.¹⁰⁶ I will be taking an interdisciplinary approach here, because I agree that we cannot gain sufficient traction over these particular issues without it.

I should nevertheless emphasize that my primary interest in this Article is in the origins of Indo-European *legal traditions* (including the cultural traditions and culturally emergent psychological attitudes that tend to support them). As will become clear over the course of this Article, this topic is both intimately related to and importantly separable from more traditional inquiries into the origins of the Indo-European languages and peoples. To foreshadow, I will be arguing that certain early social phenomena that emerged in the Indus Valley region (and then spread into the Eastern part of Iran and Bactria) gave rise to the com-

103. See BRYANT, *supra* note 35, at 30–37 (discussing the range of controversies over the Proto-Indo-European homeland).

104. See, e.g., *id.* at 21–35 (discussing how German Aryanism infused early debates); *id.* at 267–95 (discussing how Hindu nationalism has sometimes infused recent debates); *id.* at 59–63 (discussing racializations of the debate); *id.* at 14–18 (discussing early Christian reactions to the debate).

105. See MALLORY & ADAMS, *supra* note 35, at 443–44 (discussing difficulty of identifying an Indo-European homeland).

106. A number of people have observed the need for this sort of interdisciplinary thinking when trying to uncover facts about human prehistory. See, e.g., Peter Bellwood, *Farmers, Foragers, Languages, Genes: The Genesis of Agricultural Societies*, in EXAMINING THE FARMING/LANGUAGE DISPERSAL HYPOTHESIS 17, 23 (Peter Bellwood & Colin Renfrew eds., 2002) (“Some interpretations of the past make more sense than others, particularly if they require a minimum of special pleading, and particularly if they receive independent (non-circular) support from the data of more than one discipline. Kirch & Green (2001) refer to this kind of multidisciplinary focusing down on particular human configurations in prehistory as ‘triangulation’ In my view, multidisciplinary thinking, the ‘new synthesis’ in Colin Renfrew’s terms (Renfrew 1992b), is the crux of the matter.”).

plex types of cultural and legal traditions that have helped so many subsequent Indo-European groups transition to complex societies with the rule of law. As already noted, legal systems are not, however, constituted by laws alone: they also depend in part on a special set of shared social and psychological attitudes that are capable of animating legal systems and maintaining them in equilibrium.¹⁰⁷ When I use the term “legal tradition,” I am therefore referring not only to a set of laws with particular contents but also to the specific cultural traditions needed to sustain these special social and psychological attitudes. As noted above, the claim that Indo-European legal traditions *in this sense* first emerged in the Eastern-Iran-Bactria-Indus-Valley region is therefore logically consistent with a broad range of more traditional homeland theories that would place earlier Proto-Indo-European-speaking groups elsewhere and further to the west—including nearer to Anatolia, where I myself believe they most likely originated. Indeed, certain very early groups of Proto-Indo-European speakers (or their ancestors) must have almost certainly migrated into the Indus Valley from the west at some point in time, given the evidence favoring both the so-called “out of Africa” account of our earliest human origins¹⁰⁸ and a subsequent Iranian origin for many of the Indus Valley settlers who developed into the Harappans.¹⁰⁹

Still, any such migrations would have taken place much earlier than is typically proposed in the standard 1500 BC date, and—on the present view—Proto-Indo-European groups would have first migrated into the Indus Valley region closer to 4500 BC. These groups would have initially lacked any significant traditions relevant to sustaining large-scale civilizations with the rule of law, because they would have never lived in such societies. Beginning at this time, the people in this region nevertheless started going through a number of remarkable social transformations, which ended up producing one of the very first large-scale civilizations to arise within our natural history as a species. On the present view, these developments would have thus begun to have a number of important effects on the larger family of Proto-Indo-European groups who were spread throughout the Eastern-Iran-Bactria-Indus-Valley region. Because these groups were also the forebearers of modern Indo-European societies, on the present view, it is ultimately *here* that we must locate the origins of some of the earliest cultural traditions relevant to the subsequent rebirth of Western law and Western civilization in the eleventh century AD.

107. Robin Bradley Kar, *Outcasting, Globalization, and the Emergence of International Law*, 121 YALE L.J. ONLINE 413, 419 (2012); see also Robin Bradley Kar, *The Deep Structure of Law and Morality*, 84 TEX. L. REV. 877, 898 (2006).

108. See, e.g., ENCYCLOPEDIA OF HUMAN EVOLUTION AND PREHISTORY 429–32 (Eric Delson et al. eds., 2d ed. 2000) (suggesting that recent “Out of Africa” models have begun to dominate the center of debates on human origins).

109. ALLCHIN & ALLCHIN, *supra* note 5, at 135–38.

D. First Sketch of the Alternative Story—with Our Prehistoric Origins Further to the East

This brings us to our fourth preliminary topic, which is what the fuller alternative story of our origins might be. The basic purpose of this Article is to spell out that alternative story, to develop it in richer detail, and to provide it with a range of supporting argumentation. Before embarking on that larger project, it will nevertheless help to have a brief sketch of the story in hand. Figure 3 depicts the skeletal structure of the story that will be sketched in the remainder of this Section.

Here is the revised story that I will be proposing. By drawing on a wide range of interdisciplinary insights and methodologies and developing them in several innovative ways, I will be arguing that what really happened is not what the standard story says but rather something closer to the following: For hundreds of thousands of years, since before even the rise of anatomically modern humans, our ancestors lived primarily in small mobile groups and engaged primarily in hunter-gatherer modes of subsistence.¹¹⁰ (The beginning of this story is depicted in the bottom left corner of Figure 3.)

The cultural products and forms of life developed in these circumstances would have been appropriate for small-band living but not for the development of large-scale civilizations with the rule of law. At or around 7000 BC, however, a distinctive agriculturalist community began to develop for the first time in Mehrgahr, which lies in modern-day Baluchistan (near the borders of eastern Iran, Afghanistan, and Pakistan).¹¹¹ These people developed agriculture a bit later than the people in the Fertile Crescent, and they very likely reflected an eastward spread of early agricultural technologies from the Fertile Crescent through Anatolia (which is in modern-day Turkey and overlaps the northern parts of the Fertile Crescent).¹¹² Once this development began, however, it initiated a number of revolutionary social changes and an incipient cultural tradition¹¹³ that would have world-historical significance.

Over the course of the next several millennia, these people began to expand their agricultural activities eastward throughout the Indus Valley (which spans the northwestern portions of the Indian subcontinent).¹¹⁴ As early as 3500 BC, they had begun to enter into a period of incipient

110. See *MAN THE HUNTER 3* (Richard B. Lee & Irven DeVore eds., 1968) (“Cultural Man has been on earth for some 2,000,000 years; for over 99 per cent of this period he has lived as a hunter-gatherer.”).

111. See ALLCHIN & ALLCHIN, *supra* note 5, at 110–12, 125–35 (describing early agricultural developments at Mehrgarh, which is in modern-day Baluchistan).

112. See, e.g., Bellwood, *supra* note 106, at 18 fig.2.1 (depicting the spread of agriculture from the Fertile Crescent eastward into northwestern India).

113. ALLCHIN & ALLCHIN, *supra* note 5, at 125–52.

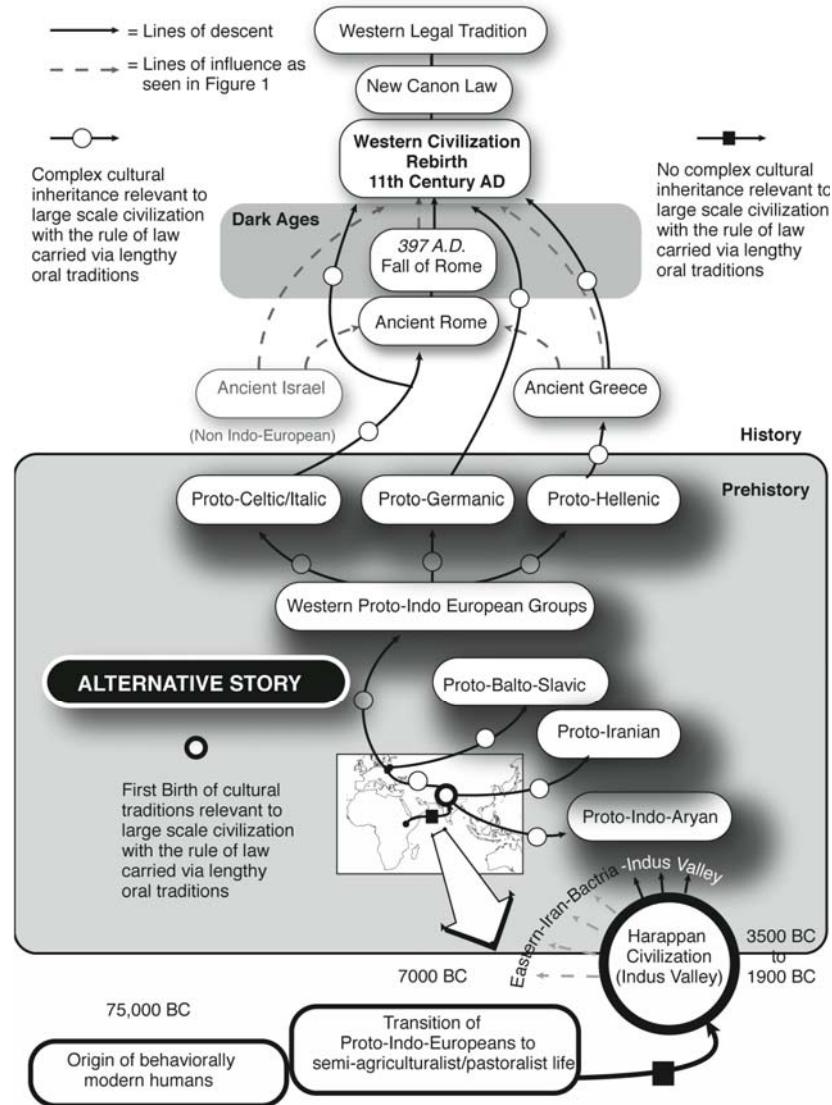
114. *Id.* at 135–40 (describing the period of agricultural expansion).

No. 5]

ORIGINS

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FIGURE 3
SKETCH OF ALTERNATIVE PROPOSAL
WITH OUR PREHISTORIC ORIGINS FURTHER TO THE EAST



urbanism and, just as the other two first major world civilizations began to emerge in Egypt and Mesopotamia, they developed into their own,

distinctive civilization: the Harappan Civilization.¹¹⁵ This civilization was incredibly sophisticated: archaeologists have now uncovered hundreds of Harappan sites that display stunning feats of city planning replete with strikingly modern technologies, such as irrigation and plumbing.¹¹⁶ (Figure 3 depicts the Harappan Civilization in the bottom right corner, and indicates that it lasted primarily from 3500 BC to 1900 BC, during which time it exerted influences throughout the larger Eastern-Iran-Bactria-Indus-Valley region.)

The Harappans also engaged in intensive internal and external trade with some of the only other major world civilizations of its time (in Mesopotamia, which included ancient Sumer at the time).¹¹⁷ Importantly, *the Harappans also spoke dialects of Proto-Indo-European*—or so, at least, I will be arguing, thereby staking out a distinct minority claim in the literature.¹¹⁸ This minority claim will prove critical for a recon-

115. *Id.* at 137, 140–52.

116. *Id.* at 145–52; *see also* D.P. Agrawal, *Editor's Note in JAGAT PATI JOSHI, HARAPPAN ARCHITECTURE AND CIVIL ENGINEERING*, at xvii (2008) (“[T]he Indus Civilisation was marked by an advanced technological virtuosity. The Harappans were the first to invent town planning, devise a fairly advanced system of drains and canals to take away effluents under well-covered drains, a complex system of water harvesting and reservoirs, a developed water proofing technology as shown by the Great Bath at Mohenjodaro, [and] an advanced metallurgy and innovation of new tools . . .”).

117. ALLCHIN & ALLCHIN, *supra* note 5, at 149–52, 189 (“[T]here was a many sided development of trade, first between the towns and emergent cities of the Indus system itself; then with neighbouring regions on all sides; and finally with more distant regions, including Central Asia and Mesopotamia.”); *id.* at 180–82 (describing robust trade with Mesopotamia); *see also* 1 ENCYCLOPAEDIA INDICA: INDIA, PAKISTAN, BANGLADESH: ORIGIN AND DEVELOPMENT OF INDUS CIVILIZATION 39–44 (Padmashri S.S. Shashi ed., 1996) (describing evidence of early trade with Sumer, along with trading posts on the border of Persian and Baluch Makran as well as at Dabar Kot in the Zhob, the latter of which would have given the Harappans contact with the peasant farmers of northern Baluchistan). “Trade seems to be the leitmotiv of the Harappan Civilization. The Indus-Mesopotamian trade relations have been extensively discussed in many works on the civilization. The nature of this long-distance trade is now fairly well known and new facets have been added to it by the discoveries at Lothal, as well as the now identified trading centers on the Oxus, in Afghanistan, and on the Makran Coast.” Gregory L. Possehl, *The Harappan Civilization: A Contemporary Perspective*, in HARAPPAN CIVILIZATION: A RECENT PERSPECTIVE 15, 17 (Gregory L. Possehl ed., 2d ed. 1993) (“It is increasingly clear that a major component of this international commerce was via the Persian Gulf sea lanes and that Meluhha can be identified in a generic way with the normative geography of the Harappan Civilization. The volume of individual shipments indicated in the Sumerian economic documents recounting this trade is considerable. For example, tons of copper.” (citations omitted)); B.K. Thapar, *The Harappan Civilization: Some Reflections on Its Environments and Resources and Their Exploitation*, in HARAPPAN CIVILIZATION, *supra*, at 3, 9–11 (noting evidence of land trade with regions including modern-day Afghanistan, Baluchistan, Makran, Iran, Oman, Central Asia, Kazakhstan, eastern Turkistan, and Shortugai, in the Oxus basin).

118. This is a hotly disputed issue, and, in making this claim, I will be staking out a minority view. *See, e.g.*, BRYANT, *supra* note 35, at 177–78 (“While some of the evidence discussed here has caused many South Asian archaeologists to reconsider or modify their positions regarding Indo-Aryan intrusions into the subcontinent, one piece of evidence that has been in academic custody since even before the official discovery of Harappa could, if made to testify, immediately bear witness to the linguistic identity of the inhabitants of the Harappan civilization. . . . The fact that both the language and the script are unknown makes the task extremely difficult. Other decipherment attempts have involved known languages in an unknown script (when decipherment is virtually guaranteed) and unknown languages in a known script—a much more difficult combination. . . . [T]his should sober any would-be decipherer intent on attempting the third and most difficult type of decipherment project: an unknown

struction of some of the most important features of Western legal prehistory, and I will therefore develop a number of substantive arguments for this claim in Parts III, IV, and V.A–C.

I will also be arguing that the development of this early civilization in the Indus Valley began to play a major role in the prehistoric coordination and expansion of the Proto-Indo-European language family. Although some dialects of Proto-Indo-European were almost certainly already spoken in a number of adjacent areas, the socio-cultural developments in the Indus Valley would have begun to further stabilize these dialects, on the present view, and helped them to spread even further for the next several millennia.¹¹⁹ During the prime of the Harappan Civilization, this socio-cultural center would have had its most direct linguistic and cultural effects within the larger region that contained not only the Indus Valley but also ancient Bactria and the eastern parts of modern-day Iran. (These facts are depicted in Figure 3 with arrows of influence emanating from the Harappan Civilization into this larger region.) I will suggest that many of the Western branches of the Indo-European family should be understood as descended from groups who once inhabited certain western parts of this larger region. More specifically, I will suggest that the relevant ancestral groups probably once lived in the far hinterlands of this larger socio-cultural complex (which would have been located in either ancient Bactria or the eastern parts of modern-day Iran at the earliest relevant times), but that some of these Proto-Indo-European groups eventually splintered off from this larger socio-cultural complex and began to move westward through the Eurasian Steppes, in a series of waves, during a decisive period of Indo-European prehistory that began in about 3300 BC.¹²⁰

Before we get ahead of ourselves, let us return, however, to some of the earlier developments closer to the center of this ancient socio-cultural complex. In the process of becoming one of the very first major civilizations in our natural history as a species, the Harappans also developed a range of important cultural innovations that were specifically adapted to the maintenance of large-scale human civilization with incipient legal traditions. (Figure 3 depicts this fact with a small circle, in thick black lines, which indicates that this region witnessed the “first birth” of certain cultural traditions relevant to large-scale civilization with the rule of law.) Indeed, the Harappans appear to have been incredibly good at the project. The archaeological record suggests that there was little evidence of war, and if we date things from periods of incipient urbanism, the Harappan Civilization lasted much longer than Roman, Greek, and

language in an unknown script. Such is the Harappan case.” (citations omitted)); MALATI J. SHENDGE, *THE LANGUAGE OF THE HARAPPANS: FROM AKKADIAN TO SANSKRIT* 55–56 (1997).

119. See *infra* Part V.E.1.

120. See *id.*

Western civilization (so far).¹²¹ Were it not for a series of spectacular climactic and geological changes, which collapsed their economy and depleted the natural resources they needed to sustain their civilization,¹²² they may well have continued in the same region for much longer. As 1900 BC approached, however, these people slowly abandoned all of their cities and disappeared from the archaeological record.¹²³ (On the traditional story, it was this disappearance that allowed subsequent nomadic pastoralists to enter the Indian subcontinent at or around 1500 BC, and bring with them both Indo-European languages and the first glimmers of what we now think of as Indian civilization.¹²⁴)

When the Harappan sites were first discovered, beginning in 1921, the question of what happened to their civilization quickly became one

121. The age of incipient Harappan urbanism began in roughly 3500 BC, and the Harappan Civilization had come to an end, in most regions, by about 1800 BC. See ALLCHIN & ALLCHIN, *supra* note 5, at 140, 209. This is a period of roughly 1700 years. Ancient Greek civilization is, by contrast, typically dated as arising toward the end of the first millennium BC and ending in 146 BC (with the sack of Carthage by the Romans). See, e.g., RICHARD CARRINGTON, *THE MEDITERRANEAN: CRADLE OF WESTERN CULTURE* 112, 120 (1971). This is roughly a period of 900 years. Rome was similarly founded in 753 BC, if we credit the precise dates embedded in Roman legend, and then fell in the late fourth century AD. *Id.* at 136, 174. Roman civilization thus lasted for approximately 1100 years. Finally, the period of incipient urbanization for Western civilization began in the eleventh and twelfth centuries AD, and we are presently in the twenty-first century, thus spanning a period of approximately 1100 years so far. See, e.g., BERMAN, *supra* note 1, at 4, 357.

122. See, e.g., Thapar, *supra* note 117, at 12 (“As pointed out, environmental factors, including the behavior of the river, climate and accessibility of natural resources, were largely responsible for the growth into maturity and expansion of the Indus Civilization. Paradoxically, it is these very factors, in a multicausal framework, which became responsible for the weakening and ultimate collapse of the Indus Civilization. Long distance and internal trade in resource material was badly disturbed, affecting the distribution of raw materials and luxury goods, with the result that the settlements of the far-flung civilization became impoverished in cultural content. Shifts in drainage patterns occurred, resulting from extended pluviality in association with geomorphic changes, either through ‘westerling’ or through ‘northerling.’ The Ghaggar-Hakra-Wahinda system disappeared due largely to the capture of the Yamuna by the Gangetic system. There was wholesale destruction of forests and intensive grazing in the Himalayan foothills. This led to erosion and to the wandering of the water channels due to the raising of their beds through the deposition of detritus. Tectonic disturbances, (1) made the Indus prone to frequent flooding, resulting in the ponding of some parts and consequent rise of the water table in the area, and (2) disrupted the Ghaggar-Nara flow channel, as is evident by the reverse gradient of the river near Manot, resulting in reduction in the supply of water.”).

123. ALLCHIN & ALLCHIN, *supra* note 5, at 209 (noting that radiocarbon dating suggests that the demise of the Harappan Civilization and ensuing period of regionalization took place between roughly 2000 BC and 1850 BC—though at slightly different times in different regions).

124. See, e.g., BRYANT, *supra* note 35, at 238; J.P. Mallory, *Indo-Europeans*, in *THE OXFORD COMPANION TO ARCHAEOLOGY* 347, 347–48 (Brian M. Fagan et al. eds., 1996) [hereinafter *OXFORD COMPANION*]; V.R. CURTIS, *INDO-EUROPEAN ORIGINS* 123–27 (1988); see also James P. Mallory, *The Homelands of the Indo-Europeans*, in *ARCHAEOLOGY AND LANGUAGE I: THEORETICAL AND METHODOLOGICAL ORIENTATIONS* 93, 117 (Roger Blench & Matthew Spriggs eds., 1997) (“In sum then, we have different sub-regions of an early IE world, scattered in space from the Baltic to Anatolia and east across the European steppe, and set in time somewhere between what we would recognize as PIE unity and the emergence of the major IE stocks.”); *THE ARYAN DEBATE*, *supra* note 98, at xiii (“The first position, the *immigrant Aryan* position that the Aryans came to India from outside in about 1500 BC, I will call the *standard view* because it is the interpretation that has prevailed in school and university history textbooks and in academic journals and books.”).

of the foremost archaeological mysteries of its time.¹²⁵ Many people familiar with the archaeological record found it incredible that such a sophisticated civilization could have just vanished without leaving any significant cultural trace.¹²⁶ When a proposition like this is so incredible, a reasonable response would be to doubt its truth value and perhaps wonder whether one has been approaching the question from the right angle. Interestingly enough, however, this has not been the response of most experts,¹²⁷ and hence, the search for an explanation has a long and complex history. The story developed here will, by contrast, take the incredible nature of this disappearance more seriously. It will suggest that there is nothing genuinely mysterious to explain, however, for the simple reason that the Harappan Civilization did *not* vanish without a trace. To the contrary, some of its cultural products are everywhere present, and indeed even dominant, in the modern world, due to distinctive traditions that it passed down to existing branches of the Indo-European family. The traditions I have in mind are those that have helped this larger family of traditions produce and sustain the genuinely stunning array of large-scale civilizations with the rule of law that show up in the world historical record. Although these cultural inheritances have undoubtedly been modified in various ways by different Indo-European groups over time, they can thus help to explain not only the rebirth of Western law and civilization in the eleventh century AD but also the earlier capacities of ancient Greece and Rome to transition into large-scale civilizations with the rule of law. They can also help explain the peculiar capacity of the Germanic groups to be able to absorb Roman law after the Dark Ages—

125. See, e.g., ALLCHIN & ALLCHIN, *supra* note 5, at 208 (“The causes of the end of the Indus civilization are still some of the most puzzling aspects of the whole story.”); VIJAYA LAXMI SINGH, *THE SAGA OF THE FIRST URBANISM IN INDIA—HARAPPAN CIVILIZATION* 100 (2006) (“There is a debate concerning the demise of Indus civilization. From the time Mohenjodaro and Harappa first captured the popular imagination, the reason for the end of the city culture has provoked large historical speculation and contestation. Disappearance of the various aspects of its maturity, i.e. writing, town planning, etc. in the subsequent phase of ancient India is rather mysterious.”).

126. See, e.g., AVARI, *supra* note 80, at 54 (“Civilisations continually rise and fall, but they rarely disappear without trace. It became so with the Harappan Civilisation. The collapse of the Indus system was really a collapse of its urban features. Its culture did not cease to exist wholesale. The sophisticated lifestyle of the Indus people had certainly ended, but their folk culture continued at the village level. Several of the beliefs and rituals, and the simple crafts and skills for making various utensils and artefacts, along with many rural features, survived and developed into proto-historic cultures in the surrounding regions.” (citations omitted)); WILLIAM BRIGHT, *LANGUAGE VARIATION IN SOUTH ASIA* 132–33 (1990) (“One of the most surprising things about the Harappan script is that it seems to have disappeared from use along with the decline of the Indus Valley civilization—leaving South Asia with no trace of a writing system for some 2,000 years, until, in the third century BC, two scripts, Brāhmī and Kharoṣṭhī, made their appearance in the stone-carved edicts by which the Emperor Aśoka Maurya propagated Buddhist principles throughout the subcontinent. I deliberately say ‘no trace of a writing system,’ because various scholars have found it hard to believe that anything so valuable as a writing system could be simply discarded, and have looked for evidence that the Harappan script may have simply gone ‘underground.’”).

127. See, e.g., SINGH, *supra* note 125, at 100–02 (canvassing a number of early theories of the Harappan decline, which typically proposed a group of incoming Aryan invaders who destroyed the Harappan Civilization).

even though many developing nations have found it difficult to transition to the rule of law. (Figure 3 depicts these parts of the story with small ovals, in thin black lines, which indicate that the relevant branches of the Indo-European family carried with them a “complex cultural inheritance” — “via lengthy oral traditions.”)

The view developed here is therefore broadly consistent with several more recent lines of archaeological research, which suggest that the Harappan Civilization’s disappearance is better characterized as a more gradual set of indigenous developments toward regionalization, which began toward the beginning of the second millennium BC.¹²⁸ What the present story adds to these recent views is the contention that, both before and during this period of regionalization, important cultural traditions from the Indus Valley likely spread out much further than the Indian subcontinent and into many parts of Eurasia. I should therefore emphasize, once again, that the view I will be arguing for here is decidedly *not* that the Western branches of the Indo-European family are literally (i.e., culturally, linguistically, or genetically) descended from the Harappans. Rather, I will be arguing that the Indus Valley Civilization likely played a critical role in coordinating a larger set of linguistic and cultural phenomena throughout the larger Eastern-Iran-Bactria-Indus-Valley region in the period from 4500 BC to 1900 BC—and that some of these influences would have then begun to spread even further westward through the Eurasian steppes beginning in about 3300 BC.. For reasons discussed below, I believe the Western branches of the Indo-European family most plausibly emerged not from the Harappans themselves but rather from certain semi-pastoralist members of this larger socio-cultural complex, who originally lived at its periphery (i.e., in either ancient Bactria or the eastern parts of modern-day Iran), and then began to branch off and migrate westward through the Eurasian Steppes in around 3300 BC. These Western groups should therefore be understood as related to the Harappans not by direct descent but rather by virtue of sharing a common linguistic and cultural ancestor.

This completes the very brief sketch of the story I will be developing in this Article. Readers interested in the fuller story can turn directly to the text in Part V.E.1, or look at Figures 24.1 through 24.4 in that Sec-

128. See, e.g., F.R. Allchin, *The Legacy of the Indus Civilization*, in HARAPPAN CIVILIZATION, *supra* note 117, at 385, 392 (“The end of the Indus Civilization appears to have been brought about by an upsetting of the delicate balance which maintained its social and economic life, and was probably linked with the abandonment at Mohenjodaro. The Indus legacy survived and was passed on most widely at the folk or village level, in almost all regions, while the learned tradition mainly survived in the Punjab, whence it spread eastwards with the spread of settlements in Post-Harappan times.”); Gregory L. Possehl, *The Transformation of the Indus Civilization*, 11 J. WORLD PREHIST. 425, 427 (1997) (“The opening centuries of the second millennium witnessed a transformation of Harappan life, with important changes in the sociocultural system, but the notion of a ‘decline’ an ‘end’ or an ‘eclipse’ no longer seems to capture the historical reality of these times.”).

tion—which offer a much more detailed graphic representation of the relevant series of events.

E. Some Broad Consequences of a Changed Understanding

This brings us to our final preliminary topic, which is what the consequences of this changed understanding of our origins might be. I have already mentioned several in the Introduction, which should be of interest primarily to legal academics, economists, and historians. As noted earlier, however, I believe that the issues addressed in this Article should be of wider human interest as well. I therefore want to pause for a moment to explain this belief.

As should be apparent from Berman's discussion of the Reformation, it is one thing to be descended from a rich cultural tradition in fact (i.e., in the sense of there being historical-cultural continuities in fact between one's society and an earlier one) and quite another to know about that ancestry and actively cultivate its traditions. Hence, just as our conscious reappropriation of our ancient Greek, Roman, and Hebrew heritage during the Reformation allowed us to undergo a very broad set of transformations in the West,¹²⁹ a more conscious understanding of our deeper origins to the East should—if the story I am developing here is correct—allow for a similarly broad set of transformations today. In the former case, the West underwent a fundamental shift in self-understanding, which had ramifications in a broad range of domains, including the historical, intellectual, social, cultural, political, spiritual, philosophical, and aesthetic—to name just a few.¹³⁰ The changed understanding I am proposing here would appear to be equally fundamental, and I therefore see no reason why it could not have similarly broad and transformational consequences in a diverse set of fields.

For example, the arguments in this Article should point to a body of useful work that might be done in a broad range of cognate fields, which have often presupposed either a Greco-Roman or Judeo-Christian origin for many key Western ideas and traditions. The arguments should also invite a more fundamental reexamination of who we are as a culture in the West, how we got here, and what parts of our broader heritage—if any—might have been lost in the transmission. A reexamination of this kind should also lead to a better understanding of some of the deeper relations between some Western and non-Western cultures. If properly understood, the present arguments should therefore help to enlarge our sense of connection.

129. BERMAN, *supra* note 1, at 204 (“[T]he new developing system of canon law exerted a formative influence on Western concepts of the nature of a legal system.”). Berman looks to Norman F. Cantor to reconfirm that the period of fundamental change was 1050 AD to 1150 AD. *Id.* at 577.

130. *See id.* at 133–35.

There is, in fact, at least one author—Raymond Schwab—who has argued in painstaking detail that the first discoveries of the ancient Sanskrit texts in the West during the seventeenth and eighteenth centuries generated an important but underappreciated cultural revolution in the West, in large part because it unsettled the West's convictions in the primacy of its place in the course of world civilization and in the relative depth of its moral and intellectual insight.¹³¹ In *The Oriental Renaissance: Europe's Rediscovery of India and the East, 1680–1880*, Schwab collects a wealth of evidence to suggest that many contemporary forms of universal humanism in the West are, in fact, directly traceable to this early Western encounter with the Sanskrit texts.¹³² Still, these influences have not yet been consciously acknowledged or deepened in the West in anything like the sustained way that our understanding of our relationships with ancient Greece, Rome, and Israel have.¹³³ It would also appear to be a mistake to view ourselves as literally descended from those societies who

131. See, e.g., RAYMOND SCHWAB, *THE ORIENTAL RENAISSANCE: EUROPE'S REDISCOVERY OF INDIA AND THE EAST, 1680–1880*, at 11 (Gene Patterson-Black & Victor Reinking trans., Columbia Univ. Press 1984) (1950) (“An Oriental Renaissance—a *second* Renaissance, in contrast to the first: the expression and the theme are familiar to the Romantic writers, for whom the term is interchangeable with Indic Renaissance. What the expression refers to is the revival of an atmosphere in the nineteenth century brought about by the arrival of Sanskrit texts in Europe, which produced an effect equal to that produced in the fifteenth century by the arrival of Greek manuscripts and Byzantine commentators after the fall of Constantinople. ‘The Oriental Renaissance’ is the title Edgar Quinet gives to an important chapter in his *Génie des religions* (1841) that celebrates this event. He compares the roles of Anquetil and Jones to that of Lascaris, and compares the happy discovery of the Hindu manuscripts to that of the *Iliad* and the *Odyssey*. ‘In the first ardor of their discoveries, the orientalist proclaimed that, in its entirety, an antiquity more profound, more philosophical, and more poetical than that of Greece and Rome was emerging from the depths of Asia.’ Quinet saw, like his German masters to whom the allusion here is clear, that the Oriental Renaissance marked the close of the neo-classical age just as the Classical Renaissance had marked the close of the medieval age, and that, in the same way, it promised ‘a new Reformation of the religious and secular world.’”); *id.* at 19 (“Among the upheavals created by linguistics—an invention of technicians—we should remember this one: the continent of the Hindus, the Chinese, and the Sumerians regained—with all the grandeur of its metaphysical tradition, which we had rediscovered, and with all the weight of its intellectual seniority, which we had unveiled—the power to question us. Through the authority of its age, Asia suddenly began to seem again an equal in modern controversies.”).

132. See, e.g., *id.* at 473 (“From that time forward complete panoramas of ideological geography expanded with each glance and contracted with each question. In the process of considering humanity, the whole expanse of time had to be traversed, all inhabited space had to be covered, the whole world of speech sounded. Ideas on poetry, revealed religion, and architecture wavered, for neither Homer nor the Bible nor the basilicas were, now, historically unique. The new Renaissance Man was one who no longer approached solutions to eternal problems without adding up the global balance sheet. The Romantic intelligence was no longer satisfied with anything less than totality, and this was, in large part, due to the Oriental past. . . . Subsequent to the Oriental Renaissance the study of the masses would prevail: the mind applied its attention to migrations rather than to states. Initially it was origins, which were viewed as widely divergent, that were most exciting; then even origins lost their fixity and one would have eyes only for evolution.”).

133. Schwab himself observes this to be the case. See *id.* at 15–16 (“There is today a need to reawaken these forgotten beliefs. When the idea of an Oriental Renaissance is advanced today, there is curiosity about what is meant. People no longer know—or perhaps do not yet know—with what consequences or by what means an unimagined mass of knowledge merged with their general view of life, disrupting it and changing the entire mental landscape within a few years.”).

produced the Sanskrit texts¹³⁴ (as opposed to being related to them by common ancestry and in some of the more complex manners described in the last Section). Hence, I consider Schwab's "Oriental Renaissance" to be a phenomenon that has not yet fully blossomed in the West. If the arguments in this Article are correct, then we are—in other words—still very much poised for a new and much more conscious and explicit renaissance.

The stories we tell ourselves about our origins in the West have, however, proven so central to such a wide range of human inquiries that it would be impossible to identify all of the relevant consequences of such a renaissance in this context. In the remainder of this Article, I will therefore concentrate on the more preliminary, but equally important, step of arguing for the kind of shift in self-perception that should invite those broader examinations. I will also try to specify some of the most important consequences relevant to our understanding of Western law, including: its peculiar potential for emergence and stability in many modern Western societies; its relationship to other important phenomena such as modern economic development; and its more complete ancestry, early phylogenetic structure, and relations to a much broader family of traditions than has commonly been recognized. It is to that project that I now turn, beginning—in the next Part—with the development of a general methodology suitable for detecting the prehistoric structure of our legal family tree.

III. DEVELOPING A GENERAL METHODOLOGY TO RECONSTRUCT OUR TRUE ORIGINS STORY: ON PATTERNS OF LINGUISTIC DIVERSITY, THE EMERGENCE OF MAJOR LANGUAGE FAMILIES, AND TRANSITIONS TOWARD SOCIAL COMPLEXITY WITH INCIPIENT LEGAL TRADITIONS

If we want to understand the prehistoric structure of our legal family tree, then we clearly need a special methodology. We cannot look to standard historical sources, because they expire at just the critical point. What we need to identify is, instead, some nonobvious variable, which not only correlates with the emergence of legal systems but also has a genealogical structure that can be ascertained by scientific means.

The purpose of this Part is to identify such a variable. I will do this by arguing, first, that the existence of major language families (such as the Indo-European language family) is a relatively recent and extraordinary event in the natural history of our species; and, second, that the major language families arose during a specific period of human prehistory and as part of a larger set of transformations, which led us away from hunter-gatherer modes of subsistence and toward more complex forms of social structure with incipient legal traditions. Together, these argu-

134. See BRYANT, *supra* note 35, at 68–74.

ments will allow us to predict that the prehistoric emergence of major language families (including the Indo-European language family) should track certain critical prehistoric developments among those same linguistic populations toward the kinds of social complexity with incipient legal traditions that most concern us here.

These methodological points will thus provide a general entryway into our main topics by lending support to a special class of inferences. These are inferences from certain contemporary findings of historical linguistics, which can be used to discern the prehistoric phylogenetic structure of the major language families, to a set of parallel conclusions about the prehistoric phylogenetic structure of certain *cultural* traditions, which tend to be transmitted with native language and have apparently supported the emergence and stability of various forms of social complexity among these particular linguistic groups. Subsequent Sections will then provide this methodology with further specification, and begin to apply it to the question of our Western origins.

A. *Contemporary Patterns of Linguistic Diversity from Around the World*

Let us begin, then, with a look at contemporary patterns of linguistic diversity from around the world. (I will focus on Old World patterns because New World patterns reflect very recent and large-scale displacements of Native Americans by Indo-European speaking groups. The processes by which these displacements occurred were, moreover, distinctive to modernity, and are therefore unlikely to shed much light on human prehistory.) Currently, there are almost 7000 living languages,¹³⁵ and they are geographically distributed in a fairly consistent, two-part pattern—which is depicted (for the Old World) in Figure 4.

As Figure 4 shows, the first part of this contemporary pattern consists of a relatively small number of major language families, which are spread out over vast geographic regions.¹³⁶ When I use the term “major language family” in this Article, I mean to refer to any set of languages for which historical linguists can reconstruct a common ancestor using standard comparative methods (within, at most, approximately 8000 years),¹³⁷ and which are spoken by at least twenty million persons across

135. ETHNOLOGUE: LANGUAGES OF THE WORLD 19 tbl.1 (M. Paul Lewis ed., 16th ed. 2009) [hereinafter ETHNOLOGUE] (listing 6909 living languages).

136. See THE ATLAS OF LANGUAGES 20–21 (Bernard Comrie et al. eds., rev. ed. 2003) (1996) (showing a map of world languages, with most of the settled areas being dominated by languages that fall into one of the following major language families: Indo-European, Uralic, Altaic, Afro-Asiatic, Nilo-Saharan, Niger-Congo, Dravidian, Sino-Tibetan, Austronesian, and Austro-Asiatic).

137. Johanna Nichols uses the term “stock” to refer to what we are calling a “major language family” in the main text. She explains that the term “stock” refers to:

a grouping of about the diversity and time depth of Indo-European, exhibiting correspondences which are regular (though often not transparent to non-specialists), substantial cognate vocabu-

geographic regions spanning at least 150,000 square miles.¹³⁸ Given this definition, there are only eleven major language families in the modern world: Indo-European, Sino-Tibetan, Niger-Congo, Afro-Asiatic, Austronesian, Dravidian, Altaic, Austro-Asiatic, Tai-Kadai, Nilo-Saharan, and Uralic.¹³⁹ As Figure 4 shows, the modern world is nevertheless dominated by people who speak languages that fall into one of these major families.¹⁴⁰

The second part of the pattern consists of a vast number of smaller languages that are either unrelated to these major linguistic families, or whose relations go back so far in time that historical linguists cannot reconstruct the relevant relations using standard comparative methods.¹⁴¹ Some of these languages are genetically related to one another and therefore form small language families,¹⁴² but many of them are unrelated even to their closest neighbors and therefore represent true language isolates.¹⁴³ Basque—which is a true language isolate¹⁴⁴—is one of the best known examples of this phenomenon in the West, but there are also a number of other groupings of languages—such as the Amerindian languages, the Caucasian languages, and the Papuan languages—that have been grouped largely based on geography, rather than genetic origin, and

lary, and significant cognate paradigmaticity in grammar. The time depth aimed at is over 5000 years (Indo-European is some 6000 years old). The stock is the highest level reconstructible by the standard comparative method. The upper limit of what I call a stock is represented by Afroasiatic, some 8000 years old.

JOHANNA NICHOLS, *LINGUISTIC DIVERSITY IN SPACE AND TIME* 24–25 (1992); *see also* Bellwood, *supra* note 106, at 17, 22 (“[N]o coherent language families can be convincingly demonstrated to have existed for much more than 8000 to 10,000 years.”).

138. I am therefore excluding Japonic, which has 123 million members, *see* *ETHNOLOGUE*, *supra* note 135, at 30 tbl.5, but is located primarily on the Islands of Japan, which are only 145,882 square miles. *THE WORLD ALMANAC AND BOOK OF FACTS* 2000, at 812 (1999) [hereinafter *WORLD ALMANAC*].

139. These are listed in decreasing order of number of native speakers. *See* *ETHNOLOGUE*, *supra* note 135, at 27 tbl.4 (Indo-European: 2,721,969,619; Sino-Tibetan: 1,259,227,250; Niger-Congo: 382,257,169; Afro-Asiatic: 359,495,289; Austronesian: 353,585,905); *see also id.* at 28–32 tbl.5 (Dravidian: 222,682,100; Altaic: 139,525,936; Austro-Asiatic: 103,703,873; Tai-Kadai: 80,278,295; Nilo-Saharan: 38,257,502; Uralic: 21,415,040). As noted above, Japonic does not appear on this list because, while there are many native speakers of this language family, they appear predominantly in a very limited geographical area: on the islands of Japan. *See id.*

140. The first six of these major language families alone “account for nearly two-thirds of all languages and five-sixths of the world’s population.” *Id.* at 26.

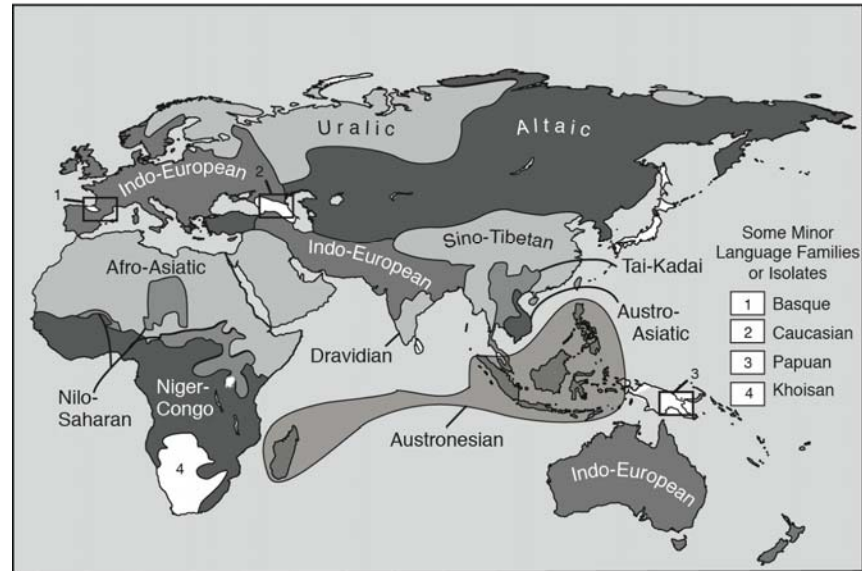
141. *See id.* at 27–32 tbls.4, 5 (listing ninety-eight additional language families, which consist of two or more living languages and also listing an additional fifty-three linguistic isolates).

142. *See generally id.* (listing ninety-eight nonmajor language families that contain two or more living languages).

143. *See* NICHOLS, *supra* note 137, at 25 (defining an “isolate family” as “a family that does not enter into any known stock [or set of languages that can be shown to be genealogically related using contemporary methods of historic linguistics] and thus constitutes the sole representative of its stock”); *see also* *ETHNOLOGUE*, *supra* note 135, at 27–32 tbls.4, 5 (listing fifty-three existing languages that appear to be true linguistic isolates).

144. *See* *ETHNOLOGUE*, *supra* note 135, at 28 tbl.5.

FIGURE 4
CONTEMPORARY PATTERNS OF LINGUISTIC DIVERSITY
IN THE OLD WORLD



that therefore contain languages that fall into this second category.¹⁴⁵ Languages in this second category tend to be extraordinarily diverse, and they make up a large number of the living languages in the world.¹⁴⁶ They are nevertheless spoken by much smaller numbers of people and only in spotted and often remote locations around the globe.¹⁴⁷ Figure 4 depicts some of these smaller linguistic phenomena—namely, Basque,

145. See, e.g., *id.* at 861 (showing a linguistic map of Papua New Guinea, which breaks Papuan languages down into twenty-two minor language families, apart from Austronesian, and indicates the existence of further linguistic isolates that appear in Papua New Guinea); THE ATLAS OF LANGUAGES, *supra* note 136, at 132–33 (showing the geographic distributions of sixteen indigenous language families in South America, and noting, with skepticism, the attempt to relate them genetically under the term “Amerind”); *id.* at 50–51 (noting that “the phrase ‘Caucasian languages’ denotes a purely geographical grouping,” which contains over forty spoken languages that belong to three distinct families).

146. See NICHOLS, *supra* note 137, at 231–53 (noting the high genetic and structural diversity of the languages spoken in areas that have not witnessed the spread of major language families).

147. See, e.g., ETHNOLOGUE, *supra* note 135, at 26 (“The genetic classifications given in the language entries of Part I name 116 different language families (that is, top-level genetic groups). Six of these, each of which has at least 5% of the world’s languages, stand out as the major language families of the world. Together they account for nearly two-thirds of all languages and five-sixths of the world’s population.”). When the term “genetic” is used to describe the relations about languages or language families, it is meant to describe not a literal genetic (and biological) process but a social one, by which one language or language family evolves into another one, which is considered its linguistic offspring.

the Caucasian languages, the Papuan languages, and Khoisan—with numbered regions that are boxed for ease of reference.

These contemporary patterns of linguistic diversity, as just now described, are sufficiently familiar that it would be easy to take them for granted and assume that they reflect the default pattern that has existed throughout most of our natural history as a species. When viewed from this longer-term perspective, however, these contemporary patterns are nothing less than extraordinary. To understand just how extraordinary they are, one should remember that, for most of our natural history as a species, we lived in a radically different form of social organization than is common today: in the relatively small and isolated hunter-gatherer band.¹⁴⁸ Hunter-gatherer bands tend to lack formal legal systems,¹⁴⁹ and for reasons to be discussed, this form of social organization also tended to produce a very different pattern of linguistic diversity, with very few tendencies toward the production of major language families.¹⁵⁰

In the remainder of this Part, I therefore want to take a closer look at the early portions of our human prehistory and situate them within our larger natural history as a species. I will use this examination to draw out certain implications for the most probable patterns of linguistic diversity and social structure that we displayed during these early parts of our prehistory; and then argue that, very late in our natural history as a species, we began to undergo a profound set of linguistic transformations, which led not only to the first emergence of the major language families but also (and for the first time) to the more contemporary patterns of linguistic diversity depicted in Figure 4. I will argue that these linguistic transformations were also bound up with, and therefore correlate strongly with, another equally profound set of social and cultural transformations that we underwent at roughly the same time. These latter transformations involved the very first emergence of large-scale social complexity within our natural history as a species. Hence, these latter transformations must have also involved the slow development of the special kinds of incipient cultural and legal traditions needed to support these newly emerging forms of social complexity.

B. A Panoramic Look at Our Natural History As a Species

In order to understand the correlations I seek to establish in this Part, we need to start with a brief, but panoramic, understanding of our natural history as a species. When I speak of the “natural history of our

148. See Lee & Daly, *supra* note 77, at 1 (“Until 12,000 years ago virtually all humanity lived as hunters and gatherers.”). Indeed, as recently as 1500 AD, hunter-gatherers “occupied fully one third of the globe, including all of Australia and most of North America, as well as large tracts of South America, Africa, and Northeast Asia.” *Id.* at 1–2.

149. McConvell, *supra* note 75, at 143–45.

150. See NICHOLS, *supra* note 137, at 12–24.

species,” I mean to refer to the long period of human life prior to the dawn of known history—which we might also refer to as our *prehistory*. Our contemporary understanding of human prehistory and evolution is still very much a work in progress, and we should therefore expect to learn more over time, which will cause us to revise some of our current understandings. Still, our best current scientific evidence suggests that human prehistory can be usefully broken down into three basic periods: first, the rise of anatomically modern humans around 160,000 BC, along with their first wave of dispersals out of Africa, and tragic near destruction around 73,000 years ago; second, the rise of behaviorally modern humans around this same time, along with a second wave of dispersals of these new humans out of Africa to colonize most of the globe; and, third, the period after the end of glaciation (which is sometimes colloquially referred to as the end of the last Ice Age and which began around 10,000 BC). This last period witnessed the first development of agriculture along with a number of subsequent transitions, at first among only a small handful of groups, away from hunter-gatherer forms of life and toward larger-scale forms of settled civilization with incipient legal traditions. Although this last period is technically an “interglacial” period within a standing Ice Age,¹⁵¹ I will sometimes use the colloquial, in what follows, and refer to it as the period “after the last Ice Age” for ease of presentation.

Beginning with the first period, our best scientific evidence currently suggests that anatomically modern humans first evolved somewhere in East Africa (either in or near present-day Ethiopia) between around 150,000 and 160,000 years ago.¹⁵² These early humans tended to live in relatively small, nonsedentary bands, much as their hominid ancestors had for millions of years before,¹⁵³ and much as our two closest evolutionary relatives—the chimpanzee and the bonobo¹⁵⁴—do today.¹⁵⁵

151. See *infra* notes 179, 182.

152. Robert Foley, *Human Evolution*, in OXFORD COMPANION, *supra* note 124, at 318, 320 (“[I]n Africa the regional populations show a trend toward modern humans. It is most probably here that *Homo sapiens* evolved in a small population, between 150,000 and 160,000 years ago.”); see also MATT CARTMILL & FRED H. SMITH, *THE HUMAN LINEAGE* 421 (Kaye Brown ed., 2009) (“The currently accepted chronology indicates that modern human anatomy appeared first in East Africa, then spread to southern Africa and the Near East, and entered Europe last of all, probably after it had become established in North Africa, East Asia, and Australasia.”); *id.* at 444 (“Anatomically modern humans (AMH) first appear in East Africa (Herto, Omo Kibish KHS) around 160 Kya.”); ROGER LEWIN & ROBERT A. FOLEY, *PRINCIPLES OF HUMAN EVOLUTION* 331–32 (2d ed. 2004) (“Approximately 150,000 years ago, a speciation event in Africa gave rise to *Homo sapiens* . . .”). The major competing hypothesis to this account of human evolution is the so-called “Multi-Regional Hypothesis,” which—somewhat improbably—suggests that humans evolved separately in many different regions around the world. See, e.g., L. LUCA CAVALLI-SFORZA ET AL., *THE HISTORY AND GEOGRAPHY OF HUMAN GENES* 155 (abr. paperback ed. 1994) (discussing this alternative hypothesis and suggesting that “[w]hat is very difficult to conceive is a parallel evolution over such a vast expanse of land, given the limited genetic exchange that could have occurred in earlier times”).

153. See, e.g., Lee & Daly, *supra* note 77, at 1–2 (noting that “virtually all humanity lived as hunters and gatherers” until about 12,000 years ago); *id.* at 3 (“The basic unit of social organization of most

It can be difficult to reconstruct early human social patterns based solely on existing hunter-gatherer studies, because these early anatomically modern humans were not yet behaviorally modern. Most existing hunter-gatherer bands have also formed contacts with more advanced agricultural or modern societies, and most have been displaced from their traditional forms of life and relegated to relatively small and contained geographic areas.¹⁵⁶ The archaeological evidence from this early period is, finally, sometimes sparse. We nevertheless know that the basic subsistence patterns of these early humans were hunter-gatherer modes of subsistence. We also know that our two nearest evolutionary cousins—namely, the chimpanzees and bonobos¹⁵⁷—still live in the wild and still depend for their subsistence on a similar mixture of foraging and hunting.¹⁵⁸ Their group sizes are therefore strictly limited by the amount of natural resources that are available in the local geographies they can traverse.¹⁵⁹ Chimpanzees and bonobos also tend to exhibit what is called “fission-fusion” grouping: they form groups that tend to break off into smaller subgroupings during many daily activities, but that reconvene and maintain fairly stable populations until they reach the maximum

(but not all) hunting and gathering peoples is the *band*, a small-scale nomadic group of fifteen to fifty people related by kinship.”).

154. See Yukimaru Sugiyama, *Social Characteristics and Socialization of Wild Chimpanzees*, in *PRIMATE SOCIALIZATION* 145, 145–46 (Frank E. Poirier ed., 1972) (“Chimpanzees are phylogenetically closest to man; they inhabit the wide area of African forest and savanna woodland where man’s ancestors probably originated, and they possess a highly developed behavioral pattern that suggests possible analogies to ancestral hominid behavior. Thus, the behavior, sociology, ecology, and life history of wild chimpanzees are among the most important themes adopted when we search for and reconstruct the origin of man and the details of the behavior, sociology, ecology, and life history of ancestral man.”); see also LEWIN & FOLEY, *supra* note 152, at 207 (identifying chimpanzees and humans as “one another’s closest relatives”); *id.* at 176–77 (noting that bonobos are sometimes referred to as “pygmy chimpanzees,” because both bonobos and chimpanzees are members of the genus *Pan*); *id.* at 177 (noting that these two species of *Pan* are “equally closely related to humans”).

155. See, e.g., CARTMILL & SMITH, *supra* note 152, at 103 (“Both species of *Pan* [namely, common chimpanzees and bonobos] associate in large ‘communities’ of from 20 to over 100 individuals, including several adults of both sexes. Each community has a more or less exclusive territory. Males tend to remain in their native territory when they grow up; adolescent females usually emigrate to join other communities nearby. The individuals comprising a community almost never assemble in one place at the same time. Rather, they band together in shifting, transient groupings called ‘parties,’ which may consist of a few individuals or dozens of one or both sexes.” (citation omitted)); NEIL CHALMERS, *SOCIAL BEHAVIOUR IN PRIMATES* 24 tbl.2.1(5) (E. J. W. Barrington et al. eds., 1980).

156. See, e.g., Robert H. Layton, *Hunter-Gatherers, Their Neighbours and the Nation State*, in *HUNTER-GATHERERS: AN INTERDISCIPLINARY PERSPECTIVE* 292, 292 (Catherine Panter-Brick et al. eds., 2001) (discussing the “range and historical depth of hunter-gatherer interactions with non-foraging communities” and assessing “the ways in which such interaction affects the hunter-gatherer way of life, influencing the significance of data collected among contemporary hunter-gatherers”); see also *id.* at 294 (discussing potential results of hunter-gatherer interaction with agricultural communities).

157. See KAREN B. STRIER, *PRIMATE BEHAVIORAL ECOLOGY* 32, 90 (3d ed. 2007).

158. See *id.* at 180.

159. See *id.* at 195 (“Nearly all primates adjust the size of their feeding groups, or feeding parties, in response to the size of their food patches.” (emphasis and citations omitted)).

group size set by local natural resources.¹⁶⁰ At that point, if there is room for geographic expansion, they tend to splinter into two or more groups, which can nevertheless retain some periodic contact with one another for a time.¹⁶¹

The first anatomically modern humans were more closely related to the chimpanzees and bonobos than we are, and they faced very similar limitations in natural resources and engaged in very similar subsistence patterns. In addition, the limited archaeological evidence that we have of early anatomically modern humans suggests that they displayed similar social dynamics,¹⁶² and the anthropological and ethnographic data that we have on still-existing hunter-gatherers suggests that they too tend to exhibit similar demographic patterns.¹⁶³ When viewed in combination, these facts suggest that our earliest human ancestors very likely displayed similar patterns of fission and fusion.¹⁶⁴

Although these first anatomically modern humans appear to have evolved in a fairly localized area in Africa,¹⁶⁵ the evidence suggests that they then began to spread out around the world in a series of waves. The precise number and timing of these waves is currently being debated, and many experts disagree over the precise amount of hybridization that may have occurred between these migrating populations and various preexisting hominids.¹⁶⁶ Still, the accumulated evidence now suggests that an important “first” wave began by about 100,000 BC.¹⁶⁷ Figure 5.1 contains a

160. See, e.g., *id.* at 195–96 (“Primates with fluid grouping patterns, such as chimpanzees and spider monkeys, routinely split up into smaller feeding parties when their preferred fruit resources occur in small patches, and solitary females are frequently sighted foraging alone. They come together into larger feeding aggregates whenever large fruit patches, which can accommodate more individuals without competition, are available, resulting in their fission-fusion social system.” (citations omitted)); see also LEWIN & FOLEY, *supra* note 152, at 167 (“On a day-to-day basis the community breaks up into smaller foraging groups, before recombining—hence the description of chimpanzee social system as a fission-fusion one.”).

161. Yukimaru Sugiyama has explicitly noted some of the commonalities between wild chimpanzee fission-fusion patterns and the social patterns of some existing hunter-gatherer groups. See Sugiyama, *supra* note 154, at 161 (“A similar pattern of flux in a flexible society is seen in African hunting and gathering peoples . . .”).

162. See CARTMILL & SMITH, *supra* note 152, at 428–29.

163. See Lee & Daly, *supra* note 77, at 3–4.

164. See, e.g., *id.* at 4 (“A[nother] characteristic is the remarkable fact that all band-organized peoples exhibit a pattern of *concentration and dispersion*. Rather than living in uniformly sized groupings throughout the year, band societies tend to spend part of the year dispersed into small foraging units and another part of the year aggregated into much larger units.”).

165. See LEWIN & FOLEY, *supra* note 152, at 441 (noting the emphasis of current theorists, when trying to account for the origins of anatomically modern humans, “remains on a local and recent origin in a small population in Africa.”).

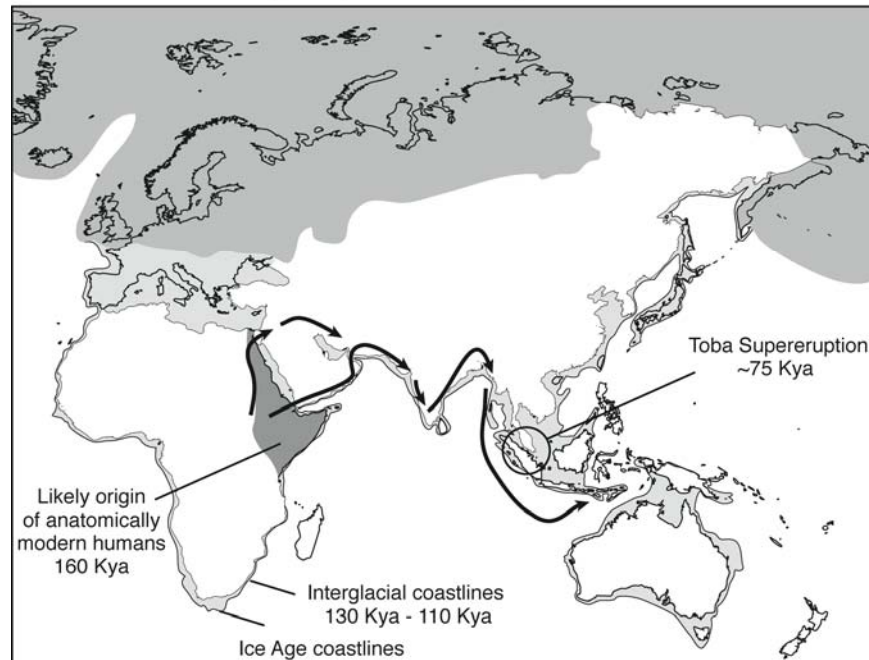
166. *Id.* at 440–45. For recent and highly credible evidence indicating some admixture with Neanderthals and Denisovans, see Richard E. Green et al., *A Draft Sequence of the Neandertal Genome*, 328 SCIENCE 710 (2010) (discussing evidence of Neanderthal admixture); David Reich et al., *Genetic History of an Archaic Hominin Group from Denisova Cave in Siberia*, 468 NATURE 1053 (2010) (discussing evidence of Denisova admixture).

167. See CARTMILL & SMITH, *supra* note 152, at 476 (“According to the Assimilation Model, modern human morphology evolved as a complex in East Africa around 160 Kya, or slightly earlier.

graphic representation of this first set of likely migrations, with the relevant Ice Age coastlines. As shown in that figure, these early groups appear to have migrated primarily along tropical coastlines, which would have been familiar natural habitats, and into adjoining tropical areas.¹⁶⁸

After leaving modern-day Ethiopia, they appear to have traversed the southern coast of the Arabian peninsula, and then continued around India's coastlines, at which point they began to spread out into modern-day Oceania¹⁶⁹—often using land routes that are presently submerged due to rising sea levels after the last Ice Age. About 75,000 years ago, a monumental volcano (Mount Toba) then erupted in Oceania and appears to

FIGURE 5.1
OUR NATURAL HISTORY AS A SPECIES PART 1
(Rise of Anatomically Modern Humans and
First Wave of Migrations Out of Africa along Tropical, Coastal Routes)
(~160,000 BC to ~73,000 BC)



Population movements and demic diffusion carried this distinctive morphological complex into southern Africa and the Levant just over 100 Kya. This complex subsequently came to predominate throughout Eurasia and Australasia, and it was ultimately carried by modern human colonists into areas devoid of archaic forerunners, like the Americas.”)

168. See LEWIN & FOLEY, *supra* note 152, at 442 fig.16.12(1) (“Multiple dispersals out of Africa”).

169. See *id.* (displaying this so-called “southern route” into Oceania).

have created a six-year nuclear winter, which decimated many of these early migrants, and created a detectable genetic “bottleneck” in our human genetic ancestry.¹⁷⁰ Whatever the ultimate fate of these early anatomically modern humans, the archaeological record suggests that they did not deviate substantially from the kind of small, foraging, and hunter-gatherer living thus far described.¹⁷¹

A critical evolutionary change from anatomically to behaviorally modern humans then appears to have occurred by around 75,000 BC—beginning, once again, in Africa¹⁷²—or, possibly, near the Persian Gulf. Borrowing a term from Mao Tse Tung, archaeologists sometimes refer to this period as the “Great Leap Forward”¹⁷³ because these new groups of humans were not only anatomically modern but also exhibited a broad range of more complex social and behavioral traits.¹⁷⁴ For example, they buried their dead, made clothing out of hides, engaged in symbolic behavior (such as ornamentation and cave painting), formed some long-distance social ties and trade networks, and created much more sophisticated tools and hunting techniques.¹⁷⁵ These behaviorally modern humans also began to spread out over much of the world in a second wave of migrations, which are depicted (with the relevant Ice Age coastlines) in Figure 5.2 and began around 60,000 BC. This time, however, they not only followed the earlier coastal route into mainly tropical regions but also began to spread into many noncoastal areas with very different natural habitats, including parts of Europe, Central Asia, the interiors of India and China,¹⁷⁶ and—eventually—the New World.¹⁷⁷ (There is recent

170. See, e.g., Stanley H. Ambrose, *Late Pleistocene Human Population Bottlenecks, Volcanic Winter, and Differentiation of Modern Humans*, 34 J. HUM. EVOLUTION 623, 634 (1998) (explaining that Mount “Toba could have been responsible for six years of relentless volcanic winter, substantial lowering of plant biomass and disastrous famine”).

171. See, e.g., Lee & Daly, *supra* note 77, at 1–3 (identifying 12,000 years ago as the date before which virtually all of humanity lived as hunter-gatherers, in small-scale nomadic bands ranging from approximately fifteen to fifty people).

172. See CARTMILL & SMITH, *supra* note 152, at 476 (“By around 75 Kya . . . fully modern humans were established in southern Africa.”).

173. See, e.g., JARED DIAMOND, *THE THIRD CHIMPANZEE: THE EVOLUTION AND FUTURE OF THE HUMAN ANIMAL* 32–57 (1992) (using term “Great Leap Forward” to describe this period); see also Alison S. Brooks, *Behavior and Human Evolution*, in CONTEMPORARY ISSUES IN HUMAN EVOLUTION 135, 146 (W. Eric Meikle et al. eds., 1996) (noting that this transition has been called the “great leap forward” by Jared Diamond, but also the “Upper Paleolithic revolution” by Paul Mellars).

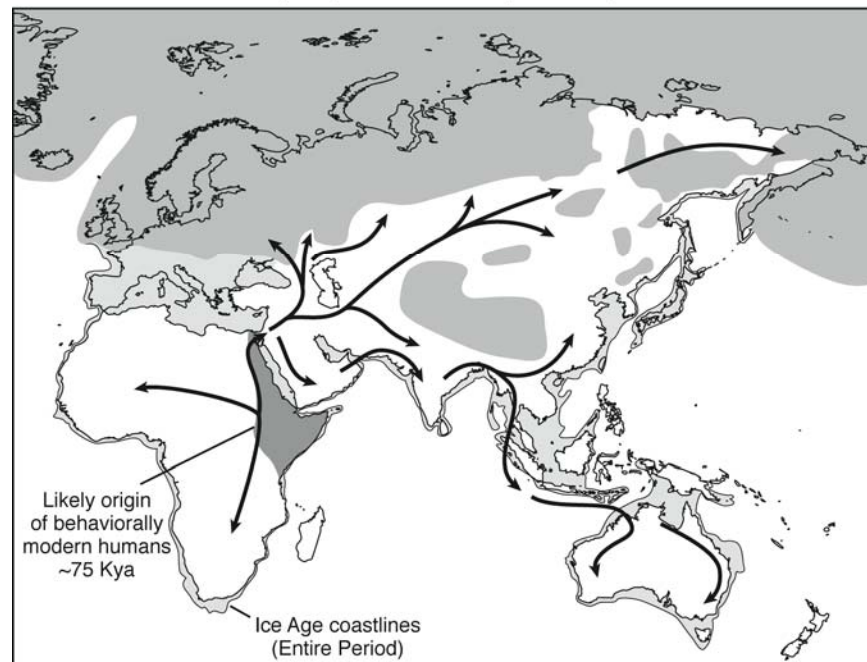
174. Brooks, *supra* note 173, at 146 (noting that this transition was reflected not only in morphological transitions but also in distinctive behavioral transformations).

175. *Id.* at 147–48 (noting evidence of more complex tool usage, more complex hunting techniques, and more extensive social and trade networks); *id.* at 148 (“Symbolic activities begin to expand at ca. 50 Ka, just before the first appearance of modern humans in Europe.”).

176. See *id.* at 147–48 (“Anatomically modern humans first appear in Africa and the Levant, then in East Asia and Australia, and finally in Europe and Siberia by just before ca. 40 Ka Apparently, modern humans also were the first human occupants of high latitudes (north European Plain, eastern Siberia) by 20 Ka, and possibly also of the tropical forest.” (citations omitted)); Brian M. Fagan, *Peopling of the Globe*, in OXFORD COMPANION, *supra* note 124, at 330, 330 (“After more than 50,000 years [after an initial spread that began around 100,000 BC], much later modern human groups spread into southern and eastern Asia, and into northern latitudes, crossing into the Americas either during

evidence to suggest that these behaviorally modern humans also engaged in some minor interbreeding with the Neanderthals of Europe and the Denisovans of Eastern Eurasia—which are two distinct branches of the hominid line that were ultimately replaced by behaviorally modern humans.)¹⁷⁸

FIGURE 5.2
OUR NATURAL HISTORY AS A SPECIES PART 2
(Rise of Behaviorally Modern Humans and
Second Wave of Migrations Out of Africa to Colonize the Globe)
(~75,000 BC to ~10,000 BC)



The ability of these newer humans to adapt to a much broader range of habitats distinguished these groups not only from their most recent hominid ancestors, but also from their closest primate relatives

or after the Late Ice Age, by at least 15,000 years ago.”); see also CARTMILL & SMITH, *supra* note 152, at 476 (“In the European periphery, the first fully modern humans date back only some 35 Ky. In the East Asian and Australasian peripheries, the date for the first early moderns probably lies between 60 and 40 Kya.”).

177. The precise date of these first migrations into the Americas is somewhat controversial. Although most archaeologists cite a date somewhere between about 13,000 and 10,000 BC, “[a] small number of archaeologists argue for much earlier settlement, perhaps as early as 40,000 years ago.” Fagan, *supra* note 176, at 332.

178. See Green et al., *supra* note 166, at 21 (discussing evidence of Neanderthal admixture); see also Reich et al., *supra* note 166, at 1057–58 (discussing evidence of Denisova admixture).

and—indeed—from the vast majority of animal species known to man. This ability emerged during the Great Leap Forward, and many investigators therefore plausibly attribute it, at least in part, to the extraordinary advances in social, cultural, and behavioral flexibility and sophistication that first emerged during this period, which may have also included the development of grammatical language.¹⁷⁹

Behaviorally modern humans can, in fact, be usefully thought of as the cultural species par excellence: rather than being hardwired for a specific form of life, which is adapted to a narrow and limited natural habitat, we humans are hardwired to internalize the cultural forms of life that we are born into and that our ancestors have been adapting for many generations to the more particular habitats they have found themselves in.¹⁸⁰ Different cultural traditions can therefore be understood as reflecting different shared forms of human life, which different social groups have adapted over great expanses of time to respond to different historical patterns of problem and circumstance. Traditions of this kind should therefore bear important traces of their path-dependent histories of cultural evolution, even if the people who share these traditions have no explicit memory or written records of their cultural prehistory. Given these facts and given that most biologists believe we have undergone relatively little natural evolutionary change since the rise of behaviorally modern humans,¹⁸¹ we should also probably assume that—at least if placed in the right circumstances—these behaviorally modern humans could have begun to develop the kinds of social and cultural traditions

179. See, e.g., WILLIAM A. HAVILAND, *HUMAN EVOLUTION AND PREHISTORY* 134 (1979) (“No longer did they have to depend predominantly on physical attributes to survive. Moreover, as cultural adaptation became more efficient, human populations began to spread geographically and to inhabit new and even harsh environments. All of this is illustrated by human habitation of the cold regions of the world The fact is that cultural equipment and techniques are capable of rapid change, whereas biological change takes many generations to accomplish.”). Alison S. Brooks has similarly noted that *homo habilis*, which preceded anatomically modern humans, “was limited to the African tropics and sub-tropics.” Brooks, *supra* note 173, at 142. Anatomically modern humans were, by contrast, able to spread out into many other types of regions, and studies of their morphology “imply that cultural solutions replaced physical adaptation in dealing with cold and scarcity.” *Id.* at 146.

180. See, e.g., Robert Boyd & Peter J. Richerson, *THE ORIGIN AND EVOLUTION OF CULTURES* 52 (2005) (“The ability to accumulate socially learned behaviors over many generations has allowed humans to develop subtle, powerful technologies and to assemble complex institutions that permit us to live in larger, and more complex, societies than any other mammal species. These accumulated cultural traditions allow us to exploit a far wider range of habitats than any other animal, so that even with only hunting and gathering technology, humans became the most widespread mammal on earth.”); *id.* at 35 (“Culture has made the human species a spectacular ecological success. Since the first appearance of tools and other evidences of culture in the archaeological record, the human species has expanded its range from part of Africa to the entire world, increased in numbers by many orders of magnitude, exterminated competitors and prey species, and radically altered the earth’s biota.”).

181. “In this context, the increasing acceptance of the fact that all humans share a recent common populational history, and that genetic diversity between populations is very low, is of great significance.” LEWIN & FOLEY, *supra* note 152, at 511. “We suggest that increasing human dependence on culture would also have inhibited speciation—not because culture is an ecological niche, as some theorists have suggested, but precisely because culture is a way of escaping from any ecological niche.” CARTMILL & SMITH, *supra* note 152, at 289 (citation omitted).

needed to support large-scale human civilizations with incipient legal traditions.

These early migrants were, however, still living during an Ice Age,¹⁸² with strict limitations on their natural resources and long before the development of agriculture or any other technologies that would have allowed them to create large surpluses of resources capable of sustaining larger-scale populations. There is also very little evidence of animal domestication during this period. Hence, these early ancestors of ours would have continued to live primarily in small hunter-gatherer bands (with some evidence of minor sedentism in a few particularly ecologically rich areas, such as on coastlines¹⁸³) and would have very likely continued to exhibit many of the same patterns of fission and fusion that their human and prehuman ancestors had for millions of years.¹⁸⁴ In these circumstances, there would have been very little pressure to develop the kinds of cultural traditions needed to sustain large-scale social structures with incipient law, and we should expect that no significant traditions of this kind existed yet. This prediction is fully consistent with everything we know about the archaeological record.

It was, finally, only after the last Ice Age, which ended in approximately 10,000 BC,¹⁸⁵ that the archaeological record begins to exhibit anything like what we currently think of as complex human civilizations with legal systems.¹⁸⁶ Earlier hominids and other primates had, of course,

182. As before, the term “Ice Age” is used colloquially here. Technically, we are still living in an Ice Age—but in a period of relative warmth in the longer phase of an Ice Age, commonly referred to as an “interglacial.” See CARTMILL & SMITH, *supra* note 152, at 13. We nevertheless know that the temperatures from at least 71 Kya until 12 Kya (which marks the latest retreat of the continental ice) were significantly colder than the modern Holocene period. See *id.* at 12 fig.1.3(B), 13. It is thus common to refer to the common period more colloquially as having begun after the last Ice Age.

183. See, e.g., Geoff Bailey & John Parkington, *The Archaeology of Prehistoric Coastlines: An Introduction*, in *THE ARCHAEOLOGY OF PREHISTORIC COASTLINES* 1, 8 (Geoff Bailey & John Parkington eds., 1988) (“There are a number of examples of sedentism amongst the ethnographies of non-agricultural coastal people, the best known being the American Indians of the north-west coast of North America.”).

184. See, e.g., WILLIAM H. MCNEILL, *THE RISE OF THE WEST: A HISTORY OF THE HUMAN COMMUNITY* 10 (2d prtg. 1991) (“During the Paleolithic and Mesolithic ages man had already become master of the animal kingdom in the sense that he was the chief and most adaptable of predators; but despite his tools, his social organization, and his peculiar capacity to enlarge and transmit his culture, he still remained narrowly dependent on the balance of nature.”); *id.* at 6 (“On the analogy of hunting peoples who have survived to the present, it is likely that Paleolithic men lived in small groups of not more than twenty to sixty persons. Such communities may well have been migratory, returning to their caves or other fixed shelter for only part of the year.”).

185. See CARTMILL & SMITH, *supra* note 152, at 12 fig.1.3(B), 13. As noted above, the “end of the last Ice Age” is commonly used to refer to the beginning of this interglacial period—I use that more common terminology here. *Id.* at 13; see *supra* note 182 and accompanying text.

186. Lee & Daly, *supra* note 77, at 1 (“Until 12,000 years ago virtually all humanity lived as hunters and gatherers.”). Indeed, as recently as 1500 AD, hunter-gatherers “occupied fully one third of the globe, including all of Australia and most of North America, as well as large tracts of South America, Africa, and Northeast Asia.” *Id.* at 1–2; see also MCNEILL, *supra* note 184, at 10 (“This advance [namely, the development of agriculture] opened a radically new phase of human history. The predator’s mode of life automatically limits numbers Thus larger populations, with all the possibilities

lived through prior periods between Ice Ages,¹⁸⁷ but this particular transition out of the most recent Ice Age—which is often referred to as the end of the “Pleistocene” and the beginning of the “Holocene”¹⁸⁸—marked a critical turning point for our species because it made large-scale agriculture possible *for the very first time in the natural history of behaviorally modern humans*. Behaviorally modern humans would have been specially capable of responding to this new possibility because—for reasons already discussed—they were also the first with sufficient cultural and behavioral flexibility to begin developing and transmitting the radically different forms of life needed to sustain large-scale sedentary living based on agricultural production. This transition would have required not only radical technological but also radical social transformations. The period beginning after the end of the Ice Age thus marks a third and highly distinctive stage in our natural history as a species.

During this third period, the archaeological record suggests that agriculture was independently developed in a handful of places around the world, including the Near East, Central America, and China/Southeast Asia.¹⁸⁹ Where this occurred, the development of agriculture often set the stage for a number of important subsequent developments, which tended to culminate in local transitions from hunter-gatherer modes of subsistence into the more complex forms of social organization characteristic of agricultural life, and eventually (though only in a small handful of cases at first) toward the production of large-scale civilizations with incipient legal traditions.¹⁹⁰ Agriculture did this by allowing for the pro-

of specialization and social differentiation which numbers permit, could only be sustained by human communities that found ways of escaping from the natural limits imposed by their predatory past. This constituted perhaps the most basic of all human revolutions. Certainly *the whole history of civilized mankind* depended on the enlargement of the human food supply through agriculture and the domestication of animals.” (emphasis added)).

187. See LEWIN & FOLEY, *supra* note 152, at 445 fig.16.15 (identifying six significant interglacial periods within the last 375,000 years); *id.* at 209 (noting the discovery of early hominid fossils dating back to 4.5 million years ago).

188. See CARTMILL & SMITH, *supra* note 152, at 13 (“The most recent of these cooling events resulted in a fluctuating advance and retreat of continental ice sheets during the *Pleistocene* epoch. The Pleistocene (from the Greek meaning ‘most recent’) lasted from around 2 Mya until the latest retreat of the continental ice some 12 Kya. . . . Geologists exclude this latest interglacial from the Pleistocene and dignify it with its own special name as the *Holocene* or Recent epoch, mainly because it contains us.” (citation omitted)).

189. Bruce Winterhalder & Douglas J. Kennett, *Behavioral Ecology and the Transition from Hunting and Gathering to Agriculture*, in BEHAVIORAL ECOLOGY AND THE TRANSITION TO AGRICULTURE 1, 2 (Douglas J. Kennett & Bruce Winterhalder eds., 2006) (naming these six regions, and stating that “[a]t present it appears as if at least six independent regions of the world were the primary loci of domestication and emergent agriculture” and noting that these different origins of agriculture all occurred “from thirteen thousand to eight thousand years ago,” and that the “transformation took place in societies that look much like modern day hunter-gatherers”).

190. See, e.g., Grahame Clark, *Primitive Man As Hunter, Fisher, Forager, and Farmer*, in THE ORIGINS OF CIVILIZATION 1, 14 (P.R.S. Moorey ed., 1979) (“[N]o society depending exclusively on hunting and foraging has ever entered upon the wider experience of civilization. And the converse is no less true. All those who share in the consciousness of civilized existence have up to the present depended in the last resort on the cultivation of crops and/or the maintenance of animal herds.”).

duction of much larger quantities of food, which could support much larger population densities, with greater divisions of labor, and by incentivizing greater transitions to sedentary living.¹⁹¹ These social and technological transformations also tended to spread from their original locations—at least to the degree that the underlying agricultural technologies could also spread.¹⁹²

These transitions from hunter-gatherer forms of life to more sedentary agricultural ones were nevertheless difficult: the archaeological record suggests that they were in no way automatic and instead took many millennia to emerge.¹⁹³ The transition from simple agricultural communities to large-scale urban societies, which tended to bring with them emergent legal systems, was, moreover, equally difficult and prolonged, and it appears to have occurred, at first, only much later and only in very few places in the Old World: namely, in Egypt, Mesopotamia, Babylonia, China, and the Indus Valley—as depicted in Figure 5.3.¹⁹⁴

191. See, e.g., Mark Nesbitt, *Agriculture*, in OXFORD COMPANION, *supra* note 124, at 19, 19–20 (“Ethnographic and archaeological evidence shows that the appearance of agricultural systems is usually linked to the appearance of sedentary villages. . . . [G]enerally . . . the introduction of agriculture is linked to an increase in population and in the number and size of sedentary villages.”). It should be noted, however, that recent evidence has begun to reveal a number of characteristic patterns in human social formations, including some sedentism among hunter-gatherers, that typically precede the development of agriculture. See, e.g., Brian Hayden, *A New Overview of Domestication*, in LAST HUNTERS—FIRST FARMERS: NEW PERSPECTIVES ON THE PREHISTORIC TRANSITION TO AGRICULTURE 273, 277–81 (T. Douglas Price & Anne Birgitte Gebauer eds., 1995) (discussing relationship between domestication and agriculture); Winterhalder & Kennett, *supra* note 189, at 1–2 (“Hunter-gatherers live at roughly 0.1/km²; rice agriculturists in Java at 1,000/km², a ten-thousand-fold difference. There were an estimated ten million humans in the world on the eve of food production . . . ; now over six billion people live on this planet, an increase of 600% in only ten millennia.”).

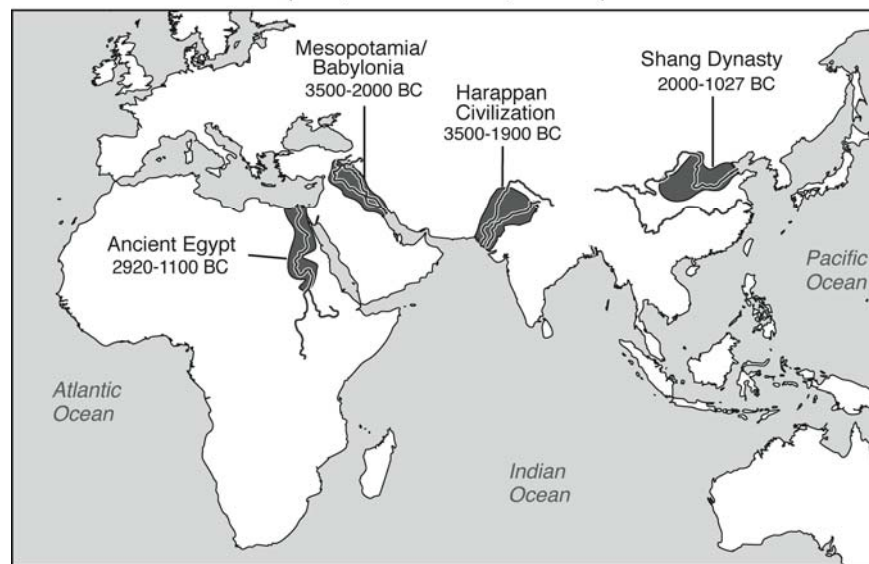
192. See Hayden, *supra* note 191, at 282–83 (discussing the spread of domestication with food production).

193. See, e.g., CHESTER G. STARR, A HISTORY OF THE ANCIENT WORLD 14 (1965) (“The transitional phase at the end of the Paleolithic era is sometimes given the name of the Mesolithic period. In the Near East it may extend from about 10,000 to 7000 B.C.; but in central and northern Europe it reached on down to about 3000 B.C. Like all transitional epochs this period is marked by an uneven speed of advance, as different peoples gave up their old ways more or less reluctantly; and the rise of new ways of life is difficult to detect in the first stages. . . . Over most of the earth it is clear that men simply continued to hunt their food.”); see also JARED DIAMOND, GUNS, GERMS, AND STEEL: THE FATES OF HUMAN SOCIETIES 281 (1997) (“Over the past 13,000 years the predominant trend in human society has been the replacement of smaller, less complex units by larger, more complex ones. Obviously, that is no more than an average long-term trend, with innumerable shifts in either direction: 1,000 amalgamations for 999 reversals. We know from our daily newspaper that large units (for instance, the former USSR, Yugoslavia, and Czechoslovakia) can disintegrate into smaller units, as did Alexander of Macedon’s empire over 2,000 years ago. More complex units don’t always conquer less complex ones but may succumb to them, as when the Roman and Chinese Empires were overrun by ‘barbarian’ and Mongol chiefdoms, respectively. But the long-term trend has still been toward large, complex societies, culminating in states.”); *id.* at 286 (“Thus, food production, which increases population size, also acts in many ways to make features of complex societies *possible*. But that doesn’t prove that food production and large populations make complex societies *inevitable*.”).

194. See, e.g., STARR, *supra* note 193, at 67 (“A civilized structure of life requires much of mankind in mutual adaptation and acceptance of a necessary interdependence. Nor was all achieved, once the Sumerians and Egyptians had risen to this level. We have already surveyed some 1500 years of the historic period of Egypt and Mesopotamia and have seen that society in both areas found itself confronted by great problems inherent in the new intellectual and social patterns.”); *id.* at 111–14 (discuss-

We should therefore expect that the prehistories in these particular regions included the slow development of several distinct cultural traditions, which—for the very first time in our natural history as a species—would have been capable of sustaining large-scale societies with incipient legal traditions. This third major period of our prehistory is depicted in Figure 5.3.

FIGURE 5.3
OUR NATURAL HISTORY AS A SPECIES PART 3
(End of the Ice Age, Rise of Agriculture
and Development of the First Ancient Civilizations)
(~10,000 BC to ~1,000 BC)



C. First Theoretical Prediction: Prehistoric Shifts from Linguistic Diversity to Major Language Families Should Correlate with Our First Transformations Towards Social Complexity with Incipient Legal Traditions

When viewed in relation to our larger natural history as a species, it should now be clear that the forms of social complexity discussed at the end of the last Section are the exception rather than the rule. We are all so used to large-scale civilizations with the rule of law in the West that

ing development of large cities in the Indus Valley); see also DIAMOND, *supra* note 193, at 22–23 (describing transitions to social complexity and some of the difficulties involved).

we can nevertheless forget just how recently these distinctive forms of human life emerged, and just how radically they differ from the forms of life that predominated for most of human prehistory. Let us therefore ask whether our contemporary patterns of linguistic diversity (which were discussed at the beginning of this Part, and which reflect domination by a relatively few number of major language families) likely existed in the same form prior to these very recent social transformations, or whether our contemporary linguistic patterns more likely emerged *along with them* during the Holocene. If we conclude the latter, then we will have found a nonobvious variable that may help us draw a further set of inferences from certain linguistic facts to the phylogenetic structure of some of the earliest cultural traditions relevant to law.

So let us take a look at the long period of human prehistory that preceded these very recent transformations toward social complexity. During this time, human beings were—as noted above—spread out across the globe, but still lived primarily in small, hunter-gatherer bands. They had not yet domesticated any animals that would have allowed them to travel other than by foot or boat, and, unlike in the case of most modern hunter-gatherers, they would have had no contacts with agricultural communities upon which they could depend for trade. Hence, they would have needed to be incredibly self-sufficient, even by modern hunter-gatherer standards.¹⁹⁵ Given the ordinary limitations that natural resources place on hunter-gatherer group size, and given the limitations that these early hunter-gatherers' technologies would have placed on their abilities to travel great distances, these early bands would have also had relatively little contact with other bands outside their local areas.

Modern hunter-gatherer studies suggest that hunter-gatherer bands can be extremely culturally diverse, but—within this range of diversity—they also tend to exhibit a few important commonalities.¹⁹⁶ For example, they tend to structure their societies around ties of kinship, and they tend to lack the kinds of centralized authorities, standing armies, and other large-scale bureaucratic systems needed to sustain legal systems.¹⁹⁷

195. A number of theorists have commented on the relative economic self-sufficiency of ancient hunter-gatherers and have used this as a criterion to distinguish “genuine” living hunter-gatherers, who might plausibly resemble our ancient ancestors, from groups that are merely “marginalised dependants.” See, e.g., Layton, *supra* note 156, at 292–93.

196. Lee & Daly, *supra* note 77, at 1 (“Hunter-gatherers are a diverse group of peoples living in a wide range of conditions. One of the themes of the book is the exploration of that diversity. Yet within the range of variation, certain common motifs can be identified.”).

197. *Id.* (“Hunter-gatherers are generally peoples who have lived until recently without the overarching discipline imposed by the state. They have lived in relatively small groups, without centralized authority, standing armies, or bureaucratic systems. Yet the evidence indicates that they have lived together surprisingly well, solving their problems among themselves largely without recourse to authority figures and without a particular propensity for violence.”).

Hunter-gatherer bands also typically contain somewhere between five and eighty people, and they rarely exceed a population of about 300.¹⁹⁸

I would like to submit that there is, moreover, an important principle that would have governed the value of language during the relevant periods of our prehistory. All other things being equal, the primary value to a person in being able to speak a language would have been *frequency dependent*: it would have depended in large part on the frequency with which that person was likely to encounter others with whom she either needed or wanted to communicate but could only do so through the language in question. I will sometimes refer to this principle as that of the “frequency-dependent value of language.”

If we apply this principle to our present topic, the first point to recognize is that the predominant form of human social interaction prior to the Holocene would have almost certainly been *within-band contact*.¹⁹⁹ Our earliest human ancestors would have undoubtedly had frequent social contact with other members of their respective bands, and almost all of them would have therefore both wanted and needed to be able to speak the dominant language of their respective bands. We can therefore safely assume that this was the very strong norm—even given well-known phenomena like exogamy and other minor movements between groups.²⁰⁰ At the same time, however, and for reasons already discussed, these early hunter-gatherer bands would have tended to be extraordinarily self-sufficient,²⁰¹ and would have tended to come into contact with people from other bands only relatively infrequently (at least compared to modern times) and only within certain highly localized geographic areas. Hence, there would have been very little value to these early humans in being able to communicate much more widely.

These facts are important for a reconstruction of our earliest patterns of linguistic diversity because we also know that languages tend to evolve naturally within discrete populations of speakers to the point where it typically becomes impossible after about 8000 years to recon-

198. See DIAMOND, *supra* note 193, at 267 (“Bands are the tiniest societies, consisting typically of 5 to 80 people, most or all of them close relatives by birth or by marriage.”); Lee & Daly, *supra* note 77, at 4 (noting that hunter-gatherer bands can sometimes aggregate into numbers as large as 200 to 300).

199. See generally Lee & Daly, *supra* note 77, at 3–6 (discussing social interactions within hunter-gatherer bands); see also Colin Renfrew, ‘The Emerging Synthesis’: *The Archaeogenetics of Farming/Language Dispersals and Other Spread Zones*, in EXAMINING THE FARMING/LANGUAGE DISPERSAL HYPOTHESIS, *supra* note 106, at 3, 8–9 (discussing the contact-induced language shift in bands).

200. See, e.g., Bellwood, *supra* note 106, at 22 (“Hunter-gatherers generally lead mobile lives and practise group exogamy, hence people can sometimes move quite far during their lifetimes.”).

201. See, e.g., Layton, *supra* note 156, at 293 (commenting on the “economic[] self-sufficien[cy]” of genuine hunter-gatherer groups).

struct the common origin of languages that were once related.²⁰² We should therefore expect that, at the eve of the Holocene, the world likely displayed an incredible amount of linguistic diversity, with the vast majority of languages exhibiting extreme regionalization and very few detectable genetic relations outside of highly localized geographic clusters. If so, then we might also expect that the shift to major language families (and, hence, to our contemporary patterns of linguistic diversity) would have occurred only very recently, and as part of the larger set of radical social transformations described in the last Section. This prediction is based on the fact that these social transformations would have produced much larger and more highly interconnected populations of people, who would have needed to be able to communicate with one another, for the very first time in our natural history as a species. For reasons already discussed, these developments toward social complexity would have also required the development of distinctive cultural traditions that were capable of supporting these much larger social structures, and would have therefore plausibly included the types of incipient legal traditions that tend to accompany the emergence of large-scale civilizations.

At this stage, I have remained at the level of theoretical prediction. We should therefore ask whether the current theoretical prediction—which posits a dramatic shift in patterns of linguistic diversity that accompanied these more well-known social transformations away from hunter-gatherer modes of subsistence—can be supported by empirical evidence. I will turn to that question in the next Section.

D. Evidence to Support the First Theoretical Prediction

The shifting patterns of linguistic diversity predicted in the last Section would have taken place not only in prehistoric times but also before the invention of writing. It will therefore be difficult to find direct empirical evidence either for or against this proposed linguistic shift. There are nevertheless two main sources of indirect evidence that bear on this question, and both of them strongly support the current proposal. The two relevant sources of evidence involve, first, contemporary patterns of linguistic diversity among existing human populations with different subsistence patterns, and, second, the recent findings of so-called “population-based” linguistics.

The first type of evidence involves known contrasts between the type of linguistic diversity that is typically found among contemporary hunter-gatherer communities and that of most post-agriculturalist societies. For example, Malcolm Ross—who is one of the leading linguistic

202. See, e.g., NICHOLS, *supra* note 137, at 2–3 (“[T]he [standard] comparative method does not apply at time depths much greater than about 8000 years (this is the conventional age of Afroasiatic, which seems to represent the upper limit of detectability by traditional historical method) . . .”).

experts on Austronesian and Papuan languages—has engaged in a detailed analysis of the languages of Near Oceania,²⁰³ which reflect two main waves of prehistoric migration into the area and resulted in a split between groups with three main subsistence patterns.²⁰⁴ The first wave, which began in about 40,000 BC and had concluded by about 21,000 BC, consisted of hunter-gatherer bands, who were able to migrate into the region much more easily than would have been possible today because sea levels were much lower and many of the land masses in Near Oceania were still connected.²⁰⁵ (This first wave of migrations was depicted in Figure 5.1.) After this time, however, “the sea level gradually rose,” and the evidence suggests that “sea crossings, which had been few, declined almost to zero.”²⁰⁶ At around 9000 BC, the descendants of one of these early groups, who spoke early languages of the Trans New Guinea continuum, learned to grow taro and banana (thereby making a first transition to a primitive form of agricultural subsistence), and then spread through large parts of Near Oceania (but not northwest Melanesia) by about 6000 BC.²⁰⁷ At this time, there would have thus been a division between the preexisting hunter-gatherer bands and a single expanding group of primitive agriculturalists.

The second wave of migrations into Oceania then began around 3500 BC and consisted of groups of Austronesian speakers from Asia, who were more full-blown agriculturalists, and who were able to colonize much of northwest Melanesia, in large part because their more sophisticated agricultural technologies gave them relative demographic muscle.²⁰⁸ It should be remembered that Austronesian is itself a major language family based on our present definitions.²⁰⁹ The Trans New Guinea continuum is also a large language family, but it is a bit too small to qualify as major one based on our present definitions.²¹⁰

When looking at the linguistic residue from these developments, Ross observes that the populations from the more recent (and agriculturalist) Trans New Guinea and Austronesian-speaking waves exhibit a great amount of linguistic relatedness within their respective language

203. “Near Oceania consists of mainland New Guinea, the Bismarck Archipelago (New Britain, New Ireland and Manus), Bougainville and the Solomon Islands.” Malcolm Ross, *Clues to the Linguistic Situation in Near Oceania Before Agriculture*, in *THE LANGUAGES OF HUNTER-GATHERERS: GLOBAL AND HISTORICAL PERSPECTIVES* (forthcoming) (manuscript at 1). The islands apart from New Guinea will be referred to as “Northwest Melanesia.”

204. *See id.* (manuscript at 1–3) (discussing settlement history of Near Oceania).

205. *See id.* (manuscript at 1–2).

206. *Id.* (manuscript at 2).

207. *See id.* (manuscript at 2–3).

208. *See id.* (manuscript at 4).

209. *ETHNOLOGUE*, *supra* note 135, at 27 (noting that the Austronesian language family includes 1231 living languages and 353,585,905 speakers).

210. *Id.* (noting that Trans-New Guinea language family has 247 languages and 3,334,267 speakers).

families.²¹¹ By contrast, most of the remaining pockets of preexisting hunter-gatherer bands speak languages that exhibit “phenomenal phylogenetic diversity”²¹²—in the sense that their languages are typically unrelated to the Trans New Guinea family, to the Austronesian family, and even to most other hunter-gatherer bands’ languages in Oceania. This more extreme linguistic diversity among these remaining hunter-gatherer bands therefore appears to “reflect the late Pleistocene situation,” before the spread of taro-based agriculture.²¹³ Given the lack of migrations into Oceania between 21,000 BC and 1500 BC, this extreme linguistic diversity is also “readily attributable to the immense time depth of settlement [of the earliest hunter-gatherer bands in this region], together with forms of socio-economic organisation in which societies were always small and were not economically interdependent.”²¹⁴ Ross concludes that the extreme phylogenetic diversity among the remaining pockets of hunter-gatherer bands in Oceania therefore “reflects a diversity that characterised the languages of New Guinea at the Pleistocene/Holocene transition.”²¹⁵

Although Ross’s work is focused on Near Oceania, it bears out the theoretical predictions developed in the last Section. Ross’s explanations of the existing pockets of extreme linguistic diversity in Near Oceania also rely upon features of social organization (*viz.*, the hunter-gatherer form of life) that would have been much more widespread during the Holocene; and his explanations of the expansions of Trans New Guinea and Austronesian language families cite the precise types of social transformations predicted by the current theoretical proposal. Hence, Ross’s work provides the current proposal with some initial empirical support.

Further evidence of this first kind arises from studies of the indigenous linguistic diversity in the Americas. By the time of first European contact with the New World, Central America had already developed large-scale, settled agriculture, but most of its core crops originally depended on Central American climates for their production.²¹⁶ Hence,

211. Ross, *supra* note 203 (manuscript at 4–5).

212. See *id.* (manuscript at 8); see also *id.* (manuscript at 9–10 tbl.1) (listing languages and language families of foragers of New Guinea).

213. See *id.* (manuscript at 8).

214. *Id.* (manuscript at 2); see also *id.* (manuscript at 8) (noting that these are the conditions in which linguistic diversity flourishes).

215. *Id.* (manuscript at 5).

216. See DIAMOND, *supra* note 193, at 176 (“Axis orientations affected the rate of spread of crops and livestock, and possibly also of writing, wheels, and other inventions. That basic feature of geography thereby contributed heavily to the very different experiences of Native Americans, Africans, and Eurasians in the last 500 years.”); David R. Harris, *The Expansion Capacity of Early Agricultural Systems: A Comparative Perspective on the Spread of Agriculture*, in EXAMINING THE FARMING/LANGUAGE DISPERSAL HYPOTHESIS, *supra* note 106, at 31, 34–35 (“The three main crops of indigenous Mesoamerican agriculture—maize, common bean and pepo squash—were domesticated in the [Central American] region . . . [Radiocarbon dating] indicates that all three [of these Central American crops] dispersed northwards from their south and west Mexican areas of origin, but that

large-scale agricultural communities do not appear to have spread into many parts of North or South America, and many indigenous people in these areas still relied primarily on hunting and gathering for their subsistence.²¹⁷ We must unfortunately assume that much of the linguistic diversity in the Americas was destroyed by European colonialism, and that many languages went extinct that were never documented.²¹⁸ We nevertheless know of at least 309 indigenous languages from North America.²¹⁹ Of these, 283 have been grouped into twenty-nine distinct families, while the remaining twenty-six are either isolates or have not yet been classified.²²⁰ California alone contained eighteen distinct linguistic families, with seventy-four different languages.²²¹ We also know of at least 351 languages from Central America, which fall into seventeen well-attested families.²²² All together, these figures point to the existence of at least forty-six and more likely over sixty known but unrelated language families or isolates in North and Central America—which might be usefully compared to the mere four that were, and still are, represented in modern (and hence post-agriculturalist) Europe: namely, Indo-European, Uralic, Caucasian, and Basque—which is an isolate.²²³

The languages of South America are less well studied, but they exhibit even more diversity. Linguists estimate that approximately 1500

they did so at different periods and rates, with maize moving faster than squash and both reaching the Southwest about 3500 years ago, well before the common bean.”).

217. Current archaeological research suggests that there were two main locations for the origins of agriculture in the New World, but that neither of them led to the kind of spread of agriculture that was witnessed in Eurasia. For example, “Mesoamerica, and in particular southern Mexico, is usually regarded as both the earliest and the most important region of agricultural origins in the Americas.” Harris, *supra* note 216, at 31, 34. This agricultural package—which likely began around 7000 BC—did not include any domesticated animals, however, “other than the dog, turkey and Muscovy duck, and none of these was a major food resource.” *Id.* at 34. This agricultural package did eventually spread into American Southwest, but it did so only very slowly (over a period of some 6000 to 7000 years) and sporadically, in a pattern that therefore “contrasts with the rapid latitudinal spread of the Southwest Asian agro-pastoral package . . .” *Id.* at 35. The second independent origin of agriculture is in the Andean highlands. *Id.* Current evidence suggests that “despite the presence of a nutritionally comprehensive range of crops and livestock, an integrated agricultural package did not evolve in and spread outward from the Andean region.” *Id.* at 36.

218. See LYLE CAMPBELL, *AMERICAN INDIAN LANGUAGES: THE HISTORICAL LINGUISTICS OF NATIVE AMERICA* 4 (1997) (“It is often assumed that masses of [Native American] languages have disappeared without a trace, and indeed many have become extinct since European contact . . .” (citation omitted)).

219. See *id.* at 107–55.

220. See *id.*

221. See *id.* at 122–38.

222. See *id.* at 157 (351 known languages); *id.* at 157–169 (discussing seventeen well-attested language families or isolates but noting that there are more than 100 lesser-known languages of Central America about which relatively little is known, and which suggest that there may be even more than seventeen distinct families).

223. See 1 MERRITT RUHLEN, *A GUIDE TO THE WORLD’S LANGUAGES: CLASSIFICATION* 24–25 (1987) (“All the languages currently spoken on the European continent, save Basque, belong to one of three language families: Indo-European, Uralic, and Caucasian. *Basque*, spoken in northern Spain by close to a million people . . . is a language isolate; that is, it has no obvious relationship with any other language.”).

languages were spoken in South America at the time of first European contact, and that approximately 350 indigenous languages are still spoken there today.²²⁴ From among these many languages, one reputable source estimates that there were at least 118 distinct language families or isolates in South America at the time of first European contact²²⁵—which, once again, would dwarf Europe's mere four. Similar studies from other relevant parts of the world—such as Australia, the Caucasus, and Oceania—paint a broadly consistent picture.²²⁶ The largest South American indigenous language family is Quechua,²²⁷ and the speakers of Quechua are associated with some of the earliest agriculturalist societies in South America.²²⁸ Hence, studies of hunter-gatherer linguistic diversity, when compared to the patterns that exist in post-agriculturalist societies, lend strong support to the theoretical prediction developed in the last Subsection.

The second main type of evidence that supports the current proposal arises from so-called population-based approaches to linguistics, which were pioneered by Johanna Nichols in her important and highly influential book *Linguistic Diversity in Space and Time*.²²⁹ In this work, Nichols engages in an extraordinarily wide-ranging and comprehensive

224. See CAMPBELL, *supra* note 218, at 170.

225. *Id.* at 170–72 (Kaufman says 118); *id.* at 205 (noting existence of at least 10 others listed as well attested by Migliazza, but that were not given prominence in Kaufman's classification and also noting the existence of some twenty other names of languages (also unclassified) which are in some way uncertain or unconfirmed but that appear in some lists of South American languages).

226. See GERHARD LEITNER, AUSTRALIA'S MANY VOICES: ETHNIC ENGLISHES, INDIGENOUS AND MIGRANT LANGUAGES, POLICY AND EDUCATION 16 (Joshua A. Fishman ed., 2004) ("There is a solid consensus that there existed around 250 languages, which were linked to social units at the time that Britain invaded the [Australian] continent." (citation omitted)). Cf. THE ATLAS OF LANGUAGES, *supra* note 136, at 100 ("For the linguist, the most remarkable feature of Melanesia is the extreme diversity of its languages. Vanuatu has a population of little over 150,000, but boasts 105 identifiable languages, making it the world's most linguistically diverse country, with an average of one language for every 1,500 speakers. The Solomon Islands have similarly small language groups: nearly 90 languages are spoken by a population of about 300,000. According to the Summer Institute of Linguistics' latest survey, in Papua New Guinea there are over 860 languages in a population of around 4 million.").

227. ETHNOLOGUE, *supra* note 135, at 31 (noting that Quechua has 10,127,900 speakers and that the Mayan family has 6,038,172 speakers).

228. See MARCEL MAZOYER & LAURENCE ROUDART, A HISTORY OF WORLD AGRICULTURE: FROM THE NEOLITHIC AGE TO THE CURRENT CRISIS 189–216 (2006) (discussing the Inca agrarian system and its spread); *id.* at 192 ("The rise of the Inca tribe, which began around the year 1200, was an integral part of the whole complex of emerging hydraulic agricultural civilizations and their grouping into empires in South America. Over the course of two centuries, this tribe occupied only a modest territory around Cuzco, and it is only from the beginning of the fifteenth century that the Incas conquered and unified under their rule the largest, the most fertile and the best situated of the high Andean valleys: the Valley of the Urubamba, high tributary of the Amazon, which became the sacred valley of the Incas."); *id.* at 209 ("[S]o long as the Inca state advanced militarily, it imposed *Quechua* as the official language of the administration and the clergy. Functionaries entrusted with teaching it were sent out to the most distant places and, at the time of the Spanish conquest, only a century after the beginning of the formation of this vast empire, around one-third of the population spoke *Quechua*.").

229. NICHOLS, *supra* note 137, at 2–7.

set of statistical comparisons between various patterns of linguistic variation, as they arise both around the world and throughout world history.²³⁰ Rather than basing all of her analyses on purely linguistic categorizations, however, she organizes her main analysis around a set of identifiable and recurrent features of *populations*, and part of her goal has been to use these population-based findings to pierce further back into human prehistory than the standard methods of historical linguistics will allow.²³¹

One of her most robust findings is that the kind of extreme linguistic diversity that we currently find outside of the major language families, and in what she calls “residual zones,” is “not an oddity but a token of a recurrent and systematically describable situation.”²³² As explained more fully below, Nichols suggests, moreover, that the type of “recurrent and systematically describable situation” she is referring to tended to dominate for most of our natural history as a species, and only recently began to change in many of the precise ways that would have been predicted by the current theoretical proposal.²³³

Based on her population-based findings, Nichols believes that our linguistic prehistory can, in fact, be usefully broken up into three basic stages,²³⁴ which closely track the discussions of human prehistory described above. The first relevant stage “begins with the origin of our species, probably in Africa and over 100,000 years ago, and comprises the period when our range was limited to the tropical Old World and perhaps chiefly Africa.”²³⁵ Nichols says that this stage—which corresponds to the first wave of migrations discussed at the beginning of this Section, and was depicted in Figure 5.1—“must have been a time of great linguistic diversity,” in large part because “[s]ocieties would have been small, simple, and autonomous, and the environment was of course tropical, conditions that foster diversity today.”²³⁶ Indeed, she suggests that:

There must have been not only proliferation of linguistic diversity, but considerable initial diversity, both genetic and typological. The language of the first modern humans must have inherited a good deal of the substantial diversity that earlier hominid language had developed; certainly the genetic affiliation and some structure of the earlier languages would have persisted through whatever transformations were imposed on them by the modern brain. And this

230. *Id.*

231. *See id.* at 6 (“The effect of these four flaws [with the standard methods of historical linguists] has been to discourage mainstream academic study of ancient linguistic prehistory. This book is offered as a first step toward a historical methodology relevant to great time depths.”).

232. *Id.* at 23.

233. *Id.* at 23, 274–78.

234. *Id.* at 274.

235. *Id.*

236. *Id.*

initial diversity would have multiplied for at least half the lifespan of our species, through the entire first stage.²³⁷

Nichols's population-based linguistic analyses thus suggest that this first stage would have been one of extraordinary linguistic diversity.

Nichols then refers to the second relevant stage as the "stage of expansion," because it was the time when "humans expanded out of the Old World tropics to colonize Europe, inner Asia, New Guinea-Australia, and the New World, movements requiring knowledge of seafaring and adaptation to temperate and even extreme climatic conditions."²³⁸ This stage—which Nichols dates as beginning sometime between 60,000 and 30,000 years ago²³⁹ and lasting into the Holocene—corresponds to the first set of migrations following the "Great Leap Forward," which were described earlier in this Section as beginning around 75,000 BC²⁴⁰ and were depicted in Figure 5.2. Applying her analyses to the prevailing population dynamics of the time, Nichols concludes that this second stage "must have involved increasing diversity for that part of the linguistic population that participated in the expansion."²⁴¹

The third stage began, finally, only "with the end of glaciation"²⁴²—which, as we know, was around 10,000 BC. This third stage is distinctive, according to Nichols, because it "involves the rise of complex societies and large-scale economies," along with a distinctive form of population dynamics, which allowed for "the spread of languages driven by economic and political prestige, and consequent reduction in linguistic diversity."²⁴³ She adds that "[t]he spread of a few lineages and a single structural type (verb-final, dependent-marking, accusative) over most of Eurasia, beginning with the Indo-European spread, is an example of this process."²⁴⁴ This third stage thus corresponds to the complex set of socio-cultural developments discussed earlier in this Section, which began only with the Holocene and only after the rise of agriculture. For reasons already discussed, these developments toward social complexity also plausibly included some of the first developments of the types of incipient legal traditions needed to sustain large-scale civilizations. This third major period was depicted in Figure 5.3.

Much like the empirical evidence contrasting the linguistic diversity of known hunter-gatherer societies with post-agriculturalist societies, and much like the theoretical predictions developed in the last Section (based

237. *Id.* at 275.

238. *Id.*

239. *Id.* It is also noteworthy that the indigenous languages of New Guinea, which represented some of the furthest reaches of this first set of population expansions, show extreme phylogenetic diversity. See Ross, *supra* note 203, at 2–8.

240. See *supra* notes 172–84.

241. NICHOLS, *supra* note 137, at 275.

242. *Id.*

243. *Id.*

244. *Id.*

on the frequency-dependent value of language and certain demographic facts about human prehistory), Nichols's work thus supports the view that extreme linguistic diversity would have characterized the dominant situation prior to these recent social transformations. Her work also suggests that these social transformations should correlate strongly with the first emergence of major language families. Together, these three lines of evidence and argumentation thus provide the current proposal with a particularly solid foundation.

What we have identified is, in other words, a nonobvious variable (namely, the transition from extreme linguistic diversity to the initial birth and subsequent expansion of the major language families) that should correlate strongly with the prehistoric development of some of the very first cultural traditions capable of sustaining large-scale civilizations with the rule of law. These facts should therefore allow us to begin to draw inferences from certain findings of historical linguistics to certain patterns of cultural transmission relevant to the emergence of law. Many of the most important inferences that I would like to draw will, however, ultimately depend upon a further set of claims about the precise geographic locations of these transformations. In order to make further progress, we will therefore need to develop an account of prehistoric linguistic expansion that can tie the general processes discussed thus far to more specific features of the geological and archaeological record. In Part IV, I will begin to do just that. My goal will be to move from the general insights developed in this Part to a more concrete methodology for deciphering the early phylogenetic structure of our legal family tree.

IV. SPECIFYING THE GENERAL METHODOLOGY: ON THE ROLE OF MAJOR RIVER SYSTEMS IN THE DEVELOPMENT OF THE FIRST MAJOR LANGUAGE FAMILIES AND FIRST CULTURAL TRADITIONS CAPABLE OF SUPPORTING INCIPIENT LEGAL TRADITIONS

As noted from the beginning, I will ultimately be arguing that many of the cultural traditions that helped ease the birth (or rebirth) of Western civilization in the eleventh century AD and that have helped so many Western societies transition into large-scale societies with the rule of law likely arose much earlier in our prehistory than is commonly recognized (long before the rise of ancient Greece, Rome, or Israel) and from a region much further to the east (from the Eastern-Iran-Bactria-Indus-Valley region). Part III began to support this claim by arguing for a robust correlation between certain patterns of prehistoric linguistic expansion and the rise of the very first human cultural traditions capable of supporting the emergence of law. In order to make any further claims about geography, I will, however, need to articulate an account of prehistoric linguistic expansion that ties these proposed correlations to more

specific geological and archaeological phenomena. The goal of this Part is to develop that account.

My strategy will be to develop a novel account of prehistoric linguistic expansion, which absorbs some of the most plausible and convincing features of two of the leading accounts in the existing literature—namely, Colin Renfrew’s “Farming Dispersal” model of linguistic expansion,²⁴⁵ and Johanna Nichols’s “Prestige Based” model²⁴⁶—while avoiding certain major criticisms that can be leveled against each. The present account will also make a novel—and I hope important and critical—contribution, by highlighting the underappreciated role that major river systems appear to have played in the earliest relevant processes. Because this new model focuses on a combination of agricultural development around specific riverine topographies, it will be called the “riverine-agricultural” model of prehistoric linguistic expansion.

Before introducing this model, I would, however, like to highlight an important methodological point. For anyone trying to develop a plausible account of prehistoric linguistic expansion, it is absolutely critical not to project anachronistic models of linguistic expansion into the relevant time periods. Marija Gimbutas’s well-known proposal concerning the early expansion of the Indo-European language family by invasion and conquest, for example, presupposes well-organized bands of nomadic pastoralists from the Eurasian Steppes, who—from about 4200 BC until about 3200 BC—were able to engage in military conquests using cavalry and advanced weaponry, and then cause a series of neighboring agricultural populations to adopt these invaders’ languages.²⁴⁷ It is therefore worth remembering that: 1) although horses were likely domesticated in or around the Steppe region cited by Gimbutas as early as 4200 BC,²⁴⁸ horses do not appear to have been used for cavalry anywhere until

245. Renfrew, *supra* note 199, at 7–10.

246. See NICHOLS, *supra* note 137, at 12–21 (suggesting that language tends to expand from centers of prestige).

247. See Gimbutas, *Archeological Problems*, *supra* note 97, at 12, 30 (“The Kurgan expansions of 4500–2300 BC . . . brought destruction to the old European Neolithic and Chalcolithic cultures . . .”). “The Kurgan culture spread astonishingly uniform cultural elements all over the vast area of Europe, the Caucasus, and Anatolia. Archaeological evidence and the earliest historical records show that these people were ruled by powerful kings and a council of nobles. They were in possession of vehicles drawn by oxen. . . . Their social system and economy provided unlimited possibilities for invasion and conquest. They entered the civilized world in the Near East, Anatolia, and the Aegean area, establishing there their own states; they conquered the agricultural peoples . . .” *Id.* at 30–31; see also Gimbutas, *Three Waves*, *supra* note 97, at 240–41 (stating that the earliest, agriculturalist societies in Europe were “truncated by two waves of semi-nomadic horse-riding Kurgan people from the east,” noting the “abrupt appearance of thrusting weapons and horses,” and claiming that “the function of the horse as a riding animal is evidenced in the Volga and Dnieper steppes starting with the second half of the 5th millennium”).

248. ANTHONY, *supra* note 64, at 221 (“Riding began in the Pontic-Caspian steppes before 3700 BCE It may well have started before 4200 BCE. It spread outside the Pontic-Caspian steppes between 3700 and 3000 BCE . . .”).

approximately 1500 BC to 1000 BC;²⁴⁹ 2) the type of iron weaponry and well-organized armies needed for large-scale military conquests of this kind do not appear in the archaeological record until about 1000 BC to 900 BC;²⁵⁰ 3) these very early conquerors would have still needed to be able to establish the kinds of social structures and population changes needed to produce and sustain major language families if their conquests were to have had these proposed effects;²⁵¹ 4) the relevant invading groups, at least as described by Gimbutas, had no such history of the complex social structures;²⁵² 5) the wheeled wagon, which would have presumably been needed for certain types of large-scale migrations after a successful conquest, was not invented until approximately 3500 BC;²⁵³ and 6) most early nonsedentary human bands have, in fact, lacked both standing armies and the social and cultural capacities needed to establish major linguistic phenomena with broad geographic and lasting temporal reach.²⁵⁴ It should also be remembered that, during the much later historical periods in which nomadic pastoralist conquerors often *did* have these more advanced technological capacities and often *were* able to conquer various settled regions throughout Eurasia, these groups tended to insert

249. *Id.* at 223 (noting that “[m]any experts have suggested that horses were not ridden in warfare until after about 1500–1000 BCE” and that cavalry “was invented in the Iron Age after about 1000 BCE”).

250. *Id.* at 224 (“[T]he tactics and ideology of state warfare depended on large disciplined units of anonymous soldiers who obeyed a general. These tactics, and the soldier mentality that went with them, were not applied to riders before 1000 BCE, partly because the short bows and standardized arrows that would make mounted archery truly threatening had not yet been invented.”).

251. As Peter Bellwood has noted, the comparative evidence drawn from historical sources “suggests that conquest empires that did not invest in substantial programs of colonization never spread languages very far or very successfully, at least not on the long-term and whole-population level of the universal vernacular” Bellwood, *supra* note 106, at 17–18. Bellwood continues:

One can quote many examples here—Latin beyond the inner provinces of the Roman Empire, Persian beyond the Achaemenid heartland, Greek beyond the Archaic and Hellenistic colonies (and even the latter were relatively ephemeral in a linguistic sense), Mongol beyond Mongolia, English and Dutch in the non-colonized (by Europeans) regions of Malaysia, India, Indonesia, and so forth.

Id.

252. Gimbutas, *Archeological Problems*, *supra* note 97, at 12, 30–31; *see also* BRYANT, *supra* note 35, at 38–40 (noting that Gimbutas associated Proto-Indo-Europeans with militaristic and authoritarian, male-dominated pastoralist groups, who lacked agricultural technologies and engaged only in nomadic pastoralist forms of life).

253. ANTHONY, *supra* note 64, at 300–39 (collecting evidence to suggest that wagons began to show up in the archaeological record in relatively large numbers only around 3300 BC); *see also id.* at 311 (“We cannot say exactly when wagons first rolled into the Eurasian steppes. But an image of a wagon on a clay cup is securely dated to 3500–3300 BCE . . .”).

254. *See* Lee & Daly, *supra* note 77, at 1 (“Hunter-gatherers are generally peoples who have lived until recently without the overarching discipline imposed by the state. They have lived in relatively small groups, without centralized authority, standing armies, or bureaucratic systems. Yet the evidence indicates that they have lived together surprisingly well, solving their problems among themselves largely without recourse to authority figures and without a particular propensity for violence.”).

themselves into the preexisting political and linguistic structures of the conquered populations rather than replacing them.²⁵⁵

In order to avoid objections of anachronism, this Part will therefore try to develop an account of prehistoric linguistic expansion that is much more sensitive to the specific levels of social, economic, material, and technological resources that would have been available to us during our first transitions from hunter-gatherer modes of subsistence into more complex forms of social life during the Holocene.

A. *Two Standard Models of Prehistoric Linguistic Expansion*

Let me begin by discussing two of the most prominent models of linguistic expansion in the literature, which will serve as a useful starting point for later discussions. First, a number of theorists—including Colin Renfrew, Peter Bellwood, and L.L. Cavalli-Sforza, most prominently—have argued that one of the most important factors in the early expansions of languages was the development of agriculture.²⁵⁶ Proponents of this so-called “agricultural-expansionist” or “farming/language dispersal” model seek to:

explain the spread of language families which occurred in the early to mid Holocene, before the existence of large-scale polities, by reference to a revolutionary change in mode of production which produce[d], in turn, expanding populations and expanding languages. The mechanism for this expansion is usually thought to be some combination of migration with social integration of the immigrants, resulting in language shift on the part of the indigenes. . . . In this model, farming generates population increase, which causes some people to move short distances to new areas, where they intermarry with the indigenous population, and the cycle repeats itself.²⁵⁷

Second, many theorists seeking to explain linguistic expansion have pointed to Johanna Nichols’s observation, based on the historical record

255. RENÉ GROUSSET, *THE EMPIRE OF THE STEPPES: A HISTORY OF CENTRAL ASIA* xxviii (Nami Walford trans., 2002) (1970) (“[T]he process of Islamization and Iranization among the Turkish conquerors of Iran and Anatolia forms an exact counterpart to the Sinicizing noted among the Turkic, Mongol, or Tungus conquerors of the Celestial Empire.”).

256. For an excellent collection of essays discussing this model of linguistic expansion, see generally EXAMINING THE FARMING/LANGUAGE DISPERSAL HYPOTHESIS, *supra* note 106; see also L. Luca Cavalli-Sforza, *Genetic and Cultural Diversity in Europe*, 53 J. ANTHROPOLOGICAL RES. 383, 386 (1997); E.M. Wijsman & L.L. Cavalli-Sforza, *Migration and Genetic Population Structure with Special Reference to Humans*, 15 ANN. REV. ECOLOGY & SYSTEMATICS 279, 296 (1984).

257. McConnell, *supra* note 75, at 147; see generally EXAMINING THE FARMING/LANGUAGE DISPERSAL HYPOTHESIS, *supra* note 106; see also Cavalli-Sforza, *supra* note 256, at 386 (“The agricultural economy progressively freed people from dependence on natural resources, giving them a chance to multiply at a higher rate and reach higher population densities than in all earlier times, when food resources were only those available naturally.”); Wijsman & Cavalli-Sforza, *supra* note 256, at 294–95 (discussing the development and spread of early farming techniques which caused an increase in the carrying capacity of the lands).

(and so on periods after the rise of large-scale civilizations), that linguistic expansions tend to follow sources of economic and political prestige.²⁵⁸

The idea that the rise of agriculture must have played an important role in the prehistoric developments leading to the first major language families is highly plausible for at least two reasons. First, for reasons already discussed, the development of agriculture allowed for increased population densities, and increased population densities would have placed more people in contact with one another than was common for the time.²⁵⁹ Because the value of language is frequency dependent, the development of agriculture should have therefore tended to produce relatively larger and more coordinated linguistic phenomena. Second, when compared with the neighboring hunter-gatherers of the time (who lacked horses and iron weapons, and could not carry with them much at all in surplus goods), many early agriculturalist societies would have been able to consolidate greater resources and power, and therefore would have been able to assert relative economic and political prestige.²⁶⁰ Hence, Nichols's observation that linguistic expansions tend to follow sources of economic and political prestige provides further support for the early importance of agriculture.

At the same time, however, a number of theorists have rightly criticized agricultural-expansionist models on the ground that agriculture appears to have developed among groups that never generated major language families in a number of important regions, such as large portions of Oceania and Europe.²⁶¹ In addition, the expanding boundaries of major language families do not tend to neatly follow the spread of agricul-

258. See, e.g., NICHOLS, *supra* note 137, at 16 (describing forms of elite dominance as processes in which language spread follows "the language of the political, cultural, and military elite"); Renfrew, *supra* note 199, at 3, 6 (describing one major cause of linguistic spread as "[é]lite dominance, where an incoming minority élite is able, usually by military means, to seize control of the levers of power within [a] territory").

259. Both Colin Renfrew and Peter Bellwood, for example, cite increases in population density as one of the primary factors for their farming/language dispersal hypothesis. See Bellwood, *supra* note 106, at 17–18; Renfrew, *supra* note 199, at 8.

260. Lyle Campbell has therefore described elite dominance as "adoption by local hunter-gatherer groups of the new language along with the new agricultural economy . . ." Lyle Campbell, *What Drives Linguistic Diversification and Language Spread?*, in EXAMINING THE FARMING/LANGUAGE DISPERSAL HYPOTHESIS, *supra* note 106, at 49, 49.

261. See, e.g., *id.* at 49, 60 ("There are many cases where the distribution of languages does not fit the farming/language dispersal model's predictions—there are many unexplained language spreads without agriculture and cases of linguistic diversity in spite of agricultural spread."); McConnell, *supra* note 75, at 148 ("The link between the spread of agriculture and the spread of extensive language families has been proposed . . . but problems beset many of the models—most commonly some form of agriculture existed before the language arrived . . ."). Indeed, modern proponents of the farming/language dispersal model have tended to concede that the model only "account[s] for the present distribution of *some* of the world's largest language families . . ." Renfrew, *supra* note 199, at 3 (emphasis added).

ture.²⁶² Hence, even if the development of agriculture played an important role in the prehistoric expansion of some languages, these developments do not appear to have been sufficient to have generated major language families.

Nichols's observations about prestige are also potentially helpful, but—given the facts just mentioned—they will need to be tied to more specific socio-cultural developments than the rise of agriculture if they are to help explain the prehistoric emergence of major language families. It is also important to remember that, while the societies that emerged from some of these transformations may have eventually been able to claim prestige relative to some of their neighbors, the developments themselves appear to have involved demographic changes that would have plausibly produced expanded linguistic phenomena before (and hence independently of) any changes in prestige. These facts suggest that prestige can be not only a *cause* of linguistic expansion but also the *result* of certain social transformations that tend to produce linguistic expansions on their own.

B. Introducing the New Model: The “Riverine-Agricultural” Model of Prehistoric Linguistic Expansion

The remainder of this Part argues that what is missing from both agricultural-expansionist and prestige-based models of linguistic expansion is a clearer recognition of the role that major river systems have played in allowing a handful of very early agricultural societies to become much more expansive, powerful, interconnected, and populous centers of social and linguistic coordination. As noted above, I call the model that develops this basic insight, and combines it with some of the best features of the two models discussed in the last Section, the “riverine-agricultural model of prehistoric linguistic expansion.” Because this model is novel, I will begin by introducing its basic features and providing it with some initial theoretical motivation. Later Sections will then refine the model and test it against the available evidence.

Let us begin with some theoretical motivation. Even before the rise of agriculture, major river systems would have presumably exerted a powerful gravitational pull on many of our earliest hunter-gatherer ancestors. Rivers are an important source of drinkable water, which is obviously vital for sustaining human life. Drinkable water can also attract many of the animals that our ancestors tended to hunt, and many existing hunter-gatherers still use riverine areas (along with related phenomena

262. See, e.g., Campbell, *supra* note 260, at 49–50 (recognizing “non-expansionist agricultural languages”); McConvell, *supra* note 75, at 148 (“[T]he early phases of the expansion preceded agriculture or pastoralism.”).

like lakes and watering holes) as prime hunting grounds.²⁶³ Rivers can, finally, help sustain many of the types of vegetation that are useful for foraging. It should therefore come as little surprise that—according to our best archaeological evidence—riverine valleys have often attracted many of our hunter-gatherer forbears.²⁶⁴

With the first developments of agriculture, however, major river systems would have presumably begun to play a much more robust role in coordinating increasingly complex forms of social life. As an initial matter, agricultural communities can use rivers as important sources of water for crops—either by planting crops in the relevant flood plains at the appropriate seasonal times, or by diverting river water by means of irrigation (and sometimes even storing it for use in drier seasons). River systems can thus support much larger increases in agricultural productivity and predictability—thereby amplifying the ordinary effects of agriculture on population density and social structure.

If agriculture on its own tends to support the production of larger food surpluses and larger population densities, then the amplification of these processes by the combination of agriculture around a major river system should have created the preconditions needed for increased transitions toward larger-scale, exchange-based economies. Before the invention of the wheeled wagon (most likely sometime between 4000 and 3500 BC),²⁶⁵ and before the domestication of animals that could efficiently haul heavy packages over long distances (such as the horse and the camel, which were most likely domesticated around 4200 BC and somewhere between 3500 BC and 2500 BC, respectively),²⁶⁶ the technologies needed to engage in the long-distance transportation and exchange of bulk goods would have been largely missing,²⁶⁷ and river systems would

263. See, e.g., ALAN BARNARD, *HUNTERS AND HERDERS OF SOUTHERN AFRICA: A COMPARATIVE ETHNOGRAPHY OF THE KHOISAN PEOPLES* 43–44, 54–55, 224 (1992) (noting that bands tend to orient themselves around various watering holes, when water is otherwise difficult to obtain); *id.* at 102–03 (“The difference is that the annual cycle for many individuals also includes travel to better-watered areas outside the Reserve.”); see also Renfrew, *supra* note 199, at 11 (“At the same time it is recognized that some coastal, riverine or lacustrine locations will in favourable circumstances permit a much larger population density of fisher-hunter-gatherers than would otherwise be the case, and that such areas have to be treated with particular attention to this factor.”).

264. See, e.g., BARNARD, *supra* note 263, at 43–44, 55, 102, 224; Fagan, *supra* note 176, at 330–31 (“[E]ach group [in Eurasia after the last glacial maximum] centered on a river valley where game was most plentiful, and where plant foods and fish could be found during the short summers.”); Renfrew, *supra* note 199, at 11.

265. ANTHONY, *supra* note 64, at 65–75, 300–30.

266. *Id.* at 223 (noting that tribal herders probably rode horses before 4000 BCE); Sheila Hamilton-Dyer, *Domestication of the Camel*, in OXFORD COMPANION, *supra* note 124, at 114, 114–15 (“The dromedary appears first to have been domesticated in the southern Arabian Peninsula. Between 3000 and 2500 B.C., it is suggested that coastal peoples there switched from hunting camels to herding them for their milk.”).

267. See, e.g., Andrew Sherratt, *Use of Animals for Transportation*, in OXFORD COMPANION, *supra* note 124, at 382 (“In most areas such animal-drawn vehicles were important only for short-distance transport, either for social purposes or for agricultural use. In the absence of a well-maintained road network . . . they were of little use for transporting goods over long distances.”).

have provided one of the very few avenues for the efficient transportation of bulk goods: boats. Major river systems should have therefore provided some of the very first potential nerve centers for the development of increasingly complex societies with much more robust forms of specialization and division of labor, much larger and more interdependent populations, and much greater capacities for political and economic growth.

Figure 6 presents a stylized depiction of the processes under discussion. Notice that it contrasts three basic classes of phenomena. The first are the predicted effects of robust agricultural production around a major river system on the production of major linguistic expansions. (This first class of effects is represented by the large and expanding sociolinguistic complex that is centered around the major river in the top right-hand quadrant of the diagram. For reasons that will be discussed momentarily, this sociocultural complex also includes certain linguistically related nomadic pastoralist groups, which are indicated in a band of grey. There is also an arrow that points from this larger socio-cultural complex to the creation of a major language family—as indicated in the bottom left hand corner of the diagram.) The second are the predicted effects of more ordinary agricultural production, absent a river system, on the production of linguistic expansions. (These latter effects are represented by three striped plots of land, which are much smaller and are disconnected from one another—thus allowing for the maintenance of continued linguistic diversity.) Figure 6 then uses small human icons to represent the third class of phenomena, which are a number of remaining hunter-gatherer bands. For reasons already discussed, these bands should have continued to display even more extreme forms of linguistic diversity.

As Figure 6 shows, the current prediction is that major river systems would have played an important role in supplementing ordinary agricultural production to produce greatly expanded linguistic phenomena, when compared to the effects of ordinary agriculture. (This prediction is nevertheless consistent with the claim that ordinary agriculture would have tended to produce some more minor linguistic expansions, and some more minor decreases in linguistic diversity, relative to hunter-gatherer modes of subsistence.)

predicted division—*which is a division among linguistically related groups who exhibit distinct subsistence patterns*—is depicted in Figure 6 by a grey band of semi-nomadic pastoralist groups who are surrounding the more settled populations (near the major river system). This grey band also has a number of arrows leading radically outward from the center, which is meant to indicate the important role that these pastoralist groups are playing in the rapid expansion of the major language family of which they are a part.

The reason for this predicted division of labor is as follows. Many herding animals—such as sheep, goats, and cattle—require large amounts of land for grazing, and need to be periodically moved from locale to locale with changes in the seasons and to prevent overgrazing.²⁶⁸ The fact that river water would have been needed for crops would have placed a premium on riverfront land for harvesting, and thereby incentivized an emergent division between pastoralist and harvesting activities—with the harvesting segments of these societies tending to be located closer to the river system at the center, and the pastoralist segments tending to be pushed toward the periphery of these expanding socio-cultural complexes. Because of the special importance of boats for bulk transportation (especially prior to the domestication of pack animals), major trading ports would have also typically been located on riverfronts. For similar reasons, many of the industrial centers that produced important commodities for trade would have needed to remain near these same regions. Together, these facts should have therefore produced further pressures toward the type of division of labor under discussion—with pastoralist groups separating from a range of more settled groups who engaged in either agricultural or increasingly urban lifestyles.

The riverine-agricultural model of prehistoric linguistic expansion predicts that these larger (and linguistically coordinated) social complexes would have then begun to expand even further in terms of both population and political and economic power. As this happened, some of the more nomadic pastoralist groups at the edges would have often been pushed even further to the periphery—both to accommodate the increasing population densities and settled agricultural activities at the center, and to make use of expanded pastures for grazing.²⁶⁹ These expanding groups of pastoralists would have presumably brought their languages with them, and—given the enormous prestige and economic power of the

268. See, e.g., Vladimir N. Basilov, *Introduction*, in *NOMADS OF EURASIA* 1, 1–5 (Vladimir N. Basilov ed., Mary Fleming Zirin trans., 1989). “Nomadism had a marked seasonal character because in many cases the pastures on which the livestock could live during the summer months were not suitable for winter—and vice versa.” *Id.* at 1 (noting that the availability and condition of pastures also affected the course of nomadic migrations).

269. See, e.g., *id.* at 5 (“Migratory herding was not humankind’s most ancient occupation. As archaeological excavations have shown, it was preceded by a complex livestock-raising and agricultural economy with a relatively sedentary way of life; only husbandry had a more pastoral character.”).

civilizations with which they were connected (by a long history of trade and partial common descent) at the center—these pastoralist groups would have tended to maintain social, economic, and linguistic ties to these social centers. As the first ancient river civilizations grew in economic power and prestige, these larger socio-cultural complexes would have therefore tended to produce ever-expanding linguistic phenomena and, along with them, some of the very first major language families in the world.

Because of the special mechanisms that are being proposed, these particular linguistic phenomena would have also tended to expand much more quickly, both in terms of population and in terms of geography, than any produced merely by the spread of agriculture or by other simpler and less interconnected forms of nomadic life. This discussion thus helps to clarify a number of the details of the riverine-agricultural model of linguistic expansion that are depicted in Figure 6. It also provides additional theoretical motivation to the claim that ancient riverine-agricultural civilizations should be understood as generating some of the most important early linguistic expansions in our natural history as a species.

To clarify further the contributions that major river systems would have made to more ordinary processes of agricultural dispersion on these early processes of linguistic expansion, Figure 6 also contrasts the effects under discussion with those that should have accompanied simpler agricultural communities, which depended primarily on either rainwater or groundwater for their crops. As noted above, agricultural communities of this latter kind are depicted in Figure 6 by three smaller striped plots of land, which are largely disconnected from one another. These simpler types of agricultural communities might have been able to sustain larger population densities than some of their hunter-gatherer neighbors, but the costs involved with transporting bulk goods over long distances would have prevented them from becoming nerve centers for much larger divisions of labor, specialization, market integration, and political and economic growth. Much like many present-day subsistence farmers in places like Sub-Saharan Africa, communities of this kind would have therefore needed to remain relatively self-sufficient and would have needed to engage in both harvesting and animal husbandry within relatively localized areas.²⁷⁰ It follows that societies like these would have been much less capable of supporting the larger-scale developments in population and social structure that would have been possible around

270. See Hans Binswanger & Prabhu Pingali, *Technological Priorities for Farming in Sub-Saharan Africa*, 3 WORLD BANK RES. OBSERVER 81, 89 (1988) (explaining that areas in Sub-Saharan Africa “are dominated by subsistence farming, partly because market access is poor. . . . The cost of buying inputs is greater than any saving in labor costs that may result, and the farmer has no incentive to save on land costs.”).

some major river systems. They would have also been much less likely—on their own—to generate either major language families or the cultural traditions needed to support incipient legal systems. As this discussion shows, the riverine-agricultural model of linguistic expansion can therefore be used to explain both the power *and* some of the limitations of simpler agricultural-expansionist models. Comparisons of this kind should also lend added plausibility to the riverine-agricultural model itself.

Together, these discussions thus provide us with the basis for the following theoretical predictions. During the early to middle parts of the Holocene, major river systems, when combined with the development of agriculture, should have played a key role in the production of especially large and interdependent populations—along with the special cultural traditions that tend to make large-scale social complexity possible. Hence, these special topographies should have also tended to generate some of the very first social and cultural traditions needed to support large-scale civilizations with incipient legal systems. Given the frequency-dependent value of language, and given the linguistic evidence discussed in the last Section, these riverine-agricultural topographies should have also—*and simultaneously*—played a critical role in the earliest pre-historic expansions of the very first major language families.

The primary method of expansion I am proposing is not conquest or migration, however. Nor is it simply rooted in the effects of agricultural production or political and economic prestige. Rather, I am proposing that certain riverine topographies would have greatly amplified the ordinary effects of agriculture on population density and thereby produced greatly amplified pressures toward interdependence by trade, along with vast increases in economic and political power. These facts would have simultaneously made linguistic coordination much more valuable to everyone who was either part of, or interacted with, these very early expanding socio-cultural complexes. In addition, the present model proposes that important segments of these larger socio-cultural complexes would have been more nomadic pastoralist groups, whose mobile forms of subsistence, when combined with their connections to the center and expansions from the periphery, would have tended to produce even further (and relatively rapid) expansions of these socio-cultural complexes. All of these linguistic expansions would have been aided, finally, by the gradual intermarriage and mixing of these expanding groups with other adjacent groups.²⁷¹ As a result, a small handful of linguistic and cultural traditions would have begun to dominate in their respective regions of origin—thereby generating reductions in the overall amount of linguistic diversity in the world. These developments would have thus set early

271. Renfrew, *supra* note 199, at 3.

human populations on precisely the type of trajectory needed to generate some of the more familiar patterns of linguistic diversity that were pictured in Figure 4 and that dominate in the modern world.

C. *Refining the Riverine-Agricultural Model of Linguistic Expansion*

The last Subsection introduced the riverine-agricultural model of prehistoric linguistic expansion, and gave it some initial theoretical motivation. Before it can be tested against the available evidence, it must, however, be refined in five key ways.

First, because the model depends upon the distinctive capacities of major river systems to allow for larger and more interconnected populations to emerge during a specific period in our prehistory, the model predicts that, all other things being equal, longer navigable river systems should have produced greater tendencies toward linguistic coordination than smaller ones. At the same time, however, agriculture is a technology that depends on specific environmental conditions, and some crops can only grow at specific latitudes or altitudes, or in specific climates. Hence, second, the present model predicts that the role of major river systems in producing linguistic coordination would have depended just as much on any larger environmental factors that affected the productivity of large-scale agriculture in the relevant regions. Some examples of rivers that are quite large in size but that should nevertheless have been less capable of coordinating major language families in the early parts of the Holocene for this reason would be the large rivers in or around Siberia or on the Tibetan plateaus—as both areas are particularly inhospitable to life.²⁷²

Third, timing clearly matters. When agriculture was first developed in some parts of the world, a number of major rivers were located in heavily forested areas, and the local inhabitants would have needed to clear these forests before they could engage in large-scale agricultural production. During human prehistory, many forests around major river systems appear to have been cleared very gradually over many thousands of years,²⁷³ and one of the likely reasons that the Nile, the Indus, the Ti-

272. See, e.g., Maitreyee Choudhury, *The Physical and Cultural Landscapes of the Buddhist Himalaya: A Critique*, in HIMALAYAN STUDIES IN INDIA 75, 78 (2008) (“The Trans-Himalayas and the Tibetan Plateau are more or less synonymous. . . . For most part the trans-Himalayas are cold deserts. The rain-bearing south winds scarcely reach this belt due to the massive obstruction imposed by the great Himalayan range, but the cold and dry north winds have free access over the region, rendering the greater part of the plateau almost inhospitable.”); Tatiana M. Karafet et al., *The Effect of History and Life-style on Genetic Structure of North Asian Populations*, in PAST HUMAN MIGRATIONS IN EAST ASIA: MATCHING ARCHAEOLOGY, LINGUISTICS AND GENETICS 395, 395 (Alicia Sanchez-Mazas et al. eds., 2008) (“Population density in Siberia has historically been quite low, partly because of resource limitations, and traditional Siberian life-ways reflect common features of hunter-gatherer existence throughout much of the Arctic and sub-Arctic ecosystems.”).

273. See, e.g., ALLCHIN & ALLCHIN, *supra* note 5, at 225 (“The modern landscape as we move eastward [along the Ganges] is increasingly manmade. Anciently, much of the land was under forest,

gris, and Euphrates were such important early loci of civilization is that they originally ran through relatively arid areas, which required very little clearing.²⁷⁴ They also lie in climates that were naturally well adapted to growing the very first agricultural crops developed in the Fertile Crescent.²⁷⁵ Perhaps ironically, the same aridity in these regions—which has only increased over time²⁷⁶—probably does much to explain why those same rivers began to play a much smaller role in human history once other rivers, which were located in more fertile areas, had been cleared. Examples of rivers that would have been particularly difficult to use for early agriculture due to intense forestation include the Congo, the Amazon, and the eastern parts of the Ganges.²⁷⁷ Two examples of rivers that have become much more important for agricultural development over time, and after sufficient deforestation, are the Danube—which runs through the heart of modern-day Europe²⁷⁸—and the Ganges—which runs through northeastern India.²⁷⁹

and initially there must have been a need for large-scale clearance and deforestation. . . . It would be a mistake, however, to think that the forest clearance was ever wholesale. It is probable that originally there would have been only limited clearance of the land required for cultivation around any settlement. . . . What we see today in the Ganges plains is very much the final stage, when continuing population growth and pressure has led to almost complete extinction of the forests.”); Tina L. Thurston, *Farming the Margins: On the Social Causes and Consequences of Soil-Management Strategies*, in *THE ARCHAEOLOGY OF ENVIRONMENTAL CHANGE: SOCIONATURAL LEGACIES OF DEGRADATION AND RESILIENCE* 106, 113 (Christopher T. Fisher et al. eds., 2009) (“Pollen diagrams indicate increasing clearance, predominantly supporting grazing, indicating a steady rise in cattle populations over time [in Europe from approximately 1700 to 500 BC] . . .”).

274. See Andrew Sherratt, *Plate Tectonics and Imaginary Prehistories: Structure and Contingency in Agricultural Origins*, in *THE ORIGINS AND SPREAD OF AGRICULTURE AND PASTORALISM IN EURASIA* 130, 136 (David R. Harris ed., 1996) (describing how the unusual combination of conditions, including the arid climate, explains southwest Asia and northeast Africa’s unique historical role in the genesis of farming).

275. DIAMOND, *supra* note 193, at 185–86 (noting that crops from the Fertile Crescent were well adapted to move horizontally through Eurasia, but poorly adapted to move much further north or south).

276. Current world climate maps place the Nile, the Indus, and the Tigris and Euphrates in desert regions, along with some arid steppe areas. See, e.g., U.S. DEP’T. AGRIC., AGRIC. HANDBOOK NO. 664, *MAJOR WORLD CROP AREAS AND CLIMATIC PROFILES* 17 (1994) (displaying a map of world climates). Maps of Egypt and the Near East show that the Nile and most of the Mesopotamian Valley presently produce relatively little agriculture. See *id.* at 153–56. Although the Indus River is still used as a primary source for agricultural productivity within Pakistan, see *id.* at 171–89, Pakistan’s overall output is still quite low, and it should be remembered that the Sarasvati River no longer runs parallel to the Indus and instead runs through a region with almost no agricultural productivity. See *id.*

277. This claim should be uncontroversial with regard to the Congo and the Amazon. Allchin and Allchin have, however, made a similar point about the Ganges, based on the archaeological record. See ALLCHIN & ALLCHIN, *supra* note 5, at 225 (discussing early forestation of the Ganges).

278. ELLEN WOHL, *A WORLD OF RIVERS: ENVIRONMENTAL CHANGE ON TEN OF THE WORLD’S GREAT RIVERS* 125 (2011) (“During prehistory the Great Hungarian Plain that the [Danube] crosses was covered in oak woodlands. Thousands of years of land use caused deforestation, soil erosion, and salinization, resulting in today’s farm fields and grass lands with only scattered patches of trees.”).

279. ALLCHIN & ALLCHIN, *supra* note 5, at 225 (“Anciently, much of the land [along the Gangetic Plain] was under forest, and initially there must have been a need for large-scale clearance and deforestation. How and in what circumstances this was accomplished has still to be worked out, but there is general agreement that burning was a major method of forest clearance, while the availability of iron axes must have played an important, if secondary, role. It would be a mistake, however, to think that

There is another reason why timing matters in the present context. Given the frequency-dependent value of language, those societies that began to increase in population and complexity first would have had a head start in creating linguistic phenomena with potential world-historical significance. Because the transition from extreme linguistic diversity to major language families was so novel and unprecedented when it first occurred, and because this transition began at different periods in our prehistory in different parts of the world, these path-dependent features of the transition should be expected to have had important long-term effects as well. This fact will become especially important in subsequent discussions of the expansions of the Indo-European language family,²⁸⁰ because the Indo-European language family is by far the largest language family in the world,²⁸¹ and there is therefore reason to think that it most plausibly had a particularly early prehistory of expansion.

Fourth, although the present model of linguistic expansion focuses on major river systems, there are some other geographical phenomena that are very rare but that nevertheless mimic the most important properties of major river systems. These are regions that contain many discrete areas of land—which may not be connected by major rivers, but that nevertheless receive especially large amounts of annual rainfall (thus allowing for ample rain-fed agriculture)—and are separated by short expanses of sea. In these circumstances, robust agricultural production is still possible, and the various agricultural communities in these regions can engage in a form of interconnected trade by sea that mimics exchange along a major river system. The primary example of this phenomenon is Oceania, which not only lies in the tropics, where there is ample rainfall, but also contains several chains of highly interconnected islands, such as the Melanesian, the Micronesian, and the Polynesian islands.²⁸² Given the possibility of phenomena like these, the present mod-

the forest clearance was ever wholesale. It is probable that originally there would have been only limited clearance of the land required for cultivation around any settlement. Pollen and charcoal samples from excavated sites, such as Hastinapura and Atranjikhera, suggest that in the earlier stages of the settlements there was still extensive forestation in the vicinity. This is supported by early textual references. For example, the Mahabharata refers to Hastinapura, the capital the Kurus as situated in a forest, the *Kuru-Jangala*, and this is often mentioned in other texts, for example the Ramayana. It is probable that throughout the centuries there has been a direct correlation between growth of population and the demands of increasing agricultural production, and the area of forest which was allowed to survive in any area. What we see today in the Ganges plains is very much the final stage, when continuing population growth and pressure has led to almost complete extinction of the forests.” (citations omitted)).

280. See *infra* Part V.A–B.

281. See ETHNOLOGUE, *supra* note 135, at 27 tbl.4 (listing major language families in the world, with Indo-European making up 45.67% of total).

282. “All of the islands in Near Oceania lie within the tropics, but several islands in Remote Oceania are subtropical or are positioned farther to the south, and have temperate climates” Douglas Kennett et al., *The Ideal Free Distribution, Food Production, and the Colonization of Oceania*, in BEHAVIORAL ECOLOGY AND THE TRANSITION TO AGRICULTURE, *supra* note 189, at 265, 266–67; see also *id.* at 266 fig.12.1 (showing Oceania as a series of clustered island archipelagos).

el of linguistic expansion should be understood as making reference to major river systems *or their functional equivalents*.

Finally, fifth, the present model seeks to explain the prehistoric growth and expansion of major language families, but it does not directly address those factors that might limit these expansions. When trying to understand the boundaries of these expansions in particular cases, we will therefore need to supplement the basic account with a description of any relevant limitations that might have been generated by geography, climate, or the expansions of neighboring groups or language families.

D. Evidence to Support the Riverine-Agricultural Model of Linguistic Expansion

With these refinements in hand, we are now ready to test the riverine-agricultural model of prehistoric linguistic expansion against the empirical evidence. I will do this by comparing a list of major river systems with the geographic distributions of major language families. The goal will be to determine whether we see the types of residual correlations (i.e., between major river systems and major language families) that one would expect if the riverine-agricultural model were true. More specifically, what we should expect to find, on the present view, are robust correlations between the geographic spreads of the major language families and certain major river systems that have helped to produce their earliest expansions.

In order to be systematic, I have started with a list of the thirty-six longest navigable rivers in the world.²⁸³ From these, I eliminated those that flow either in or around Siberia or primarily through the Tibetan plateaus, on the ground that these areas are particularly inhospitable to life.²⁸⁴ I also eliminated all rivers located in the New World and Australia on two grounds. First, the present distributions of languages in these areas have been so severely altered by recent colonialism (and by modern dynamics of linguistic replacement that could not have occurred before the recent industrial and colonial revolutions) that they tell us very little about the prehistoric dynamics in these regions; and, second, these same colonial events have made it extremely difficult to reconstruct the relevant precolonial patterns with enough confidence to shed any real light on the current proposal.²⁸⁵ This leaves the following relatively short list

283. See WORLD ALMANAC, *supra* note 138, at 466–67 (listing longest rivers in the world).

284. See *supra* note 272 and accompanying text. The following rivers were eliminated on this ground: the Yenisei-Angara, the Amur, the Lena, the Brahmaputra (which runs largely through the Tibetan Plateaus before emptying into the ocean near the Ganges delta area), and the Ural (which runs largely through the western regions of Siberia). See WORLD ALMANAC, *supra* note 138, at 466 (noting longest rivers in the world along with their locations and outflow).

285. The following rivers were eliminated on this ground: the Amazon, the Mississippi-Missouri, the Rio de la Plata-Paraná, the Mackenzie, the Murray Darling (in Australia), the Madeira, the São Francisco, the Yukon, the Rio Grande, the Purus, the Tocantins-Para, the Saskatchewan, the Colorado,

of rivers (set forth in order of decreasing length): the Nile, the Yangtze, the Ob, the Yellow, the Irtysh, the Congo, the Niger, the Mekong, the Volga, the Salween, the Indus, the Danube, the Euphrates, the Zambezi, the Ganges, and the Dnieper. I have also added another river—the Sarasvati—which we now know to have existed in the northwestern regions of the Indian Subcontinent during the relevant periods of our prehistory, but which is no longer in existence.²⁸⁶ These major rivers and their locations are depicted in Figure 7.

With regard to the major language families, I have started with the list identified at the beginning of the last Part. I then eliminated the Altaic language family (which includes Turkic and Mongolian), on the ground that its primary expansions occurred not during prehistoric times but rather in a series of waves between the fifth and fifteenth centuries AD, at a time when very different methods of expansion (by conquest and migration) had become available.²⁸⁷ (It is nevertheless worth noting that some of the very early but much more minor expansions of the Altaic language family appear to have begun around some of the river systems in Siberia, which I have eliminated from the present analysis. The earliest expansions of this single omitted family are therefore perfectly consistent with the riverine-agricultural model of linguistic expansion as well). For similar reasons, I have focused on precolonial patterns of linguistic distribution, and—to the extent possible—on those patterns that we can discern as having begun to form in human prehistory. This leaves the following list of major language families: Sino-Tibetan, Afro-Asiatic, Niger-Congo, Nilo-Saharan, Indo-European, Dravidian, Uralic, Austro-nesian, Austro-Asiatic, and Tai-Kadai.

Having cabined the two classes of phenomena relevant to the present examination, we can now turn to the record to determine whether it exhibits the kinds of robust correlations that would be predicted by the riverine-agricultural model of linguistic expansion. In what follows, I will engage in a detailed examination of the relevant linguistic and riverine phenomena to test for these kinds of correlations, but readers interested in seeing the final results first can simply jump ahead to Figure 18 on

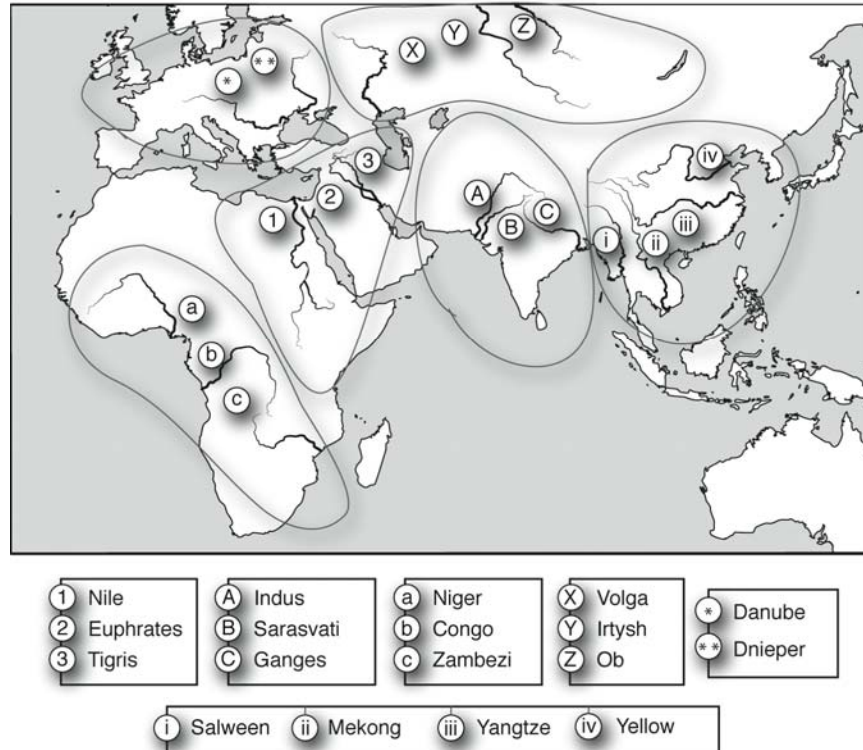
and the Arkansas. See WORLD ALMANAC, *supra* note 138, at 466–67 (listing these American and Australian rivers as among the thirty-six longest).

286. BRYANT, *supra* note 35, at 166–69.

287. For a thorough description of the Turkic and Mongolian invasions that created these expansions of Altaic languages, see generally GROUSSET, *supra* note 255. Colin Renfrew has suggested that “the creation of an entire spread zone through élite dominance is rare,” but he mentions that “the most prominent case is that of the Altaic language family.” Renfrew, *supra* note 199, at 7. It is also worth noting that, while Siberia is not an area that is particularly hospitable to large-scale agricultural production, modern Altaic speakers in Siberia are still clustered around the major riverine valleys of the region. See ETHNOLOGUE, *supra* note 135, at 824–25 (showing a map of “Western Asian Russian Federation,” which shows a pattern of Altaic speakers clustered primarily around the major rivers running through Siberia); see also *id.* at 826–27 (showing a map of “Eastern Asian Russian Federation,” which shows similar pattern of Altaic speakers).

page 1603. As Figure 18 shows, the examination I am about to undertake will ultimately reveal a remarkably robust set of correlations, which provide compelling evidence for the riverine-agricultural model of linguistic expansion.

FIGURE 7
MAJOR OLD WORLD RIVER SYSTEMS



So let us begin the examination. Beginning with the Sino-Tibetan language family, this family is—as would be predicted by the current model—geographically distributed around three of the major rivers from our list: the Yellow, the Yangtze, and the upper regions of the Mekong. Figure 8 depicts the current geographic distribution of Sino-Tibetan speakers around these major rivers, and it uses the two darkest shades of grey to distinguish between the Sino and the Tibetan sub-branches of this family.

FIGURE 8
MAP OF SINO-TIBETAN LANGUAGE FAMILY
IN CHINA
(Yellow-Yangtze-Mekong)



We also know from the archaeological record that two of the three major rivers depicted in Figure 8—*viz.*, the Yellow and the Yangtze—served as the main centers for the earliest expansions of ancient Chinese civilization.²⁸⁸ From there, the Sino-Tibetan language family spreads out until it reaches natural geographical boundaries to the west and the south (in the form of the Himalayas) and to the east (in the form of the Pacific Ocean). This language family also spreads out to the north until it reaches the more arid and less habitable regions of Mongolia and Siberia—where expanding groups of Altaic speakers have tended to counter-

288. See, e.g., OXFORD COMPANION, *supra* note 124, at 781 (showing a map of “Early China,” which shows the location of the earliest millet agricultural developments along the Yellow River and the location of the earliest rice cultivation around the delta region of the Yangtze River as well as the geographical territory of the Shang dynasty emanating out from these two areas of agricultural cultivation and the later Han State boundary as expanding even further from these areas).

act further Sino-Tibetan expansions. These facts thus help to explain the outer boundaries of the Sino-Tibetan language family's expansions.

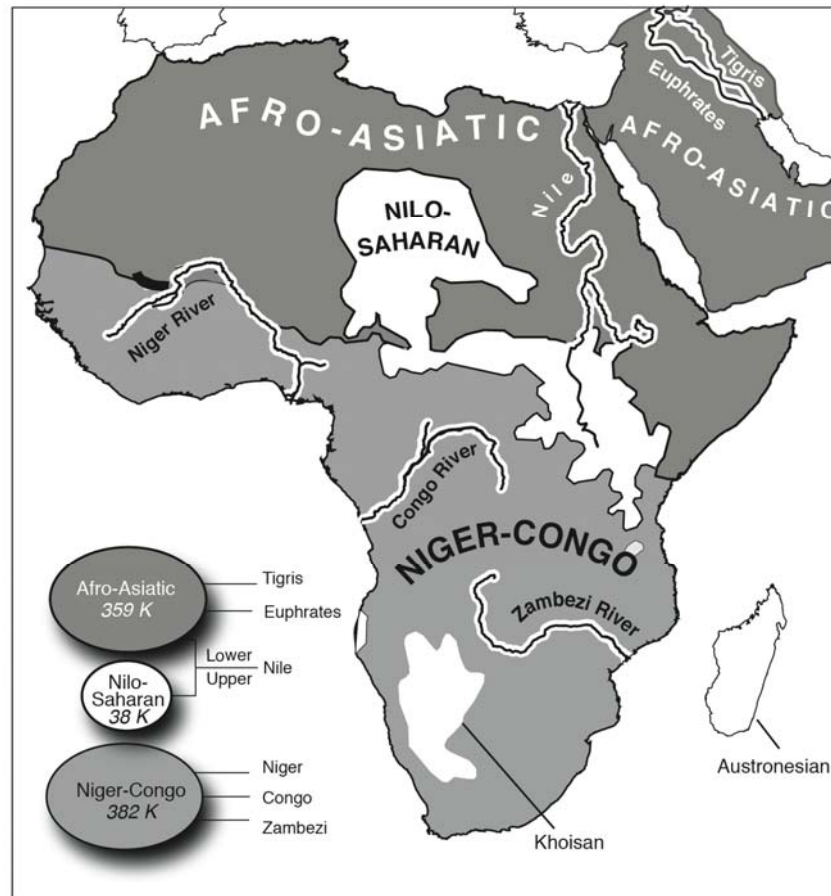
As Figure 8 shows, the Sino-Tibetan language family is subdivided into two major sub-branches—which, as noted earlier, are represented by the two darkest shades of grey. Whereas the Sino sub-branch appears to have expanded primarily from the eastern parts of the Yellow and Yangtze Rivers (where it is depicted in the darkest shade of grey), the Tibetan sub-branch appears to have expanded primarily from the upper reaches of the Mekong, the Yellow, and the Yangtze Rivers, high in the Tibetan plateaus (where it is depicted in the second darkest shade of grey). These geographical distinctions thus appear to have produced two divergent centers of linguistic coordination, and geographic facts like these can be used to help explain the current division of Sino-Tibetan groups into two more distinctive linguistic and cultural sub-branches. The more basic correlations between the Sino-Tibetan language family and three major rivers from our list—namely, the Yellow, the Yangtze, and the Upper Mekong—are, finally, depicted in the bottom left-hand corner of Figure 8, using a raised symbol that I will employ throughout these examinations to summarize the relevant correlations that are being depicted.

Moving on to the Afro-Asiatic language family—which is depicted in the top part of Figure 9 in the darkest shade of grey—this family is geographically distributed in part around the Nile, which appears on our list of major rivers, and which served as the main center of expansion for the ancient Egyptian civilizations.²⁸⁹

As shown in Figure 9, this family then spreads out from the Nile through most regions of North Africa, where it is naturally bounded by the Sahara Desert (to the south) and the Mediterranean and Atlantic Oceans (to the north and west). The Afro-Asiatic language family also spreads eastward through the Arabian Peninsula, where it is bounded by either oceans or the Tigris and Euphrates Rivers. These latter two rivers also appear on our list, and these two rivers served as the main centers for the expansion of some of the very first ancient civilizations as well: those of ancient Mesopotamia. Interestingly enough, the Afro-Asiatic language family does not spread out much past the mountainous areas that divide the Fertile Crescent from neighboring areas to the north and east (roughly in Turkey and Iran). This is a point to which I will return when discussing the Indo-European language family in the next Section, because it suggests that there may have been other groups in these regions, who spoke non-Afro-Asiatic languages and who tended to prevent further Afro-Asiatic expansions.

289. See, e.g., Neil Asher Silberman, *Egypt*, in OXFORD COMPANION, *supra* note 124, at 194, 194 (“Egyptian civilization was initially derived from the many regional cultures of the Nile Valley . . .”).

FIGURE 9
MAJOR LANGUAGE FAMILIES IN AFRICA
(Nile-Tigris-Euphrates) (Upper Nile) (Niger-Congo-Zambezi)



With regard to the rest of Africa, the Niger-Congo language family—which is depicted in the lower half of Figure 9 in the second darkest shade of grey—is geographically distributed around three of the major rivers from our list: the Niger, the Congo (much as the name of this language family would suggest), and the Zambezi. It is bounded primarily by the Afro-Asiatic and Nilo-Saharan families and by the Sahara Desert (to the north and sometimes to the east), by some diminishing groups of Khoisan speakers who have been relegated to unmarked regions (in the south) and by oceans in all other directions. The Nilo-Saharan language family—which is sandwiched between the Afro-Asiatic and Niger-Congo families and is depicted in Figure 9 in the lightest shade of grey—is, final-

ly, centered primarily around the upper Nile, which is one of the major rivers from our list, along with some of its main tributaries like the White Nile and the Blue Nile. This family also branches out into parts of the Sahara and is bounded by expanding Afro-Asiatic and Niger-Congo families, which have—as already noted—essentially sandwiched the Nilo-Saharan language family into a specific region in the center of the African continent. All of these facts are thus consistent with the riverine-agricultural model of linguistic expansion, and the final correlations from Africa are depicted in the bottom left-hand corner of Figure 9.

On the Indian Subcontinent, which is depicted in Figure 10 below, the two largest language families are Indo-European and Dravidian. Excluding English (which arrived in India only during colonial times),²⁹⁰ the Indo-European speakers in India—which are represented in the top half of Figure 10 in the darkest shade of grey—are geographically distributed around two of the major rivers from our list: the Indus and the Ganges. They are also distributed in the precise region that contains a third river from our list: the ancient (and now extinct) Sarasvati. Within the Indian subcontinent, the Indo-European language family is naturally bounded by oceans (to the east and west), by the Himalayas (to the north and northeast), and by the Vindhya Mountains, the Deccan Plateau,²⁹¹ and the Dravidian language family (to the south). (To the northwest, this region is also bounded by the mountainous areas of Afghanistan, but this boundary is semi-permeable and has traditionally attracted various pastoralist groups, and it has therefore often served as an important channel for trade.²⁹² The majority of the people in these mountainous regions also speak Indo-European languages,²⁹³ and these are therefore topics that

290. For a good discussion of the British conquests of India, which brought English to the Indian subcontinent in the period from 1750 to 1820, see JOHN KEAY, *INDIA: A HISTORY* 383–413 (2000). As Keay notes, “[t]he British would often think of their conquests in India as fortuitous,” *id.* at 383, as they were essentially able to take advantage of a series of internal collapses of the Mughul empires. *Id.* at 383–413.

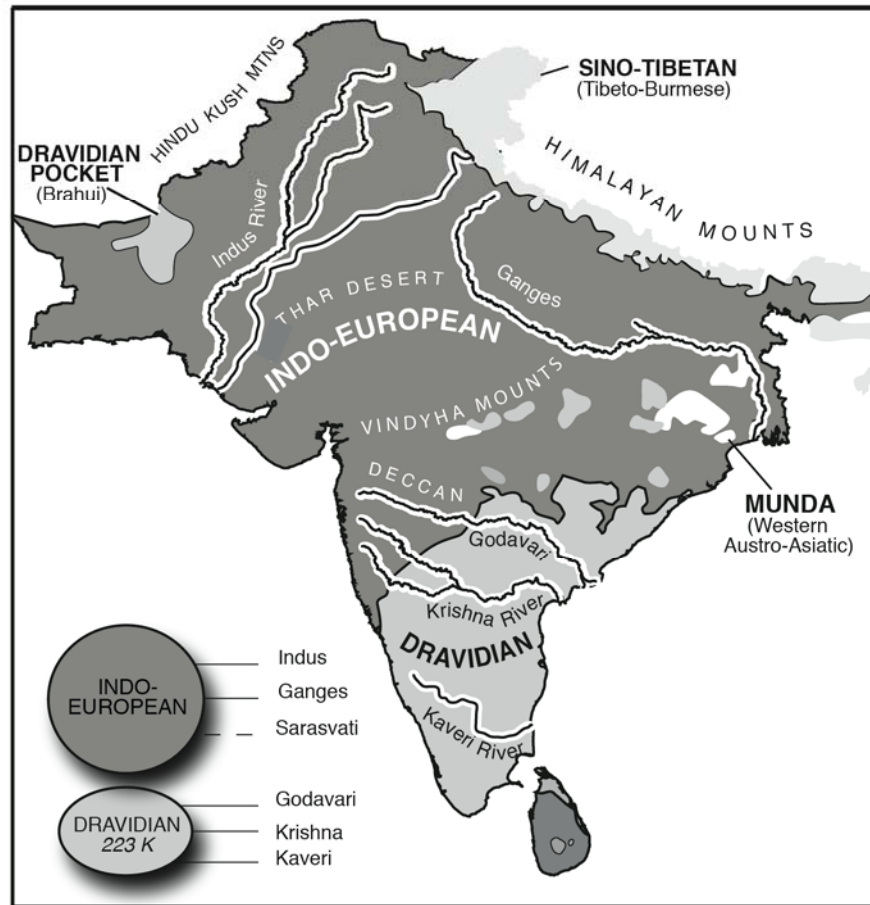
291. These last three form a barrier that begins with the Thar Desert. See, e.g., Thapar, *supra* note 117, at 3 (“The Thar Desert on the eastern margin of the [Indus Valley] formed an effective barrier, isolating it from the rest of India.”).

292. “Afghanistan has fine pastures permitting a considerable portion of its population, perhaps 9 percent, to engage in nomadic pastoralism. This entails annual migrations with large flocks of sheep and goats from lowland winter settlements, where they sow and reap crops and live in housing of a fairly permanent nature, to highland summer pastures located above 1,000 meters; sometimes as high as 3,500 meters.” Peter R. Blood et al., *Afghanistan: A Country Study*, in *AFGHANISTAN REVISITED* 89, 137 (Cary Gladstone ed., 2001). I say that this region is “semi-permeable,” because a number of major historic trade routes connect the Indus Valley to these parts of Afghanistan and Iran. See, e.g., Thapar, *supra* note 117, at 3 (“The western hill country . . . was not a barrier because of the numerous transverse lines of drainage through these mountain ranges which promoted communication from the valley to the Iranian Plateau. The most important of these are the Mula, Muskhata and Bolan Passes.”).

293. See *ETHNOLOGUE*, *supra* note 135, at 774 (showing a linguistic map of Afghanistan, which is dominated by Iranian and Indo-Aryan speaking groups). In neighboring Pakistan, the vast majority of the population are also either Iranian or Indo-Aryan speakers. See *id.* at 816–17.

I will return to in the next Part, when I go into a more detailed discussion of the Indo-European language family.)

FIGURE 10
MAJOR LANGUAGE FAMILIES
OF INDIAN SUBCONTINENT
(Indus-Ganges-Sarasvati) (Krishna-Godavari-Kaveri)

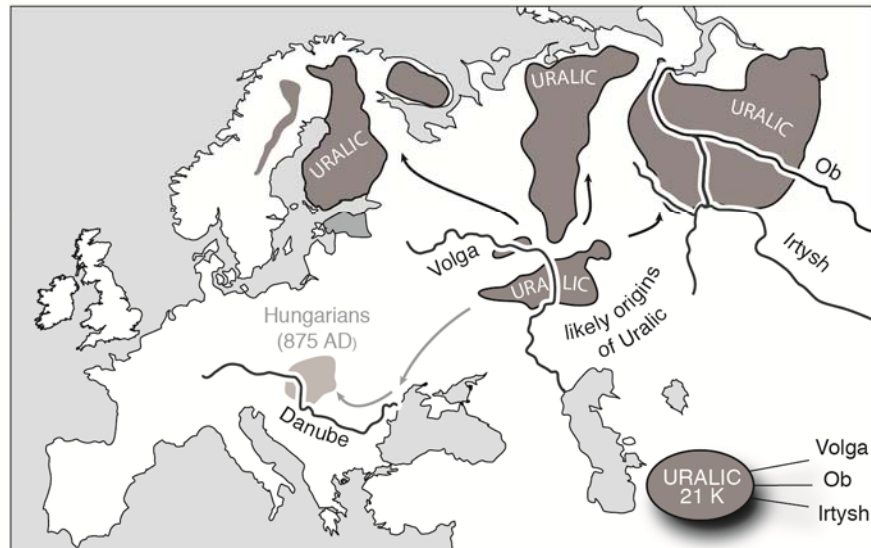


The Dravidian language family—which is depicted toward the bottom of Figure 10 in the second darkest shade of grey—is, in turn, located primarily just on the other side of the Deccan Plateau and is clustered around three major rivers—the Godavari, the Krishna, and the Kaveri—which cut horizontally across the bulk of the southern peninsula. These three rivers are quite large, but none of them appears on our list on its own. Given the confluence of three large rivers on a peninsula that is located in a tropical region, and one that would have allowed for ample sea

trade along the coasts, this region is therefore the functional equivalent of a major river system. The Dravidian family is bounded by oceans to every side but the north—where it is bounded by the Deccan Plateau, the Vindhya Mountains, and by the Indo-European language family. The linguistic facts on the Indian subcontinent therefore conform quite well to the predictions of the present model.

The Uralic language family (which contains languages such as Finnish, Hungarian, and Estonian²⁹⁴ and is depicted in Figure 11 in dark grey) appears to have spread out primarily from an original center in the Ukraine, which was located along three of the major rivers from our list: the Volga, the Ob, and the Irtysh.²⁹⁵

FIGURE 11
MAP OF URALIC LANGUAGE FAMILY
(Volga-Irtysh-Ob-Danube)



294. See THE ATLAS OF LANGUAGES, *supra* note 136, at 46.

295. See ETHNOLOGUE, *supra* note 135, at 824 (showing the distribution of residual Uralic speakers clustered around the Ob and Irtysh Rivers); *id.* at 848–49 (showing the southernmost residual Uralic speakers in the European Russian Federation as beginning around the Volga, although they have been pushed significantly north by Indo-European speakers); see also LYLE CAMPBELL, HISTORICAL LINGUISTICS: AN INTRODUCTION 357 (MIT Press 1999) (1998) (noting evidence for the view, which is widely held—though not undisputed—among linguists, that the homeland for Proto-Uralic was the Middle Volga region).

This family is presently spread out through the Finnish Peninsula as well,²⁹⁶ and there is a small—though we know, relatively recent—offshoot of Hungarian settlers along the Danube.²⁹⁷ The Volga, the Ob, and the Irtysh flow primarily through regions that would have been quite harsh, cold, and relatively inhospitable to agriculture during many of the relevant periods of our early prehistory, but the archaeological record suggests that some consistent agricultural developments began along these rivers by around 3000 BC.²⁹⁸ Consistent with what the present model would predict for such circumstances, Uralic is, in fact, the smallest of the major language families from our list.²⁹⁹ During historical periods, this language family has also been partly displaced by a series of later expansions of Indo-European, Turkic, and Mongolian speakers,³⁰⁰ which helps to explain further its relatively small size.

Turning to the Austronesian language family—which is depicted in Figure 12 in a dark shade of grey—this family is still very well represented throughout most of Oceania. As noted earlier, Oceania contains a series of tropical islands that serve as the functional equivalents of major river systems, and the Austronesian family is, in fact, geographically oriented around several such significant chains of islands. It is also bounded primarily by larger expanses of ocean in every direction—except to the northwest, where it is bounded primarily by the Eurasian continent, which has its own language families. Once again, these linguistic facts add support to the riverine-agricultural model of linguistic expansion,

296. See *ETHNOLOGUE*, *supra* note 135, at 848 (showing residual Uralic speakers distributed along the coast of Finland).

297. MIKLÓS MOLNÁR, *A CONCISE HISTORY OF HUNGARY* 1–17 (Cambridge Univ. Press 2001) (stating that the Magyars invaded the Carpathian basin, and modern-day Hungary in 895 introducing for the first time Uralic languages—including Hungarian).

298. See, e.g., TIM MCNEESE, *RIVERS IN WORLD HISTORY: THE VOLGA RIVER* 11 (2005) (“Anthropologists do not agree on when the first inhabitants reached the Russian steppes and its rivers, including the Volga, but it is clear that, about 5,000 years ago, Indo-European peoples living in the Russian forests had a social system in place and were hunting and fishing to survive. Their society was primitive, but through successive centuries, it developed to include systematic agriculture and animal domestication. The peoples living along the steppes of Russia were also creating social systems. Here, around 3000 B.C., the region of the Volga was becoming permanently occupied as village life encouraged less nomadism and a more sedentary existence.”).

299. As of 2009, the most recent edition of *Ethnologue* estimates that there are approximately twenty-one million Uralic speakers—which makes this the smallest of the major language families discussed in this Article. *ETHNOLOGUE*, *supra* note 135, at 32.

300. See, e.g., Alexander B. Murphy, *European Languages*, in *A EUROPEAN GEOGRAPHY* 34, 35 (Tim Unwin ed., 1998) (“The Slavic and Baltic peoples displaced speakers of the Uralic language family who had moved into eastern Europe several thousand years earlier, but the new immigrants did not overwhelm Uralic speakers everywhere. Uralic speakers have hung on in northern Europe and can still be found in northern Scandinavia, Finland, Estonia and northern Russia to this day . . .”); see also ALEXANDER B. MURPHY ET AL., *THE EUROPEAN CULTURE AREA: A SYSTEMATIC GEOGRAPHY* 114–15 (5th ed. 2009) (“On the northeastern margins of Europe live speakers of the *Uralic* language family, an indigenous group whose ancestors retreated to cold, marshy refuges as the Indo-Europeans advanced.”).

and the correlations in Oceania are depicted in the top right-hand corner of Figure 12.

FIGURE 12
MAP OF AUSTRONESIAN LANGUAGE FAMILY
(Islands of Oceania = Major River Analogue)

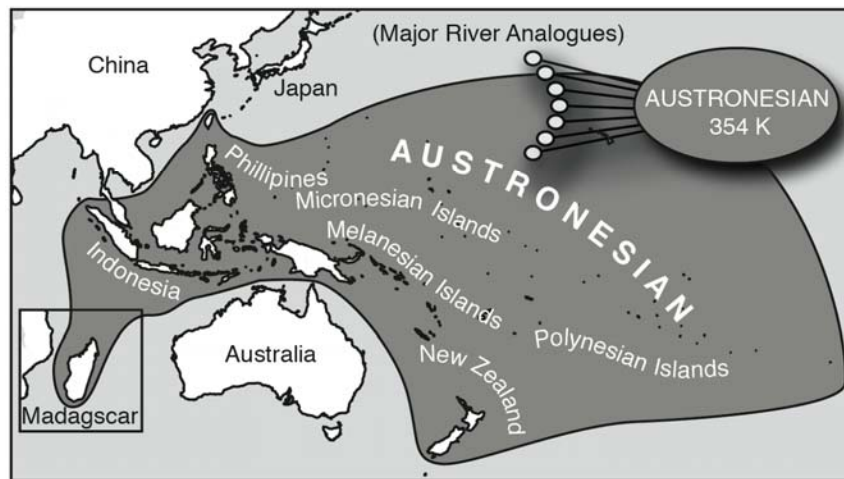


Figure 13 depicts the last two major language families from our list, which are the Austro-Asiatic and Tai-Kadai. Beginning with Austro-Asiatic—which is depicted in Figure 13 in the darkest shade of grey—one of the most well-known surviving members of this family is Vietnamese,³⁰¹ which is geographically centered along the eastern banks of yet another major river from our list: the Mekong. Other closely related Austro-Asiatic speaking groups are distributed to the west of the lower Mekong River, in modern-day Cambodia. Both of these groups fall into one of two main branches of the Austro-Asiatic language family,³⁰² which is often referred to as the “Mon-Khmer” or eastern branch. As shown in Figure 13, this branch is currently bounded by oceans to the south and east, by the Himalayas and expanding Sino-Tibetan speakers to the north, and by parts of the Mekong River and expanding Tai-Kadai speakers to the west. These linguistic facts are thus highly consistent with the riverine-agricultural model of linguistic expansion.

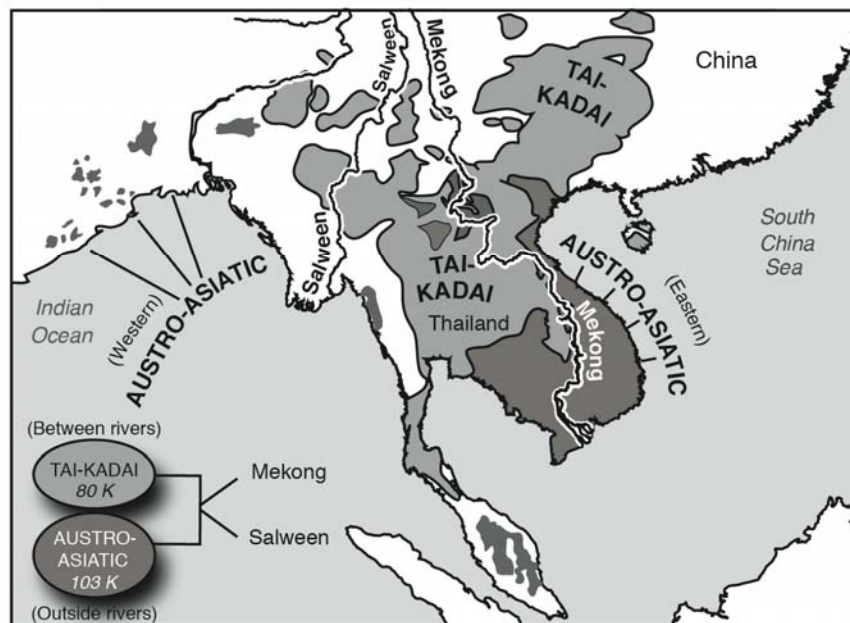
As Figure 13 shows, the Mekong River begins in the Himalayas, and its base flows very near another one of the major rivers from our list

301. See THE ATLAS OF LANGUAGES, *supra* note 136, at 61.

302. See *id.* at 61–62 (distinguishing the “Munda” from the “Mon-Khmer” branches of Austro-Asiatic).

(namely, the Salween), which flows toward the sea further to the west (roughly along the border of Burma and Thailand, and then into the Indian Ocean). Parts of the upper Mekong also flow very near the Brahmaputra river, which flows westward toward the Indian subcontinent. In prehistoric times, a number of Austro-Asiatic populations from the western branch (the so-called “Munda” branch) appear to have spread out from these rivers too, but they were subsequently displaced and pushed further south and west by incoming Sino-Tibetan and Tai-Kadai speakers; these Munda speakers have also likely been further marginalized by expanding Indo-European and Dravidian speakers from the west and southwest.³⁰³ Some significant remnants of this western branch nevertheless still exist in parts of northeastern India, Thailand, and Singapore—where they are depicted in Figure 13 by small clusters of dark grey.

FIGURE 13
MAP OF AUSTRO-ASIATIC & TAI-KADAI LANGUAGE FAMILIES
(Mekong-Salween)



Turning, finally, to the Tai-Kadai language family (of which Thai is the most familiar example), this family is depicted in Figure 13 in the second darkest shade of grey. As Figure 13 shows, this language family is

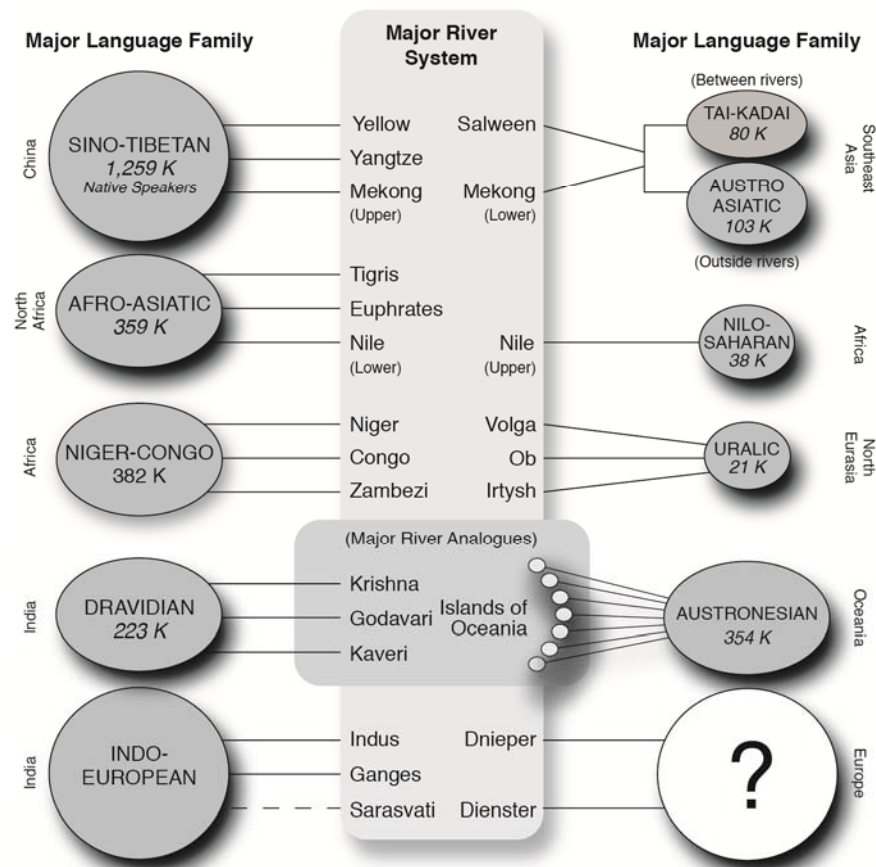
303. *Id.* at 61 (“The[] scattered distribution [of the Munda and Mon-Khmer branches of Austro-Asiatic] suggests that they were once spoken over a wide area of mainland Southeast Asia, but were split by the movement of Tai speakers southward.”).

currently centered primarily between two of the major rivers from our list: the Mekong and the Salween. These speakers are believed to have migrated into this region from southeast China, where they originated near another important river: the Xi Jiang.³⁰⁴ The Tai-Kadai family is currently bounded primarily by oceans to the south, and by Austro-Asiatic, Sino-Tibetan, or Indo-European speakers in every other direction. These facts are thus similarly consistent with the riverine-agricultural model of linguistic expansion.

This almost completes our comparison of the major language families with the major river systems of the world, and the results thus far should be striking. As shown in Figure 14 below, and with only two exceptions, to be discussed momentarily, *every major river from our original list appears to have served as the center for the prehistoric expansion of some major language family from our list.* (This is even true of the Indus River, and the only real question is whether the expansions of Indo-European languages around the Indus began only around 1500 BC—as the traditional view would suggest—or much earlier, as I will be suggesting.) Moreover, apart from the Altaic language family—which, as noted above, expanded only in very recent historical times (from the fifth to the fifteenth centuries AD), and which appears to have expanded much earlier around certain major river systems in Siberia that have been omitted from our main analysis—*every major language family from our list can be traced back to some major river system (or some functional equivalent) from our list as a center for its early expansions.* There is even a high degree of correlation between the size and agricultural productivity of each major river system and the current size and geographic reach of the major language family with which it is associated. The hypothesis developed in this Article, which asserts the importance of major river systems in combination with robust agricultural production for the earliest expansions of major language families, would therefore appear to be something approaching a natural law—at least for those specific time periods when we were first transitioning from hunter-gatherer modes of subsistence into more complex forms of social life during the early Holocene.

304. In addition, the Tai-Kadai speakers appear to have originated closer to the Xia Jiang River in southern China—which was discussed earlier, in the context of the Sino-Tibetan language family. See, e.g., COMPARATIVE KADAI: LINGUISTIC STUDIES BEYOND TAI 15, 21–26 (Jerold A. Edmondson & David B. Solnit eds., 1988) (“[S]outhern China is still the most likely location for the Kadai homeland.”). Although Tai-Kadai speakers still form a minority in some parts of southeast China, where they are located primarily near the Xia Jiang River, see Figure 8, the language family appears to have been significantly displaced and pushed further to the south and into the Chao Praya river system by subsequent expansions of the Sino-Tibetan language family during historical times. Cf. *id.* at 15 (“The subsequent movement of the Tai to the west and south made the Kadai family a geographical bridge between China and Southeast Asia proper . . .”).

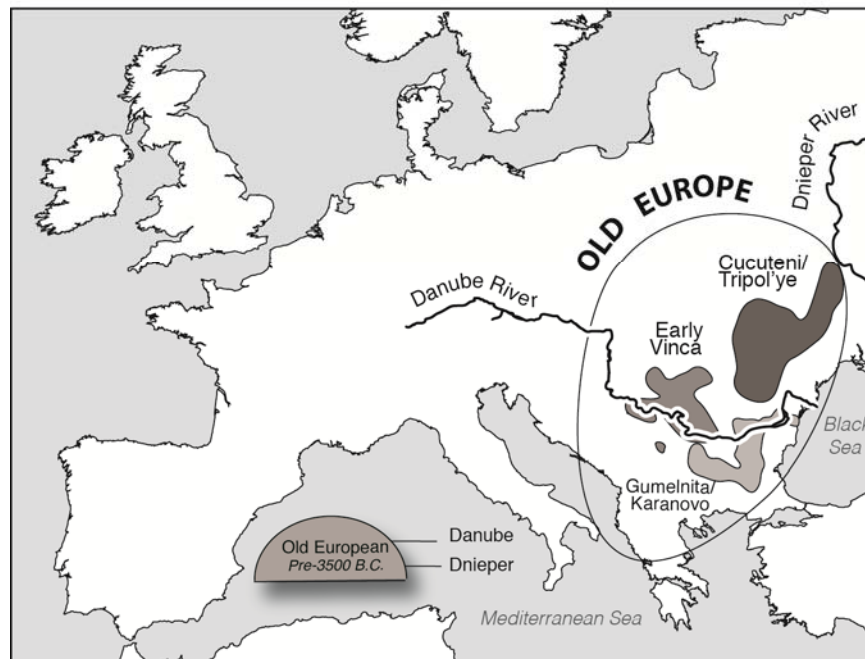
FIGURE 14
FIRST CORRELATIONS BETWEEN MAJOR LANGUAGE FAMILIES
AND MAJOR RIVER SYSTEMS



The only two exceptions are the Danube and the Dnieper Rivers, both of which flow through Europe and empty into the Black Sea, on its western and northern coasts, respectively. (Figure 14 thus depicts these two remaining rivers as correlated with a large question mark, at this stage, with regard to major language families.) There is, however, a tragic explanation for this seeming exception to the present model's predictions. Archaeologists have discovered that, between approximately 5000 BC to 3500 BC, the Danube and Dnieper Rivers did in fact support a growing set of agricultural settlements, which were right on the cusp of

flowering into a major world civilization³⁰⁵—just as the present model would have predicted. This budding set of civilizations—which are often referred to collectively as “Old Europe”³⁰⁶ and are depicted in Figure 15 in three shades of grey—were, however, apparently decimated by two waves of invaders from the Eurasian Steppes. The first wave took place between 4300 BC and 4100 BC, when the archaeological record suggests that “more than six hundred tell settlements of the Gumelnita, Karanovo VI, and Varna cultures were burned and abandoned in the lower Danube valley.”³⁰⁷

FIGURE 15
MAP OF OLD EUROPE
(7000 BC - 3500 BC)
(Danube)



After this first wave of invasions, most of the Old European “[p]eople scattered and became much more mobile, depending for their

305. For a good discussion of the developments of this culture, see David W. Anthony, *The Rise and Fall of Old Europe*, in *THE LOST WORLD OF OLD EUROPE: THE DANUBE VALLEY, 5000–3500 BC*, at 29, 35–54 (David W. Anthony & Jennifer Y. Chi eds., 2010).

306. This term was originally introduced by Marija Gimbutas. See GIMBUTAS, *KURGAN CULTURE*, *supra* note 97, at xviii (making reference to “Old Europe”).

307. Anthony, *supra* note 305, at 45–48.

food on herds of sheep and cattle rather than fields of grain.”³⁰⁸ Astonishingly, however, the early invaders did not resettle in these areas, and “archaeological surveys show a blank in the Balkan uplands after this: No permanent settlements can be dated in the Balkans between 3900 and 3300 BC.”³⁰⁹ These facts suggest that the early invaders’ purpose was to engage in wholesale destruction and ethnic cleansing, and that, given their primarily nomadic and pastoralist modes of subsistence, they lacked either the will or the knowledge (or both) to begin engaging in large-scale settled agricultural production around the Danube and the Dnieper Rivers.³¹⁰

Not all of Old Europe was, however, destroyed during this first wave of invasions, and one other set of cultures in particular (the “Cucuteni-Tripol’ye” cultures) continued to survive and even expand closer to the Dnieper River between 4000 and 3500 BC.³¹¹ These societies grew even more complex and began to exhibit a number of developments in their material culture that “usually are interpreted as signs of an emerging political hierarchy and increasing centralization of power—an important stage in a process that could have led to the evolution of cities”³¹²—and, presumably, incipient legal systems. Toward the end of this period, however, these groups began to concentrate themselves within a discrete number of poorly fortified “megatowns,” which have been “interpreted by most investigators as defensive concentrations . . . at a time of increased conflict.”³¹³ Sometime around 3500 BC, these megatowns were then all burned down and abandoned within a very short period of time,³¹⁴ and most investigators interpret these developments as reflecting a second wave of pastoralist intrusions from the Steppes by groups who began moving further into the Dnieper and Danube valleys.³¹⁵ These pastoralist groups appear to have been the first to have domesticated the horse (sometime around 4000 BC) and, although horses do not appear to have been used in armed combat or militaristic conquest anywhere in the world until somewhere between 1500 BC and 1000 BC,³¹⁶ experts have suggested that these groups had learned to ride horses in raids much ear-

308. *Id.* at 48.

309. *Id.*

310. *See id.* at 48–51 (canvassing alternative explanations for the demise of Old Europe but suggesting that the most parsimonious explanation is large-scale steppe invasions).

311. *Id.* at 52.

312. *Id.*

313. *Id.* at 52–53.

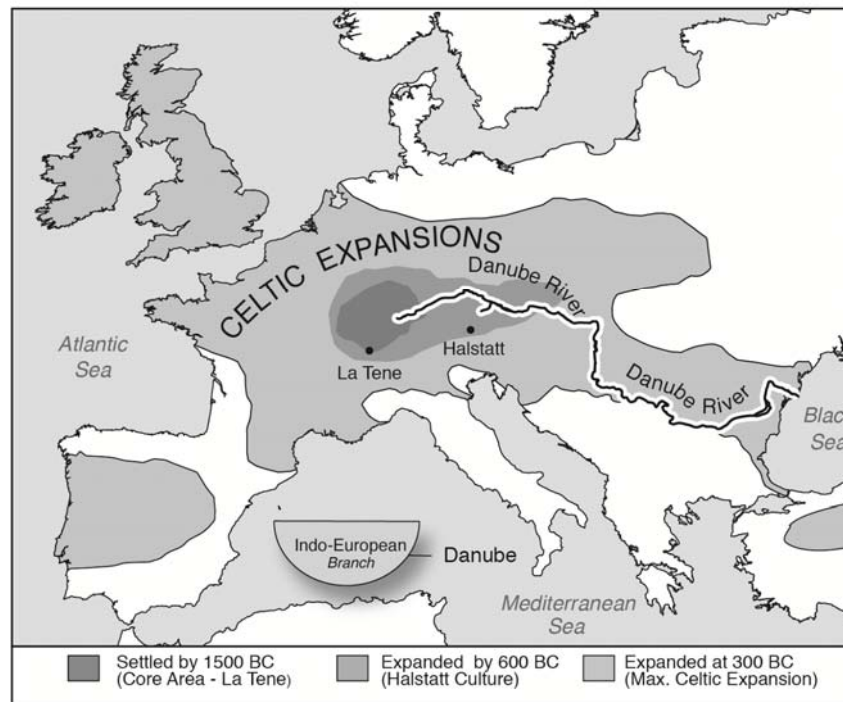
314. *Id.*

315. *See, e.g., id.* at 53 (“Mobile pastoral herders of the Yamnaya culture, practicing a new and revolutionary pastoral economy that was based on wagons and horseback riding, spread into the South Bug valley and built kurgans on the grassy sites where the megatowns had been; their cousins migrated up the Danube valley into Bulgaria and even Hungary, creating a bigger and more visible archaeological footprint than the smaller-scale Suvorovo migration from the steppes a thousand years earlier.”).

316. ANTHONY, *supra* note 64, at 221–23.

lier.³¹⁷ One plausible explanation for the extraordinary and tragic archaeological record in this region is thus that early pastoralist groups from the Steppes were able to use their newly domesticated horses to begin raiding and burning down the competing agricultural communities of Old Europe.

FIGURE 16
MAP OF CELTIC EXPANSIONS
1500 BC to 300 BC
(Danube)

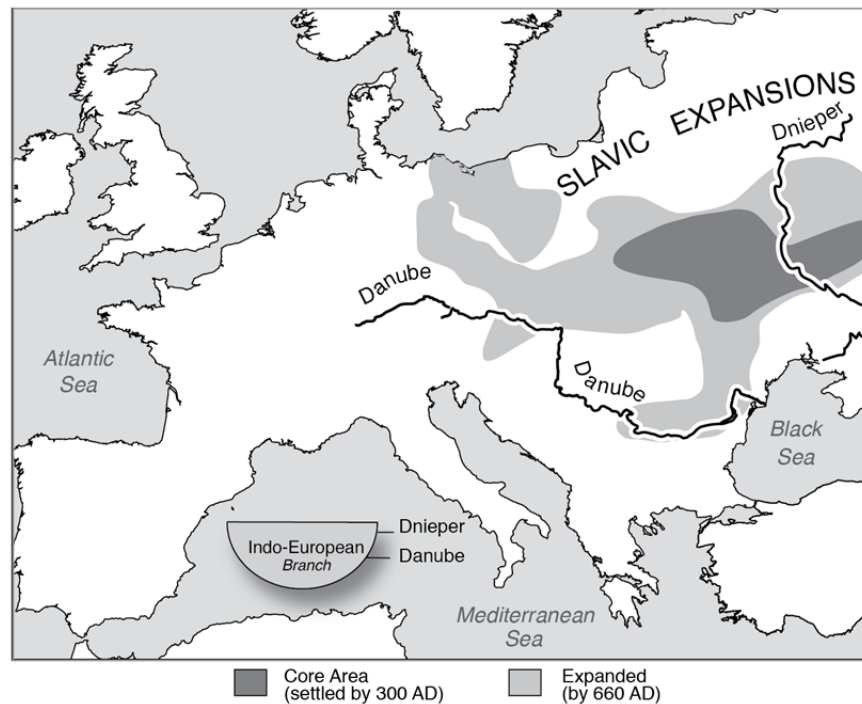


Given that the world had never known of domesticated horses before this time, raids of this kind would have presented a particularly devastating and unexpected turn of events for these budding agriculturalist

317. *Id.* at 223 (“Many experts have suggested that horses were not ridden in warfare until after about 1500–1000 BCE, but they failed to differentiate between *mounted raiding*, which probably is very old, and *cavalry*, which was invented in the Iron Age after about 1000 BCE. Eneolithic tribal herders probably rode horses in inter-clan raids before 4000 BCE, but they were not like the Huns sweeping out of the steppes on armies of shaggy horses. What is intriguing about the Huns and their more ancient cousins, the Scythians, was that they formed armies. During the Iron Age the Scythians, essentially tribal in most other aspects of their political organization, became organized in their military operations like the formal armies of urban states. That required a change in ideology—how a warrior thought about himself, his role, and his responsibilities—as well as in the technology of mounted warfare—how weapons were used from horseback.”).

civilizations—which, more often than not, were not fortified against attacks like these.

FIGURE 17
MAP OF SLAVIC EXPANSIONS
300 AD to 660 AD
(Dnieper)



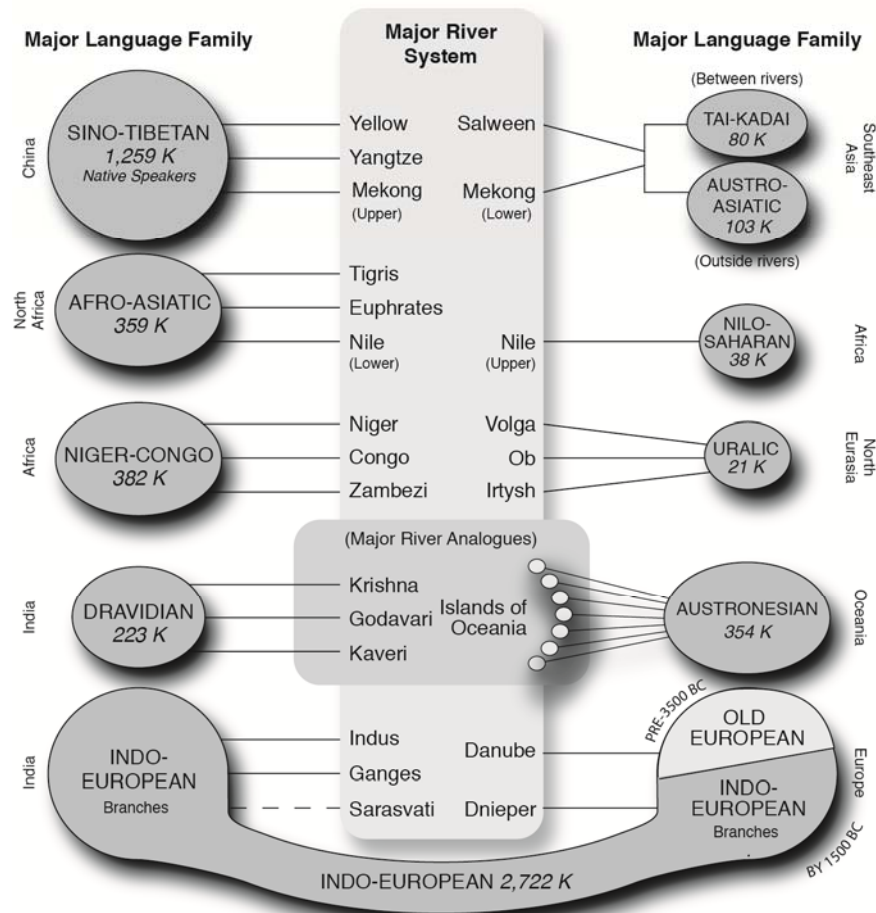
In any event, there is also evidence that, in much later times (and hence long after the destruction of Old Europe), both the Danube and the Dnieper rivers served as major centers for the expansions of certain branches of the Indo-European family. For example, from approximately 1600 BC to 400 BC, Celtic-speaking groups appear to have spread out from the Upper Danube Valley.³¹⁸ These developments are depicted in Figure 16 above. Between about 300 AD and 660 AD, Slavic-speaking groups similarly spread out from locations centered on the Lower Dnieper and Dniester Rivers.³¹⁹ These events are depicted in Figure 17.

318. For a good discussion of the archaeological evidence pertaining to these Celtic expansions, see *THE ROLE OF MIGRATION IN THE HISTORY OF THE EURASIAN STEPPE: SEDENTARY CIVILIZATION VS. "BARBARIAN" AND NOMAD* 105–15 (Andrew Bell-Fialkoff ed., 2000).

319. For a good discussion of the archaeological evidence pertaining to these Slavic expansions, see *id.* at 133–49.

Rather than representing genuine exceptions to the riverine-agricultural model of prehistoric linguistic expansion, the Danube and Dnieper rivers are therefore better understood as ordinary centers of expansion, which were temporarily derailed at a critical period of our prehistory by extraordinary events that included the large-scale annihilation of their local populations. (It should be noted that while there is a

FIGURE 18
FINAL CORRELATIONS BETWEEN MAJOR LANGUAGE FAMILIES
AND MAJOR RIVER SYSTEMS



wealth of undisputed archaeological evidence of this annihilation of Old Europe, there is really no credible evidence that the Indus Valley Civilization's decline was due to invasions.³²⁰) This extraordinary turn of

320. Anthony, *supra* note 305, at 45–54 (discussing evidence of destruction of Old Europe).

events in Old Europe would have curtailed the early development of a distinctive major language family in this region, and, given the unprecedented series of events needed to create this seeming exception, this exception only proves the strength of the general rule. Hence, the full set of correlations that establish the strength of the riverine-agricultural model of prehistoric linguistic expansion can now be seen in Figure 18.

Based on all of the above evidence and argumentation, the appropriate conclusion to draw is that the riverine-agricultural model of prehistoric linguistic expansion is therefore extraordinarily predictive—though, of course, its predictions should always be understood as potentially defeasible by any extraordinary facts in the archaeological record that might undermine its basic predictions. We know of one such set of extraordinary archaeological facts, which would have caused a sharp linguistic break among the populations in the Dniester and Danube river valleys from before about 4300 BC and after about 3500 BC. During the period beginning before 4300 BC and lasting for almost two millennia after 3500 BC, the archaeological record in the Indus Valley region, by contrast, shows only the continuous growth of its indigenous population into one of the world's very first large-scale civilizations.

E. Second Methodological Conclusion: The Earliest Riverine-Agricultural Civilizations Should Be Understood As Simultaneously Producing the First Major Language Families and the First Cultural Traditions Capable of Supporting Incipient Legal Traditions

I have now developed the riverine-agricultural model of prehistoric linguistic expansion, and argued for its plausibility and applicability to the relevant periods of our human prehistory. This model is precisely the kind we will need if we hope to decipher the prehistoric structure of our legal family tree because it will now allow us to correlate certain very early processes of linguistic expansion with two further classes of phenomena: first, with the very first developments towards social complexity that tend to give rise to incipient legal traditions, and, second, with certain specific and highly identifiable geographic topographies, which should be easy enough to identify from the archaeological record. Based on all of this evidence and argumentation, we should therefore be able to predict that the earliest riverine-agricultural civilizations would have produced some of the very first major language families within our natural history as a species—and, moreover, that they would have simultaneously produced some of the very first cultural traditions capable of supporting large-scale civilizations with incipient law.

In Part V, I will begin to apply the riverine-agricultural model of prehistoric linguistic expansion, along with some of the larger methodological insights developed in this Article, to argue for an earlier and more eastern prehistoric origin than has commonly been recognized for key

aspects of the traditions that support Western law and Western civilization.

V. APPLYING THE NEW METHODOLOGY: NOVEL ARGUMENTS FOR A REVISED ORIGINS STORY

Having developed the riverine-agricultural model of prehistoric linguistic expansion, and having argued for its plausibility and applicability, we are now in a position to apply it to a range of known archaeological and linguistic facts. The goal will be to determine the most plausible prehistoric structure of our legal family tree (including the special cultural traditions that tend to support the emergence and stability of law), and then to tell a revised origins story that is based on this larger body of evidence.

My strategy in this Part will be as follows. First, I will spell out three affirmative arguments for a critical but intermediate socio-linguistic proposition. I will refer to this proposition as the “Eastern Proto-Indo-European Expansion Thesis,” and it can be stated as follows:

From some time around 4500 BC until approximately 1900 BC, the Indus Valley river system played the most central, the most significant, and the most enduring focal point for the prehistoric coordination and expansion of the Indo-European language family, and also for the development of several key Indo-European cultural innovations, which have made subsequent Indo-European groups particularly well adapted to transitioning into and sustaining large-scale societies with the rule of law.

The Eastern Proto-Indo-European Expansion Thesis will prove critical for many of the subsequent arguments in this Part, but it will also challenge a broad range of traditional understandings and is therefore likely to be controversial. I have therefore decided to isolate the three novel arguments for this thesis and seek to establish their significance and credibility, before spelling out the broader consequences of this thesis for the current project. The three novel arguments are presented in Sections A through C below.

My next step—in Sections D and E—will be to synthesize the Eastern Proto-Indo-European Expansion Thesis with a much broader range of linguistic and archaeological facts. This process will allow me to tell a much more detailed and revised version of our origins story, and decipher what I take to be the most plausible phylogenetic structure of our legal family tree.

A. *First Novel Argument: From Patterns of Prehistoric Linguistic Change*

My first novel argument for the Eastern Proto-Indo-European Expansion Thesis begins with the observation that—beginning before 4500 BC and lasting until approximately 1900 BC—the Indus Valley region almost certainly played a major role in coordinating some major language family or other. This proposition is based on the riverine-agricultural model of linguistic expansion, along with well-known archaeological facts about the region during this period, which establish that it produced one of the first and most significant ancient civilizations in the world³²¹ around one of the most important major river systems of its time.³²² Indeed, these same facts suggest that the language family in question would have been one of the most monumental and influential linguistic phenomena ever to have existed anywhere in the world at the time, and should have therefore been developing into one of the very first major language families ever in existence.

This first proposition is further supported by recent research establishing that, during this same time period, the Indus Valley region had not just one but two large rivers—one of which was monsoon-based and subsequently dried up due to shifts in monsoon patterns around 1900 BC.³²³ Given the terms of this paper, this second river—which is most plausibly associated with the ancient “Sarasvati” as mentioned in the Vedic texts—would have qualified as a “major river” in its own right, and it was therefore listed on our original list.³²⁴ When combined with the Indus, these two rivers would have thus created a major river system of extraordinary proportions.

Recent archaeological evidence suggests that many Harappan settlements did, in fact, crop up around both the Indus and the Sarasvati,

321. See *ENCYCLOPEDIA OF DESERTS* 293 (Michael A. Mares ed., 1999) (“The Indus and Punjnad River valleys are fertile valleys within an arid region. The Indus Valley served as the site of one of the earliest human civilizations, the Indus Civilization, or Harappan . . .”); Cf. GLYN DANIEL, *THE FIRST CIVILIZATIONS: THE ARCHAEOLOGY OF THEIR ORIGINS* 93–118 (1968) (discussing the history and rise of civilization in the Indus Valley).

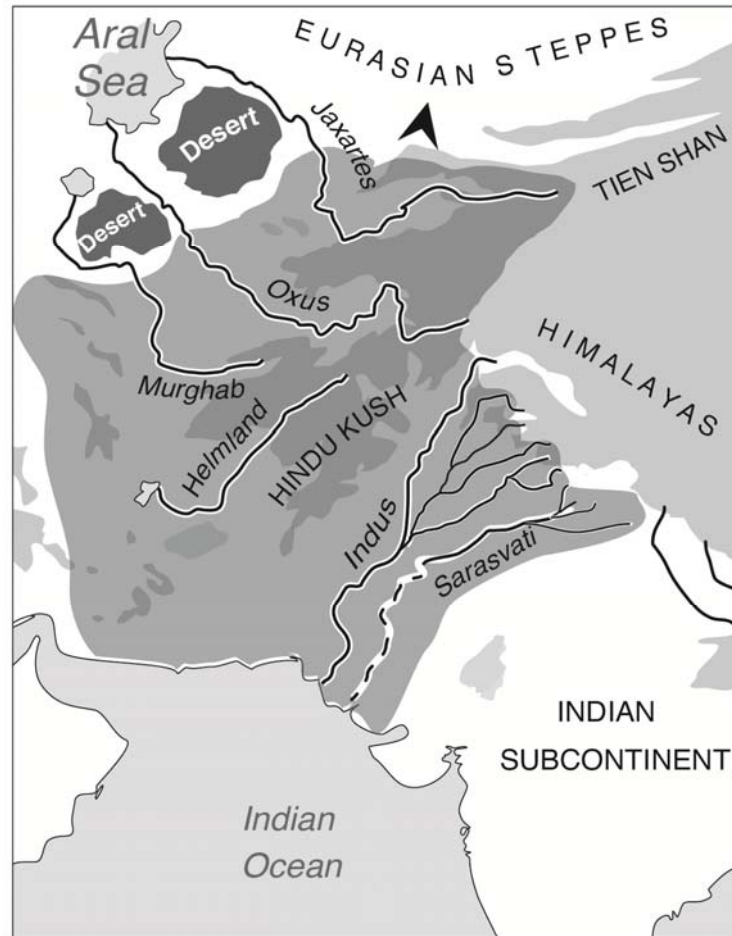
322. See *WORLD ALMANAC*, *supra* note 138, at 466–67 (listing major rivers of the world and indicating that the Indus River is tied for twenty-fourth longest river in the world).

323. Liviu Giosan et al., *Fluvial Landscapes of the Harappan Civilization*, Proceedings of the National Academy of Sciences, available at www.pnas.org/cgi/doi/10.1073/pnas.1112743109; JANE R. MCINTOSH, *THE ANCIENT INDUS VALLEY: NEW PERSPECTIVES* 19 (2008) (“The most dramatic change took place in the region south of the Indus River, where there is evidence that a great river system flowed in the Harappan period. Through ground survey and methods of remote sensing such as satellite photography, many stretches of dry riverbed have been traced in the Thar Desert and in the Indo-Gangetic divide, often as much as 10 kilometers wide, showing that they once held substantial rivers.”)

324. See *supra* notes 283–86 and accompanying text (beginning with a list of the thirty-six longest rivers in the world). The Indus River appears as the twenty-fourth longest river on this list, see *WORLD ALMANAC*, *supra* note 138, at 466–67. The “Sarasvati” was even longer—thus qualifying it as a major river on its own, within the meaning of this Article.

thus establishing that these two rivers were part of a larger, interconnected social network during this time period.³²⁵ In fact, the archaeological evidence is beginning to suggest that the Sarasvati was a much more important river for the Harappan Civilization than the Indus, and there is now ample evidence of ongoing trade and social interpenetration between the Harappan settlements in the Indus Valley and many surround-

FIGURE 19
THE EASTERN-IRAN-BACTRIA-INDUS-VALLEY REGION



325. See, e.g., GREGORY L. POSSEHL & M.H. RAVAL, HARAPPAN CIVILIZATION AND ROJDI 20–21 (1989) (“Archaeological research along the now dry beds of the ancient Sarasvati and Drishadvati Rivers . . . have [sic] led to the discovery of a large number of archaeological sites. . . . When placed within the context of the distribution of Harappan sites generally . . . they lead one to suspect that Bahawalpur may well have been the Harappan ‘bread basket.’” (citations omitted)).

ing settlements in ancient Bactria and the eastern parts of modern-day Iran. In these circumstances, the riverine-agricultural model of linguistic expansion predicts that the Indus Valley river system should have been producing and coordinating one of the most monumental and influential language families of its time,³²⁶ and that these developments should have had broader effects throughout the larger Eastern-Iran-Bactria-Indus-Valley region.

Turning to the larger Eastern-Iran-Bactria-Indus-Valley region, this region also contains three other prominent rivers. The first two—the Amu Darya (or Oxus) and the Syr Darya (or Jaxartes)—flow from the Hindu Kush and Tien Shan mountains respectively into the Aral Sea. The third—the Helmand—flows from the Hindu Kush into eastern Iran. These facts thus provide further evidence of the power that this larger region would have had to coordinate an early linguistic phenomenon of monumental importance.

Figure 19 depicts this larger region, and identifies the relevant river systems along with their proposed linguistic effects. In this Figure, the large dark grey region near the center—which connects up all of the rivers under discussion—is meant to represent a highly interconnected set of social groups, who speak dialects of a common language that is being coordinated and is expanding into a major language family in large part because of the riverine-agricultural dynamics inherent in the region.

Turning to logic, the major language family that would have emerged from these early riverine-agricultural dynamics was either Proto-Indo-European or it was not. Let us assume the second possibility first, to see where it leads us. If the language family in question was something other than Proto-Indo-European, then we must assume that Proto-Indo-European speakers displaced this preexisting language family sometime after the demise of the Harappan Civilization—*viz.*, sometime after 1900 BC. This is, in fact, the standard view.³²⁷ Given the arguments developed in this Article, however, this view could only be true if a relatively small group of Indo-European nomads were capable of displacing a linguistic phenomenon with incredible temporal and geographic reach. Although the historical record provides us with a number of known examples of nomadic groups invading and conquering indigenous agricultural populations, they have never done so while completely eradicating

326. It is rare for a river of this size to dry up and disappear, but the source of the Sarasvati lay in the Himalayas, which was itself created by a clash of tectonic plates between the Indian and Eurasian Plates. Experts believe that prehistoric shifts in these tectonic plates diverted the course of this water so that it now flows into the Ganges and its tributaries. See MCINTOSH, *supra* note 323, at 20.

327. See, e.g., THE ARYAN DEBATE, *supra* note 98, at xiii (“The first position, the *immigrant Aryan* position that the Aryans came to India from outside in about 1500 BC, I will call the *standard view* because it is the interpretation that has prevailed in school and university history textbooks and in academic journals and books.”); see also AVARI, *supra* note 80, at 60; MALLORY & ADAMS, *supra* note 35, at 443.

a linguistic phenomenon of this scope.³²⁸ Indeed, prior to the age of modern colonialism, the more typical pattern is that the preexisting languages have persisted as the dominant languages of the people in these conquered regions.³²⁹

To get a sense of just how difficult it would be to displace a major language family in these particular regions, one should also consider the many difficulties that the U.S. military—with all of its advanced military and technological equipment—has faced in even penetrating some of the mountainous regions of Afghanistan.³³⁰ One should also consider the fact

328. The most successful and notorious set of invasions of agricultural populations by nomadic groups are those that were led by Altaic-speaking groups, which include the Turks, the Huns, and the Mongols. See GROUSSET, *supra* note 255, at vii–xi, xxiii–xxiv (“It is certain, however, that from the beginning of the Christian era the flow was from east to west. It was no longer the Indo-European dialects that prevailed—‘East Iranian,’ Kuchean, or Tokharian—in the oases of the future Chinese Turkestan; it was rather the Hsiung-nu who, under the name of Huns, came to establish a proto-Turkic empire in southern Russia and in Hungary. (The Hungarian steppe is a continuation of the Russian steppe, as the Russian steppe is of the Asian.) After the Huns came the Avars, a Mongol horde which had fled from Central Asia under pressure from the T’u-chueh in the sixth century, and which was to dominate the same regions, first Russia and later Hungary. In the seventh century came the Khazar Turks, in the eleventh the Petcheneg Turks, and in the twelfth the Cuman Turks, all following the same trail. Lastly, in the thirteenth century, the Mongols of Jenghiz Khan integrated the steppe, so to speak, and became the steppe incarnate, from Peking to Kiev.”).

Even in those areas where these conquering groups were successful, however—which include many regions of modern-day Turkey, the Middle East, Pakistan, Afghanistan, northwestern India, and parts of eastern Europe—the preexisting (non-Altaic) language families still persist as dominant languages in the regions. See ETHNOLOGUE, *supra* note 135, at 774 (showing Afghanistan as dominated by Iranian and some Indo-Aryan dialects, with only a small pocket of Altaic dialects in the extreme northern regions); *id.* at 785 (showing Iraq as dominated by Arabic languages, along with one Indo-European language—Kurdish); *id.* at 816–17 (showing Pakistan as dominated by Indo-Aryan and Iranian languages, with no significant pockets of Altaic-speaking communities); *id.* at 824–27 (showing Western Asian Russian Federation states as containing pockets of Indo-European speaking groups, especially in the western and southern regions); *id.* at 848–49 (showing European Russian Federation States as dominated by Indo-European speakers, with only small pockets of Altaic-speaking groups); *id.* at 832 (showing Turkmenistan and Uzbekistan as containing pockets of Indo-European speakers); *id.* at 805 (showing Tajikistan as dominated by Indo-European languages, with only small pockets of Altaic speaking groups); *id.* at 847 (showing Ukraine as dominated by Slavic language speakers); *id.* at 533–35 (listing languages spoken in Turkey, which include Turkish, an Altaic language, as the national language, but also a number of remaining pockets of Arabic and Indo-European speaking groups); *id.* at 452–57 (listing languages spoken in Iran, which are predominantly Indo-European); see *supra* Figure 20 (showing northwestern India as dominated by Indo-European languages).

329. See GROUSSET, *supra* note 255, at xxix (“But there was another, opposing law, which brought about the slow absorption of the nomad invaders by ancient civilized lands. This phenomenon was twofold in character. First, there was the demographic aspect. Established as a widely dispersed aristocracy, the barbarian horsemen became submerged in these dense populations, these immemorial anthills. Second, there was the cultural aspect. The civilizations of China and Persia, though conquered, in turn vanquished their wild and savage victors, intoxicating them, lulling them to sleep, and annihilating them. Often, only fifty years after a conquest, life went on as if nothing had happened. The Sinicized or Iranized barbarian was the first to stand guard over civilization against fresh onslaughts from barbarian lands.”).

330. See, e.g., C.J. Chivers, *Vantage Point: The Challenges of Small-Unit Patrolling in Afghanistan*, N.Y. TIMES (Jan. 13, 2011, 9:47 AM), <http://atwar.blogs.nytimes.com/2011/01/13/vantage-point-the-challenges-of-small-unit-patrolling-in-afghanistan> (“Whatever one thinks of counterinsurgency theory, not many people would dispute that home terrain favors a local insurgent force.”). Cf. Robert D. Kaplan, *Actually, It's Mountains*, FOREIGN POL’Y, July/Aug. 2010, at 105 (discussing the relationship between the presence of geographic barriers and failed states).

that various nomadic Altaic groups have in fact invaded and conquered some of these regions during historical times (and with much superior technology than would have been available in 1500 BC), and yet Altaic languages have only replaced preexisting Indo-European dialects in a few highly isolated parts of these regions.³³¹ Indeed, Indo-European (and, indeed, Indo-Iranian) dialects still predominate in all parts of the Eastern-Iran-Bactria-Indus-Valley region, despite these regions having been conquered several times by Altaic or other external forces.³³² We should also remember that the archaeology of the Indus Valley region suggests remarkable social continuity for the entire three millennia prior to 1500 BC. Hence, I submit that a minimal criterion for the plausibility of any theory that posits a non-Proto-Indo-European language family for the Harappans is that some significant pockets of this language family should still remain in the northwestern regions of the Indian subcontinent. I will call this the “significant remaining pocket” criterion (or “significant pocket” criterion for short).

Elsewhere, I have provided the significant pocket criterion with a wealth of additional empirical support.³³³ Let us therefore ask what this criterion would mean for the most plausible language (or languages) of the Harappan Civilization.

1. *Ruling Out All Language Families Except Dravidian, Munda, and Indo-European*

The significant pocket criterion can be used to eliminate a wide range of possible language families from the start. For example, we can eliminate, with a very high degree of confidence, any contention that the Harappans spoke a language that is part of some unknown or extinct language family.³³⁴ This group includes all of the extinct ancient isolates from neighboring regions, such as Sumerian (which was originally spoken in lower Mesopotamia) and Elamite (which was originally spoken in the western regions of modern-day Iran along the shores of the Persian

331. See *supra* note 328.

332. See ETHNOLOGUE, *supra* note 135, at 365–407 (listing languages spoken in India); THE ATLAS OF LANGUAGES, *supra* note 136, at 59 (displaying map that notes languages spoken in India); see also BRYANT, *supra* note 35, at 237 (“India was invaded nine times in one millennium by Achemenides, Macedonians, Bactrians, Greeks, Śakas, Kušans, Sassanides, Yuezis, and Hephtalite Huns . . . [and also by the] Turks, Mongols, Afghans, Portuguese, French, and British . . . [yet] none of these groups eradicated the preexisting languages on the subcontinent as the Indo-Aryans are assumed to have done.”).

333. See Robin Bradley Kar, *On the Proto-Indo-European Language of the Indus Valley Civilization (and Its Implications for Western Prehistory)*, in THE SINDHU-SARASVATI CIVILIZATION: NEW PERSPECTIVES (ed. Nalini Rao) (forthcoming 2012).

334. ALLCHIN & ALLCHIN, *supra* note 5, at 185 (“We can leave aside postulation of an unknown language, since there is no reason to believe that so major a language would have disappeared without trace.”).

Gulf).³³⁵ We can also eliminate all of the linguistic substrates that have been identified in the ancient Vedic texts but no longer survive as spoken languages in their own right. These would include Masica's "language X," as well as Michael Witzel's proposal that the Indus Valley Civilization spoke an extinct language that he has sometimes called "Para-Munda" (due to its many resemblances with Proto-Munda). The significant pocket criterion can, finally, be used to eliminate a number of more minor linguistic phenomena—which are still found in or near the relevant parts of the Indian subcontinent but not in significant enough numbers to meet our criterion.

As a first cut, we must therefore focus on the small handful of language families that show up in significant amounts somewhere within the Indian subcontinent. Apart from Indo-European (which we are bracketing for the time being, by assumption), this leaves only two real possibilities: Dravidian, which currently dominates in South India, and Munda, which is part of the western branch of the Austro-Asiatic language family and appears primarily in some northeastern parts of India. Let us consider each of these possibilities in turn. For ease of reference during this discussion, Figure 20 provides another depiction of the Indian subcontinent with its contemporary patterns of linguistic diversity and some of its most relevant geographic features.

335. See *id.* at 184–85 (noting a second reason to eliminate Sumerian and Elamite in particular: the speakers of both of these languages had developed scripts prior to the Harappan script, and it therefore "seems reasonable to assume that had any one of these been introduced to the Indus they would have brought with them their own already existing scripts").

FIGURE 20
MAJOR LANGUAGE FAMILIES
OF INDIAN SUBCONTINENT
(Indus-Ganges-Sarasvati) (Krishna-Godavari-Kaveri)



2. *Ruling Out the Dravidian Hypothesis*

Within the secondary literature, the Dravidian hypothesis (or the hypothesis that the Harappans spoke dialects of proto-Dravidian) has “been the most frequently and strongly supported hypothesis since its adoption by Marshall . . . and Hunter” in the 1930s.³³⁶ On its face, the

336. *Id.* at 185; see generally G.R. HUNTER, THE SCRIPT OF HARAPPA AND MOHENJODARO AND ITS CONNECTION WITH OTHER SCRIPTS (1934); MOHENJO-DARO AND THE INDUS CIVILIZATION (photo. reprint 1996) (Sir John Marshall ed., 1931).

Dravidian hypothesis might seem to have quite a bit of plausibility to it. As Figure 20 shows, Dravidian speakers—who are indicated in light grey—currently dominate a large portion of the Indian subcontinent, which is almost adjacent to the Indus Valley region but extends primarily through the southern end of the Indian Peninsula. Because these Dravidian speakers are located in the south, they cannot on their own render the Dravidian hypothesis consistent with the significant pocket criterion. One might nevertheless imagine this pattern to be the plausible result of Indo-European invasions from the northwest, which would have forced any indigenous Dravidian populations to migrate to the southeast beginning in around 1500 BC. There is, moreover, an important pocket of Dravidian speakers who do live in the northwestern regions of the Indian subcontinent. These are the Brahui, who live in modern-day Baluchistan, and who are shown in Figure 20 as a small pocket of light grey near the top left corner of the diagram. At first glance, the existence of the Brahui might therefore seem to render the Dravidian hypothesis consistent with the significant pocket criterion.³³⁷

Upon closer examination, however, the assumptions needed to render the Dravidian hypothesis plausible are not at all tenable. As shown in Figure 20, the northwestern parts of the Indian subcontinent are separated from the southern peninsula by significant geographical barriers, which include the Thar Desert, the Vindhya Mountains, and the Deccan Plateau. These geographic facts render it highly implausible that the indigenous people of the Indus Valley would have moved southeast (through a vast desert, and then over a formidable mountain range) rather than east (along the Gangetic Plain) when facing any invading populations. In any event, the archaeological record shows no evidence of any significant migrations to the southeast during this time period, and no such migrations are remembered as part of the local history or oral traditions in the south.³³⁸ By contrast, there is significant evidence of indige-

337. Indeed, the existence of the Brahui is one of the most commonly cited facts in favor of the Dravidian hypothesis. See, e.g., Michel Danino, A Dravido-Harappan Connection? The Issue of Methodology 8–9 (Feb. 15–16, 2007) (paper presented at Int'l Symposium on Indus Civilization and Tamil Language, University of Madras, Chennai), http://www.omilosmeleton.gr/pdf/en/indology/A_Dravido-Harappan_connection.pdf.

338. *Id.* at 10 (“There is no archaeological evidence of a southward migration through the Deccan after the end of the urban phase of the Indus-Sarasvati civilization.”); *id.* (“Migration apart, there is a complete absence of Harappan artefacts and features south of the Vindhyas: no Harappan designs on pottery, no Harappan seals, crafts and ornaments, no trace of Harappan urbanism . . . no civic organization, no extensive bronze technology, no set of chert weights, etc.”); *id.* (“The Sangam literature is completely silent on a large-scale migration from the North-West, and of course on a clash with invading Aryans.”); see also *id.* at 1 (“Further, the absence of any Harappan artefacts and features south of the Vindhyas as well as recent findings on the Central Indian origin of Brahui, on the beginnings of Indian agriculture, on anthropology and genetics, together make it very unlikely that Harappans could have migrated to South India after the end of the urban phase, reverting from an advanced Bronze Age culture to a Neolithic one, forgetting all their typical crafts and sophisticated techniques, pottery designs, ornaments, and urbanism.”); *id.* at 11 (“Without bringing in other strong circumstantial evi-

nous migrations toward the Gangetic plain (i.e., toward the northeast) during this time period, and then of further expansions eastward along the Ganges River continuing through and then well beyond 1500 BC.³³⁹ But none of these areas currently has any significant pockets of indigenous Dravidian speakers, and all of them are instead dominated by Indo-European speakers. In addition, there have been no significant findings of Harappan artifacts or settlements in the southern regions of India. These facts render the migrations that must be presupposed by the Dravidian hypothesis highly implausible.

As Figure 20 shows, the Indian subcontinent also contains two separate river complexes: the Godavari-Krishna-Kaveri complex in the south and the Indus-Sarasvati-Ganges complex in the north. The Dravidian and Indo-European language families are, moreover, distributed very precisely around these two major river systems—just as the riverine-agricultural model of linguistic expansion would predict if these two linguistic groups were the first agricultural groups in these regions. When combined with the riverine-agricultural model of linguistic expansion, these geographical facts are thus sufficient to explain the current patterns of linguistic variation within India,³⁴⁰ and there is no need to posit the highly implausible pattern of migration that is currently under discussion.

Notice, moreover, that the Dravidian hypothesis presupposes that small bands of nomadic horse-riding Indo-Europeans were able to completely eradicate almost all of the previous languages in the entire central and northwestern regions of the Indian subcontinent in just a few centuries, even though they were never able to do this in the entire south of India—despite several subsequent millennia of massive efforts at brahmanization and sanskritization.³⁴¹ We should therefore ask: what plausible model of linguistic change could explain the complete and rapid replacement of all Dravidian speakers in one region, but not the other? These facts provide further grounds to doubt the Dravidian hypothesis.

Turning to the existence of the Brahui in the northwestern regions of the Indian subcontinent, these groups are indeed significant, and they do indeed speak Dravidian languages. As noted earlier, one might therefore think that these facts render the Dravidian hypothesis consistent with the significant pocket criterion. There is, however, now a growing body of evidence to suggest that these Dravidian-speaking people are much more recent transplants to the area, rather than descendants of the people from the early Indus Valley:

dence such as that of the Sarasvati river, we can see that several disciplines—archaeology, anthropology, genetics and tradition—agree on the impossibility of a Late Harappan southward ‘Long March.’”).

339. *Id.* at 10 (“The only actual evidence of movements at that period is of Late Harappans migrating towards the Ganges plains and towards Gujarat.”); *id.* (“Cultural continuity from Harappan to historical times has been increasingly documented in North India, but not in the South.”).

340. *See supra* notes 290–94 and accompanying text.

341. I am indebted to discussions with Edwin Bryant for this point.

[I]n the 1920s, French linguist Jules Bloch demonstrated, through an analysis of Brahui vocabulary, that the language reached Baluchistan recently, perhaps at the time of the Islamic invasions and probably from central India. This thesis was more recently endorsed by Murray Emeneau, and still more recently by H.H. Hock. Finally, the linguist and mathematician Josef Elfenbein confirmed it using a different approach. According to the French Indo-Europeanist Bernard Sergent, “the conclusion is radical . . . Brahui reached Baluchistan late, and can therefore no longer provide proof or even a clue of the Dravidian-speaking character of the people who lived along the Indus.”³⁴²

Hence, the Dravidian hypothesis ultimately *fails* to meet the significant pocket criterion, and can be ruled out on that additional ground.

Studies of the early development of Sanskrit cast even further doubt on the Dravidian hypothesis. These studies are relevant to the present inquiry because Sanskrit was the Indo-European language spoken by the ruling groups of northwestern India in or around 1500 BC.³⁴³ Various forms of this language were encoded in their so-called “Vedic” texts, which are the oldest recorded texts in any Indo-European language,³⁴⁴ and we can therefore study these texts to see how early Sanskrit evolved over time.³⁴⁵

Michael Witzel—who is a leading expert on Sanskrit and linguistics at Harvard University—has done just that, and his analyses suggest that the earliest forms of documented Sanskrit reflect very little, if any, Dravidian influence.³⁴⁶ Some Dravidian influence begins to appear over time, as the center of gravity of north Indian civilization moved further to the east and then south after 1500 BC, but—somewhat surprisingly—Witzel’s analyses suggest that the earliest influences on Sanskrit were from a language resembling Munda rather than Dravidian.³⁴⁷ When small incoming populations dominate a large local population linguistically, the typical result is that the dominant language begins to exhibit significant substratum effects that reflect those early encounters.³⁴⁸

342. Danino, *supra* note 337, at 8–9 (internal quotation marks omitted).

343. See, e.g., BRYANT, *supra* note 35, at 63–67.

344. RAJEEV VERMA, FAITH & PHILOSOPHY OF HINDUISM 98 (2009) (“The Vedas are . . . the most ancient wide texts in an Indo-European language, and as such are invaluable in the study of relative linguistics.”).

345. See, e.g., BRYANT, *supra* note 35, at 63–67, 101–02.

346. See *id.* at 101 (“Of substantial importance is Witzel’s discovery . . . that there was no Dravidian influence in the early Rgveda. He divides the Rgveda corpus into three distinct chronological layers on linguistic grounds and finds that Dravidian loans surface only in layer II and III, and not in the earliest level at all . . .”).

347. See *id.* (noting that in the earliest Sanskrit texts, “[i]nstead, ‘we find more than one hundred words from an *unknown* prefixing language’ that is neither Dravidian, Burushaski, nor Tibeto-Burmese. On the basis of certain linguistic evidences, such as Munda-type prefixes . . . [Witzel] prefers to consider the pre-Aryan language an early form of Munda” (citation omitted)).

348. Gillian Sankoff, *Linguistic Outcomes of Language Contact*, in THE HANDBOOK OF LANGUAGE VARIATION AND CHANGE 638, 642 (J.K. Chambers et al. eds., 2004) (“In the case of a

Hence, this particular pattern of Dravidian influence over time makes it implausible that Indo-European speakers first came into contact with large numbers of indigenous Dravidian speakers in the Indus Valley region in or around 1500 BC.³⁴⁹ Indeed, Witzel himself rejects the Dravidian hypothesis for this reason.³⁵⁰ (It is worth noting that Witzel also finds insufficient evidence of languages like Tibeto-Burmese, Proto-Burushaski, and Masica's "Language X" to attribute to the languages of the Indus Valley Civilization.)

There is, finally, an important point about major river names, which should be familiar from the secondary literature. For some time now, linguists have observed that the terms for certain major geographic landmarks, such as major rivers, tend to remain extraordinarily resistant to change, with the result that they tend to retain the names given to them by their original settled inhabitants even in the face of massive invasions by new populations who speak different languages.³⁵¹ This is why so many of the major rivers in the United States (such as the Mississippi, the Ohio, the Tennessee, the Arkansas, and the Missouri) still have Native American names, rather than English or European names,³⁵² and why so many major rivers in England have names that derive from pre-Indo-European languages.³⁵³ Quite often, major river names are there-

local linguistic group that has been conquered or surrounded by a larger group, slow language shift may mean many generations of bilinguals, providing ample opportunity for substratum influence to become established in the language towards which the community is shifting."); *see also* BRYANT, *supra* note 35, at 76-107 (discussing linguistic substrata in Sanskrit texts).

349. It should be noted that there is still significant controversy among linguists over the precise amount of Dravidian effects that can be identified in the earliest Sanskrit texts. *See* BRYANT, *supra* note 35, at 76-101. Still, no one has detected any significant early Dravidian effects, and hence, this level of controversy is itself inconsistent with the kind of large-scale substratum effects that one would expect if there had been a major displacement of Dravidian speakers at or around 1500 BC.

350. *See* Michael Witzel, *Aryan and Non-Aryan Names in Vedic India: Data for the Linguistic Situation, c. 1900-500 B.C.*, in 3 ARYAN AND NON-ARYAN IN SOUTH ASIA: EVIDENCE, INTERPRETATION AND IDEOLOGY 337, 388, 392-94 (Johannes Bronkhorst & Madhav M. Deshpande eds., 1999); *see also* BRYANT, *supra* note 35, at 101 (citing Witzel as concluding that, "[c]onsequently, all linguistic and cultural deliberations based on the early presence of the Drav. in the area of speakers of IA, are void").

351. *See* Edwin F. Bryant, *Concluding Remarks*, in THE INDO-ARYAN CONTROVERSY: EVIDENCE AND INFERENCE IN INDIAN HISTORY 468, 479 (Edwin F. Bryant & Laurie L. Patton eds., 2005) ("Place and river names are, to my mind, the singlemost important element in considering the existence of a substratum. Unlike people, tribes, material items, flora and fauna, they cannot relocate or be introduced by trade, etc. (although their names can be transferred by immigrants). Place names *tend to be among the most conservative elements in a language*. Moreover, it is a widely attested fact that intruders into a geographical region often adopt many of the names of rivers and places that are current among the peoples that preexisted them, even if they change the names of others (i.e. the Mississippi river compared to the Hudson, Missouri state compared to New England)." (emphasis added)).

352. Danino, *supra* note 337, at 9 ("[I]n America pre-colonial river names remain common."); *see also* JAMES PEOPLES & GARRICK BAILEY, HUMANITY: AN INTRODUCTION TO CULTURAL ANTHROPOLOGY 52 (8th ed. 2009) ("Native American peoples had their own names for places and landscape features, and often these names were the ones that endured and appear on modern maps.").

353. *See* BRYANT, *supra* note 35, at 98 ("In the hydronymy of England, Celtic names are fewer in the east, but they are preserved in major rivers. On the other hand, they become more frequent in the center, and more numerous in the west, a pattern that can be correlated with the historical data on Saxon settlement, which would have been densest in the east, thereby explaining the fewer Celtic

fore some of the best indicators of the original languages spoken by significant populations in an area.³⁵⁴ Significantly, almost all thirty-seven of the major rivers in the northwestern regions of the Indian subcontinent have names that are either clearly Indo-European (thirty-four of the thirty-seven) or at least plausibly reconstructible as Indo-Aryan (two more of the thirty-seven), whereas not one has a Dravidian or clearly Munda name.³⁵⁵ These facts shed even further doubt on the Dravidian hypothesis.

3. *Ruling Out the Munda Hypothesis*

We are thus forced to consider the second main possibility: that the early inhabitants of the Indus Valley spoke dialects of Munda rather than Dravidian. The same evidence about river names should cast some initial doubt on this proposal, and, in fact, very few people have argued for it.³⁵⁶ (It should be noted that Witzel's current proposal is not that the Indus Valley Civilization spoke dialects of Proto-Munda but rather that they spoke a now extinct language that *resembled* Proto-Munda and that he calls *Para-Munda*. This possibility has, however, already been ruled

names in that area." (citation omitted)); *see also* Danino, *supra* note 337, at 9 ("[I]n Europe, many pre-Roman river names have subsisted . . .").

354. Witzel, *supra* note 350, at 368–69 ("Such names tend to be very archaic in many parts of the world and they often reflect the languages spoken before the influx of later populations." (citations omitted)).

355. *See* BRYANT, *supra* note 35, at 99–100 ("[I]n 'the "homeland" of the Rgvedic Indians, the Northwest, 'we find [sic] 'most Rgvedic river names . . . are Indo-Aryan, with the possible exception of the Kubhā, Śatrudrī, and perhaps the Sindhu.' These latter, according to Witzel, 'prove a local non-IA substrate [sic]. In view of the fact that Witzel has provided a list of thirty-seven different Vedic river names, these two or three possible exceptions do not make as strong a case as one might have hoped. All the rest can indeed be derived from Indo-European roots. Moreover, other scholars have even assigned Indo-Aryan etymologies to two of these three possible exceptions." (citations omitted)); *id.* at 99 ("None of the river terms [in the Northwest] are Dravidian. . . . Later texts, however, mention rivers farther east and south from the Rgvedic homeland that show signs of Munda and Tibeto-Burmese influence in the northeast, and Dravidian influence toward central India."). Caldwell has similarly argued that

the Dravidian loanwords . . . did not consist of the essential aspects of a vocabulary—the primary words such as verb roots denoting basic actions, pronouns, body parts, and so on. Such basic terms are the most durable aspect of a language, even when exposed to major influences from an alien language family. Caldwell argued that had the pre-Aryan population of North India been Dravidian, it would have preserved at least some of its own primary Dravidian terms, which would have resurfaced in at least one or two of the northern vernaculars. This would especially have been the case in the hypothetical scenario involving a relatively tiny intrusion of Indo-Aryan speakers superimposed upon a massive population of Dravidian speakers.

Id. at 84.

356. *E.g., id.* at 78 ("In the case of Sanskrit . . . syntactical innovations were generally held by most scholars to be due to a local substratum of Dravidian, which triggered this linguistic subversion (most recently Emeneau 1980; Kuiper 1991)."); WALTER A. FAIRSERVIS, *THE HARAPPAN CIVILIZATION AND ITS WRITING: A MODEL FOR THE DECIPHERMENT OF THE INDUS SCRIPT 14* (1992) ("We have four language possibilities [for the Harappan Civilization]: Munda an Austro-Asiatic family, largely spoken by tribal people in the eastern portion of the subcontinent (but note Korku in Central India). Reconstructions of proto-Munda indicate nothing as complex as the Harappan civilization." (emphasis omitted)).

out of the present analysis by the significant pocket criterion, which I have also argued for in much more detail elsewhere.)³⁵⁷

The Munda hypothesis also fails the significant pocket criterion, because—as Figure 20 shows—there are no significant pockets of Munda-speaking groups in the northwestern portions of the Indian subcontinent. Earlier discussions have also suggested that the Austro-Asiatic language family (which includes Munda) originated much further to the east, where it was originally distributed primarily around the Mekong, the Salween, the Irrawaddy, and possibly the Brahmaputra and eastern portions of the Ganges Rivers.³⁵⁸ This proposal about the early distributions of the Austro-Asiatic languages is entirely consistent with the opinion of leading experts, who have observed that “[t]he evidence as it is so far established would suggest that these languages in ancient times as well as now were situated only in eastern India.”³⁵⁹ Hence, there are equally compelling reasons to reject the Munda hypothesis.

4. *Some Reasons to Accept the Proto-Indo-European Hypothesis*

Up until this point, we have been assuming that the Harappans spoke a language that fell into some *non*-Proto-Indo-European language family, and that the Indo-European language family was therefore introduced into the Indian subcontinent only sometime after the demise of the Harappan Civilization (*viz.*, sometime after 1900 BC). This assumption implied the existence of some significant pockets of people in or around the northwestern regions of the Indian subcontinent who still speak languages that fall into this non-Indo-European language family. We have, however, now eliminated every such possible language family. Hence, we must revise our initial assumption and consider the very real possibility that the Harappans spoke dialects of Proto-Indo-European instead. We must—in other words—consider some version of the Eastern Proto-Indo-European Expansion Thesis as developed in this Article.

This first argument is a straightforward argument from elimination, but it is distinctive insofar as it draws upon the riverine-agricultural model of linguistic expansion to amplify the probability of the relevant elimi-

357. See Robin Bradley Kar, *On the Proto-Indo-European Language of the Indus Valley Civilization (and Its Implications for Western Prehistory)*, in *THE SINDHU-SARASVATI CIVILIZATION: NEW PERSPECTIVES* (ed. Nalini Rao) (forthcoming 2012).

358. See *supra* notes 301–03 and accompanying text; see also Colin Renfrew, *Language Families and the Spread of Farming*, in *THE ORIGINS AND SPREAD OF AGRICULTURE AND PASTORALISM IN EURASIA* 70, 78 (David R. Harris ed., 1996) (“The linguistic arguments for a single origin and expansion lead Higham and Blust to propose an origin for the Austro-Asiatic language family and for rice cultivation in the nuclear Yunnan-Burma border area, with a farming dispersal (of rice farmers) down the Brahmaputra River into eastern India (for the Munda languages within the Austro-Asiatic family), down the Mekong (for the Mon-Khmer languages of the Austro-Asiatic family), and down the Red River Valley (for the Viet languages within the Kon-Khmer group).”).

359. T. BURROW, *Sanskrit and the Pre-Aryan Tribes and Languages*, in *COLLECTED PAPERS ON DRAVIDIAN LINGUISTICS* 319, 328 (1968); see also BRYANT, *supra* note 35, at 83.

nations. Before we can draw any affirmative conclusions from an argument of this form, we must, however, consider whether the claim that the Indus Valley Civilization spoke dialects of Proto-Indo-European suffers from any of the defects identified with the alternatives. As it turns out, it suffers from none of them.

For example, not only are there significant pockets of Indo-European languages in the northwestern region of the Indian subcontinent, but—as Figure 20 clearly shows—Indo-European languages currently dominate in this region,³⁶⁰ as they have for all of known history.³⁶¹ Indeed, this language family is distributed in a band that precisely follows the Indus-Sarasvati-Ganges riverbeds—just as the riverine-agricultural model would have predicted for the first major language family to emerge from the early agricultural groups in this region. Hence, the Indo-European language family not only meets the significant pocket criterion but also meets it in spades. This language family is also—and significantly—*the only language family that meets the significant pocket criterion*. These facts provide a new set of grounds to favor the Eastern Proto-Indo-European Expansion Thesis over all of the other possible alternatives.

If we limit our attention to the Indian subcontinent during the Harappan period, the riverine-agricultural model of linguistic expansion also suggests that Proto-Indo-European dialects would have been expanding primarily from the Indus and Sarasvati rivers.³⁶² Proto-Munda languages would have been spoken primarily along the eastern parts of the Ganges—but it is important to note that the Ganges was still heavily forested at this time, and had not yet transformed into a robust center for agricultural production.³⁶³ There is some controversy over when to date the first Proto-Dravidian speakers in southern India, but—once they arrived—these groups clearly began to expand around the Godavari, the Krishna, and the Kaveri Rivers.³⁶⁴ These three regions would have therefore been geographically separated from one another, and, hence, prior to 1500 BC, it is highly plausible that these three linguistic groups would have had relatively few early contacts. It follows that the present proposal is not only consistent with, but could also be used to explain, Witzel's findings that neither Dravidian nor Munda had any really significant effects on the earliest recorded forms of Sanskrit.

360. See THE ATLAS OF LANGUAGES, *supra* note 136, at 59 (“The Indo-Iranian branch of Indo-European is the dominant language family of South Asia.”); see also *id.* (showing a map demonstrating Indo-Iranian branch of Indo-European as the dominant language family in much of India, including the northwest region).

361. See, e.g., AVARI, *supra* note 80, at 61–63.

362. See *supra* notes 290–94, 321–26 and accompanying text.

363. See *supra* notes 301–03, 358–59 and accompanying text; see also Renfrew, *supra* note 355, at 78.

364. See *supra* notes 293–94 and accompanying text.

As noted above, the archaeological record nevertheless suggests that, beginning in around 1500 BC, the center of northern Indian civilization began to move slowly to the east along the Gangetic Plain³⁶⁵—where, on the present view, the Indo-European speaking groups would have first begun to come into significant contact with Munda-speaking groups. The present proposal would thus explain Witzel's otherwise puzzling findings that a language resembling Munda—rather than Dravidian—exerted the earliest influences on Sanskrit over time.³⁶⁶ The present proposal would also predict an eastward spread of Indo-European languages along the Gangetic Plain, with some significant remaining pockets of Munda speakers in the northeastern regions of the Indian subcontinent. This is precisely what we see in Figure 20, where various existing pockets of Munda speakers are represented in white near the eastern portions of the Ganges. Northern Indian civilization subsequently began to expand toward the south, and we know that these events resulted in a number of increased patterns of reciprocal influence between the north and the south.³⁶⁷ Hence, the current proposal would also explain why the early Sanskrit texts exhibit a subsequent set of influences from the Dravidian language family—but only after these early effects from Munda.

Finally, the evidence from major river names—which was discussed above—strongly supports the Eastern Proto-Indo-European Expansion Thesis, because nearly all of the names of major rivers in the northwest regions of India are Indo-European. These facts provide the Eastern Proto-Indo-European Expansion Thesis with yet another layer of justification. When viewed as a whole, this first argument from elimination thus encapsulates a highly interconnected set of reasons that strongly favor the Eastern Proto-Indo-European Expansion Thesis over all of the relevant alternatives.³⁶⁸

365. See generally ALLCHIN & ALLCHIN, *supra* note 5, at 206–22 (“Changing Scenes: Indus to Ganges”); *id.* at 223–61 (“The Second Urbanization”); *id.* at 215 (“The major change [in the post-urban period in the Sarasvati valley] is the great increase in the number of settlements spreading out across the plains in the eastern part of the area, in a belt between 100–200 km in width, running from north-west to south-east, following the edge of the Himalayan foothills.”).

366. See *supra* notes 346–51 and accompanying text.

367. Thapar, *supra* note 117; see also ALLCHIN & ALLCHIN, *supra* note 5, at 245 (“[W]e believe that, in terms of the rise of Indian civilization, the Ganges valley played a distinct and special role. By this we mean that the Ganges valley appears to have been the seat of the composition of a large part of the voluminous literature of the Late Vedic period, and of the subsequent period of the *Brahmanas* and *Upanishads*, not to mention its having been the homeland of Buddhism and Jainism; and the region which produced the two great epics, the Mahabharata and the Ramayana. Each one of these elements later became disseminated throughout South Asia, and it could be argued that each was a facet of the spread of Indian civilization as a whole. We do not, however, mean that the process of urbanization was confined to the Ganges plains. The newly emerging urban societies were in themselves responsible for the creation of all sorts of outward thrusts and stimulations which led to the spread of cities in all directions, and eventually to almost every part of South Asia.”).

368. It should also be noted that the language of the Harappan seals lends *some* weight to the present analysis. Although these seals have not yet been translated, we do know that they use a base-ten numbering system, whereas Dravidian uses a base-eight numbering system. See BRYANT, *supra* note

B. Second Novel Argument: From Burden-Shifting Considerations

My second novel argument for the Eastern Proto-Indo-European Expansion Thesis is essentially a burden-shifting argument, which can be stated more briefly. If we bracket Indo-European for a moment, earlier Sections have traced every major language family in existence to some major river system from our initial list.³⁶⁹ Given well-known facts about the destruction of Old Europe, there is, moreover, no major river system from our list other than the Indus Valley river system that could have plausibly played an analogous role for Proto-Indo-European prior to about 3300 BC.³⁷⁰ Hence, anyone who claims that the early inhabitants of the Indus Valley spoke non-Proto-Indo-European languages bears the burden of providing an alternative (i.e., non-riverine-agricultural) account of how the Proto-Indo-European family could have begun to expand into a phenomenon with world-historical significance during the earliest periods of our human prehistory.

This burden carries with it a number of further explanatory responsibilities. For example, proponents of these alternative views owe an account of why this single language family would have expanded in a manner that deviated from the otherwise universal pattern of this early period, as predicted by the riverine-agricultural model of linguistic expansion. In addition, they must explain why the Indus Valley river system was nearly unique, from among our list of major river systems, in producing no early and major linguistic phenomena with lasting regional effects. Finally, they must explain why the Indus Valley Civilization was the only ancient major river civilization (as depicted in Figure 5.3 on page 1560) to leave no linguistic trace at all in its original region. These collective burdens will—in my view—be very difficult to meet.

The secondary literature does contain one commonly cited special mechanism for the spread of the Indo-European languages, which depends on the domestication of the horse—circa 4000 BC—and the inven-

35, at 177–84. The seals themselves underdetermine the correct translation, but it is also noteworthy that theorists have offered several internally consistent Indo-European translations of them, whereas it has proven difficult to construct Dravidian translations. See BRYANT, *supra* note 35, at 177–84. There is also some statistical evidence based in computer modeling to suggest that the seals repeat symbols in ways that are suggestive of an Indo-European language. *Id.*

369. See *infra* Figure 18 (depicting Final Correlations of Languages and Major River Families); *supra* Part IV.D; see also *supra* notes 283–305 and accompanying text.

370. See *infra* Figure 18 (showing only two major river systems from which Proto-Indo-European might have emerged: the Indus-Sarasvati-Ganges complex and the Danube-Dniester complex); *supra* notes 305–20 (contrasting lasting destruction of Old European societies around the Danube and Dniester with continuous social developments and increasing complexity around the Indus and Sarasvati Rivers, from 4500 BC to at least 1900 BC). It should be noted that the existing Indo-European languages from this region also display some of the most archaic features, when compared to other existing branches of this language family, and many linguists consider such facts to be indicative of geographic time depth. See BRYANT, *supra* note 35, at 143–45 (discussing evidence that Sanskrit, which was developed in northwest India, has a number of archaisms not found in any other languages).

tion of the wheeled wagon—circa 3300 BC.³⁷¹ These inventions plausibly allowed Indo-European groups to begin spreading through the Eurasian steppes beginning in around 3300 BC. One should nevertheless remember that the Indo-European language family is now the largest language family in the world by far.³⁷² Given the path-dependent nature of linguistic expansions, it is thus most plausible that this language family began to expand much earlier, and at least roughly on a par with two of the other largest language families that we know of today: Afro-Asiatic and Sino-Tibetan. These other major language families began to expand around major riverine topographies several millennia prior to the domestication of the horse and the invention of the wheeled wagon³⁷³—i.e., from the Fertile Crescent (around the Nile, the Tigris and the Euphrates) and the Yellow and Yangtze river basins in China, respectively. These other major language families also arose from processes that led to the development of some of the very first ancient river civilizations in the world. Hence, whatever role the domestication of the horse and the invention of the wheeled wagon may have begun to play in around 3300 BC, we should expect that certain major riverine topographies would have played a prior role in some of the earliest expansions of the Indo-European language family. There is, however, only one ancient riverine civilization that is at all comparable to those that first arose in the Fertile Crescent and ancient China, and this is the Indus Valley Civilization.

In my view, the burden that opponents of the Eastern Proto-Indo-European Expansion Thesis bear should therefore be understood in a particular way. Even if domesticated horses and wheeled wagons began to play an important role in the expansion of the Indo-European language family at or around 3300 BC, these opposing theorists owe an ex-

371. See ANTHONY, *supra* note 64, at 74–75 (“Regardless of where the wheel-and-axle principle was invented, the technology spread rapidly over much of Europe and the Near East between 3400 and 3000 BCE. Proto-Indo-European speakers talked about wagons and wheels using their own words, created from Indo-European roots.”); ANDREW DALBY, *DICTIONARY OF LANGUAGES* 274 (2004) (“The theory accepted by many linguists, though not by all, is that around 4000 BC an early group of Indo-European dialects was spoken across a wide swathe of central and eastern Europe, perhaps extending into southern Siberia and central Asia. The theory is often linked to the domestication of the horse—and certainly horsemanship has helped the spread of languages and empires, in this same steppe region, ever since.”)

372. See ETHNOLOGUE, *supra* note 135, at 27 tbl.4 (showing the world’s languages by number of speakers, which illustrates that speakers of Indo-European languages constitute the largest group in any single language family); THE ATLAS OF LANGUAGES, *supra* note 136, at 18–19 (“The Indo-European languages, now spoken by half the world’s population, dominate both Western countries and their views of language. . . . In terms of the number of native speakers, 12 of the top 20 languages . . . belong to the Indo-European family . . .”).

373. See BRYANT, *supra* note 35, at 240 (placing domestication of the horse around 4000 BC and wheeled technology around 3300 BC); Peter Bellwood, *The Time Depth of Major Language Families: An Archaeologist’s Perspective*, in 1 TIME DEPTH IN HISTORICAL LINGUISTICS 109, 127 tbl.6.1 (Colin Renfrew et al. eds., 2000) (displaying a timeline of agricultural expansions and the corresponding language families which shows that expansion occurred at approximately 8000 BC for Afro-Asiatic, 6500 BC for Indo-European, and 4500 BC for Sino-Tibetan—all well before the domestication of the horse and the invention of wheeled technology).

planation of why the Proto-Indo-Europeans were already in a special position by that time to take advantage of these new technologies in such a robust manner and with such lasting and expansive effects. These new technologies were easily enough exportable to other groups that this question raises a genuine puzzle. Hence, it is most plausible that certain Proto-Indo-European speaking groups had already developed into a relatively significant social and linguistic phenomenon by this time. But this means that these opposing theorists must still explain why these *earlier* expansions of Proto-Indo-European would have occurred in a manner that deviated from the robust predictions of the riverine-agricultural model of linguistic expansion, and—for reasons that should be clear—they cannot meet this remaining burden by citing the special mechanism of the wheeled wagon.

The other burdens mentioned above similarly remain. For example, even if the horse and wheeled wagon began to play an important role in the expansion of Indo-European languages in about 3300 BC, these theorists must still explain why this single language family would have deviated from the predictions of the riverine-agricultural model of linguistic expansion by expanding in accordance with a distinct model prior to 3300 BC. They must still explain why the Indus Valley river system would have been nearly unique from among the major river systems on our list in producing no early linguistic phenomena with lasting regional effects. And they must still explain why the Indus Valley Civilization would have been the only one of the ancient major river civilizations (as depicted in Figure 5.3 on page 1560) to disappear without leaving any linguistic trace in its original region.

C. Third Novel Argument: From Patterns of Emergent Social Complexity and Patterns of Megaempires Around the World

My third novel argument for the Eastern Proto-Indo-European Expansion Thesis begins by observing the extreme difficulties that many social groups have faced when first transitioning into large-scale civilizations with the rule of law. These difficulties are highly relevant to the present inquiry because the standard view assumes that the Proto-Indo-Europeans were relatively primitive nomadic tribesmen, who lacked any direct cultural inheritances from prior large-scale civilizations,³⁷⁴ but who were nevertheless capable of undergoing numerous independent transformations into large-scale civilizations in many different parts of the world. I want to inquire into whether this assumption is plausible.

Throughout this Article, I have been suggesting—to the contrary—that our first transitions from hunter-gatherer modes of subsistence into

374. See, e.g., STEFAN ARVIDSSON, *ARYAN IDOLS: INDO-EUROPEAN MYTHOLOGY AS IDEOLOGY AND SCIENCE* 255–57 (Sonia Wichmann trans., 2006).

more complex forms of social structure have been extraordinarily rare (at least when viewed within the context of our larger natural history as a species) and have often taken many millennia of cultural trial and error and evolution to achieve in sustainable form.³⁷⁵ I have also suggested that one of our chief evolutionary advantages, which first allowed our ancestors to expand out of their more native tropical habitats into almost every corner of the world, is our peculiarly human ability to absorb the cultures we are born into and thereby internalize forms of life that our cultural ancestors have been adapting for many generations, and over great expanses of time, to their particular circumstances.³⁷⁶ This peculiarly human capacity to learn, shape, and transmit evolving cultural traditions has played a critical role in allowing modern humans to display a much broader range of forms of life than any other species in the world.³⁷⁷ Modern humans have therefore proven especially capable of adapting to a broader range of habitats, which often deviate quite radically from those most common to our earliest human ancestors. Some of the most important of these novel habitats now include *complex social structures with the rule of law*. Hence, where we see special developments of this kind, we should expect that both these complex social structures and the special cultural traditions and psychological attitudes that tend to support them have been coevolving in response to one another for many generations.

Having been born into large-scale civilizations with the rule of law, it is nevertheless easy enough for us to forget just how fundamentally different our modern forms of life are from those that characterized the greater part of our natural history as a species. An honest assessment of the situation suggests that we simply do not know which features of our current forms of social life and psychological makeup may have been internalized during our childhood development (where every human spends his or her formative years) and may therefore appear quite natural to us, but are actually both culturally contingent and vital to sustaining our Western forms of large-scale political society with the rule of law. Because the cultural traditions and psychological attitudes in question would have been handed down from generation to generation, there should also be a path-dependent quality to them: they should tend to produce a constellation of social psychologies within modern populations that work together in equilibrium to respond to the distinctive types of social problems that our cultural ancestors faced.

So let us consider these suggestions in more detail. If they are valid, then we should expect to find very few independent socio-cultural traditions that have been able to make the (quite remarkable) transition from

375. See *supra* note 189 and accompanying text.

376. See *supra* notes 172–81 and accompanying text.

377. *Id.*

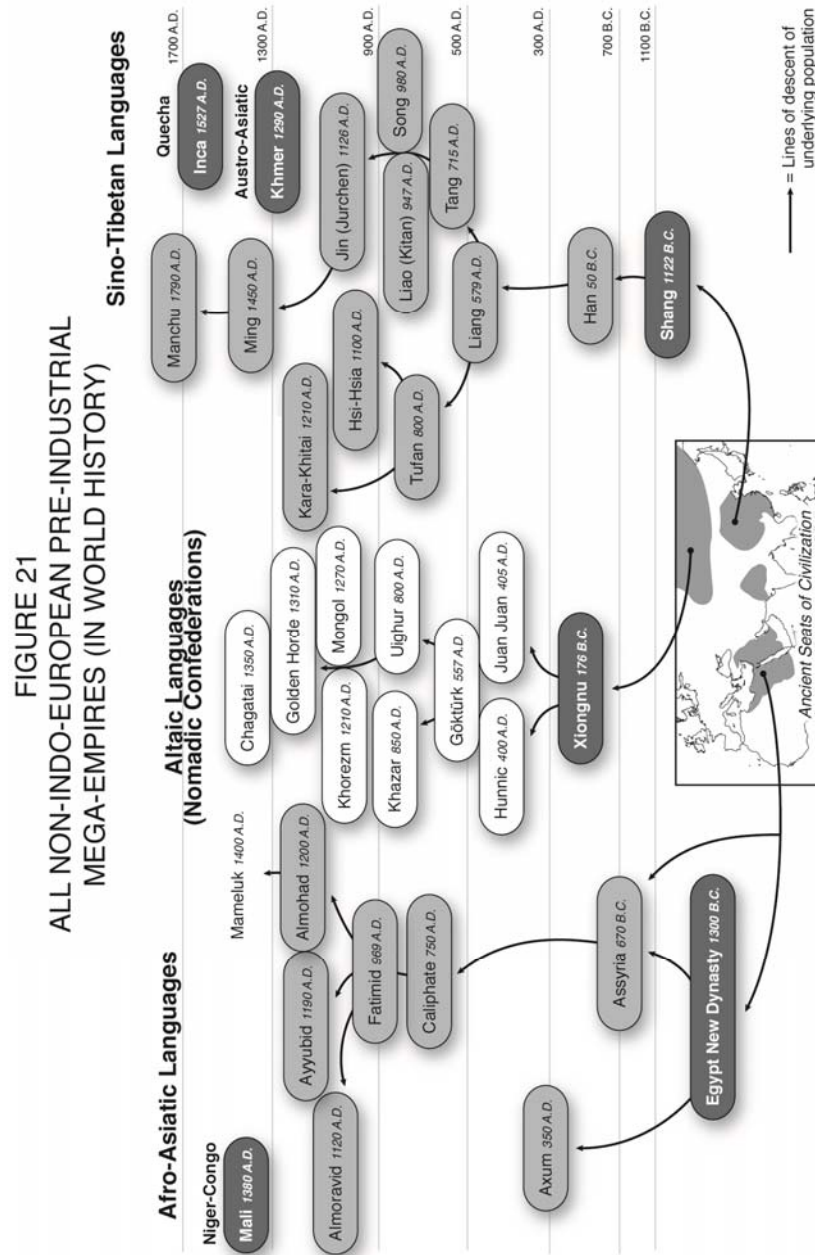
hunter-gatherer forms of life into large-scale civilizations with the rule of law. We should nevertheless expect that the cultural descendants of this handful of transitional groups will find it much easier and much more natural to make subsequent transitions in the future. They should also tend to be better at sustaining the resulting forms of social complexity. In what follows, I will call the combination of these claims the “bottleneck thesis,” because it suggests that a group must go through a very narrow and extraordinary type of cultural transition before its descendants can begin to spread various forms of more complex social structure over larger expanses of the world. Is the bottleneck thesis true?

In order to test the bottleneck thesis, I turn to the work of Peter Turchin, who is a leading expert on the dynamics of state formation and who has collected data on all of the preindustrial megaempires in world history.³⁷⁸ Turchin defines the term “megaempire” to include any empire that covers a million or more square kilometers,³⁷⁹ and—although there is obviously some arbitrariness in using this particular definition and this particular cutoff point—this definition correlates strongly with large-scale civilizations with either legal or incipient legal traditions. I have therefore taken Turchin’s data and divided it up by time, by geographical region, and by language family, so that the relevant lines of linguistic and cultural inheritance can be easily discerned.³⁸⁰ If we exclude all Indo-European megaempires for the time being—by which I mean all megaempires that are populated primarily by people who have inherited native Indo-European languages and native Indo-European cultural traditions—and if we include all other megaempires in world history, Figure 21 depicts the relevant facts.

378. See Turchin, *supra* note 15.

379. See *id.* at 202–03 tbl.2.

380. Here I am assuming that there is some correlation between the learning of a native language and the learning of a native culture, such that facts about linguistic genealogy can often be used to discern facts about cultural genealogy. There is strong support for these assumptions: When a child learns its native language, during ordinary circumstances of language acquisition, we can also infer that there has been an unbroken chain of social contact (of dimensions that have yet to be fully explored) between some speakers of all of this language’s parent languages and the child. The ordinary circumstances of native language acquisition, during childhood, also correlate strongly with the ordinary circumstances of cultural acquisition—though some significant portions of this typically occur later, during adolescence. Except in those cases where an alien language has been imposed on a distinct linguistic and cultural community, without the accompanying continuity of child rearing, facts about linguistic genealogy should therefore serve as a good proxy for the type of cultural genealogies that interest us here.



The facts depicted in Figure 21 provide striking confirmation of the bottleneck thesis. As an initial matter, they show that there have only been thirty-four non-Indo-European preindustrial megaempires anywhere in the world and at any time in world history. Remarkably, all but

three have, moreover, arisen in groups that speak native languages that fall into one of only three major families: Afro-Asiatic, Altaic, or Sino-Tibetan. If we define an “originating” megaempire as one that has no preceding linguistic-cultural ancestor that was itself a megaempire, then the facts are even more striking. They suggest that, prior to the second millennium AD, and despite the incredible number of language families that likely existed at the eve of the Holocene,³⁸¹ only three non-Indo-European speaking groups had ever produced originating megaempires. (Figure 21 depicts originating megaempires with black ovals.)

Perhaps unsurprisingly, the first two non-Indo-European originating megaempires arose from two of the first known seats of ancient civilization. These are, first, the Afro-Asiatic tradition, which originated in the Nile-Tigris-Euphrates river complex and gave rise to the ancient Egyptian, Babylonian, and Assyrian civilizations, among others;³⁸² and, second, the Sino-Tibetan tradition, which originated in the Yellow-Yangtze river complex and gave rise to a series of Chinese and Tibetan civilizations.³⁸³ The only comparable major seat of ancient civilization—the Indus Valley Civilization—will be discussed below.³⁸⁴

As Figure 21 shows, it then took approximately a millennium for the third non-Indo-European megaempire (the “Xiongnu”) to arise, and this megaempire arose among Altaic-speaking groups who were originally from the regions around Siberia and Mongolia.³⁸⁵ This megaempire was also something of an outlier, when compared to others discussed thus far, because it exhibited a very different (and nonsedentary) form of social and political structure, which is best described as a loose confederation of nomadic tribes rather than a settled nation state.³⁸⁶ Notably, all

381. *Ethnologue* lists 111 language families and 45 additional isolates, which amounts to a total of 156 relevant linguistic traditions. *ETHNOLOGUE*, *supra* note 135, at 26–32, tbls.4–5. This number does not include 1 constructed language, 77 creoles, 126 deaf sign languages, 19 mixed languages, and 38 unclassified languages. *Id.*

382. See WILLIAM J. DUIKER & JACKSON J. SPIELVOGEL, *THE ESSENTIAL WORLD HISTORY* 4 (3d ed. 2008).

383. See *id.*

384. See *id.*; see also ALLCHIN & ALLCHIN, *supra* note 5, at 153–54; MCINTOSH, *supra* note 323, at 4 (“In the third millennium [the Harappan] civilization flourished over an area far larger than those of its contemporaries in Mesopotamia and Egypt.”). Although a small number of other originating megaempires arose in other areas of the world, none arose during these same early periods. See Turchin, *supra* note 15, at 202–03 tbl.2.

385. Turchin, *supra* note 15, at 198–99.

386. See GROUSSET, *supra* note 255, at 21 (“This nation of nomads, a people on the march, was organized like an army. The general orientation was southward, as was customary among Turko-Mongol peoples”); 6 *THE NEW ENCYCLOPEDIA BRITANNICA* 102 (15th ed. 1989) (describing the Xiongnu as a “nomadic pastoral people who at the end of the 3rd century BC formed a great tribal league that was able to dominate much of Central Asia for more than 500 years” and noting that “[t]he [Xiongnu] became a real threat to China after the 3rd century BC, when they formed a far-flung tribal confederation under a ruler known as the *Shan-yü*, the rough equivalent of the Chinese emperor’s designation as the *t’ien-tzu* (‘son of heaven’).”); Turchin, *supra* note 15, at 194 (noting differences between political structures of settled nation states and nomadic tribes, and referring to the Xiongnu as one of the “greatest imperial confederations of nomads in world history”).

of the subsequent Altaic megaempires that were direct cultural descendants of this tradition fall into that same basic political model, and none can be rightly characterized as a settled nation state.³⁸⁷ (To the extent that Altaic groups were eventually able to conquer and rule over more settled regions during historical periods, these groups typically inserted themselves into the preexisting social and linguistic structures, rather than imposing their nomadic forms of political organization on them.)³⁸⁸ Hence, if we limit our attention to the time period preceding the second millennium AD, only two linguistic-cultural traditions gave rise to all of the non-Indo-European settled megaempires in world history. The first three megaempires in world history also generated linguistic-cultural traditions that produced all twenty-eight of the subsequent non-Indo-European megaempires prior to the second millennium AD. These are truly extraordinary facts, especially when one remembers the extreme levels of linguistic diversity that likely existed at the eve of the Holocene. These facts show just how extremely rare it is for a megaempire to arise without being linguistically and culturally descended from some prior group to have made this same transition. These facts thus provide strong confirmation of the bottleneck thesis.

As Figure 21 shows, the story changes very little if we expand our focus to include the second millennium AD. During this more recent time period, when much more advanced social and technological resources were available, the world produced only three additional non-Indo-European preindustrial originating megaempires. The first is the Khmer Empire, which developed around the lower Mekong and Salween Rivers and peaked around 1290 AD among people who spoke Austro-Asiatic languages.³⁸⁹ (These groups are famous for their construction of certain well-known monuments like the temple of Angkor Wat.) The second is the Mali Empire, which first developed around the Niger River and peaked around 1380 AD among people who spoke Niger-Congo

387. See, e.g., GROUSSET, *supra* note 255, at 21 (noting that the same basic political structure common among the Xiongnu “is to be seen among the descendants of the Hsiung-nu, the Turks of the sixth century A.D., as well as in the case of the Mongols of Jenghiz Khan”); Turchin, *supra* note 15, at 194 (describing great Turkish and Mongol megaempires as confederations of nomads). When—by contrast—these nomadic groups were able to conquer their more settled neighbors, they tended instead to rule by adopting the preexisting languages and political traditions. See GROUSSET, *supra* note 255, at xxviii (“[T]he process of Islamization and Iranization among the Turkish conquerors of Iran and Anatolia forms an exact counterpart to the Sinicizing noted among the Turkic, Mongol, or Tungus conquerors of the Celestial Empire.”).

388. GROUSSET, *supra* note 255, at xxviii (describing a general pattern of conquering nomads becoming citybound rulers); see also BRYANT, *supra* note 35, at 237 (describing nine separate invasions of India within a millennium, all failing to wipe out the languages already present).

389. See KENNETH KATZNER, *THE LANGUAGES OF THE WORLD* 23 (3d ed. 2002) (“The Khmer empire was dominant in Southeast Asia from the 10th through the 14th centuries. . . . The Mon-Khmer languages are sometimes combined with the Munda languages of India to form a broader family known as the Austro-Asiatic languages.”); Turchin, *supra* note 15, at 202–03 tbl.2.

languages.³⁹⁰ The third is the Inca Empire, which developed along the coastline of Peru and peaked around 1527 AD among people who spoke Quechua.³⁹¹ (Quechua—it should be noted—is the largest existing Native American language family in the world.³⁹²) Hence, even if we include this more recent time period, the great majority of non-Indo-European pre-industrial megaempires (i.e., twenty-eight out of thirty-four, or eighty-two percent) are linguistically and culturally descended from at least one prior megaempire. An even larger majority (i.e., thirty-one out of thirty-four, or ninety-one percent) are parts of just three distinct linguistic-cultural traditions, which can be traced to some of the very first ancient civilizations in the archaeological record. Once again, these facts provide strong confirmation of the bottleneck thesis.

We are now in a position to understand just how incredible it would be if—as the standard view assumes—the Proto-Indo-European ancestors of the ancient Greeks, Romans, and Germans (among others) were simply nomadic pastoralist tribal groups, who were not themselves linguistically and culturally descended from some prior originating megaempire. To see this, we need only graph all of the preindustrial Indo-European megaempires that have existed in world history. Figure 22 depicts how things would have to look on the traditional view.

As Figure 22 shows, the standard view implies—incredibly—that a single, linguistically related group of nomadic tribes, who lacked the types of cultural inheritances relevant to supporting large-scale civilizations with the rule of law, were nevertheless capable of splitting up and then making *six independent transformations into settled originating megaempires in six different locations around the world*—and all before the second millennium AD. (These purported originating megaempires are depicted in black ovals.) This is three times more than all of the other language families in the world were capable of producing during that same time period—even though there were likely thousands of such language families in existence. The standard view would also make the Indus Valley Civilization unique among the first seats of ancient civilization in not leaving any linguistic-cultural descendants that blossomed into subsequent megaempires in the region—even though it was the largest of the ancient river civilizations, and appears to have spanned over a million

390. See Friederike Lüpke & Philip J. Jagger, *North and West African Languages*, in *ONE THOUSAND LANGUAGES: LIVING, ENDANGERED, AND LOST* 60, 73 (Peter K. Austin ed., 2008) (“Manding belongs to the Mande branch of the Niger-Congo family Manding spread over West Africa in the wake of a number of empires, most prominently the Mali Empire led by its best known ruler Sundjata Keita (c. 1217–55).”); Turchin, *supra* note 15, at 202–03 tbl.2.

391. See GORDON F. MCEWAN, *THE INCAS: NEW PERSPECTIVES* 180 (2006) (“It is known . . . that Quechua, or *runasimi*, served as the lingua franca of the Inca Empire and was spread by the Incas into non-Quechua-speaking areas.”); Turchin, *supra* note 15, at 202–03 tbl.2.

392. See *ETHNOLOGUE*, *supra* note 135, at 24 tbl.3 (showing Quechua as the seventy-ninth most popular language in the world, with more speakers than any other Native American language).

The Eastern Proto-Indo-European Expansion Thesis would, by contrast, allow us to avoid all of these problems because it would trace these six Indo-European traditions back to a single (and much more ancient) originating megaempire, which was centered in the Indus Valley between about 4500 BC and 1900 BC. For reasons already discussed, this much more ancient civilization would have been serving to coordinate and expand a socio-linguistic phenomenon of remarkable and nearly unprecedented social complexity during this earlier period; and it would have been producing a distinctive set of cultural traditions needed to sustain large-scale social complexity, which would have been disseminated throughout the larger Eastern-Iran-Bactria-Indus-Valley region. If the six independent branches of the Indo-European family that are depicted in Figure 21 were somehow culturally descended from this much more ancient socio-cultural complex, then that fact would thus explain their peculiar capacity to blossom into six subsequent traditions of megaempires consistent with the bottleneck thesis. The Eastern Proto-Indo-European Expansion Thesis is thus uniquely consistent with the bottleneck thesis, and these facts provide a third set of novel reasons to favor the Eastern Proto-Indo-European Expansion Thesis.

D. Combining the Three Novel Arguments with Better-Known Facts About the Phylogenetic Structure of the Indo-European Language Family

Having argued for the Eastern Proto-Indo-European Expansion Thesis, I now want to combine it with a range of other known facts to decipher the most plausible early phylogenetic structure of our legal family tree and begin to tell a revised story of our origins. In this Section, I will begin with certain well-established facts about the phylogenetic structure of the Indo-European *language family*. This is a topic about which historical linguists have been able to make significant progress, and we now know quite a bit about the most probable shape of the earliest prehistoric developments of this language family.³⁹⁴ For reasons discussed, these linguistic facts will prove highly relevant to the current project because we tend to transmit native languages as part of a larger set of socio-cultural processes through which important aspects of native culture are simultaneously transmitted in both conscious and unconscious ways.³⁹⁵ Given the many things that we do with our words (such as promising, vowing, claiming, judging, excusing, adjudicating, legislating, and the like—all of which are highly relevant to the law), and given the fact that these so-

394. See *supra* notes 61–65 and accompanying text; see also *infra* notes 395–404 and accompanying text.

395. See, e.g., Luay Nakhleh et al., *Perfect Phylogenetic Networks: A New Methodology for Reconstructing the Evolutionary History of Natural Languages*, 81 LANGUAGE 382 (2005).

called “pragmatic” dimensions of language³⁹⁶ often constitute critical aspects of the meanings of our words, there is one important 20th century philosopher of language—Ludwig Wittgenstein—who was even willing to go so far as to say that “to imagine a language means to imagine a form of life.”³⁹⁷ We need not go as far as Wittgenstein, however, to recognize a more basic point: the phylogenetic structure of our linguistic family tree should tend to mirror the internal structure of a much broader set of socio-cultural transmissions that tend to pass with native language.

Let us therefore return to the Indo-European language family, and view it as a guide to these larger processes of socio-cultural inheritance. Linguists seeking to discern the early phylogenetic structure of the Indo-European language family have typically started with two sets of facts. First, they have collected a broad set of lexical, phonological, and morphological features of various Indo-European languages—which sometimes appear in the same and sometimes in different forms in these different languages, thereby providing a basis for comparison.³⁹⁸ Second, they have identified certain laws that tend to govern the processes of natural language change.³⁹⁹ The most sophisticated contemporary work on these topics then applies computational methods to this larger set of facts to reconstruct every logically possible train of linguistic shifts that could have produced the variation that we currently see among Indo-European languages from a common ancestral language, consistent with the above-mentioned laws of natural language change.⁴⁰⁰ As it turns out,

396. Pragmatics, STANFORD ENCYCLOPEDIA OF PHILOSOPHY, <http://plato.stanford.edu/entries/pragmatics/> (last updated Mar. 21, 2011) (describing John Langshaw Austin’s theories of “illocutionary acts” and John R. Searle’s theory of “speech acts,” both of which contemplate meaning that depends on the intent behind any given expression, and the “institutional and social setting in which the linguistic activity occurs”).

397. LUDWIG WITTGENSTEIN, PHILOSOPHICAL INVESTIGATIONS § 19 (G.E.M. Anscombe trans., Macmillan Co. 2d ed. 1958) (1953).

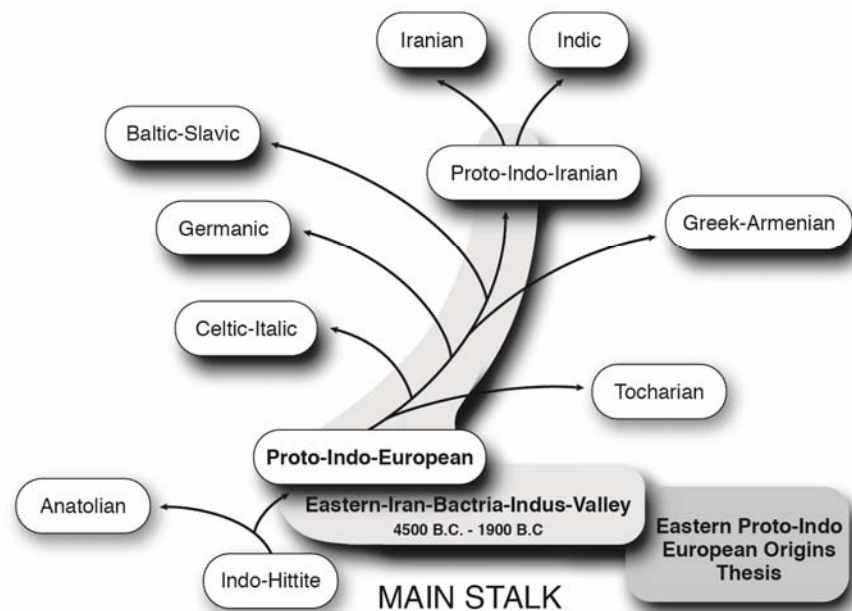
398. See, e.g., Nakhleh et al., *supra* note 395, at 384 (describing methodology for inferring evolutionary trees); see also Tandy Warnow et al., A Stochastic Model of Language Evolution that Incorporates Homoplasy and Borrowing 4–6 (2006) (unpublished manuscript), <http://www.cs.rice.edu/~nakhleh/Papers/WarnowRevComplete.pdf>.

399. See, e.g., Nakhleh et al., *supra* note 395, at 395 (noting that “cognition cannot be determined by inspection; a knowledge of the principles of language change and of the individual histories of all of the languages is needed to make such a determination.”); see also Warnow et al., *supra* note 398, at 4–5.

400. In a series of articles, Don Ringe, Tandy Warnow, Luay Nakhleh, and Steven N. Evans create, apply, extend, and revise a unique model of language evolution. E.g., Nakhleh et al., *supra* note 395, at 384 (“The study thus leads us to conjecture that the IE family, though it did not evolve by means of clean speciation, exhibits a pattern of initial diversification that is close to treelike: the vast majority of characters evolve down the ‘genetic’ tree, and the evolution of the rest can be accounted for by positing limited borrowing between languages.”); see also Luay Nakhleh et al., *A Comparison of Phylogenetic Reconstruction Methods on an Indo-European Dataset*, 103 TRANSACTIONS PHILOLOGICAL SOC’Y 171 (2005) (exploring the reconstructions of Indo-European phylogeny obtained by using the major phylogeny estimation procedures for twenty-four IE languages); Warnow et al., *supra* note 398, at 2–4 (proposing and discussing several alternative models for language evolution). I have used this work to construct the linguistic genealogical tree.

there are very few trees that meet these constraints with respect to the Indo-European language family, and all but one can be ruled out on archaeological or other linguistic grounds.⁴⁰¹

FIGURE 23
MOST PLAUSIBLE PHYLOGENETIC STRUCTURE
OF THE INDO-EUROPEAN LANGUAGE FAMILY
(AND ASSOCIATED LINES OF SOCIO-CULTURAL INHERITANCE)



If we combine this one remaining family tree with the Eastern Proto-Indo-European Expansion Thesis, then Figure 23 depicts the tree-like set of branchings that most plausibly represents the basic structure of *both* the Indo-European language family *and* its associated lines of socio-cultural inheritance. We can, moreover, now use this tree to place an important set of constraints on any plausible early origins story for Western law and civilization. Let me therefore make three basic observations about Figure 23, before continuing, and then indicate the constraints that follow from these observations.

401. Nakhleh et al., *supra* note 395, at 406–07 (“Because our best PPN is so clearly better than the other scenarios, a closer look at it is justified. Our proposed scenario for the historical diversification of the IE language family posits Tree A (the tree found in Ringe et al. 2002 by computational cladistic methods) as the underlying genetic tree and also posits three contact edges; it is the PPN of Fig. 12.”).

The first point I want to make is that the bulk of Figure 23 should be understood as depicting the most plausible *internal* phylogenetic structure of the various lines of cultural and linguistic inheritance that occurred among early Indo-European groups. It is thus a separate question how best to locate these various branching events in the archaeological record. Figure 23 makes some initial headway on this further question by indicating the central role that the Eastern-Iran-Bactria-Indus-Valley region would have had to play on the current proposal. Further specifications will, however, have to await the next Section. Hence, Figure 23 as a whole should be understood as locating the earliest expansions of Proto-Indo-European dialects within the Eastern-Iran-Bactria-Indus-Valley region, and then laying down a series of basic constraints on how the various branches of this language family most likely evolved in relationship to one another from there.

The second point I want to make is that, when trying to locate these further developments of the Indo-European language family within the archaeological record, it is highly significant that the Indo-European language family has a tree-like structure at all. This tree-like structure—which is clearly depicted in Figure 23—is extremely well-supported by the data,⁴⁰² but when related linguistic groups remain in geographic proximity with one another over the bulk of their evolution, computational analysis tends to reveal not a tree-like structure but rather robust signs of linguistic diffusion and mutual interpenetration.⁴⁰³ The tree-like structure of the Indo-European language family therefore suggests that the different branches of Indo-European that are depicted in Figure 23 must have exhibited some early and significant geographic separations from the main stalk at or around the time of their initial branchings. These facts can thus be used to place a further set of constraints on any plausible origins story.

Of course, we also know that many of the branches of the Indo-European family have come into subsequent contact with one another, and have exerted various forms of reciprocal (but non-genetic) influence. Linguists can differentiate these more external forms of linguistic influence (which often arise in phenomena like loanwords) from the internal processes of natural language change discussed above.⁴⁰⁴ Evidence of ex-

402. *Id.* at 391 (“Our analysis shows dramatic support for the claim that the diversification of IE was largely treelike: almost all (95%) of the characters evolve down our proposed genetic tree, and we need only three additional contact edges to explain all the data; thus all three criteria yield satisfyingly low scores. Finally, our proposed network is also largely consistent with known geographical and chronological constraints on IE linguistic prehistory.”).

403. *See id.* at 390–91 (describing ways that data can favor either a wave model of dispersion or a tree-like branching structure).

404. *See id.* at 387–91; *see also* BRYANT, *supra* note 35, at 147–51 (discussing how evidence of isoglosses can be used to indicate that different languages were spoken in proximity and discussing implications for developments of various branches of the Indo-European languages in relation to one another).

ternal linguistic influence of this kind suggests that two or more branches must have come into renewed contact with one another sometime after their initial separation, and thus likely ended up in closer geographic proximity after these separations. Evidence of this kind can therefore be used to place further constraints on any plausible origins story, and it will be introduced as it becomes relevant in the next Section.

The third point I want to make is that the tree-like structure of the Indo-European language family suggests not only that there have been a number of important branching phenomena that need to be identified in the archaeological record but also that there was something that I will call a “main stalk” from which these branches must have separated. Figure 23 depicts this fact by using light grey to represent the main stalk. When trying to identify a socio-cultural phenomenon that might correspond to this main stalk in the archaeological record, we should also remember that the branches depicted in Figure 23 did not all separate at once. Rather, they appear to have separated over several millennia, and in a very particular order.⁴⁰⁵ Presumably, any socio-cultural phenomenon capable of spinning off numerous, powerful branches of Indo-European speaking groups, over such a wide expanse of time, must have also been a truly extraordinary socio-cultural phenomenon. We should therefore expect that it would have left an equally extraordinary archaeological trace, over a wide expanse of time. In order to account for the larger tree-like structure of the Indo-European language family, this main stalk must also be identified with a socio-cultural phenomenon that was geographically separated from the early branches depicted in Figure 23. These facts can thus be used to place a third set of constraints on the shape that any plausible origins story must take.

Before continuing, let me pause for a moment to point out some of the problems that this third set of constraints can create for certain standard views of the origins of the Proto-Indo-European languages. To do this, let us briefly consider David Anthony’s influential work in *The Horse, The Wheel, and Language*.⁴⁰⁶ This work—which will be discussed in much more detail below—is extraordinarily detailed in its proposals concerning the locations of many of the discrete branches of the Indo-European language family that are depicted in Figure 23.⁴⁰⁷ Anthony nevertheless effectively locates what I have been calling the “main stalk” of this language family in the Ukraine, and in a region that he suggests gave birth to the so-called “Yamnaya cultures.” The Yamnaya were groups of predominantly nomadic societies that inhabited the Eurasian Steppes from about 3300 BC to 2500 BC and that—on Anthony’s ac-

405. See, e.g., Nakhleh et al., *supra* note 395, at 397 fig.5; see also ANTHONY, *supra* note 64, at 57; BRYANT, *supra* note 35, at 145–56.

406. See generally ANTHONY, *supra* note 64.

407. *Id.* at 225–458.

count—spoke Proto-Celtic-Italic languages.⁴⁰⁸ Unfortunately, this is also a region that would have left these Yamnaya groups in continued contact with both his assumed main stalk and many of the subsequent branches that Anthony proposes—thus rendering it implausible that the main stalk could have remained in the Eurasian Steppes for this entire period.⁴⁰⁹ Anthony's main evidence for the importance of the Yamnaya cultures is also "negative" evidence: he points to the "archaeological disappearance of long-term settlements east of the Don River" after about 3300 BC⁴¹⁰ to support the claim that a new pastoralist economy, which tended to leave a more sparse archaeological record, began to grow in importance around 3300 BC. In fact, Anthony never identifies *any* continuous socio-cultural phenomenon in the archaeological record that both subsisted through all of the branching events that he describes and might be plausibly identified as the main stalk. Negative evidence like this is not, however, the kind of robust evidence that we should expect to find when trying to locate a plausible main stalk in the archaeological record.

By contrast, and for reasons already discussed, the Eastern-Iran-Bactria-Indus-Valley region from the period beginning in about 4500 BC and lasting until about 1900 BC displays a truly extraordinary archaeological record, with massive evidence of large-scale population growth and striking developments toward social complexity—all without any demographic break.⁴¹¹ With the exception of the three other first seats of ancient human civilization (*viz.*, ancient Egypt, Mesopotamia, and China), there are no other comparable socio-cultural phenomena in the archaeological record that were, in my view, sufficiently important and extended in time to have plausibly played the role of the main stalk during the relevant periods of our prehistory. Nor do I see any that were sufficiently separate from many of the branching phenomena if we assume, with Anthony, that many of those branches moved through the Eurasian Steppes.

In what follows, I will use the full set of constraints discussed thus far to help pin down our more complete origins story.

408. *Id.* at 299 ("The Yamnaya horizon [is] the material expression of the late Proto-Indo European community. . . ."); *id.* at 300 (dating archaeological expressions of Yamnaya horizon from 3300 to 2500 BC).

409. *Id.* at 367–68 (noting that the Yamnaya horizon bordered the Corded Ware Horizon, which he cites as the "archaeological manifestation of the cultures that introduced the northern Indo-European languages to Europe: Germanic, Baltic, and Slavic"); *id.* at 379 fig.15.5 (placing the late Yamnaya horizon in the lower steppe region in same period as groups that he proposes as the precursors of the Germanic, Slavic, and Indo-Iranian speaking groups).

410. *Id.* at 304.

411. *See supra* Part V.A.

E. Telling the True Story of the Origins of Western Law and Western Civilization

We are now in a position to tell a revised, and much more detailed, origins story that aims to explain, or at least render coherent, the following two bodies of evidence: first, all of the novel claims defended thus far in this Article, and, second, a much broader set of facts, drawn from a much wider set of cognate fields, that bear on the early migrations of the Indo-European peoples. As mentioned earlier, the set of facts that arguably bear on this latter issue can be dizzying at first, and I have therefore decided to develop this revised origins story in two basic stages.

During the first stage, which is set forth in Subsection 1 below, I will simply present a revised origins story that is consistent with all of the claims defended thus far in this Article—including, most prominently, the Eastern Proto-Indo-European Expansion Thesis, the riverine-agricultural model of linguistic expansion, and the tree-like branching structure of the Indo-European language family. Along the way, I will make a number of additional observations about how this revised story would explain an even broader range of linguistic and archaeological facts. Some of the finer details of this story may seem undermotivated at this first stage of the argument. I will nevertheless ask the reader's patience before drawing any such conclusion. A better time to ask that question will be *after* I have presented all of the subsequent arguments in this Subsection—at which point I will hope to have established ample motivation for all of these finer details.

At the second stage of the argument, which begins in Subsection 2, I will then begin to test the consistency and explanatory power of this new origins story against a much broader range of linguistic and archaeological evidence. I will do this by considering as possible objections two of the most highly developed and well evidenced Proto-Indo-European “homeland” theories in the literature. The first is from the linguist Johanna Nichols, who draws on extensive linguistic evidence to propose a Bactrian homeland for the Indo-European language family.⁴¹² The second is from the archaeologist David W. Anthony, who draws upon extensive archaeological evidence to propose a Ukrainian homeland.⁴¹³ I will argue that the current proposal not only is consistent with the very extensive linguistic and archaeological evidence upon which these theo-

412. See, e.g., Nichols, *The Epicentre of the Indo-European Linguistic Spread*, in *ARCHAEOLOGY AND LANGUAGE I*, *supra* note 124, at 122, 122–48 (arguing from loanwords and patterns of linguistic accretion for Bactria as the epicenter of Indo-European linguistic spread, but without mentioning any particular importance for the Indus Valley region) [hereinafter Nichols, *Epicentre*]; see also Johanna Nichols, *The Eurasian Spread Zone and the Indo-European Dispersal*, in *ARCHAEOLOGY AND LANGUAGE II: ARCHAEOLOGICAL DATA AND LINGUISTIC HYPOTHESES* 220, 220–266 (Roger Blench & Matthew Spriggs eds., 1998) [hereinafter Nichols, *Eurasian Spread Zone*].

413. See generally ANTHONY, *supra* note 64, at 5 (proposing a Ukrainian homeland).

rists rely, but can also absorb and better explain this larger body of evidence, while avoiding certain problems with their views. The current proposal will also harmonize the two bodies of evidence upon which these theorists rely, and reveal them to support a common conclusion (as opposed to two inconsistent homeland theories). Rather than creating genuine challenges to the current proposal, this much larger body of evidence should therefore be understood as providing it with an additional and highly extensive form of evidentiary support. The discussions in Subsection 2 will also allow me to present much clearer motivations for some of the finer details of the new story that might have otherwise appeared undermotivated.

Next, I will briefly discuss certain so-called “Out-of-India” theories, which propose that the entire Indo-European family literally originated in India and then migrated out to form the rest of the known branches.⁴¹⁴ These theories face a series of well-known objections, which render them highly implausible, but I also believe that these theories reflect several important insights. In Subsection 3, I will identify some of these insights. I will then argue that the current proposal can absorb them, while avoiding the challenges that Out-of-India theories typically face. Subsection 4 will conclude, finally, by describing and pointing the reader’s attention to a final table, which compiles all of the relevant evidence and argumentation discussed in this Article in one place.

1. The New Story Itself—In Much Greater Detail

Let me begin by telling the revised story of our origins that is—in my view—most capable of explaining the broadest range of evidence relevant to the underlying issues. This story can be broken down into four major periods, which I will call the “Primal Age,” the “Age of Expansion,” the “Age of Dissolution,” and the “Historical Age,” respectively.

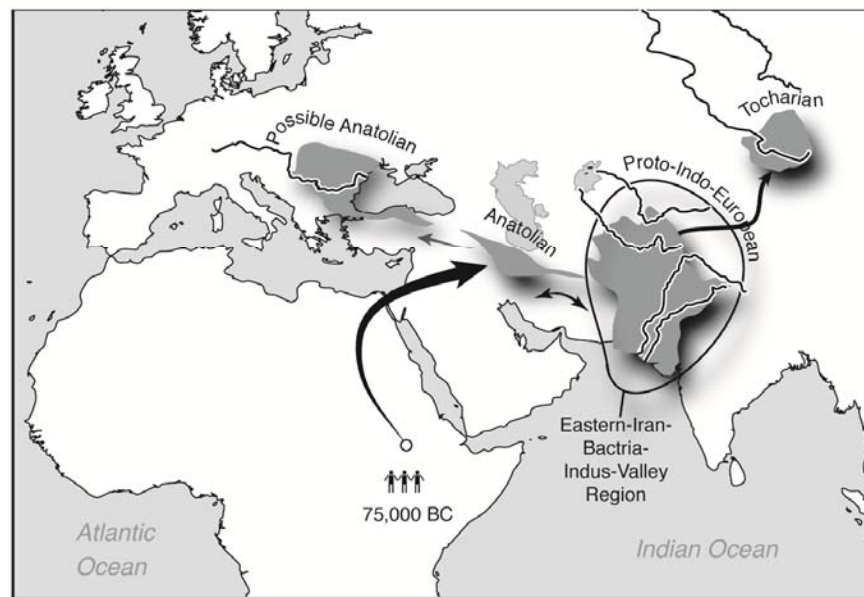
From time to time, and especially early on, there will be parts of this story that we cannot, in my view, fully pin down based on the current state of our knowledge. When that is the case, I will try to indicate as much and offer several possible specifications of the story that I take to be most consistent with the underlying evidence. Readers interested in seeing graphic depictions of the larger story before reading the text should consult Figures 24.1, 24.2(A), 24.2(A-D), 24.3, and 24.4 on pages 1639, 1650, 1652, 1660, and 1670, respectively.

414. E.g., BRYANT, *supra* note 35, at 11 (discussing in general the Out-of-India theories); *id.* at 4 (calling these people “*indigenous aryan[ists]*” and noting that they are a disparate group that “range from brilliant intellectuals like Aurobindo, to professional scholars like B.B. Lal, to what most academics would consider ‘crackpots,’ like P.N. Oak”). Other prominent Out-of-India theorists include Koenraad Elst and S.G. Talageri. *Id.* at 65–66, 92, 96, 146–54.

a. The Primal Age

The first part of the story—or the Primal Age—should be understood as encompassing the very lengthy period that began with the rise of behaviorally modern humans in or around 75,000 BC and then ended in about 3500 BC. Figure 24.1 depicts this first period—as it will be described in the remainder of this Subsection.

FIGURE 24.1
THE PRIMAL AGE—PERIOD 1
(75,000 BC – 3500 BC)



As shown in Figure 24.1, the earliest behaviorally modern ancestors of all modern humans are currently thought to have originated in East Africa (or possibly the Persian Gulf) sometime around 75,000 BC. At some point thereafter, they would have begun to migrate into the Fertile Crescent. During the great bulk of the Primal Age, these very early ancestors of ours would have presumably lived in nomadic hunter-gatherer bands and would have presumably displayed the ordinary dynamics of fission and fusion that tend to come with this form of life. Given their mobility over such a great expanse of time, and given the many Eurasian locations where the Proto-Indo-Europeans eventually show up in the record, these ancestors of ours must have lived in a number of different regions at different times during the Primal Age. Still, different sociolinguistic traditions would have tended to be fairly localized during this period, because the coherence of these traditions would have depended

on the continued interactions of their bearers. Hence, we should expect that these traditions would have displayed some dynamics of fission and fusion themselves. We should also expect that, at any given point in time, the people with the socio-linguistic traditions that ended up ancestral to Proto-Indo-European would have been living within a fairly localized geographic area.⁴¹⁵

We know from prior discussions that these groups would have also been living in a world with extreme linguistic diversity for most of the Primal Age, in part because of their hunter-gatherer social structure and in part because they would have had so few contacts with the vast majority of other linguistic groups around the world.⁴¹⁶ Around 7000 BC, however, and hence right at about the time that agriculture began to spread from the Fertile Crescent to other parts of Eurasia, some of the earliest Proto-Indo-Europeans would have ended up in a region closer to modern-day Iran. (My main reason for proposing this particular location is to make sense of some of the subsequent events that will be discussed below, but it should be noted that, at this stage, this view is almost identical with those that propose an Anatolian origin for the Indo-European language family during the early Neolithic.)

Once agriculture began to spread from the Fertile Crescent, some of the Proto-Indo-European groups in this region would have then begun to incorporate these new technologies into their predominantly nomadic forms of life. The earliest incorporations could not have been in the form of large-scale settled agriculture around the Tigris or Euphrates, however, because other linguistic groups already dominated in these regions. Hence, these early nomadic Proto-Indo-Europeans would have more plausibly begun to transition into a predominantly pastoralist forms of life, which was still highly mobile, but which would have begun to include some increasing (and perhaps only seasonal) agricultural activities over time. The current proposal would thus help to explain why many linguistic paleontologists, who have tried to reconstruct the early lifestyle and habitat of the Proto-Indo-Europeans, suggest that they appear to have been semi-nomadic pastoralists with some knowledge of agriculture.⁴¹⁷ The current proposal would also help to explain why our reconstructions of Proto-Indo-European are replete with terms for phenomena common to the hilly regions in or around eastern Iran or Anatolia.⁴¹⁸

We know from the linguistic facts depicted in Figure 23 that the first main branch to split away from the main Proto-Indo-European stalk was the Anatolian branch. This fact implies that there must have been a very

415. This relatively localized area may nevertheless have included seasonal migration patterns.

416. NICHOLS, *supra* note 137, at 274–76.

417. BRYANT, *supra* note 35, at 108–23. Bryant has, however, also noted that there are reasons to question both the credibility of linguistic paleontology as a methodology and the proposition that this methodology points uniquely to a particular geography. *See id.*

418. *Id.*

early geographic separation between the Anatolian branch and the main stalk. For reasons already discussed, the present theory will ultimately locate many of the most important developments of the main stalk in the Eastern-Iran-Bactria-Indus-Valley region. In the early periods leading up to 4500 BC, however, the precursors of this “main stalk” would not yet have reflected linguistic phenomena of any great importance. Because the people in the Eastern-Iran-Bactria-Indus-Valley region ultimately employed an agricultural package derived from the Fertile Crescent,⁴¹⁹ and because the archaeological record in the Indus Valley does not yet exhibit agricultural activity prior to 4500 BC,⁴²⁰ it is also likely that, prior to 4500 BC, the ancestors of this main stalk had only begun to spread eastward from eastern Iran into regions like Mehrgarh (which lies on the border of Pakistan and Afghanistan, near the Bolan pass), without yet expanding into the entire Indus Valley region.⁴²¹ I say this because Mehrgarh can be used to travel from these other regions into the Indus Valley.⁴²² We also know that Mehrgarh began to display seasonal agricultural activity as early as 7000 BC;⁴²³ that it was one of the central routes for the dissemination of these agricultural technologies into the Indus Valley;⁴²⁴ and that the inhabitants of the Harappan Civilization were either directly descended from or at least intimately related to the more settled agricultural communities that emerged in Mehrgarh by about 4500 BC.⁴²⁵ Figure 24.1 depicts thus these proposed developments with

419. ALLCHIN & ALLCHIN, *supra* note 5, at 137 (“We should not forget that the spread of agriculture we are discussing is essentially the spread of the highly successful pattern of wheat and barley, cattle, sheep, and goat, which we have seen emerge in the piedmont zone at Mehrgarh; and that this pattern appears to have been underlying the whole process of expansion, leading up to the emergence of the Mature Harappan civilization.”); *ENCYCLOPEDIA OF HUMAN EVOLUTION AND PREHISTORY*, *supra* note 108, at 98 (mentioning wheat and barley as the primary plants domesticated in the Fertile Crescent region, and also mentioning the domestication of the sheep, goat, and cattle).

420. ALLCHIN & ALLCHIN, *supra* note 5, at 136–37 (observing that there is little evidence of agricultural activity in the Indus Valley prior to the expansions from Mehrgarh beginning around 4500 BC).

421. *See id.* at 135–40.

422. *Id.* at 126–27 (“The earliest settlements at Mehrgarh cover about two square kilometres in the northernmost part of the Kachi plain, on the bank of the Bolan river, a short distance below the point where it leaves the valley which connects it, via the Bolan pass, with Quetta, about 100 km to the north After passing through a series of gorges the river water spreads out over the plain depositing its load of gravel and silt. The result is like an inland delta with extremely fertile soil, through which the river has cut new channels from time to time. The Kachi plain is still regarded as the ‘bread basket’ of Baluchistan. The Bolan valley must have been one of the principal routes linking the mountain valleys of northern Baluchistan with the Indus plains; and it was probably used by animals such as deer and wild sheep moving down to the Indus plains to graze following the inundation.”).

423. *Id.* at 125–35.

424. *Id.* at 135–45.

425. *Id.* at 184 (“One of their most interesting conclusions is that there is a biological break between the population of Mehrgarh in the very early period (c. 6000 BC) and that from c. 4500 BC onwards. They also find that, once the newer population was established, there was little difference between it and the population of the Harappan period. As they see it the Harappan population has closer affinities with that of the Iranian plateau and the Near East than with that of India, east and south of the Indus.”).

an arrow leading eastward from central Iran into the Eastern-Iran-Bactria-Indus-Valley region, and by circling this region to indicate that it was the primary region for the subsequent expansions of Proto-Indo-European.

Because the Anatolian branches of Indo-European all show up in the historical record in Anatolia,⁴²⁶ and because this region is separated from the Eastern-Iran-Bactria-Indus-Valley region by the Central Iranian plateaus, one highly plausible place to locate the Anatolian branch, at its first point of separation, would have been in Anatolia itself—where this split would have most plausibly taken place by about 4500 BC. This is how things are depicted in Figure 24.1. This first branching would have also occurred before the domestication of the horse and before the invention of the wheeled wagon. Especially in these circumstances, the central Iranian plateaus would have provided a formidable geographical barrier between the Anatolian branch and the main stalk, thus explaining why these two branches began to diverge in the precise ways pictured in Figure 23 and 24.1. This early divergence would also explain why the Anatolian languages could exhibit some features that are more conservative and archaic than those found in any other branch of Indo-European—as we know that they do.⁴²⁷ If we assume—plausibly—that some of the terms for words like “wheel” entered into the main stalk only later, then the current story would also explain why some terms like these are less well attested in the Anatolian languages than in any other branch of Indo-European.⁴²⁸

Given the first divergence that I am proposing, it would be natural to ask whether the branching itself occurred because people moved from Anatolia toward the Eastern-Iran-Bactria-Indus-Valley region or in the reverse direction (i.e., from eastern Iran or Bactria to Anatolia some

426. See MALLORY & ADAMS, *supra* note 35, at 28–31.

427. BRYANT, *supra* note 35, at 68–75; MALLORY & ADAMS, *supra* note 35, at 30.

428. MALLORY & ADAMS, *supra* note 35, at 252–53 (“The vocabulary concerning wheeled transport has often been regarded as one of the most diagnostic semantic fields in the reconstructed [PIE] lexicon. The existence of wheeled vehicles in Proto-Indo-European appears unassailable given the number of terms for vehicle (**weghnos*, **h₂em-h₂ekš-ih₂*), wheel (**k^wek^wlóm*, **h₂rgi-*, **róth₂o/eh₂-*), axle (**h₂ekš-*), shaft (**h₂éih₂os*) and probably the nave (**h₂nobh-*) and reins (**h₂ensyo/eh₂-*). The participation of Hittite in this semantic sphere is admittedly weak: it lacks a specifically IE word for the actual wagon . . . and the Hittite-Tocharian isogloss . . . for ‘wheel’ is contested by some; this leaves **h₂éih₂os* ‘shaft’ and **dhwerh₂-* or **yugóm*, both ‘yoke,’ which, which some have suggested, might be extended to the pulling of ploughs and not necessarily vehicles. Others would not read this evidence so negatively and would accept that Anatolian also received some of the PIE vocabulary relating to vehicles (and did not separate itself prior to the invention of wheeled vehicles). The earliest evidence for wheeled vehicles, in this case heavy four-wheeled wagons, dates to the fourth millennium BC both in Mesopotamia and in central and eastern Europe, including the north Caucasus.”). There is also some evidence that the Anatolian branch, which was the first to split, has no cognate word for “domestic horse,” whereas all of the other branches do. *Id.* at 109, 154. This provides some evidence suggesting that the first branch may have occurred prior to the domestication of the horse, which was in about 4000 BC. See ANTHONY, *supra* note 64, at 200 (explaining that the earliest evidence of horse domestication occurred sometime after 4800 BCE).

time after an earlier set of migrations into Bactria and eastern Iran). Given the known spread of agriculture eastwards from the Fertile Crescent, the story I have told thus far might appear to favor the first possibility. It is, however, not altogether clear whether the Proto-Indo-Europeans carried agricultural technologies with them from the Fertile Crescent to the Eastern-Iran-Bactria-Indus-Valley region or rather learned them through an intermediary that brought them into this region. Hence, I do not think we know enough yet to reach a firm conclusion on this issue, and the larger arguments in this Article should be understood as consistent with either specification of the basic narrative.

In fact, it is also quite possible, on the present view, that this first branching occurred even earlier and with the first expansions of agriculture out of the Fertile Crescent, as Colin Renfrew has suggested.⁴²⁹ If so, then the Anatolian branches may well have followed this initial spread of agriculture into Eastern Europe from Anatolia beginning closer to 7000 BC, while the groups that ultimately constituted the “main stalk” of Proto-Indo-European would have migrated eastward toward the Eastern-Iran-Bactria-Indus-Valley region beginning at or around this same time. On this third version of the story—which is also represented in Figure 24.1 as a distinct possibility—the original inhabitants of “Old Europe” (or at least some of them) may well have spoken dialects of Proto-Anatolian themselves. This version of the story would thus help to explain why the Danube and Dnieper rivers have Indo-European names.⁴³⁰ This version of the story might also help explain why—as Figure 10 shows—the Afro-Asiatic languages did not tend to spread much further into the areas north and east of the Tigris and Euphrates. Both of these regions are currently dominated either by Indo-European speakers or by later invasive groups,⁴³¹ and, on this third version of the story, very early

429. See MALLORY & ADAMS, *supra* note 35, at 28–31; see also RENFREW, *supra* note 102, at 205–10.

430. CELTIC CULTURE: A HISTORICAL ENCYCLOPEDIA 569 (John Thomas Koch ed. 2006) (“Danube is probably derived from the Indo-European word **deh₂nu-* ‘river’, from the root **deh₂-* ‘flow’, cf. Vedic Sanskrit *dānu-* ‘dripping fluid’ (or ‘gift’?), Ossetian *don* ‘water, river’. . . . The Slavic river-names *Don*, *Dniepr*, and *Dniestr* are borrowings from Scythian **dānu*, **dānu apara* ‘upper river’, **dānu nazdya* ‘lower river.’”).

431. Across a number of different linguistic populations, *Ethnologue* lists the most populous language as Turkish (which is Altaic, is spoken by about 43 million people, and was invasive to the region). *ETHNOLOGUE*, *supra* note 135, at 535–55. The second most popularly spoken language is Kurdish (which is Indo-European, and is spoken by about 6.5 million people). *Id.* The next two are Dimli (Indo-European) and Kabardian (Caucasian), which are spoken by about 1 million people each. *Id.* Arabic (which is Afro-Asiatic) is, by contrast, is only spoken by about 400,000 people in modern-day Turkey. *Id.* The official language of Iran is (Western) Farsi, which is an Indo-European language, and is the primarily language spoken by about 22 million people. *Id.* at 452–57. Almost all of the other languages spoken by 1 million or more people in modern-day Iran are also Indo-European: South Azerbaijani (11.2 million), Kurdish (6.5 million, including Central, Northern and Southern Kurdish), Gilaki (3.2 million), Mazandrani (3.3 million), Luri (2.375 million, including Northern and Southern Luri), Domari (1.3 million), and Bakhtiari (1 million). *Id.* There are some much smaller, but still sizable, populations of groups that speak some Altaic languages: like Kashkay (1.5 million) and Turkmen

Proto-Indo-European speaking groups would have helped to prevent that further Afro-Asiatic spread.

For reasons already discussed, we know that the early agricultural settlements of Old Europe were subsequently decimated by a series of invasions from the Steppes, which occurred around 4000 BC and 3500 BC;⁴³² later I will suggest that Celtic-Italic groups likely entered into the Danube Valley from the Steppes beginning in around 3300 BC. On this third specification of our story, these events would have thus plausibly forced some of these earlier Anatolian groups back into Anatolia from the Balkans—where they eventually would have shown up in the historical record as an invasive force over an earlier Caucasian-speaking substratum by about 2000 BC.⁴³³ This is, in fact, exactly how the Anatolian groups first show up in the historical record,⁴³⁴ and, for all of these reasons, I consider this third version of the story to be highly plausible. Once again, the main arguments in this Article should nevertheless be understood as consistent with any of these three possible refinements, and they are therefore all depicted as possibilities in Figure 24.1.

Beginning in about 4500 BC—but still during the Primal Age—we also know that people from Mehrgarh began to spread into the Indus Valley region, bringing with them a more consistent form of agricultural subsistence, which employed the basic agricultural package developed in the Fertile Crescent.⁴³⁵ Although the people of the Indus Valley had not yet entered into its first period of incipient urbanism, these developments would have thus begun to turn the larger Eastern-Iran-Bactria-Indus-Valley region into a major locus of socio-linguistic coordination among the main stalk of Proto-Indo-European groups (which would have included all of the branches other than Anatolian).⁴³⁶ The Eastern-Iran-Bactria-Indus-Valley region would have also begun to play a critical early role in transforming this otherwise minor socio-linguistic phenomenon into a much more important one with potential world-historical significance. Figure 24.1 depicts these parts of the story by showing the main stalk of Proto-Indo-European (in grey) as spreading out through the Eastern-Iran-Bactria-Indus-Valley region during the Primal Age. It

(2 million). *Id.* And there are only about 1.2 million Arabic (Afro-Asiatic speakers) in modern-day Iran. *Id.*

432. Anthony, *supra* note 305, at 45–51 (discussing first wave of destruction that occurred around 4300–4100 BC); *id.* at 51–53 (discussing gradual abandonment between 4000–3500 BC).

433. MALLORY & ADAMS, *supra* note 35, at 443 (“The Anatolian languages are so laced with loanwords from their non-Indo-European neighbours that languages such as Hittite are often seen as having been superimposed on a Hattic substrate.”).

434. BRYANT, *supra* note 35, at 41; MALLORY & ADAMS, *supra* note 35, at 28–31.

435. See *supra* notes 420–26 and accompanying text. Note that these developments would have also placed these particular Proto-Indo-European speakers into contact with some distinctive hunter-gatherer groups within the Indian subcontinent, which might help to explain why the Indo-Aryan languages show some substratum influences of an unknown language (or languages) that are sometimes referred to as “language x”). See BRYANT, *supra* note 35, at 78, 81, 92, 105, 194.

436. See *supra* Part IV.B (developing riverine-agricultural model of linguistic expansion).

should nevertheless be remembered that these very early agricultural settlers would not yet have had the kinds of highly developed cultural traditions needed to sustain large-scale civilizations, because they had not yet made that particular transition. To the degree that they had begun to develop any such traditions, these traditions would have been in a very early incipient form.

We know from the linguistic facts depicted in Figure 23 that the second main branch to separate from the main stalk during the Primal Age was the Tocharian branch. On the present view, these groups—which are depicted in the upper right portion of Figure 24.1—most likely separated in the period between about 3700 BC and 3500 BC. Figure 24.1 depicts the Proto-Tocharians as most likely branching from a region in Bactria, and then moving northeast along the base of the Tien Shan mountain range until they reached the base of the Ob and Irtysh rivers (which lie near the base of the Altai mountains, just north of the Tarim Basin in western China). These people would have then first shown up in the archaeological record as the “Afanasiovo” culture—which appears in these precise locations, and which many experts consider to represent the Proto-Tocharians.⁴³⁷ We know that, after about 2000 BC, some descendants of the Afanasievo culture also began to show up in Tarim Basin (which lies in the Xinjiang province of western China)—sometimes as the mysterious red-haired Caucasoid mummies of China, and often in other forms that clearly suggest they were Tocharians.⁴³⁸ The initial geographic separation between the Eastern-Iran-Bactria-Indus-Valley region and the base of the Ob and the Irtysh rivers would easily explain why the Tocharians began to diverge linguistically from the main stalk after their first point of separation. The current story is thus fully consistent with, and would help to explain, a broad range of relevant linguistic and archaeological facts.

In taking this proposed migration path from Bactria to the base of the Ob and Irtysh rivers, the Tocharians would have also been following a well-trodden route that many early humans in these regions had been taking for millennia. They would have also ended up in a region that is close enough to Bactria to constitute a highly natural and plausible migration route for this second early branch of Indo-Europeans. These last facts are notable because many other homeland theories have had a hard

437. See Nakhleh et al., *supra* note 395, at 403 fig.12 (depicting Tocharian as the first main branch to split after Anatolian); ANTHONY, *supra* note 64, at 311 (“A material bridge between the Afanasievo culture and the Tarim Basin Tocharians could be represented by the long-known but recently famous Late Bronze Age Europoid ‘mummies’ (not intentionally mummified but naturally freeze-dried) found in the northern Taklamakan Desert, the oldest of which are dated 1800–1200 BCE.”); *id.* at 267 fig.12.1 (showing the location of Afanasievo sites).

438. See generally J.P. MALLORY & VICTOR H. MAIR, *THE TARIM MUMMIES: ANCIENT CHINA AND THE MYSTERY OF THE EARLIEST PEOPLES FROM THE WEST* (2008) (discussing the mysterious red-haired Caucasoid mummies).

time explaining how the Tocharians could have ended up so far to the east.⁴³⁹

In my view, it is also a remarkable fact that neither the Anatolian nor the Tocharian branches of the Indo-European family produced any megaempires, as that term is defined in Turchin's work,⁴⁴⁰ and, indeed, that neither even produced any linguistic phenomena that have survived until today. This is true even though numerous subsequent branches of the Indo-European language family still exist and have formed no less than six independent traditions of megaempires in six independent locations around Eurasia.⁴⁴¹ No homeland theory that I know of tries to explain these facts, but the present view can. The present view suggests that the Anatolian and Tocharian branches split from the main stalk during the Primal Age, and hence before the Harappan Civilization had blossomed into a large-scale civilization of its own.⁴⁴² These two very early branches therefore separated from the main stalk before the people of the Indus Valley had developed the types of cultural traditions needed to sustain large-scale civilizations with incipient law, and before these traditions could have spread throughout the larger Eastern-Iran-Bactria-Indus-Valley region. On the present view, the Anatolians and the Tocharians would have therefore lacked many of the more complex kinds of cultural traditions needed to ease their transitions into sustainable forms of large-scale social complexity—which would have made it much harder for them to make these transitions on their own.⁴⁴³

b. The Age of Expansion

Let us now turn to the second main period of our revised origins story, which I have called the Age of Expansion, and which should be understood as encompassing the period from about 3500 BC until about 1900 BC. This second period is qualitatively different from the first for four basic reasons, which—on the present view—combined to incentivize a series of westward Indo-European migrations from the western parts of

439. ANTHONY, *supra* note 64, at 264, 308 (expressing difficulty in accounting for this fact); BRYANT, *supra* note 35, at 147 (“This neat east-west division, however, was short-lived. A *centum* Indo-European language called Tocharian was found as far east as Chinese Turkestan (Xinjiang).”).

440. See generally Turchin, *supra* note 15, at 202–03 tbl. 2 (lacking a reference to Anatolian or Tocharian Empires in list of megaempires).

441. See *infra* Figure 22 (providing a Map of Indo-European Megaempires).

442. ALLCHIN & ALLCHIN, *supra* note 5, at 140–41.

443. There is one Anatolian group—the Hittites—who did exert political dominance in the Anatolia for a brief period. MALLORY & ADAMS, *supra* note 35, at 28–31. Importantly, however, these Anatolian groups appear to have inserted themselves into a preexisting socio-political structure, and did not leave any linguistic effects in the region. See *id.* at 29; see also Mark Weeden, *Adapting to New Contexts: Cuneiform in Anatolia*, in THE OXFORD HANDBOOK OF CUNEIFORM CULTURE, 597, 604 (Karen Radner & Eleanor Robson eds., 2011) (providing that Hittite was spoken only by the elites or died out, rather than displacing the preexisting languages—thus showing that the Hittite model was much closer to the Altaic model of conquering a settled region).

the Eastern-Iran-Bactria-Indus-Valley region to many other parts of Eurasia. These migrations are depicted in Figures 25.2(A) and 25.2(A-D) below. I will, however, only present these figures and describe the relevant migrations in more detail after identifying four important reasons for differentiating this second period from the first.

The first main reason to distinguish the Age of Expansion from the Primal Age is that, beginning in about 3500 BC, the Harappan Civilization entered into its first stage of incipient urbanism.⁴⁴⁴ On the present view, these developments should have therefore involved the first evolution of the special kinds of cultural traditions needed to support truly large-scale civilizations with incipient law. Indeed, over the course of the Age of Expansion, the Harappan Civilization continued to grow in power and prestige, until—in the period beginning in about 2600 BC and lasting until about 1900 BC—the Harappan Civilization had blossomed into its “mature” urban phase.⁴⁴⁵ At that point, the Harappan Civilization would have been one of the first (and only three) major large-scale civilizations in the world, and there is no evidence that the Harappan Civilization was ever invaded or threatened by external forces during this period. Hence, its political and cultural influence would have plausibly continued to expand during the Age of Expansion—with direct effects emanating into the larger Eastern-Iran-Bactria-Indus-Valley region, and indirect effects emanating well beyond.⁴⁴⁶

The second main reason to distinguish the Age of Expansion from the Primal Age arises from certain theoretical predictions of the riverine-agricultural model of prehistoric linguistic expansion, as applied to the archaeological record of the Eastern-Iran-Bactria-Indus-Valley region from 3500 BC to 1900 BC. As depicted in Figure 19, the riverine agricultural model of linguistic expansion suggests that the Indus Valley region would have been experiencing large increases in population density dur-

444. ALLCHIN & ALLCHIN, *supra* note 5, at 154–55 (noting the mature Harappan period began in about 2600 BC); *id.* at 207–212 (noting that Harappan Civilization ended at different times in different parts of India, but began to collapse in about 2000 BC in some regions, and lasted until about 1850 BC on others).

445. *Id.* at 153–205.

446. *See id.* at 178–82 (listing evidence of increased trade and interaction within the Indus Valley region); *see also id.* at 179–80 (listing evidence of trade with neighboring regions or chieftains, which “would have affected the hills and valleys to the west of the Indus”); *id.* (“[T]rade may have involved . . . some kind of organized Indus expeditions . . . Presumably, this must also have involved creating suitable relations with the local population, to establish a basis of trade. An extreme example of this type of activity is probably to be sought in the trade settlement or colony at Shortughai in north-eastern Afghanistan . . . Lothal, too, may have been a Harappan trading station or colony established in a locality which was not part of the central Harappan domain.”); *id.* at 180 (“[T]rade contacts [occurred] between the Indus valley and Central Asia, as exemplified by finds from Altyn Depe or Dashli. As we saw in the previous chapter, the beginnings of these contacts went back to much earlier times, and one is tempted to see them as involving more than simple trade, perhaps with longstanding ties, even of kinship, between merchants or elites at the two ends of the trade routes.”); *id.* at 140–52 (discussing even earlier evidence of Harappan ties and influences outside the Indus Valley region).

ing the Age of Expansion. These developments would have also served to produce an incredibly important and interconnected socio-cultural complex, which would have helped to coordinate and expand the various Proto-Indo-European dialects in this larger region—thereby generating one of the very first incipient major language families in the world. Developments like these would have also created incentives for some of the more nomadic pastoralist groups who lived on the periphery of this larger socio-cultural complex (in areas like ancient Bactria or the eastern portions of modern-day Iran) to move even further from the center.⁴⁴⁷ Given Bactria's location next to the Steppes, some of these groups would have thus encountered increased incentives to migrate into the Steppes, and these movements into the Steppes would have created even further tendencies for them to begin migrating through the Steppes in a series of westward migrations like the ones I will be proposing below.

The third main reason to distinguish the Age of Expansion from the Primal Age relates to the invention of the wheeled wagon. Wheeled wagons begin to show up in the archaeological record in about 3300 BC⁴⁴⁸—just after the start of the Age of Expansion. Wheeled wagons were incredibly important inventions because they could be loaded up and drawn by oxen or horses (which had been domesticated somewhat earlier, around 4000 BC),⁴⁴⁹ in effect creating the first prehistoric analogue of the modern automobile. These particular developments would have thus made migrations through the Steppes much easier and would have allowed for certain semi-nomadic pastoralist groups, who had been living at the periphery of the larger socio-cultural complex centered in the Eastern-Iran-Bactria-Indus-Valley region, to begin expanding much further into the Steppe regions. Over time, these developments would have also connected up the different reaches of the Eurasian Steppes, and made them traversable by more settled populations. The invention of the wheeled wagon, just after the start of the Age of Expansion, would have thus greatly contributed to both the expansionary capacities and the expansionary tendencies of the Proto-Indo-European groups under discussion.

The fourth main reason to distinguish the Age of Expansion from the Primal Age arises from facts that have already been discussed: by about 3500 BC, and hence by the very start of the Age of Expansion, the civilizations of Old Europe had been largely destroyed,⁴⁵⁰ thus leaving the Danube and Dnieper river valleys ripe for agricultural resettlement. None of these resettlements began in earnest, however, until after the in-

447. See *supra* Part IV.B (developing and discussing dynamics of the riverine-agricultural model of linguistic expansion).

448. ANTHONY, *supra* note 64, at 300.

449. *Id.* at 193–224.

450. Anthony, *supra* note 305, at 52.

vention of the wheeled wagon—which was several centuries later.⁴⁵¹ These facts suggest to me that the earliest resettlers were probably not those nomadic peoples who had already lived directly adjacent to Old Europe in the Ukraine but rather people who came from a greater distance and needed the wheeled wagon for their migrations. When coupled with the other changes previously discussed, the destruction of Old Europe thus created the perfect conditions for a series of western migrations of certain semi-pastoralist branches of the Proto-Indo-European family through the Steppes (and from a region near ancient Bactria or the eastern portions of modern-day Iran) in search of greater opportunities for prosperity.⁴⁵²

Together, these four developments thus combined to differentiate the Age of Expansion quite radically from its predecessor. I have called this second period the “Age of Expansion” to refer both to the full series of westward radial migrations that I will be proposing below and to the robust growth of the more settled Indus Valley Civilization (along with the larger socio-cultural complex of which it was a part) at the center.

So let us now turn to the migrations themselves. The linguistic facts depicted in Figure 23 suggest that there would have been four major waves during the Age of Expansion. The first would have been associated with the Celtic-Italic branch of Indo-European, and—as noted earlier—David Anthony has collected a wealth of archaeological evidence to suggest that the so-called “Yamnaya horizon,” which dominated the Eurasian Steppes from about 3300 BC until about 2800 BC, should be identified with Proto-Celtic-Italic speaking groups.⁴⁵³ I accept this suggestion, based on Anthony’s extensive archaeological evidence, and this first wave—which will be described in more detail below—is depicted in Figure 24.2(A).

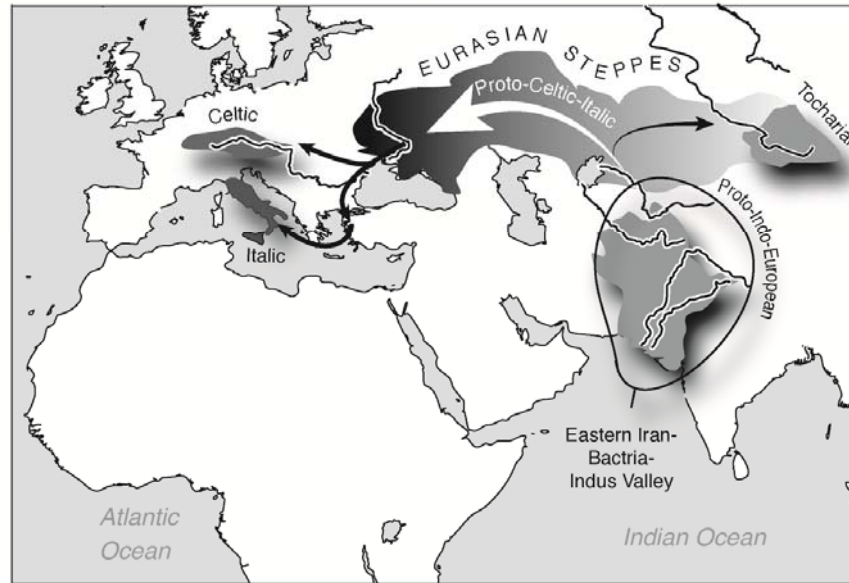
The fact that these new Proto-Celtic-Italic groups had possession of domesticated horses and wheeled wagons (beginning around 3300 BC) meant that they were also much more mobile than some of the earlier Indo-European branches, and—as Figure 24.2(A) shows—this initial spread through the Steppes would have thus placed some of these early Proto-Celtic-Italic groups back into increased contact with the Proto-

451. *Id.* at 48 (discussing break in permanent settlements in Old Europe, which lasted until 3300 BC); see also ANTHONY, *supra* note 64, at 461 (discussing emergence of wheeled wagons along Danube during the period of its first resettlement after the destruction of Old Europe).

452. On the present view, it might, in fact, be useful to think of these prehistoric migrations as comparable, in some rough ways, to the much more recent and familiar westward expansions of American settlers during the nineteenth century: both groups often employed horse-drawn wagons; both would have participated in similar types of population replacements; both would have been motivated by some similar desires (for land and opportunity); both would have brought their native languages with them; and both would have left traces of distinctive socio-cultural forms of life that spread throughout the intervening regions.

453. ANTHONY, *supra* note 64, at 321, 346.

FIGURE 24.2(A)
THE AGE OF EXPANSION: PERIOD 2(A)
(CELTIC-ITALIC EXPANSION THROUGH THE STEPPES)
(3300 BC – 2800 BC)



Tocharian groups.⁴⁵⁴ This renewed contact—which is pictured in the top-right corner of Figure 24.2(A)—would therefore explain a fact that might otherwise seem puzzling: although these early branches of the Indo-European family show up in the historical record in diametrically opposed geographic locations (*viz.*, in western Europe and western China respectively), their languages show signs of significant early geographic contact sometime after their first separations from the main stalk.⁴⁵⁵

Because the Celtic-Italic groups were the first groups of Indo-Europeans to migrate westwards through the Steppes after the destruction of Old Europe, they would have found the Danube region (which is one of the major rivers from our list) almost completely vacant.⁴⁵⁶ Unlike simpler nomadic groups, they would have also had the cultural traditions capable of supporting larger-scale sedentary forms of life, along with some knowledge of agriculture. The archaeological record suggests that, upon reaching the western boundaries of the Steppes, some of the Yam-

454. *See id.* at 317, 367–68.

455. BRYANT, *supra* note 35, at 147–48 (noting that Gamkrelidze and Ivanov's model for the segmentation of Proto-Indo-European shows continued contacts between the Tocharian and Celtic-Italic groups, after the Anatolian branching, and after Celtic-Italic had branched from the main stem).

456. Anthony, *supra* note 305, at 45–53.

naya groups did, in fact, begin to insert themselves further and further westward along the Danube until they settled in the upper Danube valley⁴⁵⁷—in the precise location where the Celtic branch first shows up in the historical record.⁴⁵⁸ These developments are thus depicted in upper left portions of Figure 24.2(A), with a set of arrows that go westward through the Steppes and then end in the Danube valley—where they are labeled as the Celtic branch.

The archaeological evidence suggests that other members of the Yamnaya groups took a slightly different route, and began to migrate along the western coast of the Black Sea, where they ended up settling very close to western Anatolia.⁴⁵⁹ If we can trust early Roman folk memory, then, after the Fall of Troy (which was itself in the most closely adjacent region of western Anatolia), some of the groups who were displaced in this battle began to settle on the Italian peninsula⁴⁶⁰—in the precise location where the Italic groups first show up in the historical record. These developments are therefore depicted in Figure 24.2(A) with a set of arrows that diverge from the Celtic migration path just west of the Black Sea, and then begin to take a more southerly course that ultimately ends in modern Italy. Because the Danube Valley is geographically separated from both the Italian peninsula (by the Alps) and from Anatolia, these later developments would explain the subsequent split of the Celtic-Italic branch into its more recent Celtic and Italic sub-branches—and both of these sub-branches have been labeled as such in Figure 24.2(A).

The linguistic facts depicted in Figure 23 suggest that three subsequent branches of the Indo-European family would have then separated from the main stalk during the Age of Expansion: first, the Germanic branch, second, the Greco-Armenian, and then third, the Balto-Slavic branch. I have depicted the Celtic-Italic migrations separately in Figure 24.2(A), because I wanted to exhibit their basic migration route in a clear manner, but many of the subsequent migrations that I will be proposing followed a similar path through the Steppes. All of these migrations can therefore be presented together now, without any undue loss of clarity. Figure 24.2(A-D) depicts the full set of migrations that I will be proposing for the Age of Expansion.

The linguistic facts depicted in Figure 23 suggest that the next set of migrants to branch after the Proto-Celtic-Italic speaking groups would

457. See ANTHONY, *supra* note 64, at 344 (“In the second case, people of the Yamnaya horizon moved in significant numbers into the lower Danube valley and the Carpathian Basin. This was a true ‘folk migration,’ a massive and sustained flow of outsiders into a previously settled landscape.”); see also *id.* at 345 fig.14.1 (showing Yamnaya settlements moving westward along the Danube into the Carpathian basin).

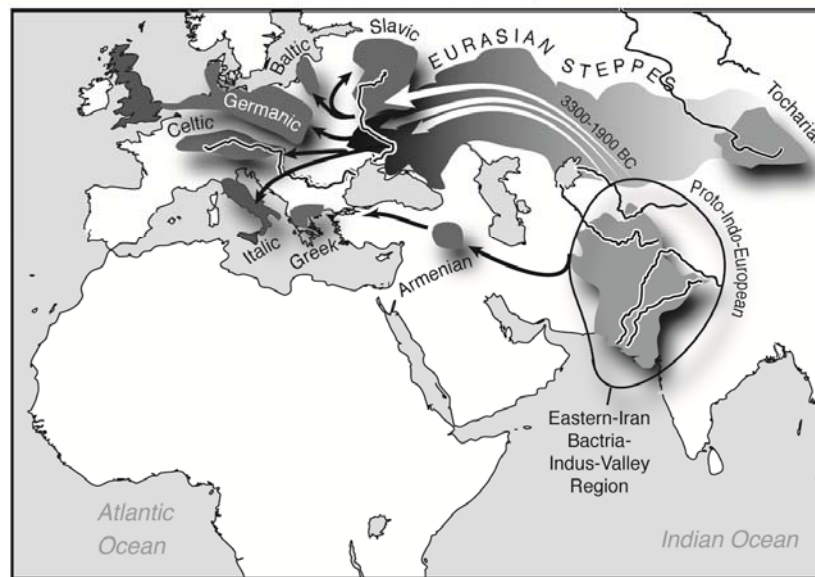
458. *Id.* at 370.

459. *Id.* at 345 fig.14.1.

460. STEIN, *supra* note 49, at 3.

have been Proto-Germanic speaking groups. Figure 24.2(A-D) identifies these groups with a second westward spread of semi-pastoralist groups through the Steppes. This second spread can be discerned in the archaeological record in the form of the “Corded Ware” cultures, who began to dominate in the relevant regions from about 2900 BC,⁴⁶¹ and who many experts associate with Proto-Germanic speakers.⁴⁶² At this point in time, Celtic speaking groups would have already been resettling in the Danube valley for some time, however, and the current proposal is thus that the Germanic branch would have therefore been unable to settle in those same regions during this period. As shown in Figure 24.2(A-D), these Proto-Germanic groups would have therefore been forced to settle in the next available areas, which are to the northeast of the Danube—in the precise locations where the Germanic tribes first show up in the historical record.⁴⁶³ The present story would thus help to explain the relative locations of the Celtic-Italic and Germanic branches with respect to one another as well.

FIGURE 24.2(A-D)
THE AGE OF EXPANSION: PERIOD 2 (COMPLETE)
(THE COMPLETE SET OF MIGRATIONS)
(3300 BC – 1900 BC)



461. ANTHONY, *supra* note 64, at 365–67, 371–82.

462. *Id.* at 368.

463. *Id.* at 367–69, 371–82; see also *id.* at 379 fig.15.5 (showing Corded Ware culture in modern-day Germany).

The linguistic facts depicted in Figure 23 suggest that the next branch to migrate would have been the Greco-Armenian branch. Although it is unclear from the archaeological record how precisely these groups migrated,⁴⁶⁴ we do know where they first appear in the historical record: roughly, in modern-day Greece and Armenia, respectively.⁴⁶⁵ One highly plausible migration route for these groups would have therefore been directly westwards from the eastern portions of modern-day Iran, along what we now know as the Silk Road, and where an initial stop in Anatolia would have laid the foundation for the Armenian branch. A second set of migrations further west toward Greece would have then laid the foundation for the Greek branch. The fact that Armenia is separated from eastern Iran by the central Iranian plateaus would then explain why the Greco-Armenian branch began to diverge linguistically from the main stalk; and the fact that Greece is separated from Armenia by Anatolia would explain why the Greco-Armenian branch began to subdivide even further. Figure 24.2(A-D) thus depicts this possible migration route (along what we now know of as the Silk Road) with arrows leading from the eastern portions of modern-day Iran through Armenia and into modern-day Greece.

It is, however, also possible that the Greco-Armenian groups originally migrated through the Eurasian Steppes, just like all of the other branches of Indo-European depicted in Figure 24.2(A-D).⁴⁶⁶ The Greco-Armenian groups would have still ended up in the locations under discussion, and the main arguments in this Article should therefore be understood as compatible with either migration pattern.

With regard to timing, the linguistic evidence depicted in Figure 23 suggests that the Greco-Armenian branch separated some time after the Germanic branch but before the Balto-Slavic branch. It is therefore plausible to approximate that it occurred sometime between 2400 and 2200 BC.⁴⁶⁷ This would have been after 2600 BC, and hence after the Harappan Civilization entered into its “Mature” phase and was at the very height of its cultural and political influence.⁴⁶⁸ The social and cultural traditions that the main stalk had been developing would have therefore been in a particularly advanced state, and this fact may help explain why the Greek branch was already so relatively advanced for its time at such an early point in the traditional story of the origins of Western civiliza-

464. *Id.* at 368–69 (expressing difficulties locating the Greco-Armenian branch in the archaeological record).

465. *See id.*

466. *Id.*

467. *See id.* This date is earlier than the 2200 BC date that I will later be proposing for the next sweep, *see infra* Part V.E.1.b, but later than the end of the Corded Ware culture, which lasted from 2900 BC to 2400 BC. ANTHONY, *supra* note 64, at 65–68. Note that the period from about 2400 to 2200 BC “has long been seen as a time of radical change in Greece when new people might have arrived . . .” *Id.* at 369.

468. ALLCHIN & ALLCHIN, *supra* note 5, at 153–82 (describing the Mature Harappan Period).

tion. Although it preceded ancient Rome, ancient Greece was in many ways much more socially and philosophically sophisticated during its prime—which is why we have drawn so many of our most important traditions of democracy and philosophical thought from ancient Greece rather than ancient Rome.⁴⁶⁹ On the present view, we need not assume ancient Greece's immaculate conception, however, to explain its early advanced state.

There is, moreover, another set of linguistic facts that the present proposal could explain and that might otherwise seem puzzling. One of the most commonly cited divisions of the Indo-European languages is between the so-called “Centum” and “Satem” branches, which refer to the different ways that three dorsal consonant rows from the reconstructed Proto-Indo-European dialects ultimately evolved.⁴⁷⁰ If we bracket Anatolian for a moment, then all of the branches thus far discussed—with the single exception of Armenian—fall into the “Centum” category: *viz.*, Tocharian, Celtic, Italic, Germanic, and Greek.⁴⁷¹ By contrast, all of the branches that I am about to discuss—with the single addition of Armenian—fall into the “Satem” category: *viz.*, Iranian, Indo-Aryan, Baltic, Slavic, and Armenian.⁴⁷² (Anatolian has proven hard to classify in these terms, and so I am bracketing it for the time being.)⁴⁷³ Some theorists have found it difficult to explain this division, because the Centum and Satem branches appear in a number of geographically disparate locations relative to the other members of their respective groups. Unless these linguistic facts can be traced to more geographically localized events, we will need to assume that different Indo-European branches underwent a number of independent (and yet puzzlingly identical) centumization processes at different points in time—which is not very plausible. We would also have to make similar assumptions with regard to the related processes of satemization.

It is therefore noteworthy that the present view can be used to develop a more straightforward explanation of the Centum-Satem division. On the present view, a single regional process of centumization may well have begun very early among those Proto-Indo-European groups who represented the western dialects of the main stalk—and who would have therefore been located primarily in ancient Bactria and the eastern parts of modern-day Iran (but not necessarily the Indus Valley). I have proposed that all of the branches discussed thus far broke off from these

469. McNEILL, *supra* note 184, at 217.

470. BRYANT, *supra* note 35, at 146–47; MALLORY & ADAMS, *supra* note 35, at 46–48.

471. BRYANT, *supra* note 35, at 147; MALLORY & ADAMS, *supra* note 35, at 46–48.

472. MALLORY & ADAMS, *supra* note 35, at 46–48.

473. *Id.*

western regions.⁴⁷⁴ Hence, it should be unsurprising that all of these particular branches (with the single exception of Armenian) are Centum branches, despite the disparate geographic locations where they ended up. (The fact that Anatolian is hard to categorize could also be explained if it separated prior to these processes of centumization, and the Armenian exception will be discussed and explained below.)

On the present view, certain processes of satemization may have occurred either subsequently within the Eastern-Iran-Bactria-Indus-Valley region, or at the same early time, but as part of a distinct regional phenomenon, which was initially limited to those eastern dialects of Proto-Indo-European that predominated in the Indus Valley. These processes of satemization would have then begun to have much larger effects within the larger Eastern-Iran-Bactria-Indus-Valley region once the Harappan Civilization reached its mature phase (*viz.*, sometime after 2600 BC), due to its increased power and prestige in the larger region. Hence, these satemization effects would have plausibly begun to affect even many of the remaining western dialects within the larger Eastern-Iran-Bactria region—but only after the Greco-Armenian branch had separated from this region, and only shortly after the Greek and Armenian branches had further subdivided. The continued proximity of the Armenian branch to the main stalk after this time would then explain why it was an exception to the above centumization processes and underwent satemization itself. The current proposal can thus be used to produce a straightforward and highly plausible hypothesis about the origins of the Centum-Satem division, without having to presuppose an implausibly large number of centumization or satemization processes.

Returning now to our main story, a new set of Indo-European groups then swept westward through the Eurasian Steppes beginning in around 2200 BC.⁴⁷⁵ We know that Iranian dialects dominated much of the Steppe region from shortly after this time until about the sixth century AD, and we can therefore credibly identify this new wave with Proto-Iranian speakers or their near precursors.⁴⁷⁶ Given the earlier settlement patterns of the Celtic-Italic and Germanic branches, these new westward

474. *Id.* Note that I am still excluding Anatolian from this analysis—as noted above. On the present view, Anatolian would have separated from the main stalk before any of these centumization or satemization processes—which would explain why it is hard to categorize in these terms.

475. NICHOLS, *supra* note 137, at 15 (“The steppe language families are quite shallow. The first identifiable language that spread over the steppe was Indo-European; it evidently covered the steppe from about the time of its breakup (ca. fourth millennium) to the later spread of its daughter branch Iranian (in the second millennium), and had therefore attained an age of only about two millennia when the time of its steppe dominance ended. Iranian dominated the steppe for about two millennia and thus attained an age of about two millennia on the steppe.”); *see also id.* at 18.

476. *Id.* at 15–18 (discussing Iranian dominance in the steppes during this period); Johanna Nichols, *Forerunners to Globalization: The Eurasian Steppe and Its Periphery*, in *LANGUAGE CONTACT IN TIMES OF GLOBALIZATION*, at 177, 186 (Cornelius Hasselblatt et al. eds., 2011) (noting that that Iranian languages were largely displaced by a subsequent Turkic spread which began in around the fifth century AD).

migrants would have been unable to settle around the Danube and lower Dnieper rivers, however, and would have instead been forced to settle further east, along the upper Dnieper and Don Rivers—where the Baltic and Slavic groups are depicted in Figure 24.2(A-D). On the present view, these regions would have then become distinct centers of linguistic coordination, and the people who settled in these regions would have begun to diverge into the Balto-Slavic branch. These regions are, in fact, the precise ones where the Balto-Slavic groups first show up in the historical record, and there is extensive archaeological evidence to suggest that these regions developed in just these proposed manners.⁴⁷⁷ Hence, this part of the present story is not only consistent with our best archaeological and historical evidence but would also explain the ultimate location of the Balto-Slavic groups relative to their Germanic and Celtic-Italic neighbors.

On the present view, these newly settled Proto-Balto-Slavic groups would have still remained in contact with their more nomadic Proto-Iranian brethren, who dominated the Steppes from about 2200 BC on. These emerging Proto-Balto-Slavic groups would have nevertheless been geographically separated from the main center of linguistic coordination for the Indo-Iranian branch—which, on the present view, would have still been in the Eastern-Iran-Bactria-Indus-Valley region. These two geographically separate regions would have thus begun to serve as distinctive centers for linguistic coordination, and these geographic facts would help to explain why the Balto-Slavic branch began to diverge from the main stalk in the ways depicted in Figure 23. Beginning in the sixth century AD, the Iranian speaking nomads of the Steppes were also displaced by a westward sweep of Altaic speakers who came from regions closer to Mongolia. These developments would have created even further linguistic separations between the Balto-Slavic and Indo-Iranian groups. The current proposal is thus fully consistent with the larger branching structure of the Indo-European language family as depicted in Figure 23.

This completes our discussion of the four migrations that I am proposing for the Age of Expansion, but, before ending our discussion of this period, I want to touch briefly on two further pieces of linguistic evidence that are relevant to the underlying issues. First, there is the puzzling fact that the Finno-Ugric languages show ample evidence of having been influenced by the Iranian branch of Indo-European, but the Iranian branch shows no evidence of reciprocal influences from Finno-Ugric.⁴⁷⁸ This fact will be very hard to explain if one assumes that the Proto-Iranians first emerged from the Steppes, where they would have presumably been in close and continued contact with Finno-Ugric speaking groups for large expanses of time. (One should remember that the Fin-

477. ANTHONY, *supra* note 64, at 377–82.

478. *Id.* at 126–27.

no-Ugric speakers—who are members of the Uralic language family as depicted in Figure 11—appear to have originated in the Volga River region.⁴⁷⁹)

The present proposal can, however, easily explain this otherwise puzzling fact. On the present view, Finno-Ugric speaking groups would have first come into contact with Proto-Iranian speaking beginning in about 2200 BC, when nomadic Proto-Iranian speakers first began to sweep through the Steppes. These nomadic Proto-Iranian groups would have been responsible for affecting Finno-Ugric, and—on the present view—they would have also exhibited certain predictable reciprocal influences from Finno-Ugric. All of the modern Finno-Ugric speaking groups are, however, located in the far northern reaches of Eurasia, and they never appear to have traveled far enough south or east through the Steppes to influence those more core Proto-Iranian speakers who—on the present view—had been living in both ancient Bactria and the eastern portions of modern-day Iran for some time prior. On the present view, it is these more settled Proto-Iranian groups are ultimately the direct socio-cultural ancestors of the surviving Iranian branch. (Their more nomadic brethren, by contrast, have been almost completely replaced by subsequent linguistic sweeps through the Steppes.) Because these more settled Iranian groups were not themselves linguistically descended from their nomadic brethren, it should come as little surprise, finally, that they show no traces of influence from Finno-Ugric.

The second piece of linguistic evidence that I want to discuss is one that has loomed especially large in certain larger debates over the origins of the Proto-Indo-Europeans. This is evidence that the Proto-Indo-Europeans had a reconstructible term for “horse.”⁴⁸⁰ The horse is itself indigenous to the Steppes, and appears to have been first domesticated there, but it is not indigenous to the Indian subcontinent and appears only rarely in India’s early archaeological history.⁴⁸¹ At the same time, the horse appears to have been very important (at least symbolically) to the Vedic groups who began to rule northern India in around 1500 BC.⁴⁸² Many have interpreted facts like these to suggest that the Proto-Indo-Europeans must have originated somewhere in the Steppes (near where the horse was domesticated), and that Indo-Aryan speaking groups must

479. BRYANT, *supra* note 35, at 126–29.

480. *Id.* at 115–20 (discussing evidence that a Proto-Indo-European term for horse, **ekwos*, can be reconstructed, but also discussing evidence to suggest this term more likely referred to the undomesticated, rather than domesticated, variety).

481. *Id.* at 115.

482. *Id.* at 170 (noting frequent references to the horse in the Rig Veda and observing that “[t]he horse is clearly an animal highly valued in the Vedic world”). *But see id.* at 117 (noting that, despite these many references to the horse, the Rig Veda contains only one reference to horse *riding*, and that there is no reference to the use of horses in battle).

have first entered the Indian subcontinent much later in or about 1500 BC.⁴⁸³

It is therefore important to recognize that the current proposal is equally consistent with this evidence of Proto-Indo-European horse terminology. Even during the earliest periods of the Age of Expansion, various terms for the horse and for horse technologies would have presumably been well known to those Proto-Indo-European groups who lived in the far northwestern parts of the Eastern-Iran-Bactria-Indus-Valley region because these semi-nomadic groups lived directly adjacent to the Steppes and were—on the present view—beginning to expand into the Steppes. On the present view, there would have also been high degree of linguistic coordination between these northwestern groups and the rest of the Proto-Indo-Europeans who were spread throughout the larger Eastern-Iran-Bactria-Indus-Valley region. Hence, these kinds of terms would have predictably spread very quickly throughout the Proto-Indo-European dialects in this larger region. Indeed, it is more than plausible that a basic word for horse would have begun to spread through these populations even earlier (during the Primal Age), and would have also been known to the Tocharians—who were similarly located adjacent to the Steppes. Hence, on the present view, words for the horse and for various horse technologies should have quickly and predictably spread throughout the main stalk from the time of their first Proto-Indo-European coinage.

At the same time, however, the horse would have initially proven much more critical to the subsistence patterns of those populations who engaged primarily in semi-nomadic and pastoralist forms of life, and much less important to those settled agricultural and urban centers of the Indus Valley. The current proposal would thus explain why terms for the horse and certain horse technologies appear in reconstructed versions of Proto-Indo-European, even though the horse is not indigenous to the Indus Valley.⁴⁸⁴ The current proposal would also explain why, despite these linguistic facts, the Harappan Civilization does not appear to have valued the horse nearly as much as its Vedic successors (if it did at all),⁴⁸⁵ why there is little (if any) evidence of horse remains from the Harappan period in the Indus Valley;⁴⁸⁶ and why there are no depictions of horses in the Harappan iconographies (with the one possible exception of a mysteri-

483. ANTHONY, *supra* note 64, at 488.

484. See BRYANT, *supra* note 35, at 115–20 (noting that the horse was not native to the Indian subcontinent and has always been an import to India); see also *id.* at 169–75 (“[I]f the Aryan horse were indeed present in the Indus Valley, surely it would have attracted the artistic attention of, at least, the odd seal maker or two.”).

485. *Id.* at 169.

486. *Id.* at 115–20, 169–75.

ous unicorn-like figure that appears with some frequency).⁴⁸⁷ This completes our discussion of the Age of Expansion.

c. The Age of Dissolution

Let us now turn to the third major period of our revised origins story, which I am calling the “Age of Dissolution,” and which should be understood as beginning in 1900 BC and lasting until around 800 BC. I have chosen to begin this third period in 1900 BC because scholars typically cite this date as the official end of the Harappan Civilization,⁴⁸⁸ and because this date therefore marks an important turning point in our story. Up until this time, the Harappan Civilization had been serving as the primary center of coordination for the main stalk of the Indo-European language family, on the present view, but this would begin to change during the Age of Dissolution. The Age of Dissolution was also qualitatively different from its predecessor in a number of further ways, which will be discussed below, and which often relate to the principal causes and consequences of the Harappan decline. Figure 24.3 depicts this third major period, as it will be described in the remainder of this Subsection.

We now know that one of the main causes of the Harappan decline was that changes in monsoon patterns led to the shortening of the once mighty Sarasvati river.⁴⁸⁹ The Sarasvati’s original riverbed thus began to dry up, and the surrounding regions—which had once been central to the Harappan Civilization—transformed into deserts.⁴⁹⁰

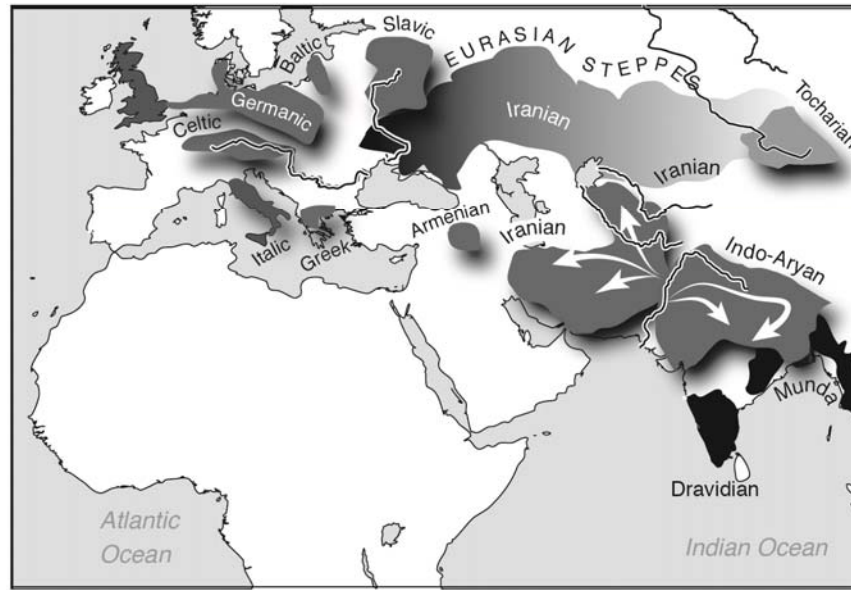
487. *Id.* at 173.

488. ALLCHIN & ALLCHIN, *supra* note 5, at 211–13 (dating the last of known Harappan sites between 2000–1850 BC); *see also* MCINTOSH, *supra* note 323, at 45 (positing a date of approximately 1900 BC for the decline of urbanism in the Indus Valley).

489. Liviu Giosan et al., *Fluvial Landscapes of the Harappan Civilization*, Proceedings of the National Academy of Sciences, available at www.pnas.org/cgi/doi/10.1073/pnas.1112743109; ALLCHIN & ALLCHIN, *supra* note 5, at 211–13, 223 (“[D]uring the second millennium BC, there was a dramatic reduction in the size and number of settlements in parts of the Indus system . . . [This] situation . . . we believe, arose from the deterioration of the environment brought about by changes in river courses and even the total disappearance of the Sarasvati, and exacerbated by a general decline in rainfall.”); *see also* BRYANT, *supra* note 35, at 165–69.

490. ALLCHIN & ALLCHIN, *supra* note 5, at 223; *see also* BRYANT, *supra* note 35, at 165–69.

FIGURE 24.3
THE AGE OF DISSOLUTION: PERIOD 3
(THE DISSOLUTION OF THE CENTER)
(AND CREATION OF INDEPENDENT INDIAN AND IRANIAN BRANCHES
(1900 BC – 800 BC))



The riverine-agricultural model of linguistic expansion suggests that events like these should have had significant linguistic and social impacts, which would have tended to reverse many of the expansionary forces that had been operating in this region prior to this time. Consistent with this prediction, the archaeological record suggests that, beginning in about 1900 BC, the people of the Indus Valley underwent a period of dramatic regionalization, which lasted for several centuries, and during which time many local forms of social organization initially decreased in complexity.⁴⁹¹ Populations declined sharply, and many Harappan cities were completely abandoned.⁴⁹² Figure 24.3 depicts these events by showing the Indus River as unaccompanied by the Sarasvati for the first time, and by depicting a series of white arrows pointing away from the collapsing center of the Indus Valley river system.

On the present view, these events caused a severe break in the course of Indo-European megaempires, which would not end until much

491. ALLCHIN & ALLCHIN, *supra* note 5, at 209.

492. *Id.* at 223 (describing these events and suggesting that “[t]he result was evidently a major reduction in population in the more arid regions”); see also BRYANT, *supra* note 35, at 165–69.

later, when—during the historical period—the six more familiar traditions of Indo-European megaempires (the Roman, Greek, Persian, Indian, German, and Slavic traditions, as depicted in Figure 22) began to reemerge in their familiar locations. I have therefore found it useful to think of the Age of Dissolution as launching a prehistoric Indo-European Dark Ages of sorts. Where the traditional story sees an absence of early Proto-Indo-European traditions relevant to producing and sustaining large-scale social complexity (and is therefore forced to presume six independent and original developments of these traditions by six different branches of the Indo-European family), the present story, however, proposes a major prehistoric lull within a single set of traditions with a much richer and deeper heritage of social complexity. It is—on the present view—this special heritage that helps to explain why so many of these subsequent Indo-European groups were able to blossom into so many distinctive traditions of megaempires of their own. Readers who would like to skip ahead can see a graphic depiction of the events leading to this lull and then to the reemergence of these subsequent traditions during the historical period in Figure 24.4 below.

So let us take a closer look at these prehistoric Indo-European Dark Ages. The demise of the Harappan Civilization—which first launched this period—would have had a number of predictable social and political consequences. Over the course of the Age of Expansion, the Harappans had been developing robust forms of political and economic power, and they tended to display a high degree of uniformity that is indicative of centralized social organization. Their demise would have thus left a major political vacuum in the Indus Valley. During the Age of Expansion, many surrounding communities had also become increasingly connected to the Harappans by trade, and had thus become increasingly reliant on these larger trade networks. The collapse of the Harappan Civilization would have thus tended to weaken many of the other settled communities in the larger Eastern-Iran-Bactria-Indus-Valley region. Given these developments, it should, in fact, come as little surprise that this period also marked the beginning of the demise of the Sumerian empire, which was located much further away in the Fertile Crescent but had also been engaging in robust trade with the Harappans for some time. The Sumerian civilization began to weaken around 1900 BC, roughly with the collapse of the Harappans, and the Sumerians were ultimately conquered by the Babylonians around 1750 BC.⁴⁹³

493. SAMUEL NOAH KRAMER, *THE SUMERIANS: THEIR HISTORY, CULTURE, AND CHARACTER* 32–33 (1963) (dating the Sumerian period as lasting from approximately 4500 BC until about 1750 BC, when “to all intents and purposes the Sumerians ceased to exist as a political, ethnic, and linguistic entity,” and their Babylonian neighbors from the north began to rule over a more extended part of Mesopotamia).

Because of this new political vacuum in the Eastern-Iran-Bactria-Indus-Valley region, some of the more nomadic and semi-pastoralist Indo-Iranian-speaking groups—who had once been relatively peripheral to this larger socio-cultural complex, but who had also learned to domesticate the horse and had developed efficient riding technologies by this time—would have become increasingly able to exert military and political control over their heavily weakened (and more highly regionalized) agriculturalist cousins.⁴⁹⁴ Indeed, one might usefully think of this period as one in which some of the more extreme divisions of labor that were generated by the Indus Valley river system during its prime (i.e., between certain semi-nomadic pastoralist groups at the periphery and their more settled agricultural cousins at the center) would have begun to unravel. The predictable result would have been a series of smaller and more regional and tribally-based groups, who practiced both subsistence patterns on a more local scale, but who nevertheless spoke related dialects of Indo-Iranian.

The archaeological record suggests that power changes of just this kind were, in fact, happening at around this time, and the tribal groups who began to rule in northern India from about 1500 BC were the bearers of so-called “Vedic” culture.⁴⁹⁵ This is the culture that is responsible for composing the earliest existing Sanskrit texts,⁴⁹⁶ and the present view would thus explain why the earliest Sanskrit texts describe a form of social and political organization that is fully consistent with these predictions (as opposed to describing a more advanced urban civilization).⁴⁹⁷ The fact that these new ruling groups came from a semi-nomadic and pastoralist background would also help to explain why the horse was so much more important to Vedic culture, as that culture is described in the early Sanskrit texts, than it was to the Harappans.⁴⁹⁸ The present story nevertheless differs from the traditional story in one very important and radical way: it suggests that these familiar changes in political structure and material culture would have been accompanied by only minor (if any) linguistic changes in most regions, because all of the groups under discussion would have already spoken highly related dialects of Indo-Iranian.

The present story would explain why the Sarasvati River—which was already extinct by this time—nevertheless played a very central role

494. ALLCHIN & ALLCHIN, *supra* note 5, at 209; *see also* ANTHONY, *supra* note 64, at 371–457.

495. *See* RICHARD F. GOMBRICH, *THERAVADA BUDDHISM: A SOCIAL HISTORY FROM ANCIENT BENARES TO MODERN COLOMBO* 32–35 (1988).

496. BRYANT, *supra* note 35, at 3–12, 57–67.

497. *Id.* at 185; *see e.g.*, ROMILA THAPAR, *EARLY INDIA: FROM THE ORIGINS TO AD 1300*, at 117–26 (2002).

498. BRYANT, *supra* note 35, at 165 (“Among these seven rivers, the Sarasvatī is praised as the best and as distinct in majesty . . .”); *id.* (noting the “spiritual and physical importance accorded to the Sarasvatī in the Vedic and Epic texts”).

in early Vedic culture, as described in the early Sanskrit texts.⁴⁹⁹ The present story would also explain why these texts appear to contain some references to astronomical events that would have placed their ancestors in northern India at least as early as 2500 BC.⁵⁰⁰

Over the next millennium and beyond, the archaeological record shows that the center of northern Indian civilization then began to grow again in complexity and move eastwards away from the Indus Valley region and along the Gangetic Plain.⁵⁰¹ Figure 24.3 depicts these developments with a series of white arrows that go from the center of the Indus Valley to the northeast. After an initial period of regionalization, some of the western groups in the larger Eastern-Iran-Bactria-Indus-Valley region also began to grow again in complexity, but their new center of gravity was located further to the west in modern-day Iran.⁵⁰² (Figure 24.3 depicts these westward developments with a series of white arrows that go from the western parts of the Indus Valley to the west and northwest.) Because these two regions are separated by the Hindu Kush mountains, these new developments would have generated growing geographic and linguistic separations between these two sets of Indo-Iranian groups. Figure 24.3 thus depicts these growing separations by butterfly-flying the once highly coordinated Eastern-Iran-Bactria-Indus-Valley region into two separate but neighboring regions that are indicated in dark grey and divided by the Indus River.

As Figure 24.3 indicates, these two regions are the precise ones where the two branches of Indo-Iranian—namely, Iranian and Indo-Aryan—show up in the historical record, and, even today, the Indus Riv-

499. *Id.* at 251–64 (discussing astronomical references that appear to refer to periods as early as 4500–2500 BC and discussing evidence of polestar position that occurred in 2780 BC).

500. THAPAR, *supra* note 497, at 115 (noting “the horse held pride of place” for the Vedic elite. “The horse was essential to movement, to speed in war, and in mythology it drew the chariots not only of men but also of the gods. And it was easier to herd cattle from horseback where the grazing grounds were extensive.”); *see also id.* at 85 (“The depiction of the horse is [by contrast] absent [from] the [Harappan] seals. A few bones, said to be of the horse, and small terracotta forms occur in late levels at Pirak (Baluchistan) dating to the early second millennium BC. The claim that horse bones occur at Surkotada, and at a few other sites at earlier levels, has met with doubt, the bones being identified as those of the ass and the onager. The late arrival of the horse in India is not surprising since the horse is not an animal indigenous to India. Even on the west Asian scene, its presence is not registered until the second millennium BC. The horse was unimportant, ritually and functionally, to the Indus civilization.”).

501. ALLCHIN & ALLCHIN, *supra* note 5, at 214–18; *see also* BRYANT, *supra* note 35, at 67.

502. MUHAMMAD A. DANDAMAEV & VLADIMIR G. LUKONIN, *THE CULTURE AND SOCIAL INSTITUTIONS OF ANCIENT IRAN* 1–89 (discussing archaeological evidence of growth of social complexity in ancient Iran from about 1300 BC until sixth century BC) (2004); *id.* at 13 (“it is precisely these data that provide evidence against a sudden explosion (specifically, the conquest of a number of petty city-states of western Iran by new ethnic groups), and against the sudden appearance in the Iron Age I period of significant masses of Iranian nomads, livestock breeders, or ‘sheperds of cattle,’ etc., who would have been capable of changing the face of the archaeological culture. A gradual process of accumulation of new features of a material culture, that took more than a century to develop, would be in accord to a substantially greater degree with the process attested to in the written sources.”); *see also* ANTHONY, *supra* note 64, at 412–57 (describing developments in present-day Iran).

er serves as the basic geographic boundary between these two branches. The developments under discussion would thus help to explain why—as depicted in Figure 23—the Indo-Iranian branch began to subdivide into these two further branches at roughly this time.⁵⁰³ Indeed, the very late timing of this split would also help to explain why there are so many clearly identifiable relations between the earliest known literatures of Iran (the Avestan texts, which were transcribed in approximately the mid-second millennium BC) and the earliest known literatures of India (the Vedic texts, which were first transcribed in approximately the mid-second to the mid-first millennium BC).⁵⁰⁴ The many relations between these two sets of texts suggest that they derive from a common oral tradition in their recent past—which is highly consistent with the present story.

The present view would also explain another potentially puzzling feature of the basic structure of the Indo-European language family tree. The linguistic facts depicted in Figure 23 suggest that the main stalk of the Proto-Indo-European language family generated a number of major linguistic branches over a very lengthy period of time and that the main stalk also persisted as a distinct and independent social phenomenon, which was capable of producing further branches through all of these branching events—with the single exception of the last one (i.e., between the Iranian and Indo-Aryan branches). A natural question to ask is thus why the main stalk would have stopped producing any further branches at just this time. For reasons already stated, the present view already claims a number of distinct advantages, insofar as it identifies the main stalk with an archaeological phenomenon that was, first, robust enough to have generated all of the branches posited prior to 1900 BC; second, located at a sufficient distance from these earlier branches to explain their linguistic separations;⁵⁰⁵ and, third, persistent enough (in the sense of its reflecting sufficient social continuity throughout all of these earlier branching events) to reflect a coherently developing linguistic phenomenon during this time. We can, however, now see that the present view can claim yet another advantage: it identifies the main stalk with an ar-

503. See also Nakhleh et al., *supra* note 395, at 403 fig.12.

504. THAPAR, *supra* note 497, at 104–36 (discussing numerous relations between the Avestan texts and the Vedic corpus, while noting that they reflect opposing political allegiances toward some of the social groups and the religious authorities and gods); see also *id.* at 106 (discussing the reversal of concepts); *id.* at 108 (suggesting a mid-second millennium date for the composition of Avestan texts); *id.* (“In terms of religious concepts the attributes of gods are often reversed. Thus Indra is demonic in the Avesta, as are the *daevas* (devas or gods in Sanskrit) and Ahura/asura emerges as the highest deity. This has led to the theory that originally the Old Iranian and Indo Aryan speakers were a single group but dissensions led to their splitting up.”); *id.* at 104 (noting that the Vedic corpus begins in the mid-second millennium BC); *id.* at 98 (“Those that came to constitute the Vedic corpus and were contemporary with this period began as an oral tradition to be memorized with much precision, which was eventually written many centuries later.”). See also BRYANT, *supra* note 35, at 130–35.

505. See *supra* Part V.D (discussing the Indo-European language family).

chaeological phenomenon that split at its center with the final branching major branching of the Indo-European language family, as depicted in Figure 23. The present view can thus help to explain why this final split (between the Iranian and Indo-Aryan branches) reflected a terminal split of the main stalk and why no main stalk persisted thereafter to produce any other major Indo-European branches.⁵⁰⁶

This final set of movements would have also brought the northern Indian groups into increased contact with, first, various Munda groups (as the Indo-Aryan groups of the north began to expand further to the east along the Gangetic plain), and then, second, various Dravidian groups (as these Indo-Aryan groups began to expand further south from the Gangetic plain). Figure 24.3 depicts these events with a first set of white arrows leading from the Indus Valley region to the north and east (where Munda speakers would have been located, on the present view, along the lower Ganges) and with a second set of white arrows leading subsequently from the Gangetic plain to the south (where most of the Dravidian populations would have been located). On the present view, increased contacts with these groups would have thus begun to leave a number of distinctive linguistic and genetic influences on this single (Indo-Aryan) branch of the Indo-European family. These linguistic influences would also have begun to appear in the precise order that Witzel has found in his analyses of the early Sanskrit texts,⁵⁰⁷ and the present story would thus help to explain Witzel's findings.

At the same time, however, most of these new influences would have begun to accumulate sometime after 1500 BC on the present view. These influences would have thus begun shortly after the Iranian branch had begun to split from the Indo-Aryan branch, and long after all of the other Indo-European branches had split from the entire Indo-Iranian branch. The current proposal would thus help to explain two other facts that might otherwise seem puzzling. The first is that the Munda and

506. In fact, we are now in a good position to see how the entirety of the story that has thus far been told would also help to explain a broader set of linguistic evidence from isoglosses and loanwords that can be used to identify certain likely geographical groupings that existed between various branches of the early Indo-European language speakers. Thomas V. Gamkrelidze and V.V. Ivanov have suggested, based on data like this, that Proto-Indo-European dialects were initially spoken in a contiguous region, but then split into two major sub-groupings. See BRYANT, *supra* note 35, at 147–48. The A group contains Anatolian, Tocharian, and Celtic-Italic, and—on the present view—would have been a group of dialects from the western regions of Eastern-Iran-Bactria-Indus-Valley, while the remaining would have formed an interconnected cluster closer to the eastern portions. Anatolian was then the first to split off—just as this story suggests. *Id.* And then Tocharian split from Celtic-Italic—again, just as this story would suggest. Within the B group, Gamkrelidze and Ivanov find a subsequent dialectal split between the Balto-Slavic-Germanic dialects and the Aryan-Greek-Armenian dialects, “but in such a way that Indo-Iranian maintains a central position for a period.” *Id.* This pattern is—once again—precisely what one would expect if the German, Baltic, and Slavic dialects began to coordinate in northeastern Europe, where they came into some contact with Indo-Iranian groups in the Steppes, but if the Indo-Iranian, Greek, and Armenian groups remained in closer contact because their main sources of coordination were in the Near East and on the Indian subcontinent. *Id.*

507. See generally Witzel, *supra* note 350; see also BRYANT, *supra* note 35, at 101–03.

Dravidian influences that are found in the Indo-Aryan languages are not shared by any other branch of Indo-European (with the single exception of some minor influences on the Iranian branch).⁵⁰⁸ The second is that contemporary Indian populations exhibit certain widely shared genetic markers, which do not appear in any of the other branches of the Indo-European family (with, once again, the single exception of some minor appearances in the Iranian branch).⁵⁰⁹ If—as the present theory suggests—these linguistic and genetic distinctions arose from an admixture with Dravidian and Munda populations, which only began in earnest after 1500 BC, then the present story would predict these precise distinctions.

Although our understanding of the genetics of human prehistory has begun to expand at breakneck speed, the relevant genetic evidence that we currently have at our disposal is, in fact, fully consistent with the current proposal. Some of the most important recent genetic studies relevant to South Asia are due to David Reich, and these studies suggest that modern Indian populations can be modeled as the product of a major admixture event between two genetically divergent populations, which most likely took place from about 1500 BC until about 900 AD.⁵¹⁰ The first reconstructed population—which has been dubbed the Ancestral North Indian (ANI) population—is genetically very closely related to Middle Easterners, Central Asians, and Europeans, whereas the second—which has been dubbed the Ancestral South Indian (ASI) population—is not closely related to any known group outside of India.⁵¹¹ Although it might be tempting to read these findings as corroborating the traditional claim that a major influx of Indo-European speaking groups entered the Indian subcontinent in or around 1500 BC and then began to intermix with a local Dravidian population, these findings are equally consistent with the alternative proposal that I have been developing here: namely, that certain very early Proto-Indo-European groups who were closely genetically related to modern Europeans, Central Asians, and Middle Easterners were already in the Indian subcontinent long before 1500 BC but only began to engage in serious admixture with Dravidian populations sometime after this time. In order to decide between

508. BRYANT, *supra* note 35, at 103–05.

509. *Id.* at 104; see also Mait Metspalu et al., *Shared and Unique Components of Human Population Structure and Genome-Wide Signals of Positive Selection in South Asia*, 89 AM. J. HUM. GENETICS 731, 734–41 (2011) (detailing genetic evidence that the Indian subcontinent shows a mixture of two ancestral populations, one of which bears markers that are not widely shared outside of the Indian subcontinent).

510. David Reich et al., *Reconstructing Indian Population History*, 461 NATURE 489 (2009) (showing that Indian population can be modeled as a mixture of ANI and ASI populations); Moorjani, Reich, et al., *Estimating a Date of Mixture of Ancestral South Asian Populations*, unpublished (on file with author) (presenting initial data which suggests a time period for the admixture from about 3500 years ago until about 1200 year ago).

511. *Id.*

these two possibilities, we therefore need to look to other sources of evidence. One potentially relevant source would lie in studies of the so-called “haplotype diversity” of the genetic contributions that are shared among Indians, Central Asians, Middle Easterners and Europeans. These studies can be used to get a sense of the relative time depth of these contributions, and recent work employing this method suggests that the ANI contributions to the Indian gene pool significantly predate 1500 BC.⁵¹² Collectively, this evidence from population genetics therefore favors the current proposal.

There is, in any event, neither any archaeological nor any genetic evidence of any large-scale migrations either into or out of the Indian subcontinent in the period corresponding to the collapse of the Harappans.⁵¹³ This fact is important because these same studies of population genetics suggest that, throughout India, most populations exhibit ANI ancestry of somewhere between 39 and 71%.⁵¹⁴ Given the known archaeological record in this region, it is, however, highly implausible that small migrating groups of Indo-European speakers could have first entered the Indian subcontinent around 1500 BC and created such dramatic linguistic and genetic changes throughout.

The current proposal avoids all of these problems, on the other hand, because it suggests that different groups of Indo-European speakers would have been widely dispersed both inside and outside of the Indian subcontinent since long before 1500 BC. The Age of Dissolution would have witnessed the collapse of the larger socio-cultural complex that helped generate these larger dispersals, but it would not have involved any large-scale migrations either into or out of India. Subsequent events would have then led to the major linguistic and genetic admixture events that show up in the contemporary record.

The present theory would thus explain why no one has been able to find any archaeological trace of any single and significant group of people who moved from the Steppes into northwestern India during the second millennium.⁵¹⁵ At the same time, the present theory would explain why archaeologists have found numerous cultures that seem to be associated with Indo-Iranian speakers but who appear to have been widely dis-

512. Metspalu et al., *supra* note 509, at 734–41.

513. See BRYANT, *supra* note 35, at 192–93 (“[T]he [Indian] archaeological record stretches from the seventh millennium B.C.E. right down through the Early, Mature, Late, and Post-Harappan periods. . . . [T]here are regional variations and transformations [throughout the time period,] but no sudden interruptions or abrupt innovations”); see also Metspalu et al., *supra* note 509, at 734–41.

514. Reich et al., *supra* note 510.

515. BRYANT, *supra* note 35, at 231–34.

tributed throughout the Steppes, central Asia, Bactria, Iran, and north-western India from the mid-third to early-second millennium BC.⁵¹⁶

d. The Historical Age

This finally brings us to the fourth period—or the Historical Age—which should be understood as beginning around 800 BC but at slightly different times in different regions of the world. Figure 24.4 depicts the main events from this final stage, along with the main events from all of the prior stages, in one place.

During the Historical Age, all of the branches of the Indo-European family finally show up in the historical record in their familiar locations, and the story presented here offers a comprehensive explanation of why. The Historical Period also witnessed the emergence of megaempires in not one but six different branches of the Indo-European family—each of which then launched a distinctive tradition of megaempires of its own.⁵¹⁷ As shown in Figure 24.4, the first three megaempires were the Median (or Persian), the Hellenic (or Greek), and then the Mauryan (or Indian) megaempires.⁵¹⁸ Shortly thereafter, the Italic (or Roman) megaempire arose, and then fell.⁵¹⁹ Much later, the Frankish (or German) and Kiev (or Slavic) megaempires emerged and began traditions of their own.⁵²⁰

In the eleventh century AD, the story then comes back full circle to where we began this Article, with the rebirth of what we now think of as Western law and Western civilization.⁵²¹ As the traditional story observes, these developments were greatly influenced by the rediscovery and adoption of certain key texts from the ancient Greek, Roman, and Hebrew traditions.⁵²² We are, however, now in a much better position to understand these familiar developments from a broader perspective. If the arguments in this Article are valid, then the idea that the rebirth of Western law and Western civilization *merely* involved the reappropriation of these three earlier traditions tells only part of the story, because the peculiar Western *receptivity* to these influences, and its capacity to use them to transform itself into a distinctive tradition of large-scale civilizations with the rule of law, is partly explained by an even deeper fact. As Figure 24.4 shows, the Germanic, Greek, and Italic traditions all

516. See generally *id.* at 197–223 (discussing archaeological evidence of a number of groups that were arguably Indo-Iranian during this period, outside of the Indian subcontinent); *id.* at 224–34 (discussing the same for record inside the Indian subcontinent).

517. See *supra* Figure 22 (showing map of preindustrial Indo-European megaempires in world history); see also Turchin, *supra* note 15, at 202–03 tbl.2.

518. See *infra* Table 24.4, notes 521–23 and accompanying text.

519. See *id.*

520. See *id.*

521. See *supra* Part II.A. See generally BERMAN, *supra* note 1 (describing the development of the Western legal tradition).

522. BERMAN, *supra* note 1, at 3.

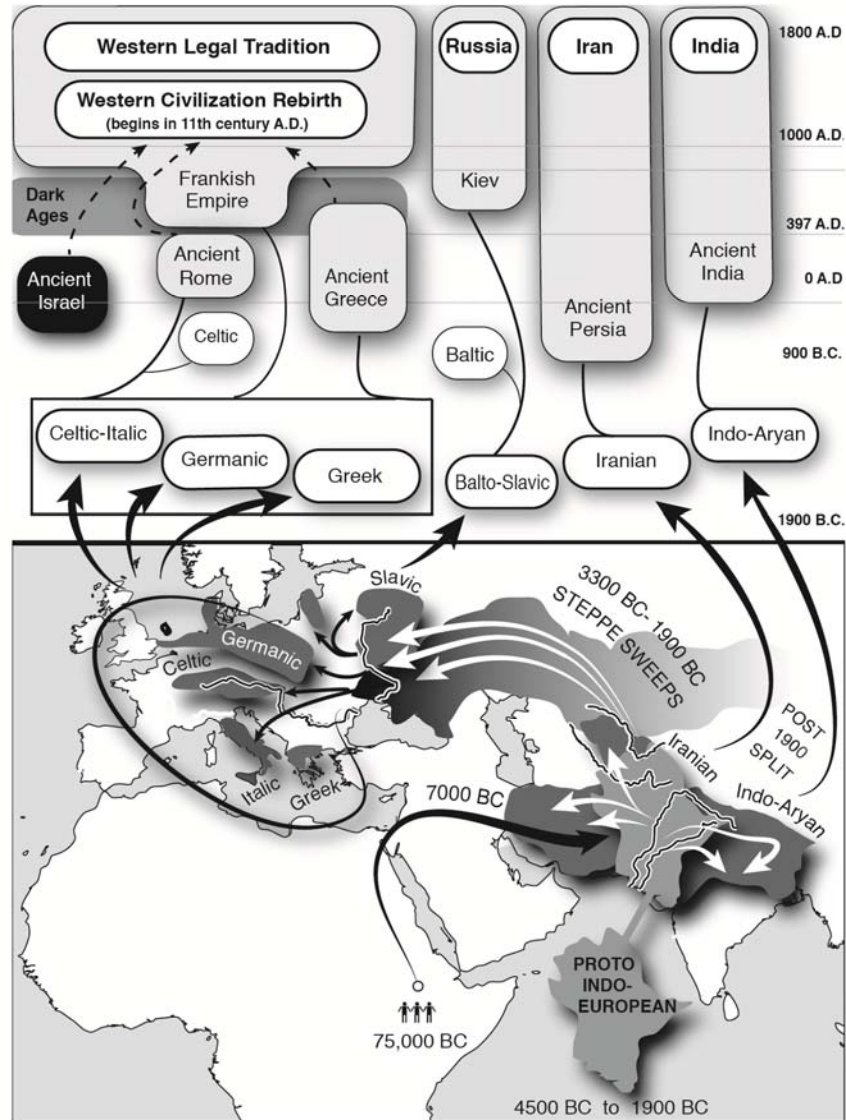
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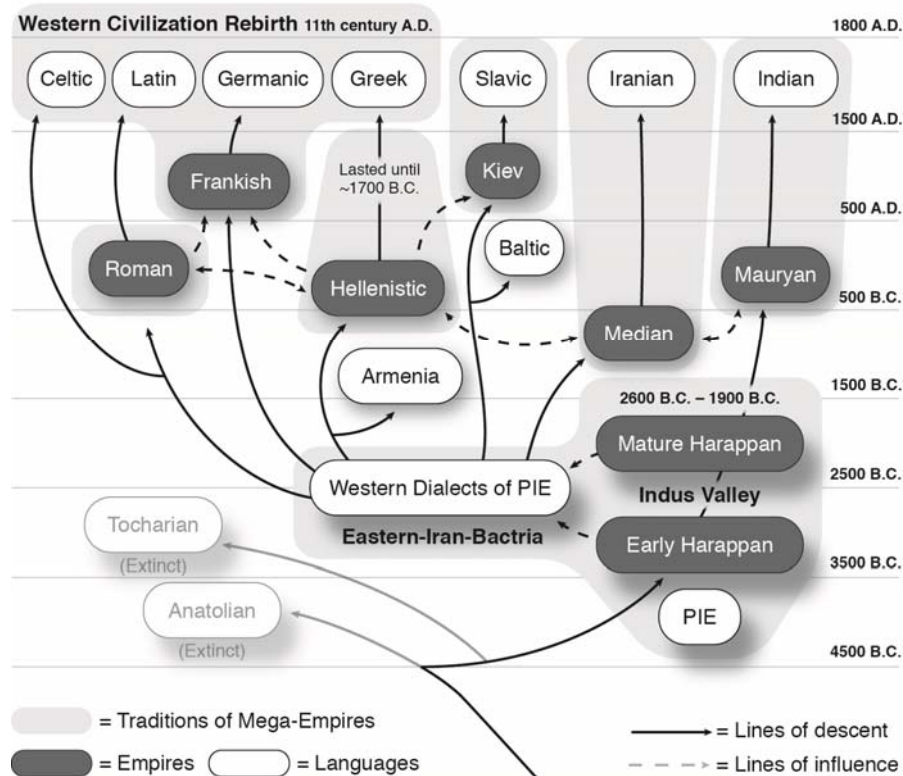
share a common cultural tradition, which goes much further back in time, and which would have equipped these Western societies in special ways to produce and sustain these emerging forms of social complexity.

FIGURE 24.4
THE COMPLETE STORY
(THROUGH THE HISTORICAL PERIOD)



The traditional story of the origins of the West can thus be understood as emphasizing certain important lines of cultural influence, while leaving out certain equally important facts about our deeper lines of socio-cultural descent. In this Article, I have tried to reconstruct these lines of socio-cultural descent, and Figure 25 below presents what I believe to be the most plausible phylogenetic structure of the Indo-European legal family tree (including the special cultural traditions relevant to the emergence and stability of legal systems), based on all of the arguments and evidence produced herein.

FIGURE 25
INDO-EUROPEAN LEGAL FAMILY TREE



2. *How the New Story Absorbs Nichols's Extensive Linguistic Evidence and Anthony's Extensive Archaeological Evidence—While Avoiding Problems in Their Theories*

I have now told a fairly detailed version of the revised origins story that I am proposing. As noted above, this story is not technically a Proto-Indo-European “homeland” theory, because its primary concern is to explain certain expansions and developments *within* the Proto-Indo-European family, regardless of the earliest origins of these peoples. In telling this story, I have nevertheless made quite a few claims about the early dispersal patterns of various Indo-European groups, and these claims are obviously highly relevant to more orthodox homeland debates. Debates over the homeland of the Proto-Indo-Europeans have, however, produced an enormous literature,⁵²³ and there is still very little consensus on this issue.⁵²⁴ One of the central challenges for a project like the current one will thus be to convince expert readers that this new story is sufficiently sensitive to the broadest range of relevant evidence to be considered among the handful of most plausible theories on these topics.

In one sense, I have been building an argument for this claim all along, by pointing out an increasing body of evidence that either favors the current proposal or can at least be interpreted as consistent with it. The evidence and arguments produced thus far should—in my view—already render the current proposal worthy of serious consideration. Many of the arguments in both this Article and the traditional homeland literature nevertheless rest on a particular form of argument—namely, inference to the best explanation—and I have not yet compared the explanatory power of the current theory against some of the best known homeland theories. In this Subsection, I would like to take that additional step. My goal will be to argue that, when compared to some of the most highly respected and well-evidenced homeland theories in the literature, the present model is better able to explain and render coherent an extraordinarily broad range of linguistic and archaeological facts that are relevant to the underlying issues.

Given the vast scope of the literature on the Proto-Indo-European homeland, it would be impossible—even in an extended format like this—to try to address all of the evidence that arguably speaks to the early dispersal patterns of the Proto-Indo-Europeans. For present purposes, I will therefore adopt the following narrowing strategy. First, I will consider as possible objections two of the most highly respected and well-

523. BRYANT, *supra* note 35, at 3 (noting that this endeavor has “resulted in a massive amount of scholarship” and that “[t]he solution to the Indo-European problem has been one of the most consuming intellectual projects of the last two centuries. It has captivated the imagination and dedication of generations of archaeologists, linguists, philologists, anthropologists, historians, and all manner of scholarly, and not so scholarly, dilettantes”).

524. *Id.* at 43.

evidenced homeland theories in the literature. These are the linguist Johanna Nichols's Bactrian homeland theory,⁵²⁵ and the archaeologist David Anthony's Ukrainian (or Steppe) homeland theory.⁵²⁶ Although many individual experts may disagree with these theorists' ultimate conclusions or with some of their arguments or interpretations of the underlying evidence, there is no doubt that these two theories represent some of our very best models of sensitivity to the relevant linguistic and archaeological evidence, respectively. I will therefore examine these two theories more closely and suggest that, second, the great bulk of their cited evidence is equally supportive of the current proposal as it is of theirs. I will then argue, third, that the current proposal fills important gaps in these theorists' arguments, which would otherwise leave their views open to serious objection. I will suggest that this larger body of linguistic and archaeological evidence should therefore be understood as favoring the current proposal over theirs.

In fact, although both Nichols and Anthony rely on quite extensive bodies of linguistic and archaeological evidence, respectively, they interpret their evidence to support distinct and mutually contradictory homeland propositions. Under their interpretations, the strength of each body of evidence for its respective theorist therefore presents a formidable challenge to the other. The current proposal will—by contrast—avoid this particular problem, because it will harmonize these two bodies of evidence and show how they can be interpreted to support a common set of conclusions. That fact will, in turn, render the proposed harmonization credible, and show how this collective body of evidence provides an additional and extremely rich source of support for the present theory.

By harmonizing the tensions between these two bodies of evidence in this particular manner, I hope to show that the present theory not only inherits but also *exceeds* the well-known sensitivity of these two earlier theories to relevant evidence. In the course of developing these arguments, I will also draw upon these larger bodies of evidence to motivate some of the finer details of the revised origins story told above.

a. Nichols and the Additional Linguistic Evidence

The first homeland theory that I would like to consider is the one developed by the linguist Johanna Nichols. Nichols argues for a Bactrian homeland for Proto-Indo-European, and one of the first things to notice about her proposal is that it therefore significantly overlaps with the current proposal. It would, in fact, be logically consistent with everything that has been said thus far to think that the “original” Proto-Indo-Europeans might have begun in Bactria and then spread out through

525. See generally NICHOLS, *supra* note 137.

526. See generally ANTHONY, *supra* note 64 (describing Anthony's homeland theory).

Mehrgarh and into the Indus Valley region beginning in about 4500 BC. For this reason, Nichols's views need not be viewed as inconsistent with the current proposal.

When explaining the early expansions and developments of the Indo-European language family, Nichols does not, however, carve out any special role for the Indus Valley river system, as the current theory does.⁵²⁷ The current theory also proposes that many of the most significant early developments of Proto-Indo-European occurred not just in Bactria but throughout the larger Eastern-Iran-Bactra-Indus-Valley region. Our initial question should thus be whether Nichols's linguistic evidence distinguishes between these two views, or whether it is equally supportive of both.

In approaching these issues, it will be useful to break Nichols's arguments down into two main parts. The first part tries to pin down the most plausible geographic location of the Proto-Indo-Europeans before they began to branch and uses evidence of various isoglosses and loanwords for this purpose. For example, there is evidence that Proto-Indo-European had a number of Sumerian and Semitic loanwords,⁵²⁸ which has led some theorists to suggest that it must have originally been spoken in an area adjacent to Mesopotamia—such as Anatolia.⁵²⁹ Nichols observes that there is, however, no evidence of any reciprocal influences between several of the Caucasian languages in this region and Proto-Indo-European,⁵³⁰ as one would expect if Proto-Indo-European had indeed originated in Anatolia. We also know of some Indo-European languages, such as Hittite, which *were* spoken in Anatolia at a much later time, and Hittite reflects a range of Caucasian substratum effects that suggest that it was a linguistic intruder in the area.⁵³¹ Nichols therefore examines the Sumerian and Semitic loanwords more carefully, and finds linguistic evidence that they came into Proto-Indo-European through some intermediary language, rather than directly.⁵³² Nichols therefore concludes that Proto-Indo-European must have originated in a region that was not directly adjacent to Mesopotamia, but rather once removed.⁵³³ This conclusion is critical to her larger arguments.

Nichols's proposed homeland—Bactria—is once removed from Mesopotamia (because the central Iranian plateaus separate Bactria from Mesopotamia), but so too are the Eurasian Steppes (because the

527. Nichols, *Epicentre*, *supra* note 412, at 137–38 (arguing from loanwords and patterns of linguistic accretion for Bactria as the epicenter of Indo-European linguistic spread, but without mentioning any particular importance for the Indus Valley region); *see also* Nichols, *Eurasian Spread Zone*, *supra* note 412, at 259–60.

528. Nichols, *Epicentre*, *supra* note 412, at 127–29.

529. BRYANT, *supra* note 35, at 124–26.

530. *Id.*; *see also* Nichols, *Epicentre*, *supra* note 412, at 144.

531. MALLORY & ADAMS, *supra* note 35, at 443.

532. BRYANT, *supra* note 35, at 126; *see also* Nichols, *Epicentre*, *supra* note 412, at 127–29, 137.

533. BRYANT, *supra* note 35, at 126; *see also* Nichols, *Epicentre*, *supra* note 412, at 127–29.

Caucasus Mountains separate the Steppes from Mesopotamia). Nichols therefore relies on further linguistic evidence to narrow her proposal down to Bactria.⁵³⁴ One problem with the Steppe hypothesis is that the Steppes are still adjacent to the Caucasus mountains, and, as already noted, neither Proto-Indo-European nor certain important Caucasian languages exhibit the types of reciprocal influences that one would expect if they had originally been spoken in geographical proximity.⁵³⁵ If Proto-Indo-European had originated in the Steppes, then its speakers would have also presumably been in geographic proximity to the early Finno-Ugric speakers, but neither Finno-Ugric nor Proto-Indo-European exhibits the kinds of reciprocal influences that one would expect from these contacts.⁵³⁶ The Finno-Ugric languages do, on the other hand, exhibit some influences from some later branches of Indo-European, and—as noted above—the influences from one branch in particular (the Iranian branch) appear to be unilateral.⁵³⁷ This pattern of influences is inconsistent with a Steppe homeland for Proto-Indo-European but consistent with the thesis that these Indo-European branches spread into the Steppes from a region near Bactria.⁵³⁸

There is, of course, one other important geographic location that is once removed from Mesopotamia and that might therefore be thought to have served as a plausible Proto-Indo-European homeland: the Balkans. If we include a range of extinct Indo-European languages in our analysis, then the Balkans may well be the region that displays the greatest linguistic diversity among Indo-European languages, and some linguists have suggested that the origin of a language family should also be sought in its region of greatest diversity.⁵³⁹ As Nichols has shown, however, this principle is demonstrably false with regard to those language families that have spread through the Steppes,⁵⁴⁰ and the Indo-European language family is clearly one of these.⁵⁴¹ Hence, this principle is inapplicable in the present context.⁵⁴² In any event, there are numerous other reasons to disfavor a Balkan homeland, and very few modern scholars endorse it.⁵⁴³

534. BRYANT, *supra* note 35, at 126; *see also* Nichols, *Epicentre*, *supra* note 412, at 137–38.

535. BRYANT, *supra* note 35, at 125–26; *see also* Nichols, *Epicentre*, *supra* note 412, at 144.

536. BRYANT, *supra* note 35, at 127–28; *see also* Nichols, *Epicentre*, *supra* note 412, at 141.

537. BRYANT, *supra* note 35, at 126–28; *see also* Nichols, *Epicentre*, *supra* note 412, at 140–41.

538. BRYANT, *supra* note 35, at 151–52; *see also* Nichols, *Epicentre*, *supra* note 412, at 137–38; *supra* Part V.E.1.b (pointing out implications of unilateral influence of Iranian on Finno-Ugric for these early demographic patterns).

539. HOCK & JOSEPH, *supra* note 94, at 523.

540. *See generally* Nichols, *Eurasian Spread Zone*, *supra* note 412, at 254–56 (discussing chronology of the Indo-European dispersal).

541. Nichols, *Epicentre*, *supra* note 412, at 130 (“But for language families that have their origins in spread zones this principle is unlikely to be straightforwardly applicable, and for those of central Eurasia it is demonstrably false.”).

542. *See* BRYANT, *supra* note 35, at 151–52 (analyzing Nichols’s Sogdiana model and her theory regarding Bactria); *see also* Nichols, *Epicentre*, *supra* note 412, at 137–38.

543. BRYANT, *supra* note 35, at 151–54; *see also* Nichols, *Epicentre*, *supra* note 412, at 129–36.

Nichols therefore interprets the linguistic evidence under discussion as favoring a Bactrian homeland over these others.

Let us now consider more closely what this first class of linguistic evidence really does. It tends to rule out a range of early locations for Proto-Indo-European within the immediate environs of Mesopotamia, and then identifies Bactria as the closest plausible location where Proto-Indo-European would have been spoken. This evidence also suggests that the early Proto-Indo-Europeans had indirect contacts with Mesopotamia—which suggests, in turn, that they were located at least about as close as Bactria. At the same time, however, there is nothing about this particular class of evidence that would constrain the geographic reach of Proto-Indo-European to Bactria itself. Hence, there is nothing about this first class of evidence that rules out the claim developed here that Bactria was part of a much larger and more highly interconnected linguistic phenomenon that spread throughout the Eastern-Iran-Bactria-Indus-Valley region. This first class of evidence is—in other words—equally supportive of the current proposal as it is of Nichols’s more familiar homeland theory, and her evidence can thus be construed as lending some support to the current theory.

At the same time, however, both of our theories posit a series of westward expansions of various Indo-European branches from Bactria through the Steppes, and one might therefore wonder just how plausible it is that so many different languages could have spread from such a small geographic region through such an extended one. The second class of linguistic evidence that arises in Nichols’s work, and that I want to discuss here, addresses just this issue.

In *Linguistic Diversity in Space and Time*, Nichols develops a distinctive kind of linguistic analysis, which she calls “population based linguistics,” and which she uses to explain different patterns of linguistic spread from around the world.⁵⁴⁴ Nichols essentially begins by examining certain well-known patterns of linguistic diversity from around the world and over the course of world history. Her analyses reveal that there is an important distinction to be made between two very different types of geographic region. The first type—which she refers to as a “linguistic residual zone”—is an area that tends to foster small group populations that maintain relatively few contacts with other groups.⁵⁴⁵ Based on a comprehensive analysis of linguistic data from around the world and over the course of world history, Nichols finds that linguistic residual zones tend to maintain a very diverse set of languages, each of which tends to remain relatively isolated and localized (and hence structurally different from the rest), and each of which tends to maintain historically deep

544. NICHOLS, *supra* note 137, at 1–11.

545. *Id.* at 21.

roots in its location.⁵⁴⁶ The different linguistic populations in residual zones also tend to maintain a high degree of internal genetic consistency, and residual zones do not tend to produce major linguistic expansions.⁵⁴⁷

By contrast, the second type of region—which Nichols refers to as a “linguistic spread zone”—is a region in which many populations tend to interact with one another over extremely wide geographic ranges.⁵⁴⁸ Nichols’s analyses suggest that these regions differ quite sharply from linguistic residual zones. Unlike residual zones, linguistic spread zones tend to invite a succession of distinct equilibrium languages, each of which tends to replace its predecessor (rather than developing out of it) as it begins to dominate and then reach equilibrium in the region.⁵⁴⁹ The languages that replace one another in this fashion need not be closely related, however, and they therefore tend to have relatively shallow historical roots in the region and display very little structural diversity.⁵⁵⁰ Quite often, these languages serve “as a lingua franca for the entire area or a large part of it,”⁵⁵¹ and, hence, the languages that dominate tend to emanate from some contemporaneous “center of cultural, political, and/or economic influence.”⁵⁵² From time to time, these centers of influence may themselves “shift as political and economic fortunes shift,” and—indeed—this fact helps to explain why linguistic spread zones often display a succession of equilibrium languages.⁵⁵³

These facts are, moreover, highly relevant to the present inquiry for a simple set of reasons: Bactria is located adjacent to the Eurasian Steppes, and—as Nichols observes—the Steppes have themselves functioned as a paradigmatic linguistic spread zone for millennia.⁵⁵⁴ We know, for example, that “[t]hroughout the entirety of traceable linguistic history . . . all or most of the steppe has been dominated by a single language family, and often a single language has covered most of it.”⁵⁵⁵ Iranian languages dominated the Steppes for approximately two millennia beginning in about 2000 BC; Turkic languages then succeeded Iranian languages in the Steppes beginning with a set of invasions from the northeast in the sixth century AD; and Mongolian languages then succeeded Turkic languages in the Steppes beginning in early medieval

546. *Id.* at 23.

547. Some examples of long-standing residual zones include that “part of eastern Africa . . . represented by Ethiopia and Kenya; the Caucasus; the Pacific coast of northern Asia (from Japan to the Bering Strait); northern Australia; and the Pacific coast of North America [prior to the age of colonialism].” *Id.* at 21.

548. *Id.* at 16–17.

549. *Id.* at 17–20.

550. *Id.* at 17.

551. *Id.*

552. *Id.*

553. *Id.*

554. *Id.* at 15.

555. *Id.*

times.⁵⁵⁶ Hence, the historical record from the Steppes suggests that, periodically, “a new linguistic group sweeps westward from the vicinity of Mongolia, rapidly attains military and cultural hegemony on the steppe (and simultaneously also in the deserts of Central Asia and the plains of northern Mesopotamia and Anatolia), and replaces the previous language or language family” in these regions.⁵⁵⁷ Notice, moreover, that all of the historical sweeps that we can definitively trace through the Steppes went from east to west—just as both Nichols and I have proposed for an earlier series of prehistoric Indo-European sweeps. (Actually, these facts should not be all that surprising: the regions to the west of the Steppes have always been much more fertile and desirable than either the Steppes or Mongolia.)

Because the Steppes tend to function as a paradigmatic spread zone, it is not at all implausible that a series of Indo-European languages could have spread from a relatively small region like Bactria through such an extended geographic region. This second class of linguistic evidence thus helps to support Nichols’s homeland theory by identifying a specific mechanism that makes her story possible. At the same time, however, this second class of evidence does not yet distinguish between Nichols’s homeland theory and the current theory, because both propose similar expansions from a region near Bactria through the Steppes. In addition, Nichols never adequately explains why (to use the terms of her own theory) Bactria might have served as such “an important center of cultural, political, and/or economic influence” that it would have exerted a dominant linguistic influence over such an expansive geography over such a prolonged period of time.⁵⁵⁸ Some such explanation is presumably needed if—as Nichols’s theory and evidence both suggest—linguistic spread zones typically function to spread languages from major centers of political and economic power through regions like the Steppes.

It is therefore important to recognize that the present theory would provide just the missing explanation. On the present view, Bactria was part of a much larger and much more powerful socio-cultural complex that was centered in part in the Indus Valley and that persisted for millennia during the relevant periods of our prehistory. The developments of this larger socio-cultural complex would explain why Proto-Indo-European had been expanding into a major family language family in the first place in this larger region, and would have been spoken in Bactria. This larger region would have also been home to a truly extraordinary center of cultural, political, and economic influence. Hence, this larger region would have predictably exerted powerful and consistent linguistic effects on any adjacent spread zones like the Steppes. These influences

556. *Id.*

557. *Id.*

558. *Id.* at 15–17.

would have also been predictably mediated by Proto-Indo-European dialects specific to Bactria.

Rather than presenting a genuine objection to the present theory, the great bulk of Nichols's linguistic evidence can therefore be absorbed by it to produce a composite view that is highly sensitive to the relevant linguistic evidence. This composite view not only fills a critical gap in Nichols's own arguments but can also harmonize Nichols's extensive linguistic evidence with all of the other evidence and argumentations discussed in this Article.

b. Anthony and the Additional Archaeological Evidence

The second view to consider as a possible objection is the view of archaeologist David W. Anthony. In the *Horse, the Wheel, and Language*, Anthony presents a breathtaking synthesis of the relevant archaeological evidence from Europe and the Ukraine, and he uses it to argue for a Steppe homeland (in the Ukraine) for Proto-Indo-European.⁵⁵⁹ In what follows, I will therefore review this evidence and ask—once again—whether it is genuinely inconsistent with the present theory, or whether this evidence can be absorbed by it, so as to provide the present theory with additional strength and dimension. If—as I will be arguing—the greatest bulk of Anthony's archaeological evidence can be absorbed by the present theory, then I will proceed to ask whether Anthony is on methodologically sound ground to disambiguate the great bulk of his evidence in favor of a Steppe homeland. I will argue that he is not, and that this evidence is ultimately better construed as favoring the current proposal.

In examining these issues, it will be helpful to break Anthony's argument for a Steppe homeland down into four main parts. To foreshadow, I will be arguing that the first three parts of Anthony's project lend additional support and dimension to the current proposal, while the fourth would cast doubt on it but should be rejected.

The first part of Anthony's argument that I want to highlight addresses an important methodological concern, which will arise whenever one tries to draw linguistic inferences from the archaeological record. Archaeologists study material culture, but it is a well-known fact that changes in material culture do not necessarily reflect changes in language; nor do changes in language necessarily reflect changes in material

559. ANTHONY, *supra* note 64, at 305–06 (“The Yamnaya horizon meets the expectations for late Proto-Indo-European in many ways: chronologically (the right time), geographically (the right place), materially (wagons, horses, animal sacrifices, tribal pastoralism), and linguistically (bounded by persistent frontiers); and it generated migrations in the expected directions and in the expected sequence. Early Proto-Indo-European probably developed between 4000 and 3500 BCE in the Don-Volga-Ural region.”).

culture.⁵⁶⁰ Hence, there is always a threshold question as to how, if at all, archaeological evidence might even bear on linguistic questions.

An important part of Anthony's work can be understood as developing a highly sophisticated and empirically well-grounded response to this methodological problem, which proceeds by identifying a special class of inferences from archaeology to language that should be deemed valid. Anthony does this by focusing attention on a specific type of phenomenon, which he calls a "persistent material-cultural frontier," and which can be identified solely from the archaeological record.⁵⁶¹ Persistent material-cultural frontiers are geographical boundaries (which are sometimes fluid) that can show any number of material-culture changes or continuities on either side, but that nevertheless maintain consistent material-cultural oppositions between the two sides.⁵⁶² As Anthony observes, "archaeologists have documented a number of remarkably long-lasting, prehistoric, material-culture frontiers in settings that must have been tribal,"⁵⁶³ and Anthony presents some non-tribal examples of this phenomenon as well.⁵⁶⁴ Based on the empirical evidence from observable regions, Anthony finds that "[l]anguage is strongly associated with persistent material-culture frontiers."⁵⁶⁵ Hence, if archaeologists can find archaeological evidence of persistent material-culture frontiers in prehistory, that fact should provide some evidence that the people within these frontiers spoke a common language. I accept this as an extremely valuable methodological insight.

Turning to the archaeological record of early Europe and the Steppes, Anthony then presents a wealth of evidence to suggest that an extensive and persistent material-culture frontier did, in fact, begin to develop for the first time in the Eurasian Steppes around 3300 BC.⁵⁶⁶ The frontier in question encompassed the so-called "Yamnaya cultural horizon," which lasted in the Steppes until around 2500 BC. Anthony then combines these facts about the Yamnaya material-culture frontier with a number of other well-known facts about the dispersal patterns of these groups, and observes that some of these groups eventually settled into the precise regions where the Celtic- and Italic-speaking groups of

560. *Id.* at 101 (noting that there is a gap between linguistics and archaeology, "a chasm most Western archaeologists feel cannot be crossed. Many would say that language and material culture are completely unrelated, or are related in such changeable and complicated ways that it is impossible to use material culture to identify language groups or boundaries. If that is true, then even if we *can* identify the place and time of the Indo-European homeland using the reconstructed vocabulary, the link to archaeology is impossible. We cannot expect any correlation with material culture.").

561. *Id.* at 104–06.

562. *Id.*

563. *Id.* at 104.

564. *Id.* at 106.

565. *Id.* at 105.

566. *Id.* at 300–06.

Indo-Europeans first showed up in history.⁵⁶⁷ Together, these facts provide strong archaeological evidence that the Yamnaya horizon spoke a common set of dialects, and that these dialects were Proto-Celtic-Italic. Indeed, because the Yamnaya horizon was the first persistent material-culture frontier to encompass large reaches of the Steppes, Anthony's work should—in my view—be understood as most plausibly identifying the first prehistoric transformation of the Steppes into what Nichols has called a “linguistic spread zone.” Anthony also identifies a number of subsequent persistent material-culture frontiers in the Steppes, which he is able to identify with certain subsequent Indo-European branches—and which will be described below.

Notice, however, that I have made an identical proposal about the Celtic-Italic branch, based in large part on Anthony's same archaeological evidence.⁵⁶⁸ Rather than providing a genuine objection to the present view, this first class of evidence can thus be understood as providing additional support and dimension to some of its finer proposals. More specifically, this first class of archaeological evidence provides strong support for my earlier claim that the Steppes first transformed into a linguistic spread zone at or around 3300 BC,⁵⁶⁹ and for my earlier claim that ancestors of the Celtic-Italic branch first began to spread through the Steppes in about 3300 BC.⁵⁷⁰

The second major part of Anthony's argument that I want to highlight concerns his contention, based on an extensive review of the archaeological evidence, that the development of the Yamnaya horizon reflected a much more fundamental set of social and economic transformations that began in the Steppes around 3300 BC.⁵⁷¹ Many of these transformations have already been discussed. For example, Anthony presents a wealth of evidence to suggest that the horse was first domesticated in the Steppes sometime around 4000 BC, and that people in the Steppes began to use wagon and bit technologies quite robustly by around 3300 BC.⁵⁷² As he observes, the invention of the wheeled wagon allowed people in the Steppes to develop a much more lucrative and mobile form of pastoralist life, because it allowed much larger groups of people to travel further away from riverine valleys and tend much larger herds of animals.⁵⁷³ Increased mobility would have also meant increased contact between the different groups within the Steppes as well as increased contact with outside groups. Given the frequency-dependent value of language (which I am now using to supplement Anthony's basic

567. *Id.* at 344–67.

568. *See infra* Part V.E.1.b.

569. *See infra* Part V.E.1.b.

570. *See infra* Part V.E.1.b.

571. *See generally* ANTHONY, *supra* note 64, at 300–39.

572. *Id.* at 223, 311.

573. *Id.* at 300.

account), these developments can therefore be used to help explain the precise *mechanism* by which the Steppes first transformed into a linguistic spread zone. Once again, however, these particular social, technological, and linguistic transformations play a critical role not only in Anthony's homeland story but also in mine. Hence, this second class of evidence can also be interpreted as adding support and motivation to some of the finer parts of the current theory.

The third major part of Anthony's work that I want to highlight consists of his identification of a series of concrete folk migrations in the archaeological record, which he is able to associate with specific Indo-European branches.⁵⁷⁴ The Celtic-Italic migrations have already been discussed, but Anthony also presents archaeological evidence of several subsequent persistent material culture frontiers that expanded from the Steppes along the Dnieper, Dniester, and Don rivers.⁵⁷⁵ By tracing these frontiers to the specific locations where various subsequent Indo-European branches first show up in the historical record, Anthony is able to argue that these archaeological phenomena plausibly correspond to the early developments of the Germanic, Baltic, and Slavic branches of the Indo-European language family as well.⁵⁷⁶

Once again, however, I have proposed an almost identical set of migrations of these same Indo-European groups into these same locations from the Steppes.⁵⁷⁷ Indeed, I have tried to construct the current story so as to maintain consistency with all of Anthony's archaeological evidence relating to the movements of these particular Indo-European branches into their locations of first historical attestation. These branches—which were discussed in the earlier Sections on the “Age of Expansion”—consist of the Celtic-Italic, Germanic, Greco-Armenian, and Balto-Slavic branches.⁵⁷⁸

There are, however, two other important Indo-European branches—namely, the Tocharian and Indo-Iranian branches—that Anthony tries to trace in the archaeological record but for which Anthony and I interpret the archaeological evidence somewhat differently. In these two particular cases, Anthony's evidence essentially links certain material cultures that are associated with these two branches to two distinct geographic regions, and then suggests that these facts are evidence of a migration. For example, Anthony presents evidence linking the material cultures of certain so-called “Repin” sites, which were located near the

574. *Id.* at 343–67.

575. *Id.* at 367–68, 375–85.

576. *Id.* at 367.

577. *See infra* Part V.E.1.b.

578. *See infra* Part V.E.1.b. It should be noted that Anthony does not, however, present much evidence relating to the Greco-Armenian branch, and so it is not that hard to maintain consistency with this part of his migratory evidence.

Volga near the Ukraine, with the Afanasievo sites,⁵⁷⁹ which were located much further to the east, near the Tarim basin (closer to China). Many people associate the Afanasievo sites with the Proto-Tocharians,⁵⁸⁰ and Anthony therefore interprets this archaeological evidence as reflecting an eastward movement of early Proto-Tocharian peoples from the Volga region through the Steppes to the Afanasievo region. With regard to the Indo-Iranians, Anthony then presents archaeological evidence that reveals a number of striking similarities between the material cultures at sites like Sintashta (which was a highly fortified metallurgic industrial center located at the base of the Ural mountains in the northern Steppes, beginning in about 2000 BC) and some of the Indo-Iranian cultures described in the Vedic and Avestani texts.⁵⁸¹ The Vedic and Avestani elite appear to have been primarily pastorally based, and it is well known that these groups began to acquire power in Bactria and northern India after around 1500 BC.⁵⁸² Anthony thus interprets this archaeological evidence as reflecting the early movement of certain Indo-Iranian speaking groups from the Steppes into India and Iran.⁵⁸³

The important point to recognize about associational evidence like this is, however, that it can do nothing on its own to establish the *direction* of any relevant movements between these associated sites. The present story would, in fact explain this entire body of archaeological evidence equally well. The present view would, however, interpret the Repin and Afanasievo associations as evidence of certain early Proto-Tocharian movements *westwards* through the Steppes.⁵⁸⁴ (It is interesting

579. ANTHONY, *supra* note 64, at 264–65, 274–77, 307–11.

580. *Id.* at 264–265, 311 (“Mallory and Mair have argued at book length that the Afanasievo migration detached the Tocharian branch from Proto-Indo-European. A material bridge between the Afanasievo culture and the Tarim Basin Tocharians could be represented by the long-known but recently famous Late Bronze Age Europoid ‘mummies’ (not intentionally mummified but naturally freeze-dried) found in the northern Taklamakan Desert, the oldest of which are dated 1800–1200 BCE. . . . If Mallory and Mair were right, as seems likely, late Afanasievo pastoralists were among the first to take their herds from the Altai southward into the Tien Shan; and after 2000 BCE their descendants crossed the Tien Shan into the northern oases of the Tarim Basin.”).

581. *Id.* at 371–75 (“The details of the funeral sacrifices at Sintashta showed startling parallels with the sacrificial funeral rituals of the *Rig Veda*. The industrial scale of metallurgical production suggested a new organization of steppe mining and metallurgy and a greatly heightened demand for copper and bronze. The substantial fortifications implied surprisingly large and determined attacking forces. And the appearance of Pontic-Caspian kurgan rituals, vehicle burials, and weapon types in the steppes east of the Ural River indicated that the Ural frontier had finally been erased.”).

582. *Id.* at 454.

583. *Id.* at 375 (“To understand the origins of the Sintashta culture we have to begin far to the west.”); *id.* at 389–93 (noting that the Sintashta culture originated in the west); *id.* at 431–33 (describing how the “lure of the south prompted a migration across more than a thousand kilometers of hostile desert”); *id.* at 412–57 (taking languages from Steppes to Iran and India).

584. See *infra* Part V.E.1.a (discussing the Primal Age and depicting a highly plausible migration route for the Proto-Tocharians from the Bactria region into the Tarim Basin). Notice that the current proposal thus provides a straightforward and plausible explanation for why the Tocharians would have ended up where they first did as the Afanasievo culture: they followed a well-trodden path from Bactria along the base of the Tien Shan mountains. This route would have been much more conducive to human life than the Steppes, because it crosses a number of rivers that flow from the Tien Shan moun-

to note, in this regard, that Anthony's own archaeological evidence lists a number of Afanasievo sites in the east that *predate* all of the related Repin finds to the west,⁵⁸⁵ which—if anything—suggests that this evidence favors the current proposal over his. Anthony also expresses great puzzlement as to how and why his proposed eastward migrations would have taken place.⁵⁸⁶ The present view would then interpret the associations between the Sintashta sites and some better known Indo-Iranian groups as evidence of one of its central claims: namely, that Indo-Iranian languages had already begun to spread from the Eastern-Iran-Bactria-Indus-Valley region through the Steppes (and hence into regions like Sintashta) several centuries before the collapse of the Harappans.⁵⁸⁷ The present story would, finally, explain why certain more pastoralist Indo-Iranian groups began to attain dominance in Bactria and northern India after the collapse of the Harappan Civilization as reflecting the collapse of this major center of social, economic, and political power itself.⁵⁸⁸ Once again, this third class of archaeological evidence is thus not only consistent with the present story but can also be interpreted as providing additional support and motivation to some of its finer details.

Properly construed, the great bulk of Anthony's evidence is therefore ambiguous as to whether it supports the present theory or his Ukrainian homeland theory. In fact, we are now in a much better position to notice a very important point about the larger structure of Anthony's argument: whether the great bulk of his archaeological evidence ultimately challenges the present theory or can be absorbed by it will depend on a fourth—and *fully separable*—issue. It will depend on whether—as Anthony has proposed—the Proto-Indo-European dialects were *indigenous* to the Steppes prior to 3300 BC (and then began to generate

tains. Migrations like these could have therefore begun much earlier, and could have extended over much larger expanses of time. Migrations of this kind could have also taken place by means of more traditional nomadic patterns (i.e., without the need for horses and wheeled wagons).

585. See ANTHONY, *supra* note 64, at 314 tbl.13.3 (dating earliest Afanasievo site—at Kara-Koba—to 3970–3800 BC, and the Elo-bashi enclosure at 3760–3640 BC); see also *id.* at 266 tbl.12.1 (dating earliest Repin site to 3705–3645 BC). Unless earlier sites can be found to the west, his own archaeological evidence would thus appear to favor a westward pattern of migration.

586. *Id.* at 264 (“We do not know why they did this, but their incredible trek across the Kazakh steppes led to the appearance of the Afanasievo culture . . .”); see also *id.* at 308–09 (noting extraordinary distance of posited migration, and suggesting that there must have been a major conflict that prompted the groups to undertake it, but in the same breath noting that the evidence suggests continued cooperative interactions between the people of the Repin and Afanasievo sites). I believe Anthony is right to express this puzzlement. Given the dates of the earliest Afanasievo sites in the east, any earlier eastward migrations from archaeologically unattested locations would have also taken place before the invention of the wheeled wagon, and hence before long-distance migrations through the Steppes would have even been feasible. The present proposal avoids all of these problems by proposing a migration route that did not involve the Steppes.

587. See *infra* Part V.E.1.b–c (discussing spread of Indo-Iranian at the end of the Age of Expansion, and then the dynamics of the Age of Dissolution).

588. See *infra* Part V.E.1.c (discussing consequences of Harappan decline during the Age of Dissolution).

a series of branches from the Steppes into Europe),⁵⁸⁹ or whether—as I have proposed—Proto-Indo-European dialects more likely spread *into and through* the Steppes beginning in about 3300 BC from the east, due to the truly extraordinary center of economic and political power that had been emerging and expanding in the Eastern-Iran-Bactria-Indus-Valley region for millennia. The fourth major aspect of Anthony's larger argument for a Steppe homeland thus relates to the claim that Proto-Indo-European, along with several of its branches, originated in the Steppes, rather than being influenced from the east,⁵⁹⁰ and it is only this final aspect of his position that I will be rejecting.

So let us take a closer look at this fourth aspect of Anthony's argument. The first thing to notice about it is that, despite Anthony's otherwise exhaustive look at the archaeological record, and despite his otherwise careful attention to the types of inferences that one can legitimately draw from material culture to language, Anthony actually presents *no significant archaeological evidence* that both favors an indigenous Steppe origin for Proto-Indo-European and is consistent with the patterns of inference that his theory of material culture frontiers would validate. Sometimes, the indigenous Steppe hypothesis appears as a kind of running background assumption in his work—in which case it is unsupported by evidence.⁵⁹¹ At other times, Anthony appears to be inferring this linguistic proposition illegitimately from certain features of Steppe material culture (such as the use of domesticated horses, wheeled chariots, or specific burial rituals).⁵⁹² We know, however, that the earliest speakers of Proto-Indo-European (from, say, around 4500 BC) could not have had

589. ANTHONY, *supra* note 64, at 275–276.

590. *Id.*

591. *Id.* (hypothesizing the existence of the Proto-European language in the Steppes area prior to 3300 BC based on archaeological records).

592. *Id.* at 305–06 (arguing that the Yamnaya horizon marked an indigenous development of late Proto-Indo-European from features of its material culture, including its use of wagons, horses, animal sacrifices, and tribal pastoralism). “The Yamnaya horizon meets the expectations for late Proto-Indo-European in many ways: chronologically (the right time), geographically (the right place), materially (wagons, horses, animal sacrifices, tribal pastoralism), and linguistically (bounded by persistent frontiers); and it generated migrations in the expected directions and in the expected sequence.”). *Id.* at 306. “Early Proto-Indo-European probably developed between 4000 and 3500 BCE in the Don-Volga-Ural region.” *Id.*; see also *id.* at 275–77 (arguing that the Yamnaya horizon spoke late Proto-Indo-European and then inferring from this that early Proto-Indo-European must have arisen from some of the local Steppe groups that preceded the Yamnaya horizon). For example, here is one of Anthony's central arguments for an indigenous steppe origin for early Proto-Indo-European: “The Volga-Don late Khvalynsk and Repin societies played a central role in the evolution of the Early Bronze Age Yamnaya horizon beginning around 3300 BCE One kind of early Yamnaya pottery was really a Repin type, and the other kind was actually a late Khvalynsk type; so, if no other clues are present, it can be difficult to separate Repin or late Khvalynsk pottery from early Yamnaya pottery. The Yamnaya horizon probably was the medium through which late Proto-Indo-European languages spread across the steppes. *This implies that classic Proto-Indo-European dialects were spoken among the Repin and late Khvalynsk groups.*” *Id.* at 275–77 (emphasis added). But notice that this line of reasoning infers linguistic transmission from cultural transmission *but in a way that does not draw upon his work on material culture frontiers and is therefore methodologically suspect.*

either domesticated horses or wheeled chariots as central parts of their material culture, because neither technology existed at the time. By 1500 BC, when these technologies appear to have become more important to pretty much every Indo-European culture, the technologies were also so widespread that they were important to many non-Indo-European groups as well—such as the Chinese, Mesopotamian, and Egyptian civilizations.⁵⁹³ (This should actually not be all that surprising: the domesticated horse was the prehistoric equivalent of the modern automobile, and its importance for transportation would have quickly made it vital to both nomadic and many advanced settled civilizations.) Hence, it would appear to be illegitimate to draw inferences from these particular features of material culture to Anthony's preferred linguistic conclusions.

We can, in fact, get a better sense of the full depth of the problem that Anthony faces at this stage by taking a closer look at one of the very few explicit archaeological arguments that he does make for this fourth part of his argument for a Steppe homeland. After drawing on the archaeological record to argue that the Yamnaya horizon spoke a late form of Proto-Indo-European (which developed into Proto-Celtic-Italic), Anthony suggests that two earlier cultures, which preceded the Yamnaya material culture frontier in the Volga region, “played a central role in the evolution of the Early Bronze Yamnaya horizon beginning around 3300 BCE.”⁵⁹⁴ These two cultures were the “Repin” and late “Khvalynsk” cultures, and Anthony bases his contention about their cultural influence on observations like the following: “[o]ne kind of early Yamnaya pottery was really a Repin type, and the other kind was actually a late Khvalynsk type; so, if no other clues are present, it can be difficult to separate Repin or late Khvalynsk pottery from early Yamnaya pottery.”⁵⁹⁵ It is, however, one thing to infer cultural influences from evidence like this, and quite another to draw conclusions about the languages that these earlier cultures most likely spoke. Anthony nevertheless takes that additional step by arguing as follows: “The Yamnaya horizon probably was the medium through which late Proto-Indo-European languages spread across the steppes. *This implies that classic Proto-Indo-European dialects were spoken among the Repin and late Khvalynsk groups.*”⁵⁹⁶

Notice, however, that this last implication does not actually follow. In proposing it, Anthony is essentially drawing inferences from the

593. See Edmund Leach, *Aryan Invasions over Four Millennia*, in *CULTURE THROUGH TIME: ANTHROPOLOGICAL APPROACHES* 227, 239 (Emiko Ohnuki-Tierney ed., 1990) (“Chariots were in use in Mesopotamia in the early third millennium B.C. They were known in Egypt by the middle of the second millennium and probably reached Minoan Crete and mainland Greece from the southeast rather than from the north. They were in use in Shang-dynasty China at about the same period.”); RANDALL COLLINS, *WEBERIAN SOCIOLOGICAL THEORY* 103 (1986) (discussing appearance of wheeled chariots pulled by domesticated horses around the world around 1500 BC).

594. ANTHONY, *supra* note 64, at 275.

595. *Id.*

596. *Id.* at 275–77 (emphasis added).

transmission of material culture to the transmission of language—but *without the aid of his theory about persistent material culture frontiers or any other theory that would validate this particular type of inference*. Without some further theory that is empirically well grounded, all we can really infer from archaeological facts like these is thus that the Repin and late Khvalynsk cultures—who may have spoken any number of languages, including non-Indo-European languages, as far as this particular evidence is concerned—influenced the material culture of certain Proto-Celtic-Italic speaking groups within the Yamnaya horizon.

Anthony is well aware of methodological difficulties like these, and, indeed, it was because of this awareness that he developed his compelling account of persistent material-culture frontiers, which enabled him to identify the Yamnaya horizon with Proto-Celtic-Italic speakers.⁵⁹⁷ Anthony has not, however, offered any equally detailed or compelling account of the origins of linguistic expansion, or of the dynamics of linguistic spread, that would allow him to infer from any of his archaeological evidence to an indigenous Steppe origin for the earliest Indo-European languages that spread *through* the Steppes with the Yamnaya horizon. Neither has he offered any theory or evidence that would license the inference that subsequent sweeps of Indo-European languages through the Steppes likely originated in linguistic developments indigenous to the Steppes (as opposed to reflecting external linguistic influences—as in every other known case of linguistic spread through the Steppes). For all of these reasons, Anthony cannot support the fourth aspect of his argument in manner that is consistent with important methodological scruples that he rightly accepts. Without this fourth aspect to his argument, his entire body of archaeological evidence is, however, equally supportive of the current theory as of his.

The riverine-agricultural model of linguistic expansion is, by contrast, empirically well grounded, and it favors an earlier origin of the Proto-Indo-European languages in the Eastern-Iran-Bactria-Indus-Valley region.⁵⁹⁸ Nichols's theory of how linguistic spread zones tend to function is also empirically well grounded, and it suggests that Proto-Indo-European dialects would have more plausibly spread *into* the Steppes from a region near Bactria beginning in about 3300 BC.⁵⁹⁹ Because of these facts, and because neither of these theories has the same kind of methodological problems as the fourth part of Anthony's argument for a Steppe homeland, there are important methodological and empirical rea-

597. *Id.* at 102–21 (developing theory of persistent material culture frontiers); *id.* at 319–39 (applying theory to archaeological record to suggest Yamnaya horizon was a material culture frontier, and that they therefore spoke common languages).

598. *See supra* Part IV.

599. NICHOLS, *supra* note 137, at 13–24.

sons to reject this last part of his argument and to interpret his larger body of archaeological evidence as favoring the current theory instead.

It is worth remembering that Anthony also currently interprets his extensive body of archaeological evidence to support a conclusion that is inconsistent with Nichols's equally extensive body of linguistic evidence—as well as with all of the new arguments and considerations developed in this Article. By construing Anthony's archaeological evidence in the way that I am suggesting here, we can, by contrast, see how all three extensive bodies of evidence ultimately support a common proposal. For all of these reasons, I believe that the present proposal offers the best explanation of a remarkably broad range of evidence relevant to the underlying issues. These facts should not only establish the credentials of the present theory but should also present a serious challenge to many of its current competitors.

3. *How the New Story Absorbs the Deeper Motivations Behind “Out-of-India” Theories—While Avoiding Their Central Challenges*

Before compiling all of this evidence and argumentation in one place, I also want to briefly address what I will call “prototypical” Out-of-India theories.⁶⁰⁰ I use this term to refer to any theory that makes the following three claims: first, that Sanskrit (or Proto-Sanskrit) is the mother language for the entire Indo-European language family; second, that the people of the Indus Valley Civilization spoke an early version of Sanskrit (and were also the bearers of early Vedic culture); and third, that the people of the Indus Valley brought their languages and cultures with them to the rest of Eurasia through a series of rapid and large-scale prehistoric migrations out of India. When combined, these three claims suggest that the entire Indo-European family should be understood as literally (i.e., linguistically, culturally, and genetically) descended from the Indus Valley Civilization.

So defined, Out-of-India theories have been roundly criticized by many experts as insufficiently sensitive to the broad range of linguistic, archaeological, and genetic evidence relevant to the earliest dispersal patterns of the Indo-European family.⁶⁰¹ I agree with many of these criticisms, and—given the above definition of a prototypical Out-of-India theory—it should be clear that the present theory is not one of them. It

600. Bryant calls these “Indigenous Aryanist” theories. BRYANT, *supra* note 35, at 11, 65–66, 92, 96, 146–54.

601. *Id.* at 10 (talking about Out-of-India theories as “marginalized” views within Western academic circles); *see also id.* at 11 (observing that most Western scholars are willing to “absolutely eliminate the possibility that the eastern part of this region could be one possible candidate among several, albeit not a particularly convincing one”); *id.* at 237 (discussing archaeological evidence that Proto-Indo-Europeans could have originated in the northwest of India and then spread out to form all of the major branches, and concluding that “no compelling evidence has yet been produced” for this proposition).

should also be clear from prior discussions that the present theory is extraordinarily sensitive to the larger body of evidence relevant to these issues, and, hence, that it cannot fall prey to these same charges.⁶⁰²

In my view, Out-of-India theories nevertheless reflect several important insights, which can be usefully separated from the more problematic aspects of these theories. I therefore want to identify some of these insights and suggest how the present theory can absorb them without raising any of these common problems.

Many of the people who are attracted by Out-of-India theories are, I think, moved to a significant degree by a sometimes inchoate feeling that the ancient Sanskrit texts (along with certain aspects of early Indian culture and tradition more generally) reflect a level of philosophical, intellectual, and spiritual sophistication that cannot plausibly be attributed to the developments that began only in about 1500 BC with a group of

602. Prototypical Out-of-India theories face at least four critical challenges that the present theory avoids. The first arises from the fact that, although Sanskrit was once thought to be the most archaic form of Indo-European (thereby lending some credence to the notion that Sanskrit might have been ancestral to the rest of the languages in the Indo-European language family), linguists now know that Hittite (which first appears in inscriptions from Anatolia as early as 2000 BC) has some even more archaic features than Sanskrit. MALLORY & ADAMS, *supra* note 35, at 28–31. This fact suggests that Sanskrit could not have plausibly been ancestral to Hittite—as the prototypical Out-of-India theory suggests. For reasons already discussed, the current proposal is, however, not only consistent with these linguistic facts but offers a straightforward explanation of them: the Anatolian branch (which includes Hittite) split from the main stalk of Proto-Indo-European languages before the main stalk began to expand through the Indus Valley region, and hence long before the subsequent development of Sanskrit within the Indian subcontinent. See Part V.E.1.b. It should therefore be unsurprising that Hittite has some archaic features that are not found in any of the remaining members of the main stalk—including Sanskrit. At the same time, the current proposal would explain why Sanskrit has a number of more archaic features than any other known Indo-European language. BRYANT, *supra* note 35, at 68–75. Although Sanskrit is not literally ancestral to these subsequent branches, it is directly descended from the main stalk of the Proto-Indo-European language family, from which these other branches subsequently split. Sanskrit, however, also developed from a linguistic tradition that remained in this original location, which is a fact that tends to help languages preserve some of their most conservative and archaic features.

The next two major challenges to prototypical Out-of-India theories arise from facts that have already been discussed: first, the Indo-Aryan branch of Indo-European displays a number of linguistic influences from Dravidian and Munda that are not shared by the other branches; and second, the people of India display a number of widely shared genetic markers that are not shared by the other branches. These facts render it highly implausible that the Harappans could have been the literal (i.e., linguistic, cultural, and genetic) ancestors of the rest of the Indo-European family. But the present theory avoids these problems for reasons discussed in Part V.E.1.d: it proposes that the linguistic and genetic influences under discussion did not begin in earnest until after about 1500 BC—and so long after the other branches had diverged enough to prevent these influences from passing very far beyond the Indo-Aryan branch.

The fourth major obstacle that prototypical Out-of-India theories face is that, although there is no significant evidence of migrations into India at or around 1500 BC, there is similarly no evidence of significant large-scale migrations by the Harappans out of India at any time. But the present theory does not propose an overly simplistic set of linguistic changes through migrations by the Harappans, and instead develops a comprehensive account of early linguistic expansion that is fully consistent with these facts. Hence, the present theory avoids these problems as well.

relatively simple nomadic pastoralists who originated in the Steppes.⁶⁰³ As a trained philosopher myself, who is familiar with the way that philosophical ideas tend to build upon their predecessors, I admit that I share this basic sense: I find it hard to leave an encounter with some of the early developments of Indian thought without a strong feeling that they reflect a much more ancient tradition of ongoing philosophical debate, and a much more sophisticated set of spiritual and intellectual developments, than the traditional story would suppose. For most of human history prior to the very recent rise of the West (and certainly up until about 1500 AD), these traditions appear to me to have been in a much more advanced state than those of most of their Western Indo-European counterparts. The one major exception would be the ancient Greek tradition, which, in my view, displays many of the same signs of deeper engagement in a lengthier tradition of philosophical and intellectual debates.

We should also remember that the early Indian traditions were capable of producing a number of complex and highly influential philosophical and spiritual practices, including Buddhism (with its highly sophisticated moral psychology) and numerous related traditions of yoga and meditation.⁶⁰⁴ These traditions have proven enormously influential throughout Asia, including in China⁶⁰⁵—which, we should remember, is a region that began to produce its own significant tradition of large-scale civilization long before the traditional view places the first nomadic Indo-Aryans in the Indian subcontinent.⁶⁰⁶ If early versions of these complex Indian traditions were in fact first brought to the Indian subcontinent by nomads from the Steppes in the second millennium BC, then one should wonder why analogues of these traditions do not appear in nearly as sophisticated a form in so many other branches of the Indo-European family. One should also wonder why so many of the known directions of cultural influence, with regard to traditions like these, has been from India to China, the rest of Asia, and now the world.⁶⁰⁷ For reasons like these, it is—I think—very hard to acquire a deep acquaintance with certain aspects of early Indian tradition without suspecting that they seem to carry

603. Laurie L. Patton, *Introduction*, in *THE INDO-ARYAN CONTROVERSY: EVIDENCE AND INFERENCE IN INDIAN HISTORY*, *supra* note 351, at 1, 7 (providing critiques of the Out-of-India theory).

604. THAPAR, *supra* note 497, at 174–209 (discussing Buddhism); *see also* GEOFFREY SAMUEL, *THE ORIGINS OF YOGA AND TANTRA: INDIC RELIGIONS TO THE THIRTEENTH CENTURY 2* (2008) (discussing history and practices of yoga, meditation, and tantra).

605. GOMBRICH, *supra* note 495, at 137–96 (discussing the spread of Buddhism to Sri Lanka and Protestant Buddhism); *see also* Julia Ching & William G. Oxtoby, *Religions and World Views in Asian and World History*, in *ASIA IN WESTERN AND WORLD HISTORY: A GUIDE FOR TEACHING* 399, 314 (Ainslie T. Embree & Carol Gluck eds., 1997) (describing how China has been influenced by Buddhism).

606. Turchin, *supra* note 15, at 198 (showing megaempires in China as early as 2000 BC).

607. Ching & Oxtoby, *supra* note 605, at 314 (“Another question that may arise in our minds has to do with why China has not influenced India the way India influenced China through Buddhism.”).

forward and build upon certain cultural and intellectual developments with a much more ancient pedigree.

I also grant—of course—that perceptions like these are sometimes hard (though not exactly impossible) to trace to direct empirical observations. I should therefore emphasize that I am not resting any of my substantive claims in this Article on these perceptions.⁶⁰⁸ Perceptions like these would nevertheless appear to be fairly widely shared among people with a deep familiarity with these different traditions.⁶⁰⁹ I would therefore consider it to be a benefit of a theory if it could explain a credible basis for these perceptions.

The present theory can do this perfectly well, because it suggests that the Indo-Aryan traditions that first show up in the historical record carried forward a much deeper and more continuous set of cultural traditions, which can be traced back to some of the earliest developments of the Indus Valley Civilization. These traditions should therefore be understood as reflecting developments that go back to some of our very first human forays out of hunter-gatherer living and into settled agricultural living. These developments would have also produced some of the

608. It should go without saying that the perceptions I have identified are still perfectly consistent with the continuation, and even dominance, of numerous other aspects of Indian tradition that might be backwards or unenlightened. I am not, in other words, purporting to offer anything like an all-encompassing judgment about the depth or sophistication of Indian traditions relative to any others. By focusing on these particular motivations behind Out-of-India theories, I am also intentionally abstracting from a number of other possible motivations that I take to be illegitimate: motivations that would include such things as Indian ethnocentrism, blind religious faith, or ethnic or national pride. Indeed, I believe that motives like these are not only illegitimate on methodological grounds but also inconsistent with the kind of depth and character of philosophical and spiritual insight that I am attributing to this part of Indian tradition, and on the basis of which its claim to sophistication rests. The part that I have in mind still finds expression in many modern forms, and is well captured in expressions like this famous one from Rabindranath Tagore:

Where the mind is without fear and the head is held high;
Where knowledge is free;
Where the world has not been broken up into fragments by narrow domestic walls;
Where words come out from the depth of truth;
Where tireless striving stretches its arms towards perfection;
Where the clear stream of reason has not lost its way into the dreary desert sand of dead habit;
Where the mind is led forward by thee into ever-widening thought and action—
Into that heaven of freedom, my Father, let my country awake.

RABINDRANATH TAGORE, *GITANJALI: LONG OFFERINGS* 26–27 (Branden Books 2000) (1913).

609. See, e.g., SCHWAB, *supra* note 131, at 11 (“In the first ardor of their discoveries, [many of the early European scholars who encountered the Sanskrit texts] proclaimed that, in its entirety, an antiquity more profound, more philosophical, and more poetical than that of Greece and Rome was emerging from the depths of Asia.” (citations omitted)). In encountering Rabindranath Tagore’s much more recent poetry, W.B. Yeats has similarly said:

I have often had to close it lest some stranger would see how much it moved me. These lyrics—which are in the original, my Indians tell me, full of subtlety of rhythm, of untranslatable delicacies of colour, of metrical invention—display in their thought a world I have dreamed of all my life long. The work of a supreme culture, they yet appear as much the growth of the common soil as the grass and the rushes. A tradition, where poetry and religion are the same thing, has passed through the centuries, gathering from learned and unlearned metaphor and emotion, and carried back again to the multitude the thought of the scholar and of the noble.

W.B. Yeats, *Introduction* to *GITANJALI*, *supra* note 608, at 7–8.

very first cultural traditions capable of supporting large-scale urban civilization with much higher population densities—along with the special kinds of divisions of labor, surplus, and political and economic power needed to support continuous and long-term traditions of philosophical debate and reflection. On the present view, the period that I have called the “prehistoric Indo-European Dark Ages” (which began around 1900 BC) would have also undoubtedly created a break of sorts within these traditions, and this break would have undoubtedly involved some loss of knowledge. Some of the most advanced versions of the early traditions would have nevertheless been directly inherited, at least in some form, by both the first ancient Indian and Persian traditions that show up in the historical record; and the ancient Greek tradition would have also inherited a particularly advanced form of these early traditions.⁶¹⁰

Within the Indian subcontinent, these Dark Ages ended around 321 BC, with the rise of the Maurya Empire out of early Vedic culture.⁶¹¹ Although early Vedic culture may have been predominantly pastoralist at or around 1500 BC, it would have also carried forward some of the earlier Indo-European cultural traditions that had been developing in the larger region for millennia. Even as early as the sixth century BC, when Gautama Buddha was born in northern India,⁶¹² he would have therefore had a fairly developed tradition of philosophical and spiritual debate (including early yogic and meditative practices) upon which to draw and modify. The present story would thus help to explain the relatively advanced state of early Indian philosophical and spiritual thought compared to that of many other regions at this time. It would also help to explain the relatively advanced state of the early Greek and Persian civilizations.

On the present theory, it should, in fact, come as little surprise that the three most important geographical centers of spiritual and religious influence in the world are northern India (which has produced Hinduism, Buddhism, Jainism, and Sikhism), China (which has produced Confucianism and Daoism), and the Fertile Crescent (which has produced Judaism, Christianity, and Islam). These were the three earliest sources of three of the most important socio-linguistic expansions within our natural history as a species, on the present view, and these three regions should have therefore predictably continued to exert a much broader set of cultural and intellectual influences as well.

610. See *infra* Figure 25 (showing phylogenetic structure of Indo-European legal family tree).

611. See *supra* Part V.E.1.c (positing prehistoric Indo-European Dark Ages); see also THAPAR, *supra* note 497, at 174–208 (discussing the rise of the Maurya Dynasty).

612. GOMBRICH, *supra* note 495, at 1–2.

4. *Final Compilation of the Relevant Evidence and Argumentation*

Given the complexity of the issues addressed in this Article, I want to end this discussion with a table that compiles all of the most important evidence and argumentation that have been discussed in one place. Table 1—which is set forth as an Appendix on pages 1698–1702 below—collects this larger body of evidence, and compares the relative capacities of the four major theories discussed so far to either explain it or at least render it internally coherent.

I should emphasize that the purpose of this final compilation and comparison is more than just clarificatory or expository. Given the wealth of evidence that is relevant to these topics, one can easily get lost in the details, and debates can often take the form of one side or the other simply citing some body of evidence that favors their preferred view. One should therefore remember that, in the final analysis, *all* of the major theories about the early origins and developments of the Indo-European peoples and traditions depend most fundamentally on a particular form of argumentation, which—as noted earlier—is a form of inference to the best explanation. By saying this, I mean to point out that all of these theories ultimately gain whatever traction they do from their capacity to explain some relevant body of evidence, even if different theories tend to rely more heavily on different bodies of evidence. Arguments that are based on inferences to the best explanation cannot, however, be decided in this piecemeal fashion, and, hence, these different theories can only truly be assessed by comparing their relative capacities to explain the very broadest range of evidence that is relevant to the underlying issues. The main point of Table 1 is, accordingly, to clarify why I believe that the present theory offers the very best current explanation of the broadest range of evidence relevant to these issues.

VI. CONCLUSION

Western law and Western civilization have proven themselves to have incredible capacities, over the last several centuries, not only to promote robust economic development, political stability, and the rule of law, but also to engender social, intellectual, technological, and artistic innovation.⁶¹³ Yet we seem to be equally—if not singularly—poor at explaining some of the sources of our capacities. Perhaps the most glaring piece of evidence for this weakness is that, when we have tried to export these capacities to other parts of the world, we have often engaged in

613. See McNEILL, *supra* note 184, at 730–62 (describing the “Western Explosion, 1789–1917 A.D.”).

programs that have failed spectacularly and have thereby revealed our relative lack of self-understanding.⁶¹⁴

Over the course of this Article, I have been suggesting that there may be a simple reason for this state of affairs: we have, on the whole, been far too willing to assume various forms of Western exceptionalism as the correct explanation of our contemporary power.⁶¹⁵ Explanations of this kind can feel good in the short term, and can meet a naturally perceived need for political, cultural, and ideological self-affirmation. But explanations like these have left us grasping for self-understanding in the dark.

The unfortunate fact is that we have too often sought explanations of Western success in phenomena that were either new or unique to nineteenth-century western Europe, without first locating these traditions within the broader course of world history and prehistory. In order to address these deficiencies, I have therefore engaged in a much closer examination of human prehistory, and have tried to reconstruct a more complete and accurate picture of the phylogenetic structure of our legal family tree. This reconstruction suggests that the West is best understood as just one branch of a much larger and deeper family of socio-cultural traditions, which have a much richer and deeper social prehistory than has commonly been recognized, and which have supported a truly stunning array of large-scale civilizations around the world and over the course of world history. Many of these civilizations have displayed unprecedented economic and political success for their times. Hence, if we want to understand the full factors that explain the rise of the West and its recent success, we will almost certainly need to examine some of the features that Western traditions *share* with this broader tradition.

Before concluding, let us pause for a moment to consider this last idea and notice some of its implications. Although the idea itself seems simple, I believe that its acceptance would require a fairly radical reorientation of a number of familiar inquiries and research programs. Con-

614. See, e.g., Rodrik, *supra* note 27, at 974; see also WORLD BANK, *supra* note 27, at 309; Ulen, *supra* note 18, at 8.

615. See, e.g., GOLDSTONE, *supra* note 3, at 14 (“For most of the last 200 years, Europeans justified their sudden rise to global domination in terms of their own superior virtues. Singling out elements in their history borrowed from ancient Greece and Rome and proceeding through the Renaissance, Europeans prided themselves on having achieved special insights into nature. They congratulated themselves on having greatly developed their cities and their trade, sometimes forgetting that when they joined the global trading circuits, great cities and immense trade already existed in Asia.”); KENNETH POMERANZ, *THE GREAT DIVERGENCE: CHINA, EUROPE, AND THE MAKING OF THE MODERN WORLD ECONOMY* 3 (2000) (“Much of modern social science originated in efforts by late nineteenth- and twentieth-century Europeans to understand what made the economic development path of western Europe unique; yet those efforts have yielded no consensus. Most of the literature has focused on Europe, seeking to explain its early development of large-scale mechanized industry. Comparisons with other parts of the world have been used to show that ‘Europe’—or in some formulations, western Europe, Protestant Europe, or even just England—had within its borders some unique homegrown ingredient of industrial success or was uniquely free of some impediment.”).

sider, for example, the contemporary legal origins literature. This literature typically begins with a conception of law that separates the content of law from the underlying socio-cultural traditions that tend to support the emergence and stability of law.⁶¹⁶ It then assumes a fairly sharp distinction between Western and non-Western legal traditions, and searches for legal origin variables that can explain different patterns of political and economic development by virtue of distinctions that are wholly Western.⁶¹⁷ If the arguments in this Article are correct, however, then the assumptions that are guiding these legal origins theorists may be preventing them from detecting some of the most important legal origin variables relevant to their own explanatory project. Without a proper understanding of the true phylogenetic structure of our legal family tree, these theorists may—in other words—be exaggerating certain distinctions (such as the distinction between the “West” and certain parts of the “East”),⁶¹⁸ and may be placing undue emphasis on certain other distinctions (such as the “common” and “civil” law) that are ultimately superficial.⁶¹⁹

To test this possibility, let us take a closer look at the civil-law/common-law distinction. This distinction has proven especially central to the current legal origins theorists’ explanatory project.⁶²⁰ Even if we focus on these theorists’ own evidence, however, the civil-law/common-law distinction appears to be less capable of explaining some of the phenomena that interest these theorists than the legal origins variables developed here. I say this because some of the most important civil-law countries that flout the basic trend of the legal origins theorists’ data (i.e., by displaying patterns of economic development that are more akin to certain common-law countries like the United States and Great Britain than to civil-law countries like France) fall into the *same* (Germanic) socio-cultural tradition as the bulk of the common-law countries that they group together. Germany and the Netherlands are great examples of this phenomenon:⁶²¹ both are civil-law countries (like France), but both fall into the Germanic branch of the Indo-European family (like the United States and Great Britain) and both have exhibited patterns of economic development that are much more akin to the common-law

616. La Porta et al., *supra* note 14, at 286 (“LLSV further argued that legal traditions were typically introduced into various countries through conquest and colonization and, as such, were largely exogenous.”).

617. *Id.* at 287–91 (focusing on English, French, German, Scandinavian, and “Socialist” legal traditions—in part as a result of their understanding of law as an exogenous variable); *see also id.* at 289 fig.1.

618. *Id.*

619. *Id.*

620. *Id.* at 288.

621. *Id.*; *id.* at 301 (conceding evidence that although, “in the recent period, common law countries have grown faster than French [civil law] countries,” “German legal origin countries grew faster than common law countries.”).

countries.⁶²² In a related vein, many of the remaining civil-law countries in Europe that tend to exhibit different patterns of economic development (such as France and Spain) fall into the separate Celtic-Italic tradition—which, if we were to use the legal origins variables developed in this Article, would render them more intimately related to one another than to Germany or the Netherlands. One should also remember that many of the developing nations that have had the hardest time entering onto the path of modern political and economic development—*regardless of the civil- or common-law origins of their laws*—are groups that fall into non-Indo-European language families altogether. Prominent examples would include the Niger-Congo speaking groups (in Sub-Saharan Africa), the Afro-Asiatic speaking groups (in the Arab world), and the Uralic speaking groups (in central Asia and Mongolia).⁶²³ The development of these non-Western countries is in stark contrast to that of India, which appears to be taking off both politically and economically, but which also shares a much deeper set of socio-cultural traditions with the West. Facts like these suggest to me that the civil-law/common-law distinction may ultimately prove fairly superficial, and that the legal origins variables developed in this Article may have a much deeper explanatory significance.

If, moreover, there are reasons to doubt the deep explanatory significance of the civil-law/common-law distinction, then there are equally compelling reasons to scrutinize the orthodox legal origins account of why the civil-law/common-law distinction would prove causally efficacious. De La Porta, Lopez-de-Silanes, and Shleifer have tried to address this issue by suggesting that civil- and common-law systems tend to display different levels of deference to regulatory as opposed to free-market solutions to a range of social problems, and that it is ultimately *these* differences between civil-law and common-law countries that produce the differing levels of economic success that show up in their data.⁶²⁴ These

622. Ulen, *supra* note 18, at 2 (“What we do know about the sustained growth that characterizes the last two centuries is when and where it began: in the early 19th century in northern Europe—most notably in the United Kingdom and the Netherlands.”); *see also* La Porta et al., *supra* note 14, at 301 (noting that from 1960 to 2000 that the “German legal origin countries grew faster than common law countries”); *id.* at 302 (acknowledging, in part on this basis, that their data does not always predict aggregate economic wealth very well); *id.* at 301–02 (discussing economic evidence as drawing a sharpest contrast between common law countries and French civil law) (“Much of this evidence suggests that common law is associated with better economic outcomes than *French* civil law.” (emphasis added)); *id.* at 290 (“[W]hile we occasionally speak of the comparison between common and civil law, most of the discussion compares common law to the French civil law. This is largely because each tradition includes a large number of countries, but also because they represent the two most distinct approaches to law and regulation.”).

623. Ulen, *supra* note 18, at 2 (“[S]ome areas of the world—central Asia, sub-Saharan Africa, and much of the Arab world—seem to be nearly immune to modern growth.”); *see also id.* at 10 (stating that “we now know where the worst poverty is”, and therefore “we can target aid and other policies designed to address the particular problems of those areas”).

624. La Porta et al., *supra* note 14, at 306–09 (“[T]he empirical prediction of the Legal Origin Theory is that the differences between legal origins are deep enough that we observe them expressed

theorists also admit, however, that both civil- and common-law systems tend to reflect a mixture of both solutions,⁶²⁵ and it is hard to understand why patterns of social decision-making like these would tend to remain associated with a set of laws with any particular content. The more important point to recognize, for present purposes, is, however, the following: this explanation cannot be the right one if the civil-law/common-law distinction is itself superficial, and if the legal origins variables that are doing the real explanatory work cut across the civil-law/common-law distinction. A better understanding of our legal family tree can thus have important consequences for our understanding of what makes modern societies flourish.

This example from the legal origins literature is, however, only meant to illustrate some of the types of consequences that an enriched understanding of our legal prehistory might have for a broader range of questions. If the arguments in this Article are valid, then we will obviously need to engage in much more rigorous empirical research programs designed to test the relative depth and explanatory power of the legal origins variables developed here against those found in the current legal origins literature. We will also need to explore some of the other causal properties of these new legal origins variables, and we should take a special interest in trying to identify any shared features of these traditions that might help explain the seemingly unusual capacity of so many Indo-European societies (in both the West and much of the East and throughout the larger course of human history and prehistory) to produce and sustain large-scale civilizations with the rule of law.

In today's world, there is—in my view—an increasingly urgent need for investigations like these, which dispense with the premise of modern Western exceptionalism. As noted in the Introduction, our current world has been witnessing the increased exportation of Western legal institutions and Western social and political traditions to many parts of the world, based largely on their purportedly special capacities to produce things like freedom, stability, economic development and the rule of law.⁶²⁶ Yet at the same time, we have now witnessed the Great Recession, which has challenged our confidence in how to stabilize certain

in the different strategies of social control of economic life even after centuries of legal and regulatory evolution. Perhaps because the legal system is such a difficult-to-change element of social order, supported by legal institutions, human capital, and expectations, legal origins survive both time and transplantation. This, we submit, is what gives them explanatory power.”).

625. *Id.* at 309 (“To reiterate, no country exhibits a system of social control that is an ideal type; all countries mix the two approaches. Common law countries are quite capable of civil law solutions, and vice versa.”).

626. *See, e.g.,* Whitman, *supra* note 8, at 313 (suggesting that “[i]f we want to understand how Western law acquired its distinctive tendency to spread,” then “[w]e have to understand what it is about Western institutions that has inspired Western diffusion”).

forms of modern economic development even in the West.⁶²⁷ We have also witnessed the recent reemergence of the two Eastern giants—India and China—which are starting to rise in economic and political power, and which have both played much more prominent roles over the course of world history (and prehistory) than they have over the last few centuries.⁶²⁸ When viewed from a world historical perspective, the last few centuries of Western superiority may end up reflecting a rather minor deviation from a much longer and more continuous trend.

Given facts like these, we no longer have the luxury of self-affirmation in the West: we need to know what is true, we need to know what works, and we need to pursue these inquiries in a thoroughly objective and diligent manner. To pursue these inquiries without the lens of self-affirmation is a responsibility we now have, not only to ourselves but also to the rest of the world. A deeper understanding of our own legal prehistory should, moreover, help us discharge one important part of that responsibility.

627. For a particularly dramatic example of how these events have challenged our understanding of how to stabilize modern market economies, consider Former Chairman of the Federal Reserve Alan Greenspan's startling admission, in 2008, that he had been mistaken about the effectiveness of market correction:

WASHINGTON—For years, a Congressional hearing with Alan Greenspan was a marquee event. Lawmakers doted on him as an economic sage. Markets jumped up or down depending on what he said. Politicians in both parties wanted the maestro on their side.

But on Thursday, almost three years after stepping down as chairman of the Federal Reserve, a humbled Mr. Greenspan admitted that he had put too much faith in the self-correcting power of free markets and had failed to anticipate the self-destructive power of wanton mortgage lending.

"Those of us who have looked to the self-interest of lending institutions to protect shareholders' equity, myself included, are in a state of shocked belief," he told the Committee on Oversight and Government Reform.

Andrews, *supra* note 28, at B1.

628. See generally PRANAB BARDHAN, *AWAKENING GIANTS, FEET OF CLAY: ASSESSING THE ECONOMIC RISE OF CHINA AND INDIA* (2010) (exploring the recent rise of economic power in China and India).

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ORIGINS

1699

Table 1 cont.

Table 1 cont.		E. Iran-Bactria-Indus-Valley	Bactria	Ukraine	Indus Valley	
		KAR	NICHOLS	ANTHONY	OUT OF INDIA	
EVIDENCE/ CONSIDERATION		Nichols's Linguistic Evidence				SECTIONS
Nichols Evidence from Isoglosses / Loanwords favors PIE in Bactria Evidence that Steppes Function as Linguistic Spread Zone Identifies Plausible Major Center of Political/Economic Power for Spread into Steppes		✓	✓	✗		4E2(i)
		✓	✓	✓	✓	4E1(ii), 4E2(ii)
		✓	✗	✗	✓	4E1(ii), 4E2(i)
		Other Linguistic Evidence				
Some Sanskrit Archaisms > Most IE	✓	↻	✗	✓	4B	
Some Sanskrit Archaisms > Sanskrit	✓	↻	✓	✗	4E3 (fn)	
Some Hittite Archaisms > Sanskrit	✓	↻	✗	✗	4E1(ii)	
Centum-Satem Distinction (Plausible Explanation)	✓	✗	✗	✗	4E1(iii) (fn)	
Grametz & Isolate's Evidence of Basic IE Dialectical Groupings	✓	↻	✗	✗	4A, 4E1(iii)	
Witzel's Work on Early Sanskrit (Munda Influence then Dravidian)	✓	↻	✗	✓	4A	
River Names in NW India are IE	✓	✓	✗	✓	4E1(ii), 4E2(i)	
Finno-Ugric (Uralic) Unilaterally Influence by Iranian	✓	↻	✓	✗	4E1(ii)	
The 'Horse' Evidence (in PIE, not indig. to India)	✓	↻	✓	✗		

Table 1 cont.

	E. Iran-Bactria-Indus-Valley KAR	Bactria NICHOLS	Ukraine ANTHONY	Indus Valley OUT OF INDIA	
EVIDENCE/ CONSIDERATION	Other Linguistic Evidence				SECTIONS
Linguistic Paleontology (social structure, subsistence, geography)	✓	✓	✓	✗	4E1(i)
Language of Harappan Seals (Untranslated; but Base 10; and can be IE)	✓	✓	✗ _{1/2}	✓	4A (note)
Indo-Aryan is IE language with unique Dravidian and Munda influences	✓	↻	✓	✗	4E1(iii)
Indo-Aryan is IE language with unique substratum effects from "language x"	✓	↻	✗	✗	4E1(i)
Close Relations Between Language of Early Sanskrit and Avestan Texts	✓	↻	✓	✓	4E1(iii)
	Miscellaneous Evidence				
Early Vedic Culture = Pastoralist and Began to Dominate N. India in 1500 BC	✓	✓	✓		4E1(iii)
Harappans = Urban/Agricultural. Employed Agric. Package from Fertile Crescent and declined around 1900 BC	✓		✓	✓	4E1(iii)
Sarasvati River was Central to Early Vedic Culture, but disappeared around 1900 BC	✓		✗	✓	4E1(iii)
Some Vedic Texts Appear to Describe Astronomical Events in N. India from at least third millennium BC	✓		✗	✓	4A
Brahui are Dravidian Speakers in NW Indian Subcontinent (but recent t splants)	✓		✗		4E1(iii)
Evidence of Moves Toward E and Regionalism post-1500 BC	✓	↻	✗		

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ORIGINS

1701

Table 1 cont.

EVIDENCE/ CONSIDERATION	Anthony's Archaeological Evidence				SECTIONS
	E. Iran-Bactria-Indus-Valley KAR	Bactria NICHOLS	Ukraine ANTHONY	Indus Valley OUT OF INDIA	
Anthony Evidence of Persistent Material Culture Frontiers in Steppes Evidence of Transformation of Steppes in 3300 into Linguistic Spread Zone Evidence of Migrations of IE Groups to Present Locations Methodological Concerns regarding source of IE languages in Steppes Harmonizes Anthony's Archaeological Evidence with Nichols's Linguistic Evidence and All Novel Arguments Developed Here	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		4E2(ii)
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4E2(ii)
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4E2(ii)
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2, 3, 4A, 4E2(ii)
No Evidence of Large-Scale Migrations into or out of Indian Subcontinent at 1500 BC No Single Material Culture Identifiable as Indo-Iranian in second millennium Many Material Cultures with Indo-Iranian Traits Found Throughout Eurasia in second millennium Striking Social Continuity of Indus Valley from 4500 BC to 800 BC Striking Social Continuity of Indus Valley from 4500 BC to 800 BC Implausibility of Dravidian Migrations from Indus Valley to the South No Harappan Material Culture found in S or E	Other Related Evidence (Mostly Archaeological)				
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4E2(i-ii)
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4E2(iii), 4E3 (note)
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4E2(iii)
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4E2(iii)
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1A, 4E2(ii-iii)
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4A
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4A

Table 1 cont.

	E. Iran-Bactria-Indus-Valley KAR	Bactria NICHOLS	Ukraine ANTHONY	Indus Valley OUT OF INDIA	
EVIDENCE/ CONSIDERATION	Evidence from Patterns of Social Influence/Complexity				SECTIONS
Social Complexity					
Explains Pattern of Mega-Empires Consistent with Bottleneck Thesis	✓	✗	✓		4C, 4E1
Hook's Data Suggesting PIE Origin for Some IE Legal Concepts	✓	✗	✓		1C, 4E
Special Capacities of IE groups to sustain social complexity and rule of law	✓	✓	✓		4C, 4E
Relatively Advanced State of Ancient Greek, Persian and Indian Civilizations for Time	✓		✓		1A, 4C, 4E1(ii)
Failure of Anatolian and Tocharian Branches to Produce Mega-Empires	✓				4E1(i)
Difficulties Transplanting IE Legal Traditions to Niger-Congo, Altaic, and Afro-Asiatic Linguistic Groups	✓				4C, Conclusion
Germanic Tribes' Ability to Absorb Law and Create Rule of Law > Many Developing Nations	✓	↻	✗	✓	4C, 4E1(iv), Conclusion
Major Religious Influences Emanate from Fertile Crescent and Northern India	✓		✗	✓	4E3
Major Admixture Even Between Ancestral North and Ancestral South Indians From 1500 BC to 900 AD	✓		✓		4E1(iii)
Haplotype Diversity of ANI in India Suggests Great Time Depth	✓		✗	✓	4E1(iii)
Some genetic markers special to Indo-Aryan branch of IE	✓	✓		✗	4E1(iii)
	Genetic Evidence				