ITALY IN LATE ANTIQUITY AND THE EARLY MIDDLE AGES

Marco Panato

River and Society in Northern Italy

The Po Valley, 500-1000 AD

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Italy in Late Antiquity and the Early Middle Ages

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To my parents and their mothers

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Marco Panato
Nottingham, June 2024

Prefatory Note

Almost all the personal names mentioned in this book—such as Louis, Berengar, or Adalbert—are in modern English. When they are not, I have maintained their Latin form—for instance, Eridanus or Peredeus. For the sake of clarity, the ecclesiastical names of churches and religious institutions are presented in Italian. Quotations in Latin have been paraphrased or partially translated in the main text or footnotes. Where possible, I have used available English translations of primary sources. When a published English translation is not available, I have provided my translation and acknowledged it in the text. When modern places are mentioned for the first time, I have included the abbreviation of their modern province in brackets (such as PV for Pavia, CR for Cremona, or BO for Bologna).

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Abbreviations

Ahistulfi	*Ahistulfi leges*, in *The Lombard Laws*, trans. Katherine Fischer Drew (Philadelphia: University of Pennsylvania Press, 1974), pp. 227–38; Latin text from *Le leggi dei Longobardi: Storia, memoria e diritto di un popolo germanico*, eds. Claudio Azzara and Stefano Gasparri (Rome: Viella, 2005).
AnTard	*Antiquité Tardive* Journal
ASTSNA	*Atti della Società Toscana di Scienze Naturali Residente in Pisa. Memorie. Serie A* Journal
Benericetti 8–9	*Le carte ravennati dei secoli VIII–IX*, ed. Ruggero Benericetti (Bologna: Bologna University Press, 2006).
Benericetti 10/1–3	*Le carte ravennati del secolo X*, 3 vols., ed. Ruggero Benericetti (Faenza: Bologna University Press, 2002).
Capit.	*Capitularia Regum Francorum*, 2 vols., eds. Alfred Boretius and Victor Krause (Hanover: MGH, 1883–1897).
CDB	*Codice Diplomatico del Monastero di S. Colombano di Bobbio*, 2 vols., ed. Carlo Cipolla (Rome: Tipografia del Senato, 1918).
CDL	*Codex Diplomaticus Langobardiae*, ed. Giulio Porro-Lambertenghi (Turin: Regio Typographeo, 1873).
CDL I–IV	*Codice Diplomatico Longobardo*, 4 vols., eds. Luigi Schiaparelli and Carlrichard Brühl (Rome: Tipografia del Senato, 1929–1984).
CDLM	*Codice Diplomatico della Lombardia Medievale*, ed. Michele Ansani (Pavia: University of Pavia, 2000–ongoing).
CDP	*Codice Diplomatico Padovano*, ed. Andrea Gloria (Venice: Deputazione Veneta di Storia Patria, 1877).
CDV1–2	*Codice diplomatico Veronese. Dalla caduta dell'impero romano alla fine del periodo carolingio*, 2 vols., ed. Vittorio Fainelli

	(Venice: Deputazione di storia patria per le Venezie, 1940–1963).
ChLA2	*Chartae Latinae Antiquiores, 2nd Series*, 68 vols., eds. Guglielmo Cavallo and Giovanna Nicolaj (Zürich: Urs Graf Verlag, 1997–2019).
ChLA2 Parma 1–2	*ChLA2 XCII–XCIII, Italy LXIV–LXV, Parma I–II* (Zürich: Urs Graf Verlag, 2012–2014).
ChLA2 Piacenza 1–8	*ChLA2 LXIV–LXXI, Italy XXXVI–XLIII, Piacenza I–VIII* (Zürich: Urs Graf Verlag, 2003–2007).
CISAM	Centro Italiano per lo Studio dell'Alto Medioevo
Codex Carolinus	*Codex Epistolaris Carolinus: Letters from the Popes to the Frankish Rulers, 739–791*, eds. Rosamond McKitterick, Dorine van Espelo, Richard Pollard, and Richard Price (Liverpool: Liverpool University Press, 2021).
Codex Sicardi	*Privilegia episcopii Cremonensis o Codice di Siccardo* (*715/730–1331*), ed. Valeria Leoni, in CDLM (Pavia: University of Pavia, 2004).
CUP	Cambridge University Press
DDBerI	*I diplomi di Berengario I*, ed. Luigi Schiaparelli (Rome: ISI, 1903).
DDGuy	*I diplomi di Guido e Lamberto*, ed. Luigi Schiaparelli (Rome: ISI, 1906).
DDHug	*I diplomi di Ugo e di Lotario, di Berengario II e di Adalberto*, ed. Luigi Schiaparelli (Rome: ISI, 1924).
DDKarI	*Die Urkunden der Karolinger, 1: Die Urkunden Pippins, Karlmanns und Karls des Grossen*, eds. Alfons Dopsch, Johann Lechner, and Michael Tangl (Hanover: MGH, 1906).
DDKarIII	*Die Urkunden der Deutschen Karolinger, 2: Die Urkunden Karl III*, ed. Paul Kehr (Berlin: MGH, 1937).
DDKm	*Die Urkunden der Deutschen Karolinger, 1: Die Urkunden Karlmanns*, ed. Paul Kehr (Berlin: MGH, 1934), pp. 285–330.
DDKoI	*Die Urkunden der Deutschen Könige und Kaiser, 1: Die Urkunden Konrad I*, ed. Theodor Sickel (Hanover: MGH, 1879).

DDKoII	*Die Urkunden der Deutschen Könige und Kaiser, 4: Die Urkunden Konrads II*, ed. Harry Bresslau (Hanover-Leipzig: MGH, 1909).
DDLoI	*Die Urkunden der Karolinger, 3: Die Urkunden Lothars I*, ed. Theodor Schieffer (Berlin: MGH, 1966).
DDLuII	*Die Urkunden der Karolinger, 4: Die Urkunden Ludwigs II*, ed. Konrad Wanner (Munich: MGH, 1994).
DDOI–III	*Die Urkunden der Deutschen Könige und Kaiser, 1: Die Urkunden Otto I*, ed. Theodor Sickel (Hanover: MGH, 1884). *Die Urkunden der Deutschen Könige und Kaiser, 2: Die Urkunden Otto II und Otto III*, ed. Theodor Sickel (Hanover: MGH, 1888–1893).
DV1–2	*Documenti relativi alla storia di Venezia anteriori al mille*, 2 vols., ed. Roberto Cessi (Padua: Gregoriana Editrice, 1940–1942)
EFR	Publications de l'École française de Rome
EME	*Early Medieval Europe* Journal
HAM	*Hortus Artium Medievalium* Journal
HL	Paul the Deacon, *History of the Lombards*, trans. William D. Foulke (Philadelphia: University of Pennsylvania Press, 1974).
HUP	Harvard University Press
Inventari	*Inventari altomedievali di terre, coloni e redditi*, eds. Andrea Castagnetti, Michele Luzzati, Gianfranco Pasquali, and Augusto Vasina (Rome: ISI, 1979).
ISI	Istituto Storico Italiano
LP	*The Book of Pontiffs* (Liber Pontificalis). *The Ancient Biographies of First Ninety Roman Bishops to AD 715*, trans. Raymond Davies (Liverpool: Liverpool University Press, 1989). *The Lives of the Eighth-Century Popes* (Liber Pontificalis). *The Ancient Biographies of Nine Popes from AD 715 to AD 817*, trans. Raymond Davies (Liverpool: Liverpool University Press, 1992). *The Lives of the Ninth-Century Popes* (Liber Pontificalis). *The Ancient Biographies of*

	Ten Popes from AD 817–891, trans. Raymond Davies (Liverpool: Liverpool University Press, 1995).
Liutprandi	*Liutprandi leges*, in *The Lombard Laws*, trans. Katherine Fischer Drew (Philadelphia: University of Pennsylvania Press, 1974), pp. 137–214; Latin text from *Le leggi dei Longobardi. Storia, memoria e diritto di un popolo germanico*, eds. Claudio Azzara and Stefano Gasparri (Rome: Viella, 2005).
MGH	Monumenta Germaniae Historica
OUP	Oxford University Press
P&P	*Past and Present* Journal
PBSR	*Papers of the British School at Rome* Journal
PCA	*Post-Classical Archaeology* Journal
Placiti	*I placiti del* Regnum Italiae, 3 vols., ed. Cesare Maranesi (Rome: ISI, 1955–1960).
QAP	*Quaderni di Archeologia del Piemonte* Journal
QdAV	*Quaderni di Archeologia del Veneto* Journal
QSAP	*Quaderni della Soprintendenza archeologica del Piemonte* Journal
RFA	*Royal Frankish Annals*
RM	*Reti Medievali Rivista* Journal
Rothari	*Rothair's Edict* in *The Lombard Laws*, trans. Katherine Fischer Drew (Philadelphia: University of Pennsylvania Press, 1974), pp. 39–130; Latin text from *Le leggi dei Longobardi. Storia, memoria e diritto di un popolo germanico*, eds. Claudio Azzara and Stefano Gasparri (Rome: Viella, 2005).
SAP	SAP Società Archeologica
S. Giulia	*Le carte del monastero di S. Giulia di Brescia. I (759–1170)*, eds. Ezio Barbieri, Irene Rapisarda, and Gianmarco Cossandi, in CDLM (Pavia: University of Pavia, 2008).

1. Introduction: Studying the Po Riverscape in the Early Middle Ages

Abstract
This introductory chapter provides a brief overview of the research subject, methodological approaches, and sources used in the book. It discusses the principal historiographical traditions related to the study of early medieval rivers and explains why and how studying their environmental history could increase our understanding of the early Middle Ages. The chapter also presents the historical and ecological perspective and approach employed in the book, arguing for the significant role of rivers as socio-economic hubs and agents of environmental change in the formation of the landscapes of early medieval northern Italy.

Keywords: Po River; Early Middle Ages; Historical Ecology; Amphibious Culture; Landscape

Sl'e grand al Po.	The Po is mighty.
Coi ca s'incuntra là	Those who meet there
i sbasa sens'acorzasan la Vus,	lower their voices without realising it
e i arcnós,	and recognise,
cm'an po ad malincunia,	with a degree of melancholy,
ca siom dabón cumpagn.	that we are truly mates.

Cesare Zavattini, *Da li me bandi*, 1973, in Jones, *The Po*, p. 160

In his recent book on the Po River, the journalist Tobias Jones stressed the loss of centrality of the Po in modern society.[1] Despite this, in his travel diary,

1 Tobias Jones, *The Po: An Elegy for Italy's Longest River* (London: Head of Zeus, 2022). I thank Ross Balzaretti for suggesting this book.

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Jones also reported his encounter with individuals and small communities who still persist in defending their connection with the river, acting in contrast to the macro-economic trends that see the Po and other rivers of northern Italy essentially as drains for factories and intensive farming. This battle of local communities against modernity intrigued me and I started wondering how much this relationship between river and society was different and perceived in the post-Roman world, a period that is still attracting substantial international scholarship. The recent drought in northern Italy also pushed me to probe the human-environment relationship in the past, and to investigate the centrality of the Po River in the early Middle Ages and examine how people dealt with river risk and climate change.

The core of this book is in fact the symbiotic relationship between these two elements, the river and the communities (both urban and rural), which together form the "riverscape." In recent years, the development of a consolidated interdisciplinary methodology for the study of the early Middle Ages,[2] encompassing history, archaeology, social sciences, and the publication of crucial palaeoenvironmental data allowed me to undertake this research path and explore more in depth the relationship between people and environment and the formation of historical landscapes.

This topic has been recently placed in the spotlight after the publication of Richard Hoffmann's *An Environmental History of Medieval Europe*, which represented an official milestone of an academic discipline that was already the object of several studies, especially following the trajectories of the *Annales* School since the 1920s. This book, indeed, owns much debt especially to the work of the second and third generations of that school; in particular to Fernard Braudel and Emanuel Le Roy Ladurie. In *The Mediterranean*, Braudel analysed the reign of Philip II (1527–1598), looking at long-, medium-, and short-term conditions that affected the life of Mediterranean people.[3] The analysis drew great attention to environmental patterns as a fundamental element for the creation and development of those societies. This knowledge passed to Braudel's pupil, Le Roy Ladurie, who became the "father" of disciplines like climate history and microhistory.[4] By the 1960s the premises on which this book has been based were in place, to the point that this book can be considered a continuation of that tradition.

2 Riccardo Rao, *I paesaggi dell'Italia medievale* (Rome: Carocci, 2015), pp. 19–40.

3 Fernand Braudel, *The Mediterranean and the Mediterranean World in the Age of Philip II*, 2 vols., trans. Siân Reynolds (New York, NY: Harper Collins, 1973).

4 Emmanuel Le Roy Ladurie, *The Peasants of Languedoc*, trans. John Day (Champaign, IL: University of Illinois Press, 1974); and *Times of Feast, Times of Famine: A History of Climate Since the Year 1000*, trans. Barbara Bray (Garden City, NJ: Doubleday, 1971).

The study of watercourses and rivers is an important topic for historical research of the early medieval period. Rivers have always been a central stage for socio-political and economic dynamics. Their waters were preferable routes for movements, fostering exchanges and connections, complementing the road systems inherited from Antiquity. Rivers were also hubs for production and land management, significantly contributing to urban and rural economic development and growth, shaping original landscapes. On the other hand, riverscapes also harboured terrible dangers. Testimonies of inundations and shifts in river courses frequently emerge in early medieval documents, such as the sixth-century floods recorded in Paul the Deacon's *Historia Langobardorum*.[5] Archaeological evidence further shows dramatic changes in these environments, forcing people to adapt to new scenarios.[6] Studying these transformations offers insight into how people coped with environmental crises, highlighting the central role of rivers as ecosystems during this period.

In the late Lombard and Carolingian periods, between the eighth and the long ninth century,[7] the renewed attention by political leaders on watercourse management raises questions about why substantial portions of administrative legislation were devoted to these issues, further demonstrating the rivers' importance in early medieval societies.[8] Nevertheless, the means by which societies were interconnected with rivers (their historical ecology) remain quite obscure. Previous descriptions of this relationship have often been described in negative terms, especially compared with studies of the Roman or the high medieval periods. More recent analyses have also tended to focus predominantly on the economic role of rivers and their environmental dangers through a top-down approach. This book,

5 See Paolo Squatriti, "The Floods of 589 and Climate Change at the Beginning of the Middle Ages: An Italian Microhistory," *Speculum* 85, no. 4 (2010), pp. 799–826. See chapter 3 for the effects of this series of flooding events.

6 See chapter 6.

7 The "long ninth century" was part of the title of an interesting conference held in March 2010 at the McDonald Institute in Cambridge (*Crisis, What Crisis? The 'Long' Ninth Century*). In this book, the term refers to the extension of the Carolingian government practice, which extended beyond the traditional end of the Carolingian period in 888 after the death of Charles III (the Fat). In Italy, continuity in governmental and political practices have been recognised also by contemporary voices, like Atto of Vercelli, see Giacomo Vignodelli, *Il filo a piombo. Il Perpendiculum di Attone di Vercelli e la storia politica del regno italico* (Spoleto: CISAM, 2012), and also during the chaotic first decades of the tenth century, until the assassination of Berengar I on 7 April 924. On this see Igor Santos Salazar, *Governare la Lombardia Carolingia* (Rome: Viella, 2021), pp. 35–37.

8 Jean-Pierre Devroey, *La Nature et le roi, Environnement pouvoir et société à l'âge de Charlemagne (740–820)* (Paris: Éditions Albin Michel, 2019).

on the contrary, provides the reader with a different horizontal perspective of the early medieval period, looking at the history of the largest river system in Italy and arguing that these watercourses, wetlands, meadows, and forests were far from being marginal areas but the core of the early medieval kingdom in northern Italy. Contrary to recent literature, which often emphasises the importance of rivers for merchants and the principal political and ecclesiastical actors (especially royal *fiscus* and monasteries),[9] this book contends that rivers were especially crucial for local communities. My principal argument is that the riverscape and the control of its resources were central to the socio-political and economic life of the region during the whole early medieval period. Despite challenges such as the collapse of long-distance trade after the fall of the Roman state, the (hypothetical) lack of a powerful central authority, and the climatic and environmental changes, early medieval societies adapted to new circumstances and viewed the river as the most important tool for their sustenance and growth.

Before delving into the exposition of this argument from different perspectives as presented in each chapter, this introductory chapter provides the concise historiographical context within which this book is placed, alongside fundamental theoretical frameworks and tools essential for the investigation of the early medieval Po Valley and its riverscape.

1.1 Early Medieval Water and Rivers: A Historiographical Context

One of the most important milestones in the study of water and rivers in the early Middle Ages is Paolo Squatriti's *Water and Society in Early Medieval Italy*.[10] His contributions in terms of methodology, the range of subjects covered, and the geographical scope, set the foundation for further studies, including this book, as explained in the following chapters. In 2007, during the 55th *Settimana di studio* of CISAM in Spoleto, in-depth discussion of early medieval water and related issues ignited an international debate on different topics related to water.[11] Among these, rivers emerged as a prominent theme, especially connected to the economic exploitation of

9 See chapter 1, section 1 below.

10 Paolo Squatriti, *Water and Society in Early Medieval Italy, AD 400–1000* (Cambridge: CUP, 1998).

11 During the *Settimana*, the papers presented gravitated around five main themes: the link between water and culture was the most popular (ten papers); settlement patterns was the second most numerous theme (seven papers), followed on the podium by transport (5 papers); the last two themes with both four papers each were agriculture applications and health properties of water. See *L'acqua nei secoli altomedievali* (Spoleto: CISAM, 2008).

watercourses and transport patterns, which remain key topics in current research on rivers, including the Po and its tributaries.[12]

More recently this connection between river and early medieval society has been approached from different angles. For example, Ellen Arnold's diachronic project, *Cultural and Religious Views of River in the Middle Ages*, launched in 2012 and culminated in 2024 with the publication of *Medieval Riverscapes*, shifted research towards the cultural perception of rivers.[13] This cultural perspective represents a crucial tool for understanding the socio-economic exploitation of early medieval rivers (as discussed in chapter 2), along with the interaction of different disciplines, new scientific data, and the comparison with other contexts.

Despite these premises, no books have been published on the early medieval history of a single river and the urban and rural communities along its banks. This is possibly due to two factors: 1) the scarcity of sources compared to other periods, leading to simplified reconstructions of the environmental and socio-economic context; 2) the interpretation of the early medieval period through the eyes (words) of the elites. Through these lens, the early Middle Ages are often perceived as a period in which the environment drove human action and the absence of written record and simplification of artefacts led scholars to picture a primitive and violent world compared to the literate Roman past, in which the sword replaced the pen in the elites, and the absence of a public authority froze socio-economic activities at a very local scale; yet, these characteristics led to the formation of a new peasantry and a new socio-political and economic organisation of land and water.[14] Thanks to established theoretical approaches (see chapter 1, section 2) and new materials (see chapter 1 section 3), research on the early medieval Po Valley riverscape has the chance—now more than ever—to expand its focus, permitting wider and more comprehensive analyses, shedding new light on the so-called "Dark Ages."

The Study of the Po River

Research on the Po Valley in late Antiquity and the early Middle Ages, and on the relationship between people and river is evident by the eighteenth

12 See chapter 4 and Santos Salazar, *Governare la Lombardia*, pp. 35.

13 Ellen Fenzel Arnold, *Medieval Riverscapes: Environment and Memory in Northwest Europe, c. 300–1100* (Cambridge: CUP, 2024).

14 In general on these transformations, see Chris Wickham, *Framing the Early Middle Ages: Europe and the Mediterranean, 400–800* (Oxford: OUP, 2005). On water, in particular, see Squatriti, *Water and Society*.

century in the works of Ludovico Antonio Muratori, who stressed the negative impact that woodland, marshland, and *incultus* had on northern Italian territories, especially when compared to the Roman 'golden age'.[15] This interpretation, which remained relatively predominant until the last century, did not deter nineteenth-century intellectuals and scholars from gradually developing and adopting a scientific approach to the study of river management, recognising it as the most important environmental and economic feature of the territory.[16]

Cartography fostered an empirical understanding of the Po and its water management. A first mapping project of the Po, from the Ticino confluence to the sea, started during the Napoleonic period in 1811, and continued until 1872, initially promoted by the Austrian empire and later by the kingdom of Italy.[17] The maps created in those years became fundamental tools for the studies of Elia Lombardini on the Po historical hydrography and human adaptation to hydrological changes (1840, 1867–1868).[18] The apex of these studies came after the appointment by royal decree of the Brioschi Commission in 1873, following the two devastating floods of the Po River which occurred in the previous year.[19] This commission (Lombardini was an eminent member) was tasked with studying the complex dynamics of the Po riverbed, and its interaction with the surrounding territories in order to propose measures to defend the Po Valley from floods (figure 1).

The political unity of the Po Valley after 1861, the publication of studies and maps, the colossal work of the Brioschi Commission, and the parallel editions of the early medieval charters, hidden in the archives of the Po Valley cities,[20] generated the fertile ground for modern studies on the role of the Po in the

15 Ludovico Antonio Muratori, *Antiquitates Italicae Medii Aevi*, II (Milan: Typographia Societatis Palatinae, 1739), pp. 144–288.

16 In 1844, Carlo Cattaneo, philosopher and one of the insurrectionist leaders during the Five Days of Milan (18–22 March 1848), mentioned the centrality of land reclamation in Lombardy for the development of the region. See Michele Campopiano, "The evolution of the landscape and the social and political organisation of water management: The Po Valley in the Middle Ages (fifth to fourteenth centuries)," in *Landscapes or Seascapes? The history of the coastal environment in the North Sea area reconsidered*, ed. Erik Thoen et al. (Turnhout: Brepols, 2013), pp. 313–32, p. 313.

17 Ireneo Ferrari and Maurizio Pellegrini, eds., *Un Po di carte: La dinamica fluviale del Po nell'Ottocento e le tavole della Commissione Brioschi* (Reggio Emilia: Diabasis, 2007), pp. 10–11.

18 Ferrari and Pellegrini, *Un Po di carte*, p. 11.

19 Similarly, in Germany the study of the Rhine and other rivers started in the eighteenth century following the need for prevention from their dangers, see Martin Eckholdt, "History of Potamology in German-Speaking Area," *Water International* 2, no. 2 (1977): pp. 20–25.

20 In 1873, for instance, Giulio Porro Lambertenghi was publishing the *Codex Diplomaticus Langobardiae* (CDL).

Figure 1. Detail of the Brioschi Commission, Tavola 8 (Piacenza). After Geoportale AIPO (Agenzia Interregionale del fiume Po)

Middle Ages. It is no coincidence, in fact, that one of the first articles that addressed this topic, was published in 1877 in the fourth issue of the *Archivio Storico Lombardo* (founded three years earlier) by Bernardo Pallastrelli,[21] a historian and numismatist, born in Piacenza into a noble family.

These initial studies were mostly focused on fluvial navigation, institutions, and juridical rights, contributing to a substantial literature since the beginning of the last century. In the 1950s, after the publication of Cinzio Violante's *La società milanese* and Vito Fumagalli's studies on the *incultus*, interest and research on the early medieval socio-economic uses of the Po Valley rivers increased.[22] New substantial contributions emerged from the dialogue between historians and archaeologists started in the 1980s and consolidated in the following decades.[23] The publications in 2003 of the first two archaeological overviews of the sites of Piadena (CR) in modern Lombardy and S. Agata Bolognese (BO) in Emilia, indeed focused scholars' attention

21 Bernardo Pallastrelli, "Il Porto e il Ponte del Po presso Piacenza," *Archivio Storico Lombardo* 4, no. 1 (1877): pp. 9–38.

22 Cinzio Violante, *La società milanese nell'età precomunale* (Bari: Laterza, 1953). Vito Fumagalli, *Terra e società nell'Italia padana: I secoli IX e X* (Turin: Einaudi, 1974).

23 As expressed by Chris Wickham in "Considerazioni conclusive" in *La storia dell'alto medioevo italiano* (*VI–X secolo*) *alla luce dell'archeologia: Convegno internazionale* (*Siena, 2–6 dicembre 1992*), eds. Riccardo Francovich and Ghislaine Noyé (Florence: All'Insegna del Giglio, 1994), pp. 741–59. In fact, the study of the early Middle Ages without the constant dialogue between the two disciplines would be impossible.

directly on those settlements located in proximity to watercourses and rivers.[24] This attention was directed at two areas of the Po Valley: the Lombardy-Veneto low plain (between the Adda and the Adige rivers) and Emilia.[25]

Research in this field has greatly benefited from the study of specific excavated sites, especially Nogara (VR) and S. Agata Bolognese.[26] These have provided concrete bases for discussing the material aspects of the relationship between human presence, inland water, and river. In parallel, surveys and fieldwork have continued, integrating with written documents and fostering the development of interdisciplinary approaches for the study of the settlement patterns in wetlands.[27]

The historiography on the relationship between river and society in northern Italy is not, therefore, a new phenomenon. It has substantially developed due to the new inputs provided by archaeological research. Over the last two decades, historical and archaeological research has covered a wide range of aspects, developing and increasing the application of other disciplines, like geomorphology and archaeobotany, now crucial in the reconstruction of historical landscape and beyond. The influence of waterfront archaeology has also been fundamental in increasing interest and enlarging the possibilities for studying human presence near watercourses, with all its implications.[28] These interdisciplinary methodological approaches have, in fact, been recently applied in the diachronic analysis of medieval Sesia,[29] representing a "new generation" of studies on medieval Italian rivers to which this book evidently belongs.

24 Sauro Gelichi, Mauro Librenti, and Marco Marchesini, eds., *Un villaggio nella pianura: Ricerche archeologiche in un insediamento medievale del territorio di Sant'Agata Bolognese* (Florence: All'Insegna del Giglio, 2014), pp. 101–17; Gian Pietro Brogiolo and Nicola Mancassola, eds., *Scavi al Castello di Piadena*, in *Campagne medievali: Strutture materiali, economia e società nell'insediamento rurale dell'Italia settentrionale* (*VIII–X secolo*), ed. Sauro Gelichi (Mantua: SAP, 2005), pp. 121–220.

25 Gian Pietro Brogiolo, Alexandra Chavarría-Arnau, and Marco Valenti, eds., *Dopo la fine delle ville: le campagne dal V al IX secolo* (Mantua: SAP, 2005), in particular pp. 53–80 and 81–104.

26 Fabio Saggioro, ed., *Nogara: Archeologia e storia di un villaggio medievale* (*Scavi 2003–2008*) (Rome: Bretschneider Editore, 2011). Gelichi, Librenti, and Marchesini, eds., *Un villaggio nella pianura*.

27 Nicola Mancassola, "Uomini e acque nella pianura reggiana durante il Medioevo (secoli IX–XIV)," in *Acque e territorio nel Veneto medievale*, eds. Dario Canzian and Remy Simonetti (Rome: Viella, 2012), pp. 115–32. Fabio Saggioro, "Paesaggi in equilibrio: Uomo e acqua nella Pianura Padana Centrale tra IV e IX secolo," *AnTard* 20 (2012): pp. 47–67.

28 Robert Van de Noort, "The Archaeology of Wetland Landscapes: Method and Theory at the Beginning of the 21st Century," in *Handbook of Landscape Archaeology*, ed. Bruno David and Julian Thomas (New York: Routledge, 2008), pp. 482–89.

29 Riccardo Rao, ed., *I paesaggi fluviali della Sesia fra storia e archeologia: Territori, insediamenti, rappresentazioni* (Florence: All'Insegna del Giglio, 2016).

Kingdom and Rivers: A Recent Historiographical Trend

Since the earlier contributions, a crucial aspect regarding the study of the Po is its value as a principal resource for early medieval public power. In his *State and Society*, Matthew Innes looked at the river-society relationship in the middle Rhine Valley, adopting a top-down approach. His focus centred on how local groups, such as monasteries and towns, developed complex patterns of collective action that allowed local elites to link localities to the political centre.[30] Albeit attracting some criticism, one of Innes' most original conclusions indicated that, even at the heart of Frankish Europe, the Carolingian reforms aimed not at creating a state, but at maintaining closer ties with ecclesiastical and lay elites, who possessed much of the *de facto* power within local communities. It is not the right place here to discuss the origin of the early medieval state,[31] but to highlight that, despite the mention of the Rhine in the title of the monograph, the river actually played a minor role in Innes' argument.

Turning to the Po Valley, the relationship between river and state has attracted renewed interest especially within research projects focused on the economic, patrimonial, and foundation patterns of public powers in the kingdom of Italy, after the collapse of the late antique economic and taxation systems.[32] In this context, rivers and water, once essential public resources in the Roman period, became instruments wielded by early medieval rulers.[33] While in the same research projects, other apparently "marginal" environments belonging to fiscal estates, like the Vetricella coastal marshes in modern Tuscany, have been extensively analysed from both archaeological and historical perspectives,[34] a comprehensive analysis of the Po Valley riverscape (another fiscal property) is yet to be fully addressed.

30 Matthew Innes, *State and Society in the Early Middle Ages: The Middle Rhine Valley. 400–1000* (Cambridge: CUP, 2000).

31 For a recent overview with a particular focus on Italy but encompassing the international historiographical background see Santos Salazar, *Governare la Lombardia*, pp. 13–26.

32 In particular the two inter-university PRIN 2017 projects *Fiscal Estate in Medieval Italy* (https://www.sismed.eu/it/progetti-di-ricerca/fiscal-estate/) and *Ruling in hard times* (https://www.sismed.eu/it/progetti-di-ricerca/ruling-in-hard-times/). On the end of the late Roman socio-economic system in Italy, see Paolo Tedesco "Late Roman Italy: Taxation, Settlement, and Economy (A.D. 300–700)" (PhD diss., University of Vienna, 2015).

33 I refer especially to Tiziana Lazzari's work, see chapter 7, n14.

34 Giovanna Biachi and Richard Hodges, eds., *The nEU-Med project: Vetricella, an Early Medieval Royal Property on Tuscany's Mediterranean* (Sesto Fiorentino: All'Insegna del Giglio, 2020). On the centrality of coastal marshes in early medieval Italy, see Paolo Squatriti, "Marshes and Mentalities in Early Medieval Ravenna," *Viator* 12 (1992): pp. 1–16.

In order to avoid the relegation of the most important environmental feature of northern Italy, that is the rivers, to a secondary role in shaping the formation of the kingdom of Italy—as in fact emerged in Innes' analysis of the middle Rhine Valley—this book offers a complementary picture to the most recent research trajectories regarding the study of early medieval Italy and the post-Roman Po Valley, employing a bottom-up approach and following a dynamic ecological perspective, true to environmental history.

1.2 Approaches for a Historical Ecology of the Po

To investigate the riverscape of the Po Valley in the early Middle Ages, and its exploitation by different agencies, a range of tools and an interdisciplinary methodological approach need to be employed. These fall within the field of historical ecology.[35] Before proceeding to the core parts of this book, I need here to clarify what is the historical ecology of a place and equip the reader with the fundamental conceptual and methodological tools needed to look at the centrality of the riverscape from a fresh and dynamic perspective.

What is Historical Ecology?

Historical ecology is a research approach that integrates concepts from various disciplines to study the human-environment relationship in the past. It draws on ecological, social, and historical sciences to analyse how humans have interacted with ecosystems and developed landscapes in the *longue durée*.[36] Historical ecology considers human agency as integral parts of ecosystems and, therefore, incorporates both written and non-written history, as well as the collaboration between researchers with different backgrounds. It focuses on dynamic and complex systems, enabling the study of past management practices for periods which are relatively badly documented, such as post-Roman Europe.

35 Carole L. Crumley, "Historical ecology and the study of landscape," *Landscape Research* 42, no. 1 (2017): pp. 65–73; Szabó, Péter, "Historical ecology: past, present and future," *Biological Reviews* 90 (2015): pp. 997–1014; William Balée, "The Research Program of Historical Ecology," *Annual Review of Anthropology* 35 (2006): pp. 75–98; Carole L. Crumley, ed., *Historical Ecology: Cultural Knowledge and Changing Landscapes* (Santa Fe: School of American Research, 1994).
36 Balée, "The Research Program," p. 76.

Contemporary historical ecology finds its foundation in earlier twentieth-century works.[37] As mentioned above, the Annales School, since the 1920s, encouraged the development of the discipline and its dissemination among historians, integrating geography, ethnography, and environmental sciences. Two disciplines, in particular, encouraged interdisciplinary dialogue. Geography is the first, especially by Carl Sauer (1889–1975) and the Berkeley School,[38] promoting landscape morphology and cultural history approaches, aiming at retracing human impact on landscapes over time. The second is ecology, influenced by Aldo Leopold (1887–1948) and especially the anthropologist Franz Boas (1858–1942), who argued against environmental (and genetic) determinisms and promoted the equal importance of culture and environment.[39] In the late 1980s and 1990s, ecologists combined forest history, restoration ecology, and paleoecology with anthropology and archaeology, with the purpose of examining long-term regional change, community involvement, and complex relationships between physical and social history in landscapes.[40]

One of the characteristics of historical ecology is its dynamic and mutable nature due to differences in research questions, material record availability, and site conditions. Historical ecology, therefore, operates with flexible concepts and perspectives, stressing each site's unique history and resources.[41] Especially for these reasons, historical ecology represents the ideal approach to investigate the early medieval Po Valley riverscape, better highlighting the dynamism of the human-environment interactions and showing the complexity of these relationships.[42] In this sense, this book is an ensemble of different historical ecologies, which are investigated according to the available materials and sources, highlighting variables and similarities.

Another fundamental concept, widely used in archaeology to provide an ecological perspective, is sustainability, or what has been called "ecological

37 Crumley, "Historical Ecology," pp. 1–5.

38 Carl O. Sauer, "The Morphology of Landscape," *University of California Publications in Geography* 2 (1925): pp. 19–53.

39 Franz Boas, *Anthropology and Modern Life* (New York, NY: Norton & Co., 1928).

40 Crumley, "Historical Ecology," p. 3; Alfred T. Grove and Oliver Rackham, *The Nature of Mediterranean Europe: An Ecological History* (New Haven, CT: Yale University Press, 2001).

41 For instance, see Roberta Cevasco, Diego Moreno, and Robert Hearn, "Biodiversification as an historical process: an appeal for the application of historical ecology to bio-cultural diversity research," *Biodiversity and Conservation* 24, no. 13 (2015): pp. 3167–83.

42 One of the first examples of an ecological approach to the study of the Middle Ages is Richard Hoffmann's analysis of the ecological history of fishing activities: "Fishing for Sport in Medieval Europe: New Evidence," *Speculum* 60 (1985): pp. 877–902, pp. 886–87, and *The Catch: An Environmental History of Medieval European Fisheries* (Cambridge: CUP, 2023).

balance."[43] This can be described as the attempt of people to adjust their needs, exploiting and shaping the production activity of nature, and its study allows us to understand how environment and settlements cohabited and influenced each other, and therefore how social groups thrived and declined.[44] Working on the *longue durée* in the English Fenland, for instance, Susan Oosthuizen has demonstrated the integration of various human groups in the site since the Iron Age, guaranteeing an effective and common response for maintaining the sustainability of natural resource exploitation. Oosthuizen's research approach, therefore, focused on how (and why) different groups related to each other in those particular areas and settlements.[45]

Looking at this example and turning to the early medieval Po Valley, a major role in shaping the historical ecology of the riverscape was (and is) played by local communities, who are the direct actors in the territory, promoting the "activation practices" and the connectivity between ecosystems.[46] Different "human adaptive strategies" allow us to detect the galaxy of agents in the riverscape,[47] which, in our context, cannot be described within the simple

43 On the concept of sustainability in archaeological research, see Carlo Citter, "Landscapes, settlements and sustainability," in *Detecting and understanding historic landscapes*, eds. Alexandra Chavarría-Arnau and Andrew Reynolds (Mantua: SAP, 2015), pp. 253–72. For ecological balance, see Matteo Di Tullio, "Tra ecologia ed economia: Uomo e acqua nella pianura lombarda d'età moderna," in *Storia Economica e Ambiente Italiano*, eds. Guido Alfani, Matteo Di Tullio, and Luca Mocarelli (Milan: Franco Angeli, 2012), pp. 283–99, pp. 284–88.

44 Sustainability is indeed entwined with the "ecological footprints" of settlements, see Richard C. Hoffmann, "Footprint Metaphor and Metabolic Realities: Environmental Impacts of Medieval European Cities," in *Nature Past: The Environment and Human History*, ed. Paolo Squatriti (Ann Arbor, MI: The University of Michigan Press, 2007), pp. 288–325.

45 Susan Oosthuizen, *The Anglo-Saxon Fenland* (Oxford: Windgather, 2017).

46 On the role of local community in shaping local water management see Di Tullio, "Tra ecologia ed economia," p. 286, and Matteo Di Tullio, *The Wealth of Communities: War, Resources and Cooperation in Renaissance Lombardy* (London: Routledge, 2014). On early medieval local communities in the Po Valley see Igor Santos Salazar, "Fiscal Lands, Rural Communities and the Abbey of Nonantola: Social Inequality in Ninth-Century Emilia (Italy)," in *Social Inequality in Early Medieval Europe: Local Societies and Beyond*, ed. Juan Antonio Quirós Castillo (Turnhout: Brepols, 2020), pp. 203–25 and references. On activation practices see Diego Moreno, "Activation Practice, History of Environmental Resources, and Conservation," in *Nature Knowledge: Ethnoscience, Cognition and Utility*, eds. Glauco Sanga and Gherardo Ortalli (Oxford: Berghahn, 2003), pp. 386–90 (I thank Ross Balzaretti for providing this reference). On the connectivity between ecosystems, see Peregrine Horden and Nicholas Purcell, *The Corrupting Sea: A Study of Mediterranean History* (Oxford: Blackwell Publishing, 2000), pp. 124–32; also see chapters 4, 5 and 7 below. The continuous role played by local communities in the landscape management has been formulated for the early medieval English case in Tom Williamson, *Environment, Society and Landscape in Early Medieval England: Time and Topography* (Woodbridge: The Boydell Press, 2012).

47 Daniel Bates, Judith Tucker, and Ludomir Lozny, *Human Adaptive Strategies: An Ecological Introduction to Anthropology* (London: Routledge, 2023).

dichotomy between centre and locality, focusing instead on a more general dynamism between different actors and ecosystems. In the early medieval Po Valley, despite the substantial literature developed since the works of Fumagalli,[48] the actions as well as the precise definition of local communities—beside their recognition as groups with the ability to express coordinated collective actions at the local level—unfortunately remains mostly obscure and filtered through the pen of the ecclesiastics, who produced much of the relevant textual evidence.[49] The result is an ongoing patchy and incomplete picture of cases that nevertheless contribute to the bottom-up approach of this book, and still allow some general remarks that will be reprised in the conclusions.

Looking For an "Amphibious Culture"

The relationship between water and society, the adaptation to and exploitation of river and wetland landscapes led to the formation of specific patterns that are part of what has been called "amphibious culture." This term was formulated by Petra van Dam in a recent article on a modern Dutch case study.[50] In her paper, the author argues that the low-lying areas of the seventeenth- and eighteenth-century Netherlands shared an amphibious culture, outlining a model that may also be applied to other wetland areas and periods. Van Dam highlights three general features of an amphibious culture: 1) the presence of water management, 2) the elevation of settlements, 3) water-based transportation methods with the capacity to move swiftly between wet and dry areas of the landscape. These

48 Parallel to their interest in the environment, Fumagalli and the School of Bologna substantially promoted the study of early medieval peasantry in northern Italy. See Fumagalli, *Terra e società*; Massimo Montanari, *L'alimentazione contadina nell'alto Medioevo* (Naples: Liguori, 1979); Bruno Andreolli, *Contadini su terre di signori: Studi sulla contrattualistica agraria dell'Italia medievale* (Bologna: CLUEB, 1999). More recently, see Giuseppe Albertoni, "Law and the Peasant: Rural Society and Justice in Carolingian Italy," *EME* 18, no. 4 (2010): pp. 417–45; Tiziana Lazzari, "Comunità rurali nell'alto Medioevo: Pratiche di descrizione e spie lessicali nella documentazione scritta," in *Paesaggi, comunità, villaggi medievali*, ed. Paola Galetti (Spoleto: CISAM, 2012), pp. 405–22; Santos Salazar, "Fiscal Lands," pp. 203–25. On the study of peasantry see also Wendy Davies, *Small Worlds: The Village Community in Early Medieval Brittany* (London: Duckworth, 1988); Wickham, *Framing*, pp. 381–588; Rosamond Faith, *The English Peasantry and the Growth of Lordship* (Leicester: Leicester University Press, 2007); Rosamond Faith, *The Moral Economy of the Countryside. Anglo-Saxon to Anglo-Norman England* (Cambridge: CUP, 2019).

49 Santos Salazar, "Fiscal Lands," pp. 203–25. For the definition based on their mention in the ninth-century *placita*, see Lazzari, "Comunità rurali," pp. 406–7.

50 Petra J. E. M. van Dam, "An Amphibious Culture: Coping with floods in the Netherlands." in *Local Places, Global Processes: Histories of Environmental Change in Britain and Beyond*, eds. Peter Coates, David Moon, and Paul Warde (Oxford: Oxbow, 2017), pp. 78–93.

Figure 2. Milanese amphibious culture, 1845. Public domain

characteristics can also be applied to our case study, but the analysis of the early medieval Po Valley riverscape can also extend van Dam's definition, finding original patterns that differentiate this context and period from others (see figure 2).

The recognition of these patterns is in fact a crucial aim of this study, as they reveal the relationship between riverscape local communities and the northern Italian socio-economic and political networks. The analysis of the early medieval amphibious culture of the Po Valley is one of the aims of the book as it will contribute to recognising the role of rivers at the different levels of society spanning from rulers to the local scale.

These theoretical tools offer a new perspective of this period and region in a crucial moment in European and Mediterranean history, helping in the recognition and interpretation of riverscape management strategies, looking at a wider and comprehensive scenario. To do this, as recommended in the literature,[51] a significant amount of diverse data and sources needs to be taken into consideration.

51 Citter, "Landscapes, settlements and sustainability," pp. 255–63. Crumley, "Historical Ecology," pp. 1–5.

1.3 Sources for a Historical Ecology

Taking inspiration from the pioneering works of Squatriti and Hoffmann, to study the historical ecologies, sustainability, connectivity and amphibious culture of the Po Valley in the early Middle Ages I have employed a parallel and complementary use of different sources, including digital and physical cartography (geomorphological maps, historical maps, LIDAR surveys), palaeoenvironmental data (pollen and Alpine ice cores, studies on climate changes, vegetation reconstructions), anthropological data (studies on diet, demography, working activities), and archaeological data (waterfront structures, pottery, soapstone, settlement patterns). Each set of sources is tackled in each chapter according to the topic and analysis needed. This dataset is available at different northern Italian sites and published in the principal journals, monographs, archaeological atlas, and regional bulletins of the archaeological bureaux (*Soprintendenza Archeologica*) from the modern regions of Piedmont, Lombardy, Emilia-Romagna, and Veneto. The principal early medieval delta and riverscape locations analysed in the book are at Comacchio, S. Agata Bolognese, Nonantola (MO), Nogara, S. Benedetto Po (MN), Piadena, and Leno (BS) and in the cities of Ferrara, Cremona, Piacenza, Pavia, and Turin.

These sources are paired and substantially integrated with the analysis of the written documents. Almost all the written documents from Antiquity until the year 1000 have been edited, published, and in part digitalised, especially within the last two decades. For the study of the relationship between river and society, I have looked at different sets of sources (mostly original or in original copies), including narrative texts (annals, chronicles, hagiographies), collections of letters, and legal texts (laws, capitularies, royal and imperial diplomas, settlements of disputes and private charters). Northern Italy represents one of the richest regions in Europe for the abundance of written sources, in particular private charters. For this reason, the study of the principal digital and physical *codici diplomatici* of northern Italy including imperial, royal, episcopal, and monastic collections, has been crucial. The primary documents I have analysed pertained to the modern territories and cities of Como, Pavia, Milan, Bergamo, Brescia, Cremona, Mantua, Verona, Padua, and Venice, north of the Po; and Piacenza, Parma, Reggio Emilia, Modena, Bologna, and Ravenna, south of the Po. Insights from the *Chartae Latinae Antiquiores*, 2nd Series (ChLA2), especially for the territory of Piacenza,[52] have been necessary for examining reproductions of original

52 Piacenza has been chosen because of the extraordinary availability of charters reporting information on rural communities. See Giorgia Musina, "Le campagne di Piacenza tra VII e IX

parchments. Regional differences among these documentary datasets, akin to variations in the archaeological record, conditioned the interpretation of the data. Switching between case studies presented challenges due to the lack of systematic distribution of samples across the entire examined area. The written record in modern Piedmont, for example, does not offer detailed accounts of institutions such as monasteries or churches, unlike Lombardy or Emilia, but rather provides only scattered information. Despite the fact that Piedmont was indeed one of the most important areas of the Po Valley in terms of connectivity with the transalpine territories and the Liguro-Provencial coast, political relevance (Duke of Turin), or important ecclesiastical institution (such as the churches of Vercelli and Tortona or the Novalesa Abbey), it is remarkably underrepresented in surviving documents until the late tenth century. This research issue is encountered by historians across various regions, but through my interdisciplinary methodological approach, efforts have been made to mitigate biases.

This book is indeed tailored for historians, and as such, written sources play a crucial role in the discussion. However, even within the context of the rich northern Italian scenario, early medieval documents alone do not provide sufficient depth for an analysis of historical ecologies, defined as the reconstruction of the sustainability networks in this region. As promoted by scholars like Chris Wickham in his earlier studies, and more recently highlighted by Valerie Garver,[53] the examination of socio-economic networks and everyday life in the early Middle Ages needs the integration of both texts and archaeological artefacts. Where feasible, I've tried to adopt an object-driven analysis at first, followed by the examination of the written record. In fact, early medieval documents allow us to develop more qualitative analysis rather than quantitative ones. Despite the relatively positive scenario in northern Italy compared to contemporary Francia or Anglo-Saxon England, the scarcity of materials limits our understanding: ecclesiastical and public authority viewpoints dominate, with mentions of other agencies being rare, thereby offering a narrow glimpse into this world. Through an object-driven analysis, instead, it would be possible to focus more on those characters that scarcely produced a written record,

secolo: Insediamenti e comunità" (PhD diss., University of Bologna, 2012), and Nicola Mancassola, *Uomini senza storia: La piccola proprietà rurale nel territorio di Piacenza dalla conquista carolingia alle invasioni ungariche* (*774–900*) (Spoleto: CISAM, 2013).

53 Wickham, "Considerazioni conclusive," pp. 741–59; Valerie L. Garver, "Material Culture and Social History in Early Medieval Western Europe," *History Compass* 12, no. 10 (2014): pp. 784–93. On issues in integrating documents and archaeological data, see Chris Wickham, *The Donkey and the Boat* (Oxford: OUP, 2023), p. 10.

largely due to illiteracy, and were engaged in activities such as agriculture or warfare. These "invisible" individuals constituted the majority of the early medieval population; therefore, it is worth focusing on them primarily, as they were undoubtedly the everyday agents shaping the historical ecologies of the Po Valley in the post-Roman world.

Structure of the Book

The book is divided into seven chapters, which will employ different sources and methodological approaches according to the topic analysed. Following a Braudelian approach to the study of history, the book will reveal the medium- and long-term effects of the natural and anthropogenic factors of the riverscape in the early medieval Po Valley. This will allow the reader to explore the patterns of the early medieval amphibious culture of this territory and how these determined or were influenced by the major events that occurred between the sixth and tenth century in northern Italy. The chapters will provide a complete and coherent view of the early medieval riverscape of the Po Valley that in the conclusions will permit a discussion on the patterns of continuity and change of the post-Roman world, engaging with new and traditional views of the literature.

After this introduction, I focus on the cultural and imaginary perception of the Po in the early Middle Ages (chapter 2). Looking at the cultural perception of the river contributes to understanding the relationship between environment and society, and the central role of rivers in early medieval mentalities. In the following three chapters, I analyse the environmental potential of the riverscape, focusing on the production and distribution patterns. After having presented the climate and its important changes, looking at the recent analysis on tree rings and ice-core samples in the Alpine and pre-Alpine chain, the environmental characteristics including crops, woodland, and wetland with their flora and fauna will be described (chapter 3). This will allow us to understand the impact that environmental changes had on the riverscape and how societies adapted. Then, the analysis will focus directly on the river, its hydrological modifications during the first millennium AD and its primary role as connector, evidencing its geographical advantages and anthropic changes (chapter 4). This will lead into the discussion of mobility of goods and people (chapter 5), revealing fluctuations and adaptations of socio-economic networks in the post-Roman period. The last two chapters will focus more explicitly on the human-river interaction, exploring settlement patterns (chapter 6) and management of the riverscape (chapter 7). These will highlight the regional patterns

of the relationship between river and society, and shed light on the ways communities and people interacted with the different "possibilities" of the river and its peculiar ecologies in a crucial moment of European history.

By presenting the early medieval riverscape of the Po Valley, the book will show a novel and complete picture that, despite recognising the late eighth- and ninth-century trend toward institutionalisation, will also give renewed attention to the environmental issues linked to the river. I argue that the riverscape maintained its pivotal role throughout the early medieval period, stressing the importance of the communities living within the riverscape as crucial elements for the riverscape exploitation, which were nonetheless flanked by a spectrum of other ecclesiastical and secular actors. Despite this local dynamism, a low level of transformations in the riverscape during the early Middle Ages is suggested, recognising two principal moments of landscape change in the sixth and late tenth centuries, which represent the chronological limits of the book. In particular, the socio-economic growth of the northern Italian cities in the tenth century was founded not only on socio-political changes but also on a progressive appropriation and exploitation of the environment and its changes over time. The river will emerge as a crucial source for this growth, and its centrality is recognised also in the culture of that time.