

# eTopoi **Journal for Ancient Studies**

Special Volume 6 (2016): Space and Knowledge. Topoi Research Group Articles, ed. by Gerd Graßhoff and Michael Meyer, pp. 220–249.

Ernst Baltrusch – Ignacio Czeguhn – Stefan Esders –  
Hans Gerhard Kopp – Cosima Möller – Manfred G.  
Schmidt – Christian Wendt

Infrastructures, Mobility and Water  
Management. The Iberian Peninsula in the  
Imperial and Post-Imperial Context

Edited by Gerd Graßhoff and Michael Meyer,  
Excellence Cluster Topoi, Berlin

eTopoi ISSN 2192-2608  
<http://journal.topoi.org>



Except where otherwise noted,  
content is licensed under a Creative Commons  
Attribution 3.0 License:  
<http://creativecommons.org/licenses/by/3.0>



Ernst Baltrusch – Ignacio Czeguhn – Stefan Esders – Hans Gerhard Kopp – Cosima Möller – Manfred G. Schmidt – Christian Wendt

# Infrastructures, Mobility and Water Management. The Iberian Peninsula in the Imperial and Post-Imperial Context

This paper investigates the way in which technical and normative knowledge relating to infrastructures, mobility and water management, which the Romans began developing in the republican period, was functionalized for the purpose of expanding the empire in the Iberian Peninsula, starting with the establishment of Roman provincial rule and continuing into the Islamic epoch. It also examines how that knowledge was entrenched in the individual Iberian provinces, and adapted to reflect specific local features. In addition to shedding light on how imperial concepts manifested themselves in the appropriation of space in specific contexts, the example of the Iberian Peninsula elucidates both how the knowledge in question was adapted to meet ‘regional-political’ objectives once the imperial frame of reference fell away and how it was ultimately restructured, modified and legitimized to reflect overriding religious considerations. The paper also provides examples indicating the degree to which antique concepts lent themselves to transformation while simultaneously representing both a potential and a challenge for any subsequent rulers.

Mobility; infrastructure; empire; water-management; Iberian Peninsula; transformation; Roman law.

## I Introduction

Knowledge about the construction of infrastructure and water usage played a fundamental role in the formation of people’s concepts of space in the ancient world and was essential for the conceptualization and implementation of political rule organized on a territorial basis. Two factors that held particular significance for the Imperium Romanum were mobility and infrastructure, all the more so given the tremendous momentum generated by Rome’s rapid rise to become the *caput orbis terrarum*<sup>1</sup> and the reciprocally effective conditions for continuous growth created in the territories it acquired. To illustrate just how critical interactions among these factors were for that process, even in the eyes of contemporaries, we cite a passage from the Greek historian Polybius, who, in the middle of the 2nd century BC, declared his belief that Rome had risen to supremacy over the entire world.<sup>2</sup> In a sense, one could see this passage as constitutive for the collaboration in our research group:

In our own age, however, the Asiatic districts have been opened up both by sea and land owing to the empire of Alexander, and the other places owing to the supremacy of Rome. Men too of practical experience in affairs, being released from the cares of martial or political ambition, have thereby had excellent opportunities for research and inquiry into these localities; and therefore it will be but right for

1 Liv. 1.16.7.

2 Pol. 1.1.5.

us to have a better and truer knowledge of what was formerly unknown. And this I shall endeavor to establish, when I find a fitting opportunity in the course of my history. I shall be especially anxious to give the curious a full knowledge on these points, because it was with that express object that I confronted the dangers and fatigues of my travels in Libya, Iberia, and Gaul, as well as of the sea which washes the western coasts of these countries; that I might correct the imperfect knowledge of former writers, and make the Greeks acquainted with these parts of the known world.<sup>3</sup>

As this passage announces, in fairly programmatic terms, Rome's expansion as a world power was linked with the opportunities created by Rome's supremacy on land and at sea.<sup>4</sup> Underlying the Polybian idea is the fact that knowledge acquired about space, in addition to being necessary for its acquisition, i. e. for the extension of Rome's dominion, had also prepared the ground for the creation of new knowledge, indeed for research, and infrastructure.<sup>5</sup> The granted accessibility that Polybius is postulating here is one element of a new kind of self-perception. Clearly, it is a form of self-perception that could emerge only in the context of a great power that had created the relevant infrastructures. A kind of "consciousness of ability" (*Könnensbewußtsein*) (C. Meier), which generates new impulses to identify obstacles yet to be overcome, i. e. the tension between the ability to do something and the task of doing it, is encompassed within an imperial identity that is beginning to see the Mediterranean region as a single whole to be structured.

The aim of our research is to investigate how this imperial identity is transformed and how it is translated into reality, while examining the degree to which this identity rests on the factors of infrastructure and mobility. What actually constitutes the *Imperium Romanum*? How does that imperium proceed? How does it evolve, and in what ways does political change within the imperium manifest itself in its existing infrastructure (for instance in the increasing emphasis on the dominant figure of the emperor, which can be found even at the regional level, and in the understanding of his presence as encompassing the entire empire after the end of the republic)? What lasting structures does it create? How does this influence our own image of Rome's imperial space? The investigation of specific regional contexts appears to be the most appropriate approach to answering questions addressing such developments of *longue durée*.

We have therefore chosen to study the Iberian Peninsula to explore these questions in situ, as they coalesce in specific examples. To do so, we are adopting multiple perspectives: the judicial perspective (What steps were taken to regulate land acquisition and irrigation?<sup>6</sup> How are spatial considerations taken into account? How were techniques and legal arrangements passed on?<sup>7</sup>), the perspective of opening up for development (How could road networks and irrigation systems function?<sup>8</sup> What notions of empire and the duties associated with empire do they express? How are the use of terrain, spatial representation and the legitimization of sovereignty interrelated?<sup>9</sup>), an economic perspective (How was trade organized along existing routes? Along new routes that had yet to be developed? How much importance should we assign to the economic aspect in determining the

3 Pol. 3.59.3–8.

4 For a later reference, one can point to the Rome speech of Ailius Aristeides (held in AD 143) in which the panegyric addresses the achievements far more than the still existing potentials, and the empire-wide infrastructures already created are emphasized particularly as a sign of true dominion, see Aristeid. (Εἰς Ῥώμην) 10–13.

5 Cf. e. g. Hänger 2001; Kolb 2013.

6 See, e. g., Knobloch and Möller 2014; Bruun 2012.

7 Cf. Butzer et al. 1985; King 1972.

8 Kolb 2013.

9 For a general discussion of this see Wilson 2012.

political approach to space in Spain?), as well as the perspective of the “mental infrastructure”<sup>10</sup> of the Imperium Romanum (What is Spain’s role in the broader concept of the imperium? What importance does control of the Mediterranean acquire as the Roman Empire develops?<sup>11</sup>). We also examine how the creation of specific infrastructures was bound up with the idea of a superstructure and how both were influenced by the prospect of the continually increasing potentials. To shed light on the complexity and sustainability of the ancient concepts with reference to transformation processes, we are examining both the imperial and the post-imperial phase.

The purpose of infrastructures, as constructed in the Iberian Peninsula during its time within the empire, was to facilitate mobility, the exchange of material and communication across great distances, just as it was in other regions of the Imperium Romanum. One thinks first in terms of military requirements, of course, and rightly so. It would be difficult to justify restricting ourselves to an investigation of the “military” *stricto sensu* though, given the extent to which Roman military deployment advanced the Romanization of the provinces and in view of the army’s role as a major factor in local economies. In fact, a wide variety of people benefited from the road and river linkages, among them state and church/religious officials, merchants, pilgrims and many others. It is therefore quite reasonable to view the infrastructures of the Roman Imperium as an instrument permitting and facilitating mobility within the empire and among its provinces, though one that could control and restrict that mobility when the need arose. Since there is no term in the primary sources that corresponds to the present-day’s very broad concept of ‘mobility’, we should now consider the phenomena that were associated with it. Roads, way stations, inns, changing stations, bridges, boat docking sites and border crossings comprised the ‘hardware’, as it were, of the Roman transportation network (Fig. 1). Something analogous to ‘software’ was also in place to allow the network to be used: this would include everything related to the management and control of mobility – travel permits, letters of recommendation, permits authorizing the bearer to use the *cursus publicus*, ‘travel passes’ and, of course, numerous legal provisions intended to ensure the efficiency of the transportation system and regulate, tax, restrict or prevent the mobility that system made possible. Thus the necessity of the convergence among the increase in knowledge, the control of mobility and the efficiency of infrastructural concepts emerges very clearly.

This research, then, is an attempt to frame the Imperium Romanum as a laboratory for testing various approaches to space: we will be looking at the hopes and convictions that drove these processes, how approaches to solutions to particular problems found expression in reality, what they achieved in the short and long-term (reaching even beyond into the post-imperial period) and how that influenced the emergence of new ideas about order. In some respects, the Iberian Peninsula presents a sort of regional crystallization point for some of these materializations, constituting as it does a delimited space within which we can examine developments occurring both after the seizure of the peninsula by Rome and during the rule of Rome’s successors, and attempt to identify the interdependencies at play. Taking up Polybius’ view that the known world was shrinking under Roman power, contracting into something which could be controlled and comprehended or, at any rate, which could now be explored in a finite sense, we can see how the interplay of various perspectives had laid the groundwork for a collective approach: Spain as a field of penetration and exploration, a sphere for both benchmarking and self-definition on the part of Roman central authorities and, ultimately, as an example of the mobility and infrastructure challenges faced by an empire.

10 See Meier 1988, e. g. 9 for this term (adopted as an explanatory model perhaps by Mann 2008, 62); Löffler 2008, 3.

11 Schulz 1998 is seminal on this aspect.

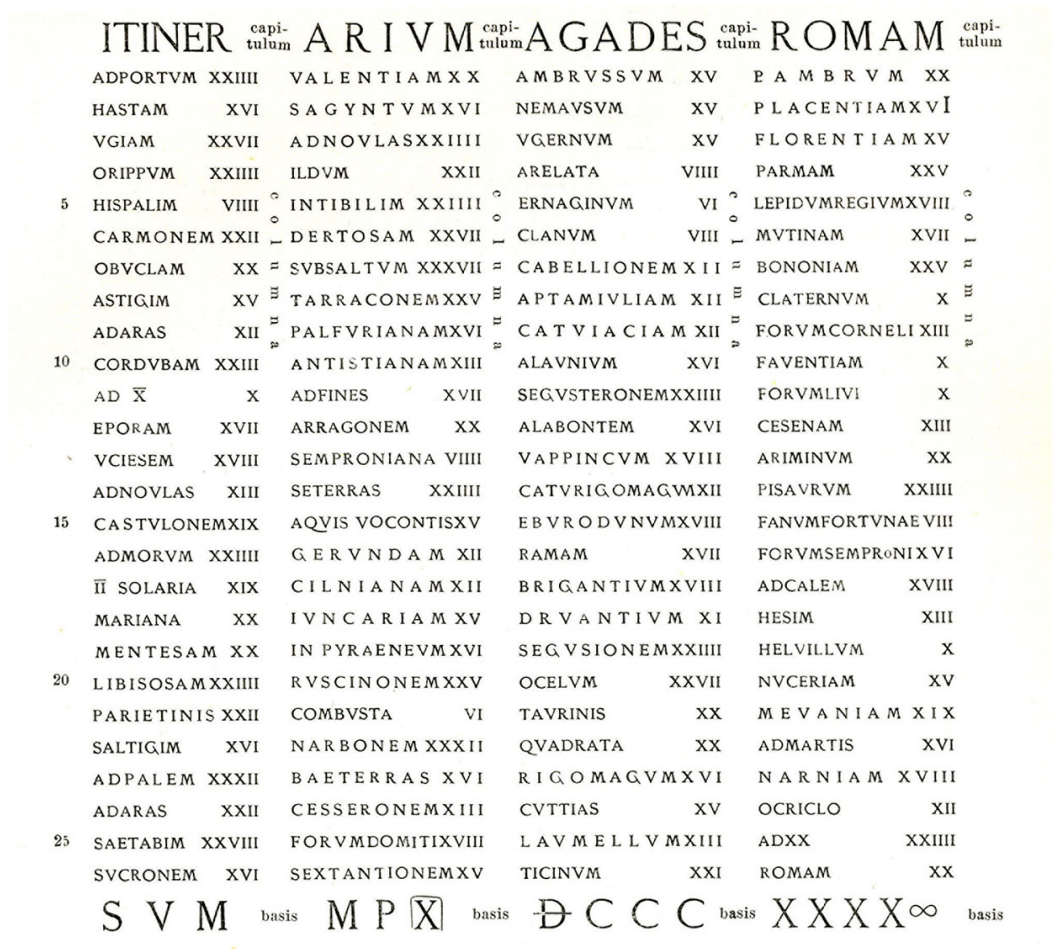


Fig. 1 | Schematic depiction of Itinerary I, carved on one of the goblets from Vicarello (CIL XI 3281).

## 2 Spain, Pillars of Hercules and Oceanus: Reference points in the mental infrastructure of the Imperium Romanum

The territories of the Iberian Peninsula played a special role in Roman history during its Republican and Imperial period.<sup>12</sup> In 197 BC they were firmly established within the administrative structure of expanding Rome as the provinces Hispania Citerior and Hispania Ulterior, with varying degrees of real control.<sup>13</sup> The resulting status quo would endure into late Antiquity,<sup>14</sup> when the peninsula gradually came under Visigothic rule in the 5th century AD. In the mid 6th century, Emperor Justinian I launched a swift *reconquista* by Rome of the southern part of the peninsula (corresponding roughly to former *Baetica*); its outcome endured for several decades, in the final coda of direct (Eastern) Roman influence in Spain.

Justinian’s motivations are ultimately irrelevant for our investigation. Certainly, though, Spain and the Straits of Gibraltar were still of great importance in his scheme

12 Alföldy 1996, 449: “The Iberian peninsula, the first overseas country in which Roman rule had been established (in 218 B.C.), became one of the most important areas of the empire at the beginning of the imperial period.”

13 On the process of final provincialization, see Alföldy 1996, 451, who particularly stresses the significance of *Hispania*.

14 Kulikowski 2004.

in the 6th century.<sup>15</sup> The Straits had been inextricably bound up with notions about maritime borders, the accessibility of water spaces and ways that people could access maritime spaces since the days of the Roman republic, indeed, since Homer and the cultural transmission of mythic content. The south of Spain was many things in one: it was the westernmost of all Roman provincial territories apart from northern West Africa and at the same time the westernmost known point of the *orbis terrarum*. But the enduring significance of this imagined border of the Ancient world as a limit and barrier to human ambition was due less to the fact that the European continental plate had its western edge there than to the idea of a ‘water border,’ a maritime barrier that the Pillars of Hercules designated. Hercules himself had marked the westernmost end of the world with his ‘pillars’ (actually, ‘stelai’) at the place where the Mediterranean and the Atlantic, *mare internum* and *oceanus*, met). Due in part to this mythic freight, the pillars had, since the Greek period, been a “powerful symbol of a border human beings could not cross”<sup>16</sup>, whose power could not substantially diminish even the progressive exploration of the Atlantic.<sup>17</sup>

This ‘landmark’<sup>18</sup> on the western edge of the Mediterranean was important for Roman ideas about their empire. Cicero described the city and surroundings of Gades as the *termini imperii*,<sup>19</sup> i. e., the limits of the empire (Strabo<sup>20</sup> later identified this area as most probably, though not incontrovertibly, being the site of the Herculean ‘pillars’). Thus the defining role of southern Spain emerges clearly in Cicero’s political rhetoric: only in southern Spain does Roman influence end, as it inevitably must, since the world itself ends there – and even there, one can rely on the indisputable and loyal possessions of an empire with dominion over the inhabited world.

This view of Roman Spain was common outside oratory as well. A series of milestones raised in Spain under Augustus, integrating into the self-representation of the imperial idea a road which stretched from the river Baetis to the coast near Gades, clearly indicated the scope of influence of the Roman Principate, quite naturally using the coast at Gades as a point of reference: “*Imp(erator) Caesar divi f(ilius)/Augustus co(n)s(ul) XIII, trib(unicia)/potest(ate) XXI, pontif(ex) max(imus)./A Baete et Iano August(o) ad Oceanum . . .*”<sup>21</sup>

Yet we find, at about that same time, the beginnings of a fundamental shift in the perception of the Pillars of Hercules and therefore also of the ocean they stood for. The final years of the Roman republic were years marked by the swift expansion of geographic knowledge and exploratory ambition.<sup>22</sup> Not limited to continental territories, this shift encompassed the notion of the conquest of maritime spaces, even of the element water itself: consider, for instance, Florus’ report<sup>23</sup> that a golden statue of a captive Oceanus was part of Caesar’s triumphal procession, celebrating the crossing to Britain. This was an obvious reference to a new dimension in Roman relationship to water. As a survey of the plethora of reports from the period shows, the years of the early Principate seem to reflect the realpolitik-driven evolution of a remarkable ambivalence in the treatment of the Pillars of Hercules and southern Spain. A classic example of this is the famous passage in the *Res Gestae Divi Augusti*, where the emperor speaks of the territorial expansion

15 This aspect is also evident in the references to the Straits of Gibraltar in Procopius, who repeatedly emphasizes the strategic importance of the straits and puts them in the context of Justinian’s policy of conquest *usque ad utriusque Oceani fines*; see, e. g. *Prok.Vand.* 1.1.6 and 2.5.6.

16 Nesselrath 2009, 230.

17 Cf. Roller 2008 for a general discussion of the exploration of the world beyond the Pillars of Hercules.

18 See Brodersen 1995, part. 112–115 on ‘landmarks’ in the ancient concept of space.

19 *Cic. Balb.* 39.

20 *Strab.* 3.5.5.

21 *CIL II* 4701 from 2 BC.

22 See Schulz 2003.

23 *Flor.* 2.13.

of the imperium under his aegis. Not only does he claim to have extended the borders of the Roman provinces at the periphery of Roman rule (*provinciarum ... fines auxi*) in general, he also claims to have brought a state of peace to the western provinces – *Hispania*, *Gallia* and *Germania* – surrounded by the ocean from Gades up to mouth of the Elbe (*qua includit Oceanus a Gadibus ad ostium Albis fluminis*). Most notably, though, at least for present purposes, he initiates a “new age” of Roman interest *in* and success *on* the waters in the West: “I sailed my ships on the ocean from the mouth of the Rhine to the east region up to the borders of the Cimbri, where no Roman had gone before that time by land or sea (*quo neque terra neque mari quisquam Romanus ante id tempus adit*).”<sup>24</sup>

In this text, the reference to the ocean and Gades, the location of the pillars, seems almost automatic, a reflex carried over from an earlier time. Some part of the associative power of these traditional landmarks must have dissipated in a time which had seen the crossing to Britain, the transformation of northern Spain into a province and voyages into the Baltic. By this time, the notion of the sea as a barrier, an obstacle to human mobility and thus also a cut through the arteries of marine infrastructure was giving way to the idea of the ocean as a navigable, tamed water space which was an integral component of Roman influence rather than an insurmountable barrier. Tacitus expresses this in similar terms when he has the apologists of the Augustan Principate argue that the remote rivers and ocean formed a secure, stable ‘fence’ around the empire (*saepum imperium*)<sup>25</sup>.<sup>26</sup>

The most explicit verbalizations of these novel perspectives, which broadened traditions of the spatial horizon that were centuries-old, is found in the work of contemporary Greek historians writing about the *res Romana*. In the 1st century AD for instance, Appian, right at the start of his *Roman History*, writes that Rome’s political map no longer recognizes any traditional barriers on water: Rome is master, he says, “[i]n the Ocean, [of] the major part of those who inhabit the British Isles. Then entering the Mediterranean by the Pillars of Hercules and circumnavigating the same we find under their rule all the islands and mainlands washed by that sea” (trans. White).<sup>27</sup>

If we take this wording, which is fairly representative, seriously, it points to a fundamental change in the perception of the Pillars of Hercules and the associated geographic/political concept over the course of just a few decades: the boundary, the *termini imperii*, and thus the outer limit of Roman ambition, which Gades and southern Spain still had represented in Cicero’s time, is now no more than a reference point, one of many ‘landmarks’ in the surrounding imperial space. Though this landmark facilitates the subdividing and organization of the mental infrastructure, i. e. helps structure space on the conceptual level, it can no longer in any way transport the notion of a natural border for an empire which had raised the nonexistence of boundaries to the status of a defining element.<sup>28</sup> The famous water barrier had become one element of a new Roman idea of empire that was based in no small part on the imagined boundlessness of mobility.

Thus one cannot understand the three factors of mobility, infrastructure and empire only in terms of the concrete structuring and opening up of a specific space. They must also be considered at a higher level. There is reason to suspect that the concept of a space under the secure dominion and control of Rome had to encompass both the Mediterranean *and* the Atlantic before the idea of Roman world domination in its true sense could be, at least conceptually, realized – an idea concisely summarized in the phrase *terra*

24 R. Gest. div. Aug. 26.

25 Tac. *ann.* 1.9.

26 In Tacitus, as in other authors (Lucan, Seneca) the perspective on the purportedly subjugated sea becomes considerably more ambivalent, and the emperor’s self-depiction, including its impact in contemporary literature, tends to be viewed with a more critical eye.

27 App. *Rom.* 1.

28 On the Roman concept of world domination see e. g. Mehl 1994 and Wendt 2012.



*marique*, which, though borrowed from earlier traditions, took on a quite new symbolic weight in Augustus' time.<sup>29</sup> Therefore the view, which still has its proponents today (in the three-phase scheme dividing world history into potamic, thalassic and [modern] oceanic phases developed by the 19th century geographer Ernst Kapp), that the Roman empire was a thalassic imperium, which concentrated only on the Mediterranean,<sup>30</sup> ignores, at least from the standpoint of the history of ideas, an aspect of the Roman Empire's view of itself, its geographic/political legitimization and definition. It is an aspect of central importance, though it remains underrepresented in present-day scholarship. The conquest of the terrestrial as the foundation of a new mental imperial infrastructure was not restricted to the 'safe harbor' of the Mediterranean, but encompassed in principle the element water as well.<sup>31</sup>

The road and trade networks between the Iberian Peninsula and Rome are a good example of the intense use of water *and* land in this region. To illustrate this, we turn to the province Baetica.

### 3 Baetica felix<sup>32</sup>

Strabo's description of the blessings of Baetica as the wealthiest province of the whole orbis Romanus<sup>33</sup> entitles us to consider the infrastructure of this Roman province as an example of extremely successful intra-provincial communication, and of perfect integration into the overall infrastructure of the Roman Empire. In addition to praising the country's wealth in agricultural products and mineral resources, the Greek author particularly stresses the exceptionally good conditions in Baetica for river traffic and its excellent transport connections to coastal and overseas shipping:

Baetica ... is marvelously blessed by nature; and while it produces all things, and likewise great quantities of them, these blessings are doubled by the facilities of exportation ... this is made possible by the rivers, and by the estuaries as well, which ... resemble rivers, and, like rivers, are navigable inland from the sea, not only for small boats but also for large ones, to the cities of the interior.<sup>34</sup>

It is only proper then that Baetica took its name from the river that forms its predominant feature, the only Roman province to do so.<sup>35</sup> The Baetis constituted a natural infrastructural feature, particularly significant for intra-provincial traffic. If Strabo's praise gives primacy to riverine trade and fluvial transportation over road transportation, this is understandable since a navigable river offered the possibility of transportation at far less expense.<sup>36</sup> For that reason, Baetica's road system was, of necessity, connected with the river Baetis (now Guadalquivir) and its navigable tributaries, which form a "vía fluvial romana" par excellence.<sup>37</sup> That the Roman road system was oriented along this main artery from early on can be easily detected by examining the general geographical orientation of

29 See Momigliano 1942 on the phrase *terra marique*.

30 Münkler 2012, 63.

31 Cic. *prov.* 31.

32 Significant title of a socio-economic history of this province by Haley 2003.

33 Strab. 3.1.6: "Pre-eminence in comparison with the entire inhabited world in respect of fertility and of their goodly products of land and sea." Compare Plin. *nat.* 3.7.1: *Baetica... cunctas provinciarum diviti cultu et quodam fertili ac peculiari nitore praecedit.*

34 Strab. 3.2.4.

35 Strab. 3.1.6; Plin. *nat.* 3.3.1.

36 Harris 2011, esp. 125–127; Campbell 2012, 215–217.

37 Abad Casal 1975.

Roman structures on the Iberian Peninsula, along a survey line that stretched from Gades to the Pyrenees and beyond.

### 3.1 A Gadibus Romam – a survey line

This long survey line, along which the road system of the western part of the Roman Empire is aligned – the Via Herculis – is an ancient route known at least since the outgoing republic; but it is only thanks to the silver vessels known as the Vicarello goblets from the 4th century AD, that we know its course in detail.<sup>38</sup> The itinerary inscribed on those goblets leads, cosmographically speaking, from the edge of the Western world to its center, that is: from Gades, from the Pillars of Hercules, to the city of Rome.

Identifying 104 places, from station to station, the goblets state the mileage of each stage of the route, for a total of 1840 miles. Certainly, this ‘Via Herculis’ must have been relatively well known: this is indicated not only by the inscriptions on the goblets, but also by the fact that the course was the subject of a literary riddle in the 3rd century AD. The riddle is an arithmetical poem in which a certain Metrodorus presents the distance from Gades to Roma as the sum of mathematical fractions.<sup>39</sup> The result of his calculation is highly revealing: 15,000 stadia, or 1875 miles, corresponding pretty closely to the figures from the goblets. The inconsistency, a two-percent deviation from the 1840 miles specified on the goblets, can certainly be put down to the inevitable rounding of the numerical data for the poem.

Earlier geographic texts also give us exact measurements for this route – and despite all the variations the course must have undergone through the centuries, they present us with almost the same figures.<sup>40</sup> Pliny the Elder, for instance, gives a length of 250 miles<sup>41</sup> for the section of the route running through the province Baetica, which exactly corresponds with the distance of 2000 stadia given by Strabo,<sup>42</sup> as well as with the figures given on the Vicarello goblets for the route from Gades to the border of the province, that is Castulo, the first city of neighboring Hispania Citerior.

Thus, these figures, handed down over centuries, constitute hodological records and the results of the best tradition of measurement which follow this road as a survey line. This *direttissima* crossing the province clearly remained the orientation and survey line from the 2nd century BC to the 4th century AD.

### 3.2 Ab Iano Augusto ad Oceanum – the political geography of Baetica

“From the Augustan Arch ... to the Ocean” – milestones along the so-called Via Augusta in Baetica, which followed largely the course of Via Herculis, use a variety of formulations to indicate this particular distance: however, a crucial addition reveals the larger context associated with the province Baetica newly established by Augustus: *ab arcu, incipit unde Baetica*, “from the arch, where the province of Baetica begins.”<sup>43</sup>

38 CIL XI 3281–3284. See also Schmidt 2011, 71–86. For a schematic view of itinerary CIL XI 3281, see Fig. 1.

39 Anth. Pal. 4.102.

40 For this global itinerary, the specifications of Artemidorus in the 2nd century BC (quoted in Plin. *nat.* 2.244) indicate a length of 1825 miles (or 14600 stadia), which means a deviation of about 15 miles, hence almost a *quantité négligeable*.

41 Plin. *nat.* 3.17.

42 Strab. 3.2.1.

43 CIL II 4721.

The territory of the province began in the east at this very *Ianus Augustus* or *arcus*, which marked the provincial border: the *arcus* thus is the starting point (*caput viae*) of the transversal overland route, the *Via Augusta*, which once led down to the ocean.

Very recent research – the result of collaboration between Angel Ventura Villanueva (Cátedra de arqueología, Univ. de Córdoba) and the author of this section, has established the location of this *ianus* (or *arcus*): toponomastic indications and the strategically prominent position at the intersection of three roads next to the river point to a site east of the modern city of Mengíbar (ancient *Ossigi*)<sup>44</sup> near the river Guadalbullón, a place which is mentioned as the location of an ancient arch in a 10th century Arabic geographical manuscript.<sup>45</sup>

The references to the river *Baetis* and the *Oceanus* on the milestones and the tallying of miles in terms of distance along the entire route through the province, rather than from one station to the next, put the focus firmly on the overall extent of the province of *Baetica*, a political entity, and, by extension, onto the Roman empire itself, as has long been recognized. Augustus, in his report on *Res gestae*, is reaching out for the edges of the *orbis terrarum*, for the *Oceanus* in the West of the Roman Empire:

I extended the borders of all the provinces of the Roman people which neighbored nations not subject to our rule. I restored peace to the provinces of Gaul and Spain, likewise Germany, which includes the Ocean from Gades to the mouth of the river *Albis*...<sup>46</sup>

It is tempting to connect this Augustan ideology with existing testimonia from this period: Evan Haley recently pointed out, "... that the erection of milestones in *Baetica* was timed deliberately to coincide with the erection of an altar to Augustus toward another extremity of ocean on the banks of the Middle Elbe by L. Domitius Ahenobarbus."<sup>47</sup>

Clearly, this propagandistic intention can be detected in the inscriptions of the Augustan milestones erected in 2 BC (see Fig. 2).<sup>48</sup> On these particular *miliaria*, the recording of the numbers of miles referred to the total distance, not to that of an individual section; hence a political purpose was associated with these inscriptions.

### 3.3 *Alio itinere* – *Baetica*'s road map and the navigability of the rivers

In addition to the *Via Augusta*, with its propaganda-laden inscriptions, another, parallel course led along the upper reaches of the *Baetis*: as the Antonine itinerary has it, you could also travel "... on another route from *Corduba* to *Castulo*."<sup>49</sup>

This road connecting the provincial capital of *Corduba* and *Castulo* (*Hispania Citerior*) followed a northern course next to the river and was associated with a different, more common-sense approach to indicating mileage, relating to the immediate road context. One station on this road is called *Ad decumum*, "at the 10th milestone."

While the milestones on this alternative road addressed the needs of someone traveling on it, the main line, as it is referred to in the Antonine Itinerary, i. e. the *Via Augusta*, focused on the bigger picture.

44 Schmidt 2013, 299.

45 Zanón 1986, 33.

46 R. Gest. div. Aug. 26.

47 Haley 2003, 34–35.

48 CIL II 4707, 4708, 4709, 4711; AE 1912, 11.

49 *Alio itinere a Corduba Castulone*, 403.4–404.1 Wess.



Fig. 2 | Augustan milestone from Córdoba, Mezquita-Catedral, Patio de los Naranjos (CIL II 4701).

The inscriptions for the latter, therefore, assume a global political perspective: “from the Baetis and the Janus Augustus to the Ocean.”<sup>50</sup> The *caput viae* of this road is intentionally marked by a Janus Augustus, where the Baetis flows into the province – thus indicating the connection between the road and the waterway right from the beginning.

One cannot comprehend the layout of Baetica’s road system without taking its waterways into account. The transport system of this province, praised by Strabo, owes much to the ingenious interweaving of water and land routes. And it is precisely by its upper course, east of Corduba, where the Baetis was not navigable,<sup>51</sup> that we find a twin set of almost parallel roads, running north and south of the river and converging shortly before Corduba. Clearly, they served as a substitute for the missing waterway.

Baetica’s roads and the navigability of its rivers are also closely related in other ways. The main road corresponds precisely to the navigable stretches of the rivers Baetis and Singilis, thus forming a continual link between the chief cities of the province’s four *conventus*: Gades, Hispal, Astigi and Corduba. Three of these cities were port cities on the Baetis while Astigi was connected to this system by the navigable river Singilis (now río Genil). All the other cities of Baetica “deemed worthy of mention”<sup>52</sup> are also associated

50 Sillières 1990, 299 denies the existence of any second road. But historiographical and geographical tradition clearly show that the southern route did exist. In addition to the information from the *Itinerarium Antonini*, see for instance Strab. 3.4.1.

51 Strab. 3.2.3; Plin. *nat.* 3.10; against all evidence from primary sources Parodi Álvarez 2001, 166, claims that the Baetis was navigable up to Castulo, which is located near the Guadalimar (!); cf. a list of navigable rivers according to the ancient authors in Campbell 2012, 405–409.

52 Plin. *nat.* 3.7–8.

with a river (*cum fluvio*) or the sea and its estuaries;<sup>53</sup> thus further research should address into the integration of these cities in the provincial system of waterways.

### 3.4 Overseas trade and the legacy of the Monte Testaccio

The maritime links between Rome and the provinces are traditionally poorly documented and difficult to confirm by the ancient sources.<sup>54</sup> So the fact that the intensive overseas trade with Baetican oil is documented by a huge *mons testaceus* (“mountain of shards”) in the harbor of Rome practically represents a windfall for the economic history of Rome. After the oil was discharged, amphorae no longer suited for use were discarded in a large pile, forming the artificial hill known as Monte Testaccio. The inscriptions on the pottery provide an accurate and at the same time varied picture of the intense economic ties between Rome and this province: consular dating, content data, information on the amphorae pottery, even Baetica’s customs offices in Hispal, Astigi and elsewhere are all mentioned there.<sup>55</sup>

It is believed that the state’s great interest in ensuring the safe navigability of the rivers and the security of maritime trade was promoted by an individual procurator’s post ad ripam Baetis. A certain Julius Possessor was both responsible for the provinces Baetica und Africa proconsularis and responsible for the supply of goods in Rome; he was specifically charged with keeping account of Spanish and African oil, of transporting what were called *solamina* (food supply in times of need) and paying the expenses of the sailors.<sup>56</sup> Julius Possessor was a procurator of the banks of the river *Baetis* “in which he will have been responsible for maintaining the channel for the passage of river-craft, maintaining the towpath, and also perhaps for facilitating river use in general.”<sup>57</sup> But a post of this description can really be found only here, at the end of the 2nd century AD, maybe in conjunction with a particularly difficult situation of supply – indicating that the urban population of Rome was restless and possibly that supplies were being disrupted by incursions from North Africa. However, both the procurator post and the customs authorities testify to Rome’s vital interest in maintaining smooth and well-controlled trade relations with the rich province of Baetica.

## 4 Legal rules relevant to water

The research conducted on infrastructures in the field of water and routes provides illustrative material supporting a global ambition on the part of Rome, which manifested itself both in the attainment of maritime supremacy and in its ideology of wide ranging rule reflected in the milestones. However, it is evident that variations existed in the specific manifestations of this rule, indicating some latitude for the adaptation to regional circumstances. Legal texts and their interpretation by experts tended to reflect the global suitability of Roman law as well as the global ambition to rule and combined it with possibilities for reacting at the regional level. Some of these texts provide insight into the rules which governed local water use systems. In connection with water, infrastructure is an interesting concept in many ways, not least because the obvious significance of

53 An impressive description of the almost osmotic interweaving of water and land in the lower reaches of the Baetis is given by Strab. 3.2.4.

54 See the recent research overview by Arnaud 2014, 161–179, on the scarce written evidence.

55 CIL XV 3806. 4097 al., see De Laet 1949, 289–290. See for instance Remesal Rodríguez 1990, 355–367; Remesal Rodríguez 1998, 183–199; Rodríguez Almeida 1984; Rodríguez Almeida 1993, 95–106; and in general Blázquez 1980.

56 CIL II 1180 = ILS 1403.

57 Campbell 2012, 260.

facilitating mobility is not the only issue of concern. Water must also be available as one of life's basic necessities. It is a prerequisite for the acquisition of a territory, for day-to-day existence and for any economy, especially one based on agriculture.<sup>58</sup> Therefore, water conditions must always be considered when establishing a colony.<sup>59</sup> The Roman land surveyors, to distinguish their area of expertise from that of the jurists,<sup>60</sup> discuss water in the form of rivers, as the boundaries of settlement areas or properties or to describe disputes arising after changes in the landscape as a result of flooding.<sup>61</sup>

To study the legal aspects of water one must look both at questions of water use, especially the issue of distribution, and at questions relating to the prevention of damage resulting from rainwater. In this context it is important to distinguish between private water, along with the legal concepts associated with it, and water that is made available to the public and is subject to regulation. To clarify this area, we now turn to an analysis of the regulatory instruments used and their recognized legal basis. The spectrum ranges from *leges* and *servitutes* to *natura* and *vetustas*, i. e. basic elements which are defined as legal elements, such as laws and servitudes, through to elements which attain legal relevance through some other authority, i. e. natural conditions or the very long duration of a particular form of use.

The responsibilities governed by water law were regulated by laws, in the sense of *leges publicae*, *Senatus Consulta*, such as the *Senatus Consultum de aquaeductibus*<sup>62</sup>, edicts, *leges dictae* and *leges collegii*.<sup>63</sup> Inscriptions have been found which significantly augment our knowledge about such laws for the Iberian Peninsula. For example, rubric 82 of the Flavian-period *lex Irnitana*, found in former Baetica in Spain, contains a municipal law granting the duumviri authorities relating to structures of and changes in fluvial waterways, ditches and sewers.<sup>64</sup> Another *lex*, this one governing the use of a watercourse, was found in 1993 during road work on an unpaved road: the *lex rivi Hiberiensis*<sup>65</sup> came from a territory located about 50 km from Zaragoza, in Spain's Provincia Tarraconensis. The *lex rivi Hiberiensis*, which can be attributed to the time of Hadrian<sup>66</sup>, defined the rights and duties of the community of users of a canal of the river Ebro.<sup>67</sup> At issue is the right to use the water, termed the *ius aquae* to the individual *pagani* are entitled. In addition to water distribution rights,<sup>68</sup> the *lex rivi Hiberiensis* regulates cleaning and maintenance obligations of the canal's users and riparian owners. That decree also addresses the establishment and implementation of sanctions in the event of violations. There are general regulations governing the public water supply, including, in particular, interdicts.<sup>69</sup> Drawing off water from a *castellum*, a *rivus*<sup>70</sup> or another *locus publicus* is the

58 The agricultural writers also pay great attention to this aspect; see, for example, Cato *agr.* 1.3; Varro *rust.* 1.11.2; Colum. 1.2.4 and, on those texts, Bannon 2009, 3–4.

59 On the variety of aspects, cf. Schön 1999, 145–150. In the texts of the agrimensores one finds multiple indications of the significance of water for founding colonies: Agenn. 43.12–44.23 Th.; Hyg. 145.2–3 Th.

60 Hyg. 91.9–11 Th.; Siculus Flaccus 111.19–113.30 Th. The editorial works on the *gromatici* provide a sound basis for the inclusion of these texts. See for instance Lindermann 2013, 119–140.

61 Castillo Pascual 2012/2013.

62 Frontin. *aqu.* 100 passim; FIRA I 41.

63 See only Nörr 2008, 108, 123 with footnote 65.

64 Wolf 2011, 114–115.

65 Published by Lloris 2006.

66 See only Nörr 2008, 109.

67 Nörr 2008, 116–118 on the special nature of the *lex collegii*.

68 Water was assigned proportionally, based on the size of the property, Bannon 2009, 19. When a water use right exists on the basis of a servitude, the scale of use is based on the servitude and not the property size. It is possible that that the end of the 3rd century there is a need to emphasize or recall this to mind, C. 3.34.12 Impp. Diocletianus et Maximianus Valeriae (AD 294).

69 D. 43.12–D. 43.15.

70 According to Geißler 1998, 174–180 discussing the *ex rivo* option, i. e. to effect the removal of water directly from the public water conduit.

subject of a promise of protection of possession for anyone with an entitlement to benefit from a public watering place. That is how the late-classic jurist Ulpian explains the praetorial edict in his commentary at the start of the 3rd century AD.<sup>71</sup> Issued in the Augustan period (11 BC), the *Senatus Consultum de aquaeductibus* permitted water to be drawn by private persons only from *castella*, i. e. only from structures constructed for water distribution.<sup>72</sup> This provision, structured as a directive for the *curatores aquarum*, was intended to prevent damage to public water conduits. The extensive text in Ulpian's commentary, which also specifically addressed the tapping of water directly from conduits, might be connected with a superior water supply system relative to the Augustan period.<sup>73</sup> The Roman jurists discussed the issue of how conducting water from a water distribution structure could be the subject of legal protection.<sup>74</sup> Some jurists believed in the possibility of the creation of an *aquaeductus* (right to lead/conduct water) or an *aquaehaustus* (right to draw water), i. e. a water servitude, in the latter case, including directly from a *castellum*. An *aquaeductus* servitude, they conceded, would always have to be created *ex capite*, i. e. from a place where water is permanently present.<sup>75</sup> In a rescript, Antoninus Caracalla aligned himself with the jurists who felt that no such servitude could exist.<sup>76</sup> The emperor did however acknowledge that the protection of such rights is possible if a legally relevant position exists, an *ius* upon which the drawing of water is based that was created through an agreement (*lex*) or some other legal foundation. Possession of such a right<sup>77</sup> would cause the emperor to ensure protection.<sup>78</sup> Protection of possession is thus also ensured in the absence of a servitude. This may be taken as an indication that a functionally rational use of water should be of lasting duration.

A closer examination of disputes in Roman law facilitates the search for their conceptual context and the identification of continuities of knowledge and of practical application. This applies to the standards relating to specific practices which emerge from weighing the interests of the parties or a strict interpretation of the agreement between the parties. Thus the location of the first exercise of use also establishes the location of the lasting use. This principle is passed down to us from the high-classical jurist Celsus, with reference to Sabinus, who was active in the first half of the 1st century AD.<sup>79</sup> According to Celsus, once a ditch for conducting water (*rivus*) has been put in place, it must be maintained and cannot be changed. The scope of the entitlement to conduct water is also the subject of legal consultations and imperial rulings.<sup>80</sup>

The recognition that a long-running practice can constitute legal grounds is quite significant both with respect to water use and with respect to the defense against harmful water. This possibility exists in the pre-classical jurisprudence of the republic<sup>81</sup> and begins to be invoked again in the 2nd century AD in the form of legal constructs referred to as

71 D. 43.20.1.40–42 Ulp. lb. 70 ad ed.

72 Frontin. *aqu.* 106.3 and on that Geißler 1998, 171.

73 According to Geißler 1998, 179–180, rejecting the suspected interpolation.

74 D. 8.4.2 Ulp. lb. 17 ad. ed. and on that Capogrossi Colognesi 2013, 151–158.

75 D. 43.20.1.7 Ulp. lb. 70 ad ed.

76 On the reasons for this see Capogrossi Colognesi 2013, 152–154.

77 On the problem of recognition of legal ownership see only Möller 2010, 336–340, 346–352.

78 Möller 2010, 78–79 with footnote 154.

79 D. 8.1.9 Cels. lb. 5 dig. and on that Möller 2010, 84–85; Bannon 2009, 105.

80 D. 8.3.24 Pomponius lb. 33 ad Sab. Bannon 2009, 52–54 examines the different legal views from an economic perspective. On that subject and on other approaches to interpretation, particularly in respect of the role of *utilitas* just see Möller 2010, 268–269. On the permissibility of laying pipes in the water conduit see D. 8.3.15 Pomp. lb. 31 (32) ad Qu. Muc. and on that Möller 2010, 82–85.

81 See the evidence in Möller 2010, 185–192. It is not possible to go into the exclusion of acquisition through possession dating from a *lex Scribonia* from 50 BC or its dogmatic requirements. See the numerous pieces of evidence for this also in Möller 2010, 235–251.

*vetustas* (long existence), or a use whose origin lies beyond human memory.<sup>82</sup> As a result, uses interpreted as natural-law uses were once again recognized as elements of a well-designed system of land management with legal effect.

In the field of protection against rainwater, we can find one imperial cause of action based on a legal regulation that has roots stretching back to the Rome of the early republic. A means to stave off rainwater damage, an *actio aquae pluviae arcendae* was an action one could bring to demand the restoration of conditions to their proper state. This action was understood in connection with extensive duties of care or with requirements that were to be interpreted strictly.<sup>83</sup> In the context of this action, there could be an obligation to tolerate based in some cases on the long duration of an existing usage,<sup>84</sup> on a servitude, on an agreement among parties in a contractual provision (*lex dicta*) or on the natural situation of the properties in questions (*natura loci*). The interpretation of *servitus naturalis* embraced by Labeo is a particularly worthy subject for further research, because it involves conceptual and practical aspects which continue to influence the way elements of Roman law are applied in later periods.<sup>85</sup> The claim to general validity of the rules also arises in writings of the agrimensor Agennius Urbicus, who declared the action to be unnecessary in the province of Africa since the issue there was the preservation of scarce resources and not defense against rainwater.<sup>86</sup>

Roman-law regulatory options in the area of public law, through servitudes and through regulations governing relations between neighbors offer a multifaceted infrastructure of knowledge for agricultural use. Taken together, the opinions of various jurists, with their essential differences of perspective and the elements of flexibility that appear in them, combine to create such a wealth of preserved material that it is possible to trace and understand impacts on political, economic, social and cultural/religious contexts. The initial findings relating to the use and the transformation of this knowledge by the Visigoths and under Muslim-dominated power structures on the Iberian Peninsula are available – and described below.

## 5 Regionalization of imperial infrastructures: Management and control of mobility in Visigothic Spain

The Visigothic period launches the ‘post-Imperial’ phase of the history of the Iberian Peninsula and its infrastructures. Although Roman continuity, bolstered by the Eastern Roman presence in the southern part of the peninsula from the mid 6th century,<sup>87</sup> is influential in many respects for the Spanish Visigothic period, for the topic of infrastructures there are important distinctions to be drawn in that regard. The establishment of Visigothic realm was a successful attempt to extract a set of highly developed Roman provinces from the Roman Imperium and subject them to monarchical regional rule, a rule which, in the 7th century, would extend over the entire Iberian Peninsula and parts of southern Gaul. Thus people were happy to continue using the existing Roman infrastructures, but had no great interest in allowing them to continue to function as imperial communication structures. This tension, between continuing Roman traditions

82 D. 39.3.26 Scaevola lb. 4 resp. (*vetustas*), D. 43.20.3.4 Pomp. lb. 34 ad Sab. (*cuius origo memoriam excessit*), D. 39.3.1.23 Ulp. lb. 53 ad ed. (*diu usus*), D. 8.5.10 pr. Ulp. lb. 53 ad ed. (*diuturno usu et longa quasi possessione*). Cf. on this subject Möller 2010, 347–352 with more evidence. Understood as innovation by Nörr 1969, 56–57.

83 On this subject, see in particular Behrends 2004, 212–214.

84 D. 39.3.1.23 Ulp. lb. 53 ad ed. and on that Nörr 1969, 49–50.

85 D. 39.3.1.22 Ulp. lb. 53 ad ed. and on that Möller 2010, 298–299; Sitzia 1999, 85–86 and in particular 121.

86 Agenn. 2.4.4–12 Th.; 48.26–49.8 Th.

87 Vallejo Girvés 2012.



and their region-based modification under the sway of a different political constellation, should be borne in mind when examining the legislative aims that we can apprehend in the ‘Leges Visigothorum,’ recorded in the 6th and 7th century.

The Visigothic Code, or *Liber Iudiciorum* is a set of laws, modeled on the Codex Justinianus and divided into 12 books that was enacted by King Reccesvinth (653–672 AD) in the mid 7th century.<sup>88</sup> An examination of it reveals that the Roman legal distinction between *viae publicae* and *viae privatae* had been maintained. Noting that the King and the royal retinue tended to travel on *viae publicae* to reach the *civitas* (meaning Toledo, the new capital) and the provinces, King Leovigild (569–586 AD) ruled that a 60-foot strip at both sides of a *via publica* had to be kept clear to allow the travelers an almost 20-meter wide space for stops in their journey.<sup>89</sup> The specification of the width of a *via publica* was in line with Roman tradition,<sup>90</sup> but in this case there was apparently an intention to fully clarify the extent to which the sides of the road should be kept clear for use by travelers and how any user interests held by adjoining landowners under private law could be taken into account.

We find the idea of ensuring the usability of the *viae publicae* underlying another of Leovigild’s provisions as well, this time applied to major riverways, which would include the river Baetis. The provision prohibited the complete blockage of wider rivers which pike and marine fish swam up and on which shipping traffic travelled: such an act would violate the common interests of many users while serving only those of the barrier’s builder. The new regulation provided that dams or barriers could not be built to extend past the middle of the river; the other half of the river had to be reserved for the interests of various other groups (*diversorum usus*). Barriers that did extend further were to be destroyed by the city count or the judge. Private persons or officials violating the regulation were to be punished with a monetary fine of 10 or 5 *solidi* depending on status; slaves in violation were to be whipped.<sup>91</sup> The legal basis of the provision, *utilitas communis*<sup>92</sup> and its status-dependent sanctions<sup>93</sup> reveal the influence of Roman law, and they are not alone in doing so. The category of *flumina maiora* corresponded largely to the Roman legal concept of *flumina publica*.<sup>94</sup> The continuity of the water flow in a stretch of water and its navigability for ships or rafts were important criteria for the distinction between public and private waters;<sup>95</sup> the former, as waters belonging to the *res publica*, comprised part of the *res extra commercium* and thus could not be sold.<sup>96</sup> The Digest contains related texts by the jurist Ulpian concerning restrictions on private construction which would restrict or prevent the common use of a river;<sup>97</sup> there, the legal instrument for resolving conflicts of this type in the public interest was the interdict,<sup>98</sup> which could be applied with some flexibility to public roads and waterways. One can certainly view the provision enacted in the Visigothic law as a necessary interpretation of this general principle. Moreover, obstructing fishing activities had already been a major reason for the imposition of interdicts in such contexts in Roman law.<sup>99</sup> As it is not possible to identify a direct Roman model for the precise wording of the Visigothic provision, it remains unclear just how the Visigothic jurists

88 Seminal on this is King 1972. Cf. more recently Martin 2011.

89 L. Vis. VIII.4.24.

90 Möller 2010, 49–50 and 67–68.

91 L. Vis. VIII.4.29.

92 Steinwenter 1939, 84–102.

93 Cf. Rilinger 1988 on the Roman tradition of differentiation.

94 Cf. the Digest titles D. 43.12–14.

95 Ossig 1898, 1–17 and 75–120.

96 Döpp 2001, 9.

97 D. 43.15.1 Ulp. lb. 68 ad. ed.

98 Ossig 1898, 103 and 115; on the ‘Interdikenschutz für Wege’ (interdict protecting roads) cf. Möller 2010, 75–77.

99 Ossig 1898, 108.

obtained their knowledge of Roman law: did the provision emerge out of ideas of standard legal practice that continued to operate in the Romanized provinces of Spain, or was someone independently reverting back to Justinian's Digest? It seems conceivable, in view of the East Roman presence in southern Spain since the mid 6th century, that some knowledge about the Digest could have existed in the Iberian Peninsula.

The 9th book of the *Liber iudiciorum* contains a wide variety of provisions, new and old, through which the Visigothic kings were attempting to restrict or restrain the mobility of specific groups of people, collected under the heading *De fugitivis et refugientibus*.<sup>100</sup> The section is subdivided into three titles, the first of which (*De fugitivis et occultatoribus fugamque preventibus*) addresses fugitives in the widest sense of the term; the subsequent titles deal with the refusal of military service and desertion and the church sanctuary rights.<sup>101</sup> This reveals an independent systematization, probably the result of problems arising at the time. One significant case during the reign of King Leovigild concerns a stranger of unknown identity: anyone providing food or lodging to such a *homo ignotus* was required to submit official notice to that effect to the local judge within no more than eight days in order that the identity of the unknown person and the reason for his appearance could be ascertained. Interestingly, this regulation was tightened to require the official report of the arrival of foreign persons in the area of provincial borders (*limites provinciarum*) either directly on the day of arrival or the following day.<sup>102</sup> In the late Roman period, this was an attempt to prevent the admission of fugitive slaves, however the more strict provision applying specifically to the Visigothic border region reveals an effort to control politically motivated mobility. This may have been necessary with respect to the shared border with Gallic Septimania, where the Visigothic and Frankish kingdoms adjoined, and with respect to southern Spain, where the East Roman empire had regained a foothold in 552 AD.<sup>103</sup>

Control of mobility at the regional level extended to the sea as well. At one point, St. Fructuosus of Braga (†665 AD), having aroused suspicion that he was engaging in treasonous activities while secretly preparing for a journey to the east (*ad Orientem*),<sup>104</sup> was thrown into prison for that reason by King Chindasvinth (642–653 AD).<sup>105</sup> Chindasvinth was known for his extremely rigid policy toward the nobility<sup>106</sup> and sought to ensure the loyalty of his subjects through radical measures.<sup>107</sup> The legal basis for his actions were provided by a recently enacted law on high treason and council degrees which threatened members of the clergy traveling abroad on their own authority with loss of office, excommunication and forced penance.<sup>108</sup> It appears that Fructuosus, who maintained relations with family members in Septimania and Gallia Narbonensis, was an obvious target for suspicion of conspiring with the Franks;<sup>109</sup> moreover his journey came at a time for which there are indications of Byzantine-Visigoth rivalry.<sup>110</sup>

Legally, the offense of treason was based on the oath of fidelity sworn to the Visigothic kings. In order to ensure that the entire population of the kingdom took such an oath, the Visigothic King Egica (687–702 AD) sent out officials known as *discussores iuramenti*

100 L. Vis. IX.

101 L. Vis. IX.1–3.

102 L. Vis. IX.1.6.

103 Vallejo Girvés 2012, 125–164.

104 Regarding the date cf. Thompson 1957, 54–63, here 58–63 (before 556) and García Moreno 2011, 481–559, here 529 (between 650 and 652).

105 Vita of St. Fructuosus of Braga, c. 16.

106 Cf. for instance Fredegar IV.82.

107 Cf. Diesner 1979; Kampers 2008, 198–203.

108 L. Vis. II.1.8; Seventh Council of Toledo, c. 1 (Vives 1963, 249); similar earlier Fourth Council of Toledo (633 AD), c. 30 (Vives 1963, 203).

109 García Moreno 2011, 530.

110 Cf. Vallejo Girvés 2012, 410–412.

to administer the loyalty oath on his behalf to the local inhabitants in the territories (*territoria*). Registration of those obliged to swear the oath was based on place of residence (*habitatio*),<sup>111</sup> an approach intended to prevent people from evading the oath, which could lead to being drawn for military service.<sup>112</sup> Thus the Visigoth kings took up the Roman distinction between *origo* and *habitaculum* or *domicilium* in their efforts to enforce the obligation to take the oath.<sup>113</sup> The loyalty oath itself reveals the difference however: in the early Principate, the general loyalty oath was an important instrument for integrating the population within the new monarchical form of the empire, both in the Hispanic provinces and in the empire as a whole.<sup>114</sup> Centuries later, the oath was used to further the regional objectives of the Visigothic king: it allowed the Visigothic rulers to take up the Roman concept of crime against the crown, but at the same time it created a criminal offense of infidelity which was independent of the existence of the Roman empire and grounded in circumstances specific to the Iberian Peninsula.<sup>115</sup> Moreover, violation of one's oath was equally a political and a religious offense.<sup>116</sup> Thus the legal construction of the Visigothic monarchy was based on the continuing existence of the Roman structure of space, but through the loyalty oath it obtained its regional independence, legally extracting it from political association with the (Eastern) Roman Imperium.<sup>117</sup>

Hence the presence of Roman infrastructures and structuring of space and the knowledge of Roman law enabled the Visigothic rulers to establish an independent, regionalized dominion within a political space encompassing large parts of the Iberian Peninsula and parts of southwestern Gaul. It is quite possible that those borders were the source of the greatest motivation to modify the law. The process of regionalization continued and took on a new dimension with the establishment of Muslim rule in al-Andalus.

## 6 Continuity and change in the formation of legal standards and judicial reasoning on the Iberian Peninsula from the Roman Imperium through to al-Andalus

The focus in the study of the rulings of Islamic court is on relevant judgments from the Roman, Visigothic and Muslim period, and particularly in shedding light on how legal cultures took up legal aspects from preceding legal cultures and transformed them in their own law. The investigation includes the issue of post-imperial structures following the fall of the Western Roman Empire on the Iberian Peninsula in the 5th century.

The first focus of investigation are judgments issued in the 3rd, 4th or 5th century, as reflected in Roman legal sources.<sup>118</sup>

In the next period, the Visigothic kingdom of Toledo established itself as a successor state to Western Rome; its jurisprudence also addresses the vital resource of water. Finally, al-Andalus, the realm of the Muslims in southern Spain was established from 711 AD, and Visigothic rule came to an end.

Within the framework of jurisprudence, and thus of the practical judgments, the research is investigating the extent to which structures or models of Roman legal and judicial thought survived in the Visigothic Kingdom and in al-Andalus. However the

111 L. Vis. II.1.7 (cf. Claude 1974, 358–378, here 363, on this).

112 Pérez Sánchez 1989, 137; Diaz and Valverde 2000, 59–93, here 82 with note. 126.

113 Nörr 1963, 525–600.

114 González 1988, 113–127. Cf. in general Herrmann 1968.

115 L. Vis. II.1.8. Cf. Lear 1965a, 123–135; Lear 1965b, 136–164.

116 Dumézil 2008, 27–42.

117 García 1979, 447–490.

118 Held in archives in Granada, Casablanca, Fez and Rabat.

survival of Visigothic law-making and practices in the judgments and legislative activity of Muslim rulers is also being investigated in the project.<sup>119</sup>

At present the focus of research is on Roman and Visigothic legislation and the practice of the courts as evinced in the rulings of Muslim courts.

In the course of our research, particular attention is devoted to al-Andalus legal sources that relate to water as a vital resource. The primary legal sources for Arab law are the Quran and the Sunnah. No single work specifically or systematically addresses water law; only occasional comments in *Fiqh* works (interpretations of the Quran and the Sunnah written by trained scholars with religious and juristic expertise) relate to it.<sup>120</sup> Rules about water mentioned in primary sources are very general, casuistry is widespread and local practices influence interpretation.

Examining the Quran, the most important source of law, we note first of all that Allah created water. He sends down rain from the clouds and could, should he choose, make it salty. He is the creator of the rivers and the seas.<sup>121</sup> Water is conceived of as an element of reward or punishment. However, the Quran also presents water as a means of religious purification and an element of ritual. The theory for water legislation is provided by the Sunnah, which initially establishes two basic principles:

a) The gift of water has the nature of a religious donation but in some cases it is also an obligation based in law.

b) With respect to the distribution of water, the Sunnah contains certain notions of justice that adhere to the principle of equality. The Prophet recommends the construction of public wells and water collection basins as acts of religious charity. He enjoins his followers to set up irrigation installations to run downwards. In that context, the quantity of water held in irrigation installations on higher ground is not permitted to rise above the level of a person's ankles. The owners of a well cannot be held responsible for accidents that occur there. Taxes are halved for land requiring artificial irrigation. The stipulated tenth must be paid on all other land.<sup>122</sup>

*Fiqh*, and particularly the Maliki school, also plays a major role in the interpretation of the sources of law. *Fiqh* was codified in the 8th and first part of the 9th century. In it, the basic principles underpinning water law are already present. A review of the different schools of *Fiqh* reveals that the major issues of water law are assessed by all of them in nearly identical fashion, differing only in nuances. Since the Maliki school predominated in al-Andalus and North Africa, the following examination focuses on it.

Any person, whether Muslim or not, has the right to take water to quench his thirst or that of his animals. As long as its quantity is weighed, water for drinking can always be given, borrowed, rented or sold. Another form of water right is the right of irrigation. That right cannot be revoked; it can be sold, rented or assigned to another in part, either together with the land or separately from it. In general, one can buy water to drink or irrigate regardless of its origin: cistern, wells or natural spring. However, under certain circumstances the teachings of Malik express disapproval of the trade in water, though they do not expressly forbid it: water from cisterns used by the public or from wells used to provide water for animals. In the latter case the sale of the well is also frowned on.<sup>123</sup>

Treatises from the al-Andalus period constitute another type of legal source relating to water law. For the most part these come from the field of agronomics.<sup>124</sup>

119 For an introduction to the issue of court rulings see Bruno 1913.

120 Epalza 1988, 13–14.

121 Coulson 1998, 21.

122 Vidal Castro 1998, 253.

123 Wilkinson 1990, 59.

124 Carabaza Bravo 1994 is seminal on this.

The first task is to classify the water, because that determines which legal rules apply. The sources make that clear as well. The classification of water determines which rules govern its use and the acquisition of ownership. In Islamic thinking, water can be classified into three groups: rivers, wells and springs.<sup>125</sup>

There is some confusion between jurisprudence and legislation in water-related matters in al-Andalus. At first the caliph embodied all three powers of government in the modern sense of that term: the legislative, the executive and the judiciary. This situation changed quite early on with respect to the judiciary though, with the creation of the office of qadi.

At the lower level of jurisdiction, there were *qadis* (judges) whose area of competence was restricted: those who dealt with matrimonial affairs and water judges. The hierarchical distinctions within subdivisions of the offices of the qadi appear to have been somewhat unclear.

Due to the nature of the office and the court as a single-judge court, the qadis constituted one of the most important administrative organs in al-Andalus. A qadi was entitled to hold his audiences wherever he chose, as long as the people involved could get there. Typically the court would sit in the mosque. The qadi could choose the closest mosque to serve as the place of proceedings and could also decide in what part of the mosque proceedings would be held: the prayer room, the hall of columns, or the courtyard. Even the qadi's home could serve as the seat of the court; though this was not recommended.<sup>126</sup>

An official known as the mufti, a specialist in Fiqh interpretation, was on hand to advise the judge. If doubts arose concerning the interpretation of relevant passages in the Quran or the Sunnah, the mufti would help the judge to resolve them. Appointed to the local district service, the mufti was charged with providing counsel and studying the existing laws.

We find the following institutions associated with the exercise of water-related jurisdiction: the judge specifically responsible for matters relating to water was the *qadi al-miyah*, the qadi of water. Thus, we see that water-related cases were important enough to be assigned by the Caliph to a specific judge, rather than left to the general qadis. The water judge was responsible to rule in the final instance on disputes involving the assignment and division of shifts in the supervision of water.

In irrigation-related matters, another post was also involved, that of the *sahib al-saqiya*, 'magistrate for irrigation ditches and sewers.' That official regularly inspected irrigation canals, classified the lands to be irrigated and monitored compliance with the rules relating to them. Subject to the authority of the qadi, he was appointed either by the wali (governor) or directly by the emir.<sup>127</sup> The *sahib al-saqiya* was responsible for arbitrating among users and owners of irrigated properties and ensuring the equitable distribution of water. In addition, he was charged with ensuring that the users of water and the irrigation canals kept them clean and in good repair.<sup>128</sup> The distribution of the water to the owners of lands and properties was rigorously monitored and supervised by him. His decisions were issued orally and could include sanctions if legal provisions were violated.

Finally, there was also the *al-amin al-ma*, an official who watched over minor irrigation ditches.

The number of posts devoted solely to the jurisprudence and administration of water-related affairs underlines the importance of the resource of water in al-Andalus.

The work of the courts in the districts al-Andalus will be the subject of research in the coming months. It will form the basis for the detailed examination of how legal re-

125 Gerez Kraemer 2011, 277.

126 Peláez Portales 2000, 23–25.

127 Vidal Castro 1998, 254.

128 Martínez Almira 2002, 373–376.

quirements were implemented in practice. However the legislation and its interpretation is also important because it provides an opportunity for determining the extent to which Roman or Visigothic rules were retained, modified or completely eliminated. For example, one ruling by an Islamic court that has already been evaluated reveals a link to a passage of the Roman-law Digest.<sup>129</sup> This discovery is of great significance since it demonstrates that Islamic courts did refer to sources of Roman law.

The rulings on water-related litigation (*fetua*) indicate that proceedings contained a “questioning procedure”. The competent judge would be requested to issue a fair judgment in the name of Allah. This request would include a description of the facts of the case, the names of the witnesses, their statements, and the judge would be asked for a response. The judge (a religious official) would then give his response, introducing it with formulaic religious statement and then issuing his ruling. In that context, the judge would stress that he had considered the problem make references to earlier decisions or to the Quran and the Sunnah.<sup>130</sup> Future research will take a close look at the extent to which structures of Roman-law and Visigothic thinking played a role in the legislation and jurisprudence in al-Andalus beyond the scope of the one ruling which has been found.

It has already been established though that the commodity of water played a major role in all three cultures (Roman, Visigothic and Islamic) and that the need to safeguard that vital resource in the southern part of the Iberian Peninsula resulted in continuity through the periods of all three cultures. In fact, since Christian rulers did not change the rules of their Muslim predecessors after the Reconquista, this continuity stretches to some extent into the present day.

## 7 Summary

The technical and normative knowledge relating to infrastructures, mobility and water management which Rome began to developing in the Republican period was functionalized for the purpose of expanding the empire and operationalized in individual provinces, adapted to reflect local circumstances. In addition to shedding light on how imperial concepts manifested themselves in the appropriation of space in specific contexts, the example of the Iberian Peninsula elucidates both how the knowledge in question was adapted to meet ‘regional-political’ objectives once the imperial frame of reference fell away and how it was ultimately restructured, modified and legitimized to reflect higher priority religious considerations. In addition, it holds examples indicating the degree to which ancient concepts lent themselves to transformation while simultaneously representing both potential and a challenge for any subsequent rulers.

129 The source is currently being examined in greater detail; it dates to AD 754 and is a judicial ruling concerning a dispute between two brothers by marriage. The land of one brother-in-law lies higher than that of the second brother-in-law and the spring water flowing to the lower-lying lands is being choked off at the higher land.

130 Martos Quesada 1999, 34–36.

## References

### Abad Casal 1975

Lorenzo Abad Casal. *El Guadalquivir, vía fluvial romana*. Sevilla: Diputación Provincial de Sevilla, 1975.

### Alföldy 1996

Geza Alföldy. “Spain”. In *The Augustan Empire, 43 BC – AD 69*. Ed. by A. K. Bowman, E. Champlin, and A. Lintott. The Cambridge Ancient History 10. Cambridge: Cambridge University Press, 1996, 449–463.

### Arnaud 2014

Pascal Arnaud. “Maritime Infrastructure. Between Public and Private Initiative”. In *Infrastruktur und Herrschaftsorganisation im Imperium Romanum. Herrschaftsstrukturen und Herrschaftspraxis III. Akten der Tagung in Zürich 19.–20.10.2012*. Ed. by A. Kolb. Berlin: Akademie Verlag, 2014, 161–179.

### Bannon 2009

Cynthia Jordan Bannon. *Gardens and Neighbors. Private Water Rights in Roman Italy*. Ann Arbor: The University of Michigan Press, 2009.

### Behrends 2004

Okko Behrends. “Gesetz und Sprache. Das römische Gesetz unter dem Einfluß der hellenistischen Philosophie”. In *Institut und Prinzip*. Vol. 1. Ed. by M. Avenarius, R. Meyer-Pritzl, and C. Möller. Göttingen: Wallstein, 2004, 91–224.

### Blázquez 1980

José María Blázquez, ed. *Producción y comercio del aceite en la antigüedad. Primer congreso internacional bajo el patronato de Ministerio de Cultura*. Madrid: Universidad Complutense, 1980.

### Brodersen 1995

Kai Brodersen. *Terra cognita. Studien zur römischen Raumerfassung*. Hildesheim: Olms, 1995.

### Bruno 1913

Henri Bruno. *Contribution à l'étude di régime des eaux en droit musulman*. Paris: A. Rousseau, 1913.

### Bruun 2012

Christer Bruun. “Roman Emperors and Legislation on Public Water Use in the Roman Empire: Clarifications and Problems”. *Water History* 4.1 (2012), 11–33.

### Butzer et al. 1985

Karl Butzer, Juan Mateu, Elisabeth Butzer, and Pavel Kraus. “Irrigation Agrosystems in Eastern Spain: Roman or Islamic Origins?” *Annals of the Association of American Geographers* 75 (1985), 479–509.

### Campbell 2012

John Brian Campbell. *Rivers and the Power of Ancient Rome*. Chapel Hill: University of North Carolina Press, 2012.

**Capogrossi Colognesi 2013**

Luigi Capogrossi Colognesi. "D. 8.4.2. e le deduzioni d'acque pubbliche e private". In *Hommes, cultures et paysages de l'Antiquité à la période moderne*. Ed. by M. Clavel-Lévêque, F. Ouachour, and I. Pimouguet-Pédarros. Rennes: Presses universitaires de Rennes, 2013, 151–160.

**Carabaza Bravo 1994**

Julia Maria Carabaza Bravo. "El agua en los tratados agronómicos". *Anaquel de estudios árabes* 5 (1994), 19–38.

**Castillo Pascual 2012/2013**

Pepa Castillo Pascual. "Die Kontroverse De alluvione bei Gromatikern und Juristen". *eTopoi. Journal for Ancient Studies* 2 (2012/2013), 1–23. <http://journal.topoi.org/index.php/etopoi/article/view/63/195> (visited on 04/05/2016).

**Claude 1974**

Dietrich Claude. "Königs- und Untertaneneid im Westgotenreich". In *Historische Forschungen für Walter Schlesinger*. Ed. by H. Beumann. Köln and Wien: Böhlau, 1974, 358–378.

**Coulson 1998**

Noel J. Coulson. *Historia del Derecho islámico*. Barcelona: Bellaterra, 1998.

**De Laet 1949**

Siegfried Jan De Laet. *Portorium. Étude sur l'organisation douanière chez les Romains, surtout à l'époque du Haut-Empire*. Brugge: De Tempel, 1949.

**Diaz and Valverde 2000**

Pablo C. Diaz and Maria Rosario Valverde. "The Theoretical Strength and Practical Weakness of the Visigothic Monarchy of Toledo". In *Rituals of Power. From Late Antiquity to the Early Middle Ages*. Ed. by F. Theuvs and J. L. Nelson. Leiden: Brill, 2000, 59–93.

**Diesner 1979**

Hans-Joachim Diesner. *Politik und Ideologie im Westgotenreich von Toledo: Chindasvind*. Berlin: Akademie Verlag Berlin, 1979.

**Döpp 2001**

Ludger Döpp. *Das spanische Wasserrecht. Die Verteilung von Wasser als Regelungsproblem*. Münster: Lit, 2001.

**Dumézil 2008**

Bruno Dumézil. "Le crime de parjure dans l'Espagne wisigothique du VIIe siècle". In *Oralité et lien social au Moyen Âge (Occident, Byzance, Islam): Parole donnée, foi jurée, serment*. Ed. by M.-F. Auzepy and G. Saint-Guillain. Paris: Association des Armis du Centre de Recherche d'Histoire et Civilisation de Byzance, 2008, 27–42.

**Epalza 1988**

Mikel de Epalza. "El agua en el Derecho musulman". In *Agua y poblamiento musulman (simposium de Benissa, abril 1987)*. Ed. by M. de Epalza and E. Casanova. Benissa: Ajuntament, 1988, 13–19.



**García Moreno 2011**

Luis A. García Moreno. “Relaciones internacionales del reino godo de Toledo en el siglo VII: De la faida gótica a la obsesión bizantina”. In *Le relazioni internazionali nell’alto Medioevo. Spoleto, 8–12 aprile 2010*. Ed. by Fondazione Centro Italiano di Studi sull’Alto Medioevo. Spoleto: Fondazione Centro Italiano di Studi sull’Alto Medioevo, 2011, 481–559.

**García 1979**

Antonio García. “El juramento de fidelidad de los concilios visigóticos”. In *De iuramento fidelitatis*. Ed. by F. Suárez and L. Pereña. Madrid: Consejo Superior de Investigaciones Científicas, 1979, 447–490.

**Geißler 1998**

Kirsten Geißler. *Die öffentliche Wasserversorgung im römischen Recht*. Berlin: Duncker & Humblot, 1998.

**Gerez Kraemer 2011**

Gabriel Gerez Kraemer. “La distinción en España entre las aguas públicas y las aguas privadas desde el derecho romano hasta nuestros días”. In *Hacia un derecho administrativo y fiscal romano*. Ed. by A. Fernández de Buján, B. Malavé Osuna, and G. Gerez Kraemer. Madrid: Dykinson, 2011, 275–285.

**González 1988**

Julián González. “The First Oath Pro Salute Augusti Found in Baetica”. *Zeitschrift für Papyrologie und Epigraphik* 72 (1988), 113–127.

**Haley 2003**

Evan W. Haley. *Baetica felix. People and Prosperity in Southern Spain from Caesar to Septimius Severus*. Austin: University of Texas Press, 2003.

**Hänger 2001**

Christian Hänger. *Die Welt im Kopf. Raumbilder und Strategie im Römischen Kaiserreich*. Göttingen: Vandenhoeck & Ruprecht, 2001.

**Harris 2011**

William Vernon Harris. *Rome’s Imperial Economy. Twelve Essays*. Oxford: Oxford University Press, 2011.

**Herrmann 1968**

Peter Herrmann. *Der römische Kaisereid. Untersuchungen zu seiner Herkunft und Entwicklung*. Göttingen: Vandenhoeck & Ruprecht, 1968.

**Kampers 2008**

Gerd Kampers. *Geschichte der Westgoten*. Paderborn and München: Schöningh, 2008.

**King 1972**

Paul David King. *Law and Society in the Visigothic Kingdom*. Cambridge: University Press, 1972.

**Knobloch and Möller 2014**

Eberhard Knobloch and Cosima Möller, eds. *In den Gefilden der römischen Feldmesser. Juristische, wissenschaftsgeschichtliche, historische und sprachliche Aspekte*. Topoi – Berlin Studies of the Ancient World 13. Berlin and Boston: De Gruyter, 2014.

**Kolb 2013**

Anne Kolb. "Herrschaft durch Raumerschließung – Rom und sein Imperium". In *Politische Räume in vormodernen Gesellschaften*. Ed. by O. Dally, F. Fless, R. Haensch, F. Pirson, and S. Sievers. Rahden/Westfalen: VML Verlag Marie Leidorf, 2013, 71–85.

**Kulikowski 2004**

Michael Kulikowski. *Late Roman Spain and Its Cities*. Baltimore: Johns Hopkins University Press, 2004.

**Lear 1965a**

Floyd Seyward Lear. "Contractual Allegiance vs. Deferential Allegiance in Visigothic Law (1940)". In *Treason in Roman and Germanic Law. Collected Papers*. Ed. by F. S. Lear. Austin: University of Texas Press, 1965, 123–135.

**Lear 1965b**

Floyd Seyward Lear. "The Public Law of the Visigothic Code (1951)". In *Treason in Roman and Germanic Law. Collected Papers*. Ed. by F. S. Lear. Austin: University of Texas Press, 1965, 136–164.

**Lindermann 2013**

Jens-Olaf Lindermann. "Varro und Isidor in den Gromatici veteres". *Philologus. Zeitschrift für antike Literatur und ihre Rezeption* 157 (2013), 119–140.

**Lloris 2006**

Francisco Beltrán Lloris. "An Irrigation Decree from Roman Spain: The 'lex rivi Hiberiensis'". *The Journal of Roman Studies* 96 (2006), 147–197.

**Löffler 2008**

Helmut Löffler. *Feblentscheidungen bei Herodot*. Tübingen: Narr, 2008.

**Mann 2008**

Christian Mann. *Antike. Einführung in die Altertumswissenschaften*. Berlin: Akademie Verlag, 2008.

**Martin 2011**

Céline Martin. "Le Liber iudiciorum et ses différentes versions". In *Le droit hispanique latin du VIe au XIIe siècle. El derecho hispánico latino de los siglos VI al XII*. Ed. by T. Deswarte. Madrid: Casa de Velázquez, 2011, 17–34.

**Martínez Almira 2002**

Maria Magdalena Martínez Almira. "La administración de justicia andalusí en materia de riego. El tribunal de aguas de la Valencia en la Edad Media". In *La herencia árabe en la agricultura y el bienestar de Occidente*. Ed. by F. Nuez. Valencia: Universitat Politècnica de València, Servicio de Publicación, 2002, 373–400.

**Martos Quesada 1999**

Juan Martos Quesada. *Introducción al mundo jurídico de la España musulmana*. Madrid: Ediciones G. Martin, 1999.

**Mehl 1994**

Andreas Mehl. "Imperium sine fine dedi – die augusteische Vorstellung von der Grenzenlosigkeit des Römischen Reiches". In *Stuttgarter Kolloquium zur Historischen Geographie des Altertums 4, 1990*. Ed. by E. Olshausen and H. Sonnabend. Amsterdam: A. M. Hakkert, 1994, 431–464.

**Meier 1988**

Christian Meier. *Die politische Kunst der griechischen Tragödie*. München: C. H. Beck, 1988.

**Möller 2010**

Cosima Möller. *Die Servituten. Entwicklungsgeschichte, Funktion und Struktur der grundstückvermittelten Privatrechtsverhältnisse im römischen Recht; mit einem Ausblick auf die Rezeptionsgeschichte und das BGB*. Göttingen: Wallstein, 2010.

**Momigliano 1942**

Arnaldo Momigliano. "Terra Marique". *Journal of Roman Studies* 32 (1942), 53–64.

**Münkler 2012**

Herfried Münkler. "Translation, Filiation, Analogiebildung: Politische Legitimation und strategische Reflexion im Spiegel vergangener Imperien". In *Die Legitimation von Imperien. Strategien und Motive im 19. und 20. Jahrhundert*. Ed. by H. Münkler and E. M. Hausteiner. Frankfurt a. M.: Campus Verlag, 2012, 34–69.

**Nesselrath 2009**

Heinz-Günther Nesselrath. "Die Säulen des Herakles – eine mythische Landmarke und ihre Bedeutung in der Klassischen Antike". In *Jahrbuch der Akademie der Wissenschaften zu Göttingen* 2008. Ed. by Akademie der Wissenschaften in Göttingen. Berlin and New York: De Gruyter, 2009, 226–232.

**Nörr 1963**

Dieter Nörr. "Origo. Studien zu Orts-, Stadt- und Reichszugehörigkeit in der Antike". *Tijdschrift voor Rechtsgeschiedenis* 31 (1963), 525–600.

**Nörr 1969**

Dieter Nörr. *Die Entstehung der longi temporis praescriptio. Studien zum Einfluss der Zeit im Recht und zur Rechtspolitik in der Kaiserzeit*. Köln and Opladen: Westdeutscher Verlag, 1969.

**Nörr 2008**

Dieter Nörr. "Prozessuales (und mehr) in der lex rivi Hiberiensis". *Zeitschrift der Savigny-Stiftung für Rechtsgeschichte. Romanistische Abteilung* 125 (2008), 108–188.

**Ossig 1898**

Alfred Ossig. *Römisches Wasserrecht*. Leipzig: Duncker & Humblot, 1898.

**Parodi Álvarez 2001**

Manuel J. Parodi Álvarez. *Ríos y lagunas de Hispania como vías de comunicación. La navegación interior en la Hispania Romana*. Écija: Gráficas Sol, 2001.

**Peláez Portales 2000**

D. Peláez Portales. *El proceso judicial en la España musulmana (siglos VIII–XII): con especial referencia a la ciudad de Córdoba*. Córdoba: El Almendro, 2000.

**Pérez Sánchez 1989**

Dionisio Pérez Sánchez. *El ejército en la sociedad visigoda*. Salamanca: Ediciones Universidad de Salamanca, 1989.

**Remesal Rodríguez 1990**

José Remesal Rodríguez. “El sistema annonario como base de la evolución económica del imperio romano”. In *Le commerce maritime Romain en Méditerranée Occidentale. Colloque international tenu à Barcelone du 16 au 18 mai 1988*. Ed. by T. Hackens and M. Miró. Strasbourg: Conseil de l’Europe, 1990, 355–367.

**Remesal Rodríguez 1998**

José Remesal Rodríguez. “Baetican Olive Oil and Roman Economy”. In *The Archaeology of Early Roman Baetica*. Ed. by S. Keay and M. Belén. Journal of Roman Archaeology Supplementary Series. Portsmouth (RI): Journal of Roman Archaeology, 1998, 183–199.

**Rilinger 1988**

Rolf Rilinger. *Humiliores – Honestiores. Zu einer sozialen Dichotomie im Strafrecht der römischen Kaiserzeit*. München: R. Oldenbourg, 1988.

**Rodríguez Almeida 1984**

Emilio Rodríguez Almeida. *Il Monte Testaccio. Ambiente, storia, materiali*. Roma: Quasar, 1984.

**Rodríguez Almeida 1993**

Emilio Rodríguez Almeida. “Graffiti e produzione anforaria della Betica”. In *The Inscribed Economy. Production and Distribution in the Roman Empire in the Light of Instrumentum Domesticum. The Proceedings of a Conference Held at the American Academy in Rome on 10–11 January, 1992*. Ed. by W. V. Harris. Ann Arbor: University of Michigan, 1993, 95–106.

**Roller 2008**

Duane W. Roller. *Through the Pillars of Herakles. Greco-Roman Exploration of the Atlantic*. New York: Routledge, 2008.

**Schmidt 2011**

Manfred G. Schmidt. “A Gadibus Romam. Myth and Reality of an Ancient Route”. *Bulletin of the Institute of Classical Studies of the University of London* 54 (2011), 71–86.

**Schmidt 2013**

Manfred G. Schmidt. “Roads and Towns along the Border of Hispania Citerior”. In *Tarraco Biennial. Actes 1er Congrès International d’Arqueologia i Món Antic. Govern i societat a la Hispània romana, novetats epigràfiques. Homenatge a Géza Alföldy. Tarragona, 29–30 de novembre i 1 de desembre de 2012*. Ed. by J. López i Vilar. Tarragona: Fundació Privada Mutua Catalana, 2013, 291–299.

**Schön 1999**

Franz Schön. “Fluss”. In *Mensch und Landschaft in der Antike*. Ed. by H. Sonnabend. Stuttgart: J. B. Metzler, 1999, 145–150.

**Schulz 1998**

Raimund Schulz. “Roms Griff nach dem Meer”. In *Althistorisches Kolloquium aus Anlass des 70. Geburtstags von Jochen Bleicken. 29. bis 30. November 1996 in Göttingen*. Ed. by T. Hantos, G. A. Lehmann, and J. Bleicken. Stuttgart: F. Steiner, 1998, 121–134.

**Schulz 2003**

Raimund Schulz. "Roms Eroberung des Mittelmeeres und der Vorstoß in den Atlantik. Reaktionen und Rückwirkungen auf die Ideologie, Geographie, Ethnographie und Anthropologie der späten Republik und frühen Kaiserzeit". In *Aufbruch in neue Welten und neue Zeiten. Die großen maritimen Expansionsbewegungen der Antike und Frühen Neuzeit im Vergleich*. Ed. by R. Schulz. München: Oldenbourg, 2003, 29–50.

**Sillières 1990**

Pierre Sillières. *Les voies de communication de l'Hispanie Méridionale*. Paris: Diffusion de Boccard, 1990.

**Sitzia 1999**

Francesco Sitzia. *Aqua pluvia e natura agri. Dalle XII tavole al pensiero di Labeone*. Cagliari: Edizioni AV, 1999.

**Steinwenter 1939**

Artur Steinwenter. "Utilitas publica – utilitas singulorum". In *Festschrift Paul Koschaker. Mit Unterstützung der Rechts- und Staatswissenschaftlichen Fakultät der Friedrich-Wilhelms-Universität Berlin und der Leipziger Juristenfakultät, zum sechzigsten Geburtstag überreicht von seinen Fachgenossen*. Ed. by P. Koschaker. Weimar: Böhlau, 1939, 84–102.

**Thompson 1957**

Edward A. Thompson. "Two Notes on St. Fructuosus of Braga". *Hermathena* 90 (1957), 54–63.

**Vallejo Girvés 2012**

Margarita Vallejo Girvés. *Hispania y Bizancio. Una relación desconocida*. Madrid: Akal, 2012.

**Vidal Castro 1998**

F. Vidal Castro. "Aproximación a la regulación jurídica del agua en el derecho islámico". *Revista de Derecho de Aguas* 9 (1998), 245–262.

**Vives 1963**

José Vives, ed. *Concilios visigóticos e hispano-romanos*. Madrid: Consejo superior de investigaciones científicas, Instituto Enrique Flórez, 1963.

**Wendt 2012**

Christian Wendt. "Die Oikumene unter Roms Befehl. Die Weltherrschaft als Antrieb der römischen Germanienpolitik?" In *2000 Jahre Varusschlacht. Geschichte – Archäologie – Legenden*. Ed. by E. Baltrusch, M. Hegewisch, M. Meyer, U. Puschner, and Chr. Wendt. Topoi – Berlin Studies of the Ancient World 7. Berlin and New York: De Gruyter, 2012, 95–115.

**Wilkinson 1990**

John C. Wilkinson. "Muslim Land and Water Law". *Journal of Islamic Studies* 1.1 (1990), 54–72.

**Wilson 2012**

Andrew Wilson. "Water, Power and Culture in the Roman and Byzantine Worlds: An Introduction". *Water History* 4.1 (2012), 1–9.

**Wolf 2011**

Joseph Georg Wolf. *Die Lex Irnitana. Ein römisches Stadtrecht aus Spanien. Lateinisch und deutsch*. Darmstadt: Wissenschaftliche Buchgesellschaft, 2011.

**Zanón 1986**

Jesús Zanón. “Un itinerario de Córdoba a Zaragoza en el siglo X”. *Al-Qantara. Revista de estudios árabes* 7.1 (1986), 31–52.

**Illustration credits**

1 Eugen Bormann, CIL, 1888, Scan 552, © Archäologisches Institut der Universität zu Köln und Deutsches Archäologisches Institut, CC-BY-NC 3.0 DE, <http://arachne.uni-koeln.de/item/buchseite/612642>. 2 Manfred G. Schmidt.

### Ernst Baltrusch

Dr. phil. (Göttingen 1986), Habilitation (Berlin 1992), is a professor of ancient history at the Freie Universität Berlin. His work focuses on Roman history of the late republic and the early Imperial period, ancient international law, particularly that of the 5th century BC, ancient Judaism and the history of Sparta.

Univ.-Prof. Dr. Ernst Baltrusch  
 Freie Universität Berlin  
 Friedrich-Meinecke-Institut  
 Koserstraße 20  
 14195 Berlin, Germany  
 E-Mail: ernst.baltrusch@fu-berlin.de

### Ignacio Czeguhn

Dr. iur. (Würzburg 2001), Habilitation (Würzburg 2006), is a professor of civil law, German and European, and comparative legal history at the Freie Universität Berlin and the director of the project *Legislation and Adjudication of 'Water Law' on the Iberian Peninsula under Roman, Visigoth and Islamic rule*. His work focuses on the history of European supreme courts, the history of law on the Iberian Peninsula and 19th century European judicial history.

Univ.-Prof. Dr. Ignacio Czeguhn  
 Freie Universität Berlin  
 Fachbereich Rechtswissenschaft  
 Van't-Hoff-Straße 8  
 14195 Berlin, Germany

### Stefan Esders

is a professor of history of late Antiquity and early Middle Ages at the Friedrich Meinecke Institute of the Freie Universität Berlin. His main research interests are continuity, change and acculturation during the transition from Antiquity to the Middle Ages; religion and its role in political identity-building between late Antiquity and the Middle Ages and feudal society and family structures in the Europe of the Middle Ages.

Univ.-Prof. Dr. Stefan Esders  
 Freie Universität Berlin  
 Fachbereich Geschichts- und Kulturwissenschaften  
 Friedrich-Meinecke-Institut (FMI)  
 Koserstraße 20  
 14195 Berlin, Germany

### Hans Kopp

M.A. (Berlin 2012), is a Ph.D. student in ancient history at the Freie Universität Berlin. His thesis focuses on the evolution of concepts of command of the sea in the Ancient World, from Thucydides on into the Late Roman Republic.

Hans Gerhard Kopp, M. A.  
 Freie Universität Berlin  
 Fachbereich Geschichts- und Kulturwissenschaften

Friedrich-Meinecke-Institut (FMI)  
Koserstraße 20  
14195 Berlin, Germany  
E-Mail: hans.kopp@topoi.org

#### Cosima Möller

Dr. iur. (Göttingen 1989/1990), Habilitation (Göttingen 2000), is a professor of civil law and Roman law at the Freie Universität Berlin and the spokesperson for the Research Group B 1 Routes – Water – Knowledge. She directs the project investigating infrastructures from judicial, gromatic and political perspectives. Her research focuses on philosophical influences on Roman law and the traces in property law and law of obligations from the institutional and methodological standpoint.

Univ.-Prof. Dr. Cosima Möller  
Fachbereich Rechtswissenschaft  
Freie Universität Berlin  
Van't-Hoff-Straße 8  
14195 Berlin, Germany  
E-Mail: moeller@zedat.fu-berlin.de

#### Manfred G. Schmidt

Dr. phil., Classical Philology, Universität Tübingen, 1985, is the head of the Research Center *Corpus Inscriptionum Latinarum* at the Berlin-Brandenburg Academy of Sciences and Humanities (cil.bbaw.de) and President of AIEGL, the international association of Greek and Latin epigraphers (aiegl.org).

Dr. Manfred G. Schmidt  
Berlin-Brandenburgische Akademie der Wissenschaften  
Corpus Inscriptionum Latinarum  
Jägerstraße 22/23  
10117 Berlin, Germany  
E-Mail: schmidt@bbaw.de

#### Christian Wendt

Dr. phil., is a professor of ancient history at Freie Universität Berlin and the head of the Berlin Thucydides Center (BTC). His research interests include Greek historiography, with a special emphasis on Thucydidean themes, political theory, international law and Ancient foreign politics. His project in Topoi deals with the self-representation of principes and nobiles in Rome and the relevance of the sea (and other water spaces) for this aspect.

Prof. Dr. Christian Wendt  
Freie Universität Berlin  
Fachbereich Geschichts- und Kulturwissenschaften  
Friedrich-Meinecke-Institut (FMI)  
Koserstraße 20  
14195 Berlin, Germany  
E-Mail: christian.wendt@fu-berlin.de