

Gabriel Zeilinger

16 Water as an Economic Resource and as an Environmental Challenge Within the Urbanisation Process of the Rhine Valley in the 13th Century

Abstract: The medieval urbanisation of Europe, not least in its manifestation in the region presented here, embraced the whole natural landscape as well as the social landscape. Water – as an indispensable prerequisite for human settlement – was a recurring topic for urban magistrates – even in the relatively humid regions north of the Alps. In this contribution, exemplary aquatic aspects of the urbanisation of the Upper and Middle Rhine Valley in the 13th century will be examined. The analysis shows once more how many facets and forms of water had to be made use of, regulated and negotiated in political conflicts – between town lords and townspeople and within the communes. But also the environmental challenges which particularly floods (in themselves often a fallout of deforestation for urbanisation) posed for towns are taken into account. In doing so, the methodological problems with the scarcity of given sources in this relatively early urban era of the Middle Ages (in this region) are weighed throughout.

Water was – and still is – an indispensable prerequisite for human culture and settlement,¹ even more so of denser settlement in towns. To provide for the dietary, commercial, and the transport-related demand for access to water was a major task for medieval urban magistrates – even in the relatively humid regions north of the Alps. But water was not only a source of energy of different kinds to be used, it was also a natural force to be reckoned with and to be confined. And, thirdly but not least, water, or rather the rights to make use of it, was also a battlefield for powers on different levels of society.² Thus, water is – or rather should be more of – a core aspect of pre-modern urban history.³ The medieval urbanisation of Europe, not least its manifestation in the region presented here, which is – more concisely – the Upper and the Middle Rhine Valley (i. e. between Basel and Bonn), included in many ways the whole natural landscape as well as the social landscape.⁴ This is not only a postulation by modern research; even the medieval contemporaries could see that connection: around 1300, an anonymous chronicler within the ranks of the then still relatively young Dominican convent in Colmar wrote a fascinating report in Latin on the ‘conditions in Alsace at the beginning of the 13th century’.⁵ In this quite remarkable description, which intends, not least, to point out the positive effects of the Dominicans’ arrival in that historic landscape on the left bank of the Upper Rhine, the Anonymous covers a whole range of topics from Intellectual and Ecclesiastical to Cultural and even Environmental History. Among many other things, he points out that Strasbourg and Basel – the old Roman and Episcopal cities, respectively, on the River Rhine – were still ‘poor in their walls and buildings’ around 100 years previously, ‘still poorer in terms of private homes’. There were few fortified houses and hardly any windows there which would carry the light into them. He goes on to state that Colmar, Schlettstadt (Sélestat), Rufach (Rouffach), Mülhausen (Mulhouse) and other smaller settlements ‘were not even cities then’ – around 1200 – implying (and for everyone to be seen) that they were now, around 1300. This passage captures in a nutshell the rapid and relatively dense urbanisation of his region, Alsace, where, in the course of the

1 Huber-Rebenich et al. 2017.

2 Schubert 2002, 65–107.

3 Cf. e. g. the older publication Maschke – Sydow 1978.

4 Cf. e. g. Schreg 2013 for the supra-local, even rural consequences of urbanisation.

5 ‘De rebus Alsaticis ineuntis saeculi XIII’, in: Pertz 1861, 232–237. The following quotes in English are the author’s translation of the Latin edition.

13th century, some 60–70 towns emerged, in addition to the relatively few already in existence before (particularly Strasbourg). But the monk did not leave it at that. Although not directly adjoint in the text, he also describes the enormous deforestation of the landscape and its effects. For now, around 1300, rivers and floods were supposedly much stronger than before, when the roots of the trees ‘would still retain the humidity of snow and rain within the mountains for a longer period’. While, as mentioned, the Dominican chronicler does not draw a direct line between urbanisation, deforestation and floodings, we do know about it – and I suppose some contemporaries would have done so, too.

On the basis of an intensive study on the early urbanisation of Alsace between the 12th and 14th centuries,⁶ in the following I will firstly (and mainly) point out the relevance of water as a material resource in the building and maintenance of early towns, and secondly, take a shorter look at the environmental challenges of water for and in towns of that era. Due to the scarce source material for that time span and region, I cannot provide plenty of insight into the nutritional aspect of water need, as the problem of clean water is mentioned only implicitly in the written sources of that time and place. That issue is discussed and tackled more amply in the later 14th and particularly in the 15th century.⁷ Yet, another aspect of fluvial nutrition ought to be added: the Dominican chronicler from Colmar claims that, around 1200, there had supposedly been 1500 fishermen doing their business on the river Ill, a conflux of the Rhine, which also streams through Colmar. The relevance of urban fishermen is also portrayed by the fact that just about every city in the region had its fishermen’s guild.⁸

Water and the building, maintenance and domination of medieval towns

Having stated that water is an indispensable prerequisite for human settlement, even more so for towns, the importance of waterways for the transport of building materials has to be underlined. The increasingly intensive use of the river Rhine, and its tributaries for that matter, precedes the period of our examination by more than a millennium – due to the scarcity of settlement and broader overland routes up to the High Middle Ages.⁹ Therefore, landing sites or harbour areas were often pre-urban nuclei and later on developed distinct infrastructures¹⁰ – thus figuring as step stones of and for urbanisation itself. To examine urban construction with regard to water in the 13th century, I want to take a short look beyond Alsace to Koblenz, some 200 km to the north at the – eponymous – confluence of the Rhine and the Moselle. At the site of modern Koblenz, there had already been a Roman *castrum*, then a territorial stronghold, later a town of the archbishops of Trier, who, as ecclesiastical lords, started to have the walls expanded and fortified from around 1250. From this development, there are several accounting rolls preserved for the years 1276–1289 which show the expenses, the seasonal operation, and more. It is significant throughout these rolls that the costs for the quarrymen are equal to that for the transport. Often, the cost of transport was even higher than the cost of labour – quite different to today. That does not even include any charge for material, which was obtained perhaps from Winnigen quarry, 5 km up the Moselle river, which may have been in the hands of the archbishops (attested only later).¹¹

⁶ Zeilinger 2018.

⁷ Fouquet 1999, 224–250; Schott 2014, 109–123.

⁸ See note 4 and Zech 2017.

⁹ Preiser-Kapeller – Werther 2018; Himmelsbach 2017; Maschke – Sydow 1978.

¹⁰ Hirschmann 1998; Matheus 1985; for the concept of ‘harbourscapes’ (with regard to Northern Germany), see Müller, this volume.

¹¹ Sander-Berke 1997.

The reason for the establishment and traditing of the account roles probably lies in the quarrels between lord and local commune over the excise tax imposed by the town's elite for the purpose of financing the construction work. Upon that act, probably pre-existing tensions erupted and were later resolved – for the time being – by co-management of the excise tax, which resulted in shared accounting. Still, the archbishops built a fortress, soon to be *intra muros*, and after years of occasionally even violent struggles, they prevailed. Yet, the communal efforts in constructing and financing the wall were a major building block, so to speak, in the process of forming the commune as a body politic and municipal institution.¹² Granted, these accounting rolls are rather situative, standing quite alone in tradition, unlike the serial municipal account books of later centuries, but certainly the series of eleven consecutive rolls on the same matter is remarkable for the 13th century – and they are among the earliest in the Empire – and they are equally certainly relevant to our interest here.

While, at Koblenz, we observe a rather indirect linkage of water, town and political conflicts between commune and lordship, we have more explicit material on that triangle for some Alsatian situations in the 13th century. We therefore return to that region and its intense urbanisation process, increasing in the 13th century, mainly with medium and small sized towns, which is largely due to wine-growing and the wine trade, and the successful export of this.¹³ In 1236, King Heinrich (VII) granted the Teutonic Order the right to build a water mill close to his relatively young *civitas* of Mülhausen in Upper Alsace. At first sight, there might be nothing extraordinary about this grant by the royal court, but the local townspeople – who had a ministerial elite adhering to the royal party – became quite enraged over it. For they had just experienced the King and the Bishop of Strasbourg (the former manorial lord there) quarelling over the dominion of that stretch for two decades – and they certainly did not want a third feudal factor 'on site'. So, they called a town assembly in the church and – upon *communi omnium consilio* – built their own mill right at the place designated for the Teutonic Knights. What a power grab by the urban commune! To understand that action, one has to take into account that mills were not only places of food processing then, but also inevitable places of power, and not least for levying fees, namely the mill tax.¹⁴ Furthermore, in this case the supposed site was probably part of the common land, to which the commune had rights of use, if not of appropriation – and which was a, if not *the* important factor in the development of the commune as a political actor, not only in Mülhausen, but in several developing towns of the region. Water expanses were, indeed, often an essential part of the commons and often managed by the commune. It is quite significant that the documents relating to this quarrel represent the very earliest ones of the Mülhausen city archive. In the end, the commune had to give in to the will of their lord, the king, but at least they had the Teutonic Knights pay for the right to the mill in cash. Another example for water or waterways, respectively,¹⁵ being contested between lordship and commune stems from the small territorial town of Rappoltweiler, where, in a partition treaty agreed to among the noble family of Rappoltstein, it is mentioned that the commune had to maintain the roads through town, but it is further claimed, too, that the lordship alone had the right to use the water that runs through town, for their seigneurial mills only. In this second case, the town lords were just too powerful – and too close in space – to grant the commune this right.

Now on to Colmar, which later would become the leading Imperial city in Upper Alsace and which, in some ways, is a sister town to Mülhausen in terms of its early development.¹⁶ Here, the space between three adjacent manors of different ecclesiastic landlords was, in the 11th and

¹² Fouquet forthcoming. See the study specifically aiming at communal building around and over water by Gruber, this volume.

¹³ The following apud Zeilinger 2018, 108 f. 173–175.

¹⁴ Cf. Petersen – Reitemeier 2017.

¹⁵ Cf. Schenk 2018; Himmelsbach 2017.

¹⁶ Again after Zeilinger 2018, 72–100.

12th centuries, filled by mercantile activity and settlement that is archaeologically recorded. The bailiwick over these manors, most prominently the exercise of high justice, was taken over by the Hohenstaufen king, later emperor, Friedrich II and his local men around 1212/1214. The diplomatic tradition shows the presence of *ministeriales* and other officials of all of those ‘external’ rulers at the place in the decades before and after, many of whom would settle down there and form the first urban elite. In 1212 and again in 1214, the *burgenses* (not yet citizens by full right) of Colmar sold parts of their commons – which probably included stretches of water – in order to use the revenue to enclose their churchyard. For these acts, the emerging community of *burgenses*, obviously headed by followers of the Hohenstaufen, first had to legally, politically and socially appropriate the commons and then persuade the landlords proper to consent to the sales – which they did, or rather had to. In the following 3 to 4 decades, Colmar was encircled with the first comprehensive wall, grew substantially both in population and central functions, and maintained its role as a stronghold for the Hohenstaufen kings and their partisans in the region. It attained the status of a royal city through this, something which it managed to retain far beyond the end of this dynasty – with increasing municipal autonomy. Unfortunately, we do not find much mention of water in this early phase – except for the aforementioned hints in the chronicles, and the catastrophic ones to be treated of later. There is lots of timber dealt with in the sources, though. But this aquatic deficit in the tradition was mended towards the end of the 13th century.

The internal growth and the development of several suburbs at Colmar made necessary two extensions of the city wall, one around 1250 and again around 1287. This led to all sorts of structural re-arrangements within the (new) walls, too: in a charter of May 14th 1295, the Prior of the Dominicans in Colmar declared that the city council had granted an extension of the convent’s grounds and buildings beyond the ‘old’ wall and trench and the construction of buildings for its needs.¹⁷ Yet, this was to be done in a way *daz wir die flusse sollen lassen fliessen in aller der friheit, als die burger vnd och die stat bedorfent* (that we should let the streams flow in all freedom, as the citizens and the city need). Also, over those streams the Dominicans were to build two open chambers with four seats, to which all townspeople would have free access – to take care of their (in this case ‘special’) necessities.

By the way, for the years 1292 and 1302 *the Annales Colmarienses maiores* – a tradition alongside the above-mentioned Dominican – find it noteworthy, that in the first-named year, a ‘technician invented a machine to pipe the water through the streets’ of Strasbourg, and that, at the latter date, the citizens of Colmar were able to channel water to all city quarters. In the year 1293, as the *Chronicon Colmariense* records, the king (or anti-king) Adolf of Nassau was besieging Colmar in his fight for sole power against Albrecht of Habsburg. One of his troops’ measures was to divert the *Mühlbach*, the mill creek, which supposedly led to a blatant shortage of flour in the town and to people having to push the mill wheel – with a meagre outcome.¹⁸

Water as an environmental hazard for towns

But with that, we move on to cover, if only briefly, the hazardous aspects of water and urbanisation. Having initially portrayed the large-scale environmental effects of urbanisation¹⁹ (not least by deforestation) – which even the contemporaries were able to discern – and having introduced the problems of sanitation and sewage²⁰ with the last-mentioned episodes, the cata-

¹⁷ CAOU 5, 515.

¹⁸ Pertz 1861, 165 f. 219. 226 (the Latin again translated).

¹⁹ For an eco-archaeological perspective, see Schreg, this volume.

²⁰ See Arndt, this volume.

strophic incidents related to water have to be mentioned here as well: besides earthquakes, fires, droughts, storms and so forth, there are also plenty of references to the hazards of water in the chronicles of the Upper Rhine in the Late Middle Ages.²¹ Leaving aside the aspect of ice jams,²² I want to point to the regularly occurring floodings by the rivers Rhine and Ill and the damage done not least to bridges – with an often huge loss of human life. Another equally interesting instance is reported in a passage of the *Annales Colmarienses maiores* relating to the year 1281, which had supposedly been particularly cold and humid not only in Alsace, but well beyond. As the *Annales* tell us, the torrents flowing down the slopes of the outliers of the Vosges mountain range flooded and ravaged the entire small town of Sulz in Upper Alsace, filling it with sediment. At the same time, the close-by town of Gebweiler was hit by a huge landslide caused by the same event.²³ So, water not only helped in building new or growing towns, but – as we know from other regions and traditions, too – might also destroy urban life. The rebuilding of towns after catastrophic incidences, of ‘*Städte aus Trümmern*’,²⁴ is another interesting aspect, very apt for inter-epochal and inter-disciplinary research. Interestingly, the remarks on arid years, in which shipping on the Rhine was very limited, is enriched by the chronicler’s report that there was plenty of wine in Alsace which could not be shipped and exported, and was thus abundant and cheap at home.²⁵ As so often in medieval accounts, there had to be an upside to extreme occurrences.

Conclusion

With these remarks, the outline of which ‘aquatic’ aspects an examination of the early medieval urbanisation of the Rhine Valley may provide should be clear. They should also stress that water is – or rather should be more of – a core aspect of premodern Urban History, too, and why this is so. Admittedly, it is mostly ‘snapshots’ that are presented here, which are in any case the empiric normality for historians of the High Middle Ages, but which are also – ever so small – windows into that time, that still grant us important hints of the contemporaries’ perception and handling of water and town. As we could see in the presented documents and episodes, there was often a link in content between waters and walls, bridges and mills, and so forth. All considered, water was not only a matter of biological and economic livelihood, but also an eminently political aspect of urban development and town life within the decades covered here. Water certainly was a regular matter of concern, often a conflicted matter in the fluid interactions between the social and political actors in towns. Water was thus not only a natural element and economic transmitter, but also a frequently negotiated, occasionally embattled, matter. In this way, research on water and town is right at the interface of Environmental History, Economic and Social History, Political History, Archaeology, Art History, and even Limnology.

Bibliography

Primary sources

CAOU 5: F. Wilhelm – R. Newald – H. de Boor – D. Haacke (eds.), *Corpus der altdeutschen Originalurkunden bis zum Jahr 1300*, 5 (Lahr 2004).

Pertz 1861: G. H. Pertz (ed.), *Annales aevi Suevici, Monumenta Germaniae historica. Scriptorum* 17 (Hannover 1861).

²¹ Cf. Schenk 2012; Fouquet – Zeilinger 2011, 20–34.

²² See Rohr, this volume.

²³ Pertz 1861, 207.

²⁴ Ranft – Selzer 2004.

²⁵ Pertz 1861, 231 (for the year 1304 e. g.).

Secondary literature

- Fouquet 1999: G. Fouquet, Bauen für die Stadt. Finanzen, Organisation und Arbeit in kommunalen Baubetrieben des Spätmittelalters, *Städteforschung A 48* (Köln 1999).
- Fouquet forthcoming: G. Fouquet, Stadtfinanzen und Gemeindebildung in einer Residenzstadt – die Koblenzer Mauerbaurechnung von 1276 bis 1289, in: G. Schwedler – R. Němec (eds.), *Architekturökonomie. Bauprojekte und Wirtschaftslogiken im Mittelalter* (forthcoming).
- Fouquet – Zeilinger 2011: G. Fouquet – G. Zeilinger, *Katastrophen im Spätmittelalter* (Darmstadt 2011).
- Himmelsbach 2017: Iso Himmelsbach, Erfahrung – Recht. Wassernutzung und Wassergefahr im Elsass und am Oberrhein, in: Sebastian Brather – Jürgen Dendorfer (eds.), *Grenzen, Räume und Identitäten. Der Oberrhein und seine Nachbarregionen von der Antike bis zum Hochmittelalter, Archäologie und Geschichte 22* (Ostfildern 2017) 55–64.
- Hirschmann 1998: Frank G. Hirschmann, *Stadtplanung, Bauprojekte und Großbaustellen im 10. und 11. Jahrhundert. Vergleichende Studien zu den Kathedralstädten westlich des Rheins, Monographien zur Geschichte des Mittelalters 43* (Stuttgart 1998).
- Huber-Rebenich et al. 2017: G. Huber – Rebenich – C. Rohr – M. Stolz (eds.), *Wasser in der mittelalterlichen Kultur. Gebrauch – Wahrnehmung – Symbolik, Water in Medieval Culture. Uses, Perceptions, and Symbolism, Das Mittelalter. Perspektiven mediävistischer Forschung, Beihefte 4* (Berlin 2017).
- Maschke – Sydow 1978: E. Maschke – J. Sydow (eds.), *Die Stadt am Fluß, Stadt in der Geschichte 4* (Sigmaringen 1978).
- Matheus 1985: Michael Matheus, *Hafenkrane. Zur Geschichte einer mittelalterlichen Maschine am Rhein und seinen Nebenflüssen von Straßburg bis Düsseldorf, Trierer Historische Forschungen 9* (Trier 1985).
- Petersen – Reitemeier 2017: N. Petersen – A. Reitemeier, *Die Mühle und der Fluss. Juristische Wechselwirkungen*, in: G. Huber – Rebenich – C. Rohr – M. Stolz (eds.), *Wasser in der mittelalterlichen Kultur. Gebrauch – Wahrnehmung – Symbolik, Water in Medieval Culture. Uses, Perceptions, and Symbolism, Symposium des Mediävistenverbands 16, Bern 22–25. 03. 2015, Das Mittelalter. Perspektiven mediävistischer Forschung, Beihefte 4* (Berlin 2017) 276–290.
- Preiser-Kapeller – Werther 2018: J. Preiser-Kapeller – L. Werther, *Connecting Harbours. A Comparison of Traffic Networks across Ancient and Medieval Europe*. In: C. von Carnap-Bornheim – F. Daim – P. Ettel – U. Warnke (eds.), *Harbours as Objects of Interdisciplinary Research – Archaeology + History + Geoscience, RGZM-Tagungen 34 = Interdisziplinäre Forschungen zu Häfen von der Römischen Kaiserzeit bis zum Mittelalter 5* (Mainz 2018) 7–32.
- Ranft – Selzer 2004: A. Ranft – S. Selzer (eds.), *Städte aus Trümmern. Katastrophenbewältigung zwischen Antike und Moderne, Deutscher Historikertag 44, Halle 10–13. 09. 2002* (Göttingen 2004).
- Sander-Berke 1997: A. Sander-Berke, *Stadtmauer und Stadtrechnung. Schriftliche Quellen des Spätmittelalters zu den technischen Voraussetzungen des städtischen Befestigungsbaus*, in: G. Isenberg – B. Scholkmann (eds.), *Die Befestigung der mittelalterlichen Stadt, Städteforschung Reihe A 45* (Köln 1997) 33–44.
- Schenk 2012: G. J. Schenk, *Managing Natural Hazards: Environment, Society, and Politics in Tuscany and the Upper Rhine Valley in the Renaissance (1270–1570)*, in: A. Janku – G. J. Schenk – F. Mauelshagen (eds.), *Historical Disasters in Context: Science, Religion, and Politics, Routledge Studies in Cultural History 15* (New York 2012) 31–53.
- Schenk 2018: G. J. Schenk, “Der straßen halb uff der Yll”. Wasserwege im Elsaß als “kritische Infrastruktur” für Wirtschaft und Gesellschaft, in: K. Andermann – N. Gallion (eds.), *Weg und Steg. Aspekte des Verkehrswesens von der Spätantike bis zum Ende des Alten Reiches, Kraichtaler Kolloquien 11* (Ostfildern 2018) 121–152.
- Schott 2014: D. Schott, *Europäische Urbanisierung (1000–2000). Eine umwelthistorische Einführung* (Köln 2014).
- Schreg 2013: R. Schreg, *Die Entstehung des Dorfes um 1200: Voraussetzung und Konsequenz der Urbanisierung*, in: R. Röber – K. Igel – M. Jansen – J. Scheschkewitz (eds.), *Zum Wandel der Stadt um 1200. Die bauliche und gesellschaftliche Transformation der Stadt im Hochmittelalter, Materialhefte zur Archäologie in Baden-Württemberg 96* (Stuttgart 2013) 47–66.
- Schubert 2002: E. Schubert, *Alltag im Mittelalter. Natürliches Lebensumfeld und menschliches Miteinander* (Darmstadt 2002).
- Zech 2017: K. Zech, *Zunftauflösungen als Spiegel politischer Partizipationschancen und -grenzen sozialer Gruppen in der Stadt: Straßburg, Colmar, Schlettstadt*, in: O. Richard – G. Zeilinger (eds.), *La participation politique dans les villes du Rhin supérieur à la fin du Moyen Âge, Politische Partizipation in spätmittelalterlichen Städten am Oberrhein, Studien des Frankreichszentrums 26* (Berlin 2017) 205–240.
- Zeilinger 2018: G. Zeilinger, *Verhandelte Stadt. Herrschaft und Gemeinde in der frühen Urbanisierung des Oberelsass vom 12. bis 14. Jahrhundert, Mittelalter-Forschungen 60* (Ostfildern 2018).