

Folge eines Erdbebens gleichfalls zu einem Brand kommen kann, der dann ebenfalls einen Brandhorizont hinterlassen würde (was allerdings nicht dargestellt ist). Breiten Raum nimmt in diesem Teil vielmehr die Rekonstruktion der Zerfallgeschichte ein, die von der Frage geleitet ist, wann die bestehenden Ruinen systematisch einplanirt wurden, um das Gelände für die Landwirtschaft nutzbar zu machen. Auch hier werden keine eindeutigen Ergebnisse erzielt, und die Erkenntnis, dass die bis ins 19. Jahrhundert oberirdisch sichtbaren Großbauten, wie die Stadtmauer, besonders dem Steinraub ausgesetzt waren, hilft nicht wirklich weiter. Dass Flurnamen und Sagen nicht wesentlich zur Klärung „des Großen Rätsels“ beitragen können, verwundert ebenfalls nicht.

Insgesamt wird mit viel Aufwand, vielen (unnötigen) Exkursen und anhand wahllos zusammengestellter archäologischer, aber auch moderner Beispiele aufgezeigt, dass eine Erdbebenzerstörung in der Regel sich aus dem archäologischen Befund nicht eindeutig herauslesen lässt. Dies führt zu der berechtigten Warnung, nicht allzu schnell von Erdbebenzerstörungen auszugehen, sondern die vielfältigen Ursachen für diverse Schadensbilder mit zu bedenken. Welches Potenzial für die Fragestellung in gut gegrabenen, gut dokumentierten archäologischen Befunden liegt, scheint in diesem Buch vielfach auf. Man hätte sich gewünscht, dass dies vermehrt in der schematischen Darstellung unterschiedlicher Szenarien dargestellt worden wäre, wie dies bei unterschiedlichen Erdbebenschäden in Abb. 312 zum Beispiel sehr anschaulich geschehen ist. Es hätte dem sehr reich bebilderten Buch sicher sehr gut getan, wenn sich der Autor auf die Ausgangsfrage beschränkt und ausgehend von dem Fallbeispiel *Augusta Raurica* sich nur auf die hier vorkommenden Phänomene konzentriert hätte. So ist ein Sammelsurium von Fallbeispielen – mal gut, mal kaum dokumentiert – mit mehr oder weniger großem Aussagewert entstanden, das neben einer überzeugenden Gliederung auch eine klare und stringente Beantwortung der Ausgangsfrage vermissen lässt.

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NIEDERSÄCHSISCHES INSTITUT FÜR HISTORISCHE KÜSTENFORSCHUNG (Hrsg.), Marschenratskolloquium 2009, Flüsse als Kommunikations- und Handelswege / Rivers as Communication and Trade Routes. 5.–7. November 2009, Deutsches Schiffahrtsmuseum, Bremerhaven. Siedlungs- und Küstenforschung im südlichen Nordseegebiet 34. Verlag Marie Leidorf, Rahden / Westf. 2011. € 59,80. ISBN 978-3-86757-852-3, ISSN 1867-2744. 393 Seiten mit 258 Abbildungen und 14 Tabellen.

Issue no. 34 of the Siedlungs- und Küstenforschung im südlichen Nordseegebiet, published by the Niedersächsisches Institut für historische Küstenforschung in 2011, presents the proceedings of the international colloquium on rivers as communication and trade routes, held in Bremerhaven in 2009 and co-organized by the Marschenrat zur Förderung der Forschung im Küstengebiet der Nordsee e. V. (Wilhelmshaven), the Niedersächsisches Institut für historische Küstenforschung (Wilhelmshaven) and the Deutsches Schiffahrtsmuseum as host institution. High-quality paper, excellent reproductions, impeccable bonding and a resistant as well as aesthetic hardback characterize the 393-page volume, printed with the financial support of the state of Lower Saxony.

Thirty papers discussed different perspectives on the historical and cultural importance of rivers throughout central and northern Europe, presenting both large-scale studies and examinations of individual sites. Although scientific interest in river (and other water) finds early on surpassed the thrill from usually excellently preserved finds and the over-proportionate occurrence of valuable me-

tal objects, investigation of river sites nevertheless remained mainly of theoretical interest in archaeological discussions until half century ago. The impetus for the considerable growth of archaeological and historical interest in river environments in recent years is recognized by the editor, H. Jöns, not only in the availability and successful employment of geophysical surveying methods but also in the public heritage protection agencies' response to the threats emerging from development pressure and plans to renaturalize some of the river courses.

The central motif of the colloquium, followed by the major part of the presentations, was the significance of river systems for trade and communication in prehistoric and early historic Europe, as is already revealed by distinct concentrations of "foreign goods" or imported wares along the sea coast or river banks, and which give an idea of the transportation and distribution systems at different times. The variety of watercraft types was also discussed, as were the survey methods employed to find landing places and vessels. Apart from research on individual boats, harbours, bridges, mills, river-bank reinforcements, places of ritual activities or other sites, the "archives" containing information on prehistoric and early historical landscapes that lie in the wetland sediments had barely been opened, as was justifiably accentuated by the editor.

The twenty-five contributions of the proceedings are organized into four chapters: "Quellen, Methoden und Forschungsstrategien" (five contributions), "Boote, Schiffe und sonstige Wasserfahrzeuge" (three contributions), "Flüsse und ihre Ufer als Transport- und Kommunikationsräume" (nine contributions) and "Spezialisierte Siedlungsplätze an Bächen, Flüssen und Buchten" (eight contributions).

W. B. Waldus and W. van Breda ("Archaeological research in the Lower Rhine – theory and practice") discuss the theoretical and practical framework for the archaeological prospection of river contexts in the Netherlands, developed in order to manage archaeological remains during large scale dredging projects. Predictive modelling based on geomorphology, archaeological sources, landscape and historical geography are successfully used to pinpoint potential sites in the riverbeds of the Lower Rhine. Four categories of finds are illustrated with various examples: navigation related finds, deposited finds, remnants of water management engineering and finds relating to economic activities along and partly in the river. Suitable methods of prospection were proposed for each category, subdivided for remains partly protruding from the surface and those completely covered, ranging from multi-beam sonar, sub-bottom profiler / georadar to physical examination of objects underwater.

M. Baales, E. Cichy and M. Gaertner-Krohn ("Renaturierungen und Umlegungen von Gewässern im südlichen Westfalen – ein Erfahrungsbericht aus Sicht der Archäologie") present challenges emerging from the EU Water Framework directive for heritage management in Germany. Extensive interventions in former riverbeds and adjacent wetland areas in Westphalia have already brought to light significant finds, including Bronze Age and Hallstatt metalwork from the Körnebach near Kamen-Südkamen and the remains of a 16th/17th century flat-bottomed boat from the Lippe near Lippstadt.

T. Schmidts ("Inschriften als Quelle zur römischen Binnenschifffahrt zwischen Mittelmeer und Nordsee") discusses Roman inscriptions mentioning the names of occupations connected with river transport in Gallic and Germanic provinces of the Empire. After a short introduction presenting archaeological sources for long distance trade and inland navigation, the author continues with epigraphic evidence. The most common titles are the *nautae*, often also designated as *negotiatores*. *Nautae* are represented particularly in the southern part of the area discussed and were presumably involved in supplying Rome with cereals, while transport in the border provinces was the domain of *negotiatores*. Other occupations are much rarer and include *ratiarius*, *caudicarius* and *proreta*, assistant to a steersman.

C. Huth (“Wasser zwischen den Welten – Überlegungen zum archäologischen Quellenwert einer bronzezeitlichen Flusslandschaft”) explores various aspects of metal finds from the rivers in the Upper Rhine area and arguments for the perception of the river as a border zone between different spheres of a Bronze Age world. According to the author the role of the river as a frontier between the world of the living and the other-world is particularly evident in the practice of deposition of metal objects. Regarding taphonomic questions, the author challenges the assumption that the original composition of the objects changed due to an exclusion of small ones; rather he sees the difference between intact / recognizable and damaged / unrecognizable objects as the filtering line.

J. Anders (“Zur Interpretation von Flussfunden als Indikatoren für Kommunikationswege am Beispiel von slawenzeitlichen Funden aus Fließgewässern in Mecklenburg-Vorpommern”) presents the composition of early medieval river finds from Peene, Tollense and Trebel and discusses possible reasons for their occurrence in the rivers. The characteristic find spots, archaeological parallels in the Nordic world and related passages from written sources suggest that at least a part of the material discussed, primarily swords, spear and lance heads and axes, represent intentionally deposited goods.

The second section commences with a contribution on “Medieval boats and ships of Germany, the Low Countries, and northeast France – archaeological evidence for shipbuilding traditions, shipbuilding resources, trade, and communication” by A. Van de Moortel. The discussion is based primarily on the physical remains of ships and boats, with occasional references to the iconographic and historical record, and includes a very useful summarizing study and lists of log-boats, expanded log-boats, barges and other flat-bottomed multi-part boats, cogs, Utrecht-type vessels and ships with Nordic features. Regional boatbuilding traditions and practices before and after AD 1200 are considered as well.

L. Wendler (“Die Einbaumfunde des Lippischen Landesmuseums in Detmold – Archäologische Quellen zur Weserschifffahrt im Mittelalter und in der frühen Neuzeit”) deals with dendrochronological and structural examinations of three log-boats from the River Weser near Minden and discusses their significance in the context of local shipping.

L. Kröger (“Einbäume des Maingebietes – Fähren als verbindliches Element eines mittelalterlichen und frühneuzeitlichen Wegesystems”) presents a typology of 93 log boats found in the River Main and conjectures (on the basis of paired lashing holes and other constructional details) that the majority of them served as part of medieval and early modern ferry constructions. On-going research on log-ferries in central Europe is also summarized.

The third section is opened with J. May’s and T. Hauptmann’s question “Why is the ‘king’s grave’ at Seddin located on the middle reaches of the River Stepenitz”, with the subtitle “Water routes and material goods of the Late Bronze Age in the Prignitz region”. The focal point of the investigation of this important and imposing 9th century BC burial is the role of the network of waterways in the emergence of a Bronze Age elite in the area. The analysis considers the extent to which the burials, fortified sites and the swords found in rivers are an indication of a trade and transportation route from the Elbe.

U. Lund Hansen (“Contact during the 3rd to 5th centuries A. D. between southern Scandinavia and the Black Sea area – glass and glass fragments found in graves and trading centres in northern and central Europe”) considers the widespread distribution of the material discussed, and analyses its potential for the study of different relationships (family, exchange, trade ...) between Scandinavia and Ukraine.

J. N. Nielsen (“Die Bedeutung des Limsfjords für Kommunikation und Handel in der jüngeren Eisenzeit Dänemarks [200–1100 n. Chr.]”) presents the results of the study of the location of settle-

ments, specialized trade and craft centres and the distribution of particular categories of finds in the context of establishing regional communication routes and defining the role of the shallow waters of the fjord and the many small rivers that flow into it for the transit of goods.

P. Lüth (“Die Schwentine – Landschaftsarchäologie eines Flusses im ostholsteinischen Seensystem im Mittelalter”) analyses the processes of medieval settlement movement in the Schwentine river system. The author emphasizes a gradual transfer of central places from large fortified strongholds to smaller sites in naturally protected locations in the Slavic period, and presumes that the river played an important role as a trade communication route in this process. In the course of the medieval German eastward expansion, inland areas were increasingly settled and the connecting function of the river apparently ceased.

J. Ulriksen (“Inland navigation and trade in a land without rivers – fjords and streams as navigation and trade routes in Viking Age Denmark”) discusses the navigability of the shallow fjords and narrow streams and rivers with the types of ships available during the Viking Age. The analysis of the archaeological evidence for external contacts and trade suggests that the extent of trade and sailing upstream along the waterways more than a few kilometres from the sea was limited due to the natural conditions, as well as to the general economic level of the society.

P. Ettl (“Der Main als Kommunikations- und Handelsweg im Frühmittelalter – *Fossa Carolina*, Burgen, Königshöfe und der überregionale Handelsplatz Karlburg”) discusses the role of the River Main for the communication of the early medieval central place Karlburg with other major centres of the Frankish-Carolingian Empire. The author presents the current state of research on the *fossa Carolina*, one of the biggest engineering achievements of the early middle Ages, strongholds and royal courts along the Main, and focuses on the Karlsburg, a castle accompanied by a settlement / trading centre, monastery and royal court. Imported goods, which indicate Europe-wide trade and transportation links, are also addressed.

P. Břicháček and L. Košnar (“Die Bedeutung der Donaurasse für die ur- und frühgeschichtliche Entwicklung Süd- und Westböhmens – ein Abriss”) present a comprehensive overview of the varied intensity of cultural development related to the influences, trade connections and migration in southern and western Bohemia from the Palaeolithic to the Early Middle Ages. The article presents some of the more illustrative finds and associated problems.

E. Först (“Die Elbe als Handelsweg – Importkeramik des 12. bis 17. Jahrhunderts in Hamburg”) discusses various types of ceramics from the excavations in the city centre of Hamburg, illustrating extensive trading relations of the local merchants and underlining the economic importance of the port.

S. Krabath (“Sachkultur als Quelle für den Warentransport auf der Elbe im späten Mittelalter und in der Neuzeit”) focuses on the numerous ceramic and glass object retrieved from the Elbe, particularly on those, which do not belong to the typical range of finds in northern Germany or Saxony and are thus interpreted as imports.

The last section starts with H. Prison’s “Handelsweg Ems? Kaiserzeitliche Siedlungen an der unteren Ems,” presenting the results of the large-scale excavations around the Jemgumkloster dwelling mound (‘Wurt’) and other nearby sites of the Roman Iron Age along the lower course of the River Ems. Special attention is paid to the wooden riverbank reinforcement and the dam with an installation for the regulation of the water flow, and a log-boat in secondary use.

E. Strahl (“Neue Forschungen zum germanischen ‘Stapelplatz’ von Bentumersiel and der unteren Ems”) reports on the 2006–2008 excavation of a settlement near Bentumersiel, known from finds of Roman *militaria*. The excavation showed that the settlement was in existence in the middle or at

the beginning of the Pre-Roman Iron Age and probably already had been abandoned at the time of Germanicus' campaigns. There is still no trace of the expected Roman camp; consequently the *militaria* can only be generally linked with a passing Roman army, according to the author.

K. Høilund Nielsen ("Stavnsager and the 'toffee-brooch' network – aspects of the metal-rich settlements of sixth-century southern Scandinavia") presents the site at Stavnsager, covering the period from A. D. 400 to 1100, during which it changed from an agrarian settlement into an assembly place, and then into a magnate farm. The large number of brooches discussed is interpreted as reflecting a network of contacts spread as far as Thuringia, Bohemia, and Pannonia.

A. Siegmüller and F. Bungenstock ("Der Anschluss der Wurt Hessens an gezeitenbeeinflusste Wasserwege und die Nachweise für Schifffahrt") present the analysis of the excavations of the dwelling mound Hessens in Wilhelmshaven, as well as a re-evaluation of the geological drilling on the 'Wurt' and its surroundings. The results permitted the reconstruction of the watercourses near the mound and its access to the transportation routes. A 7th century slipway and a part of a natural bank, secured with turf, were identified. Later, the waterways lost their importance; they were subsequently filled and incorporated into the mound.

H. Skov ("Die Bedeutung der Wasserwege für Århus / Aros (Dänemark) in der Zeit von 700 bis 1600 n. Chr.") deals with the advanced naval defence system of the town, its importance as a trading centre, and the remains of ships and quays. Being one of the only two Viking period towns situated on an open coast, the sea was naturally the most important waterway, but there is also evidence for transport making use of the small river system in the town's hinterland.

A. Schäfer ("Die Schwedenschanze bei Stade – ein frühmittelalterliches Zentrum and der Schwinge?") discusses the early medieval rampart from the 7th–10th century A. D. In addition to an exceptionally well-preserved timber-and-earth rampart, wooden platform and riverbank reinforcement, two presumed landing places for ships have been identified. The results of the excavations of the Schwedenschanze are supplemented with laser scanning and geophysical prospection of the surrounding sites as well with underwater survey of the Schwinge riverbed.

D. Bischof ("Die Bremer Balge im frühen Mittelalter") presents the results of the excavations of a completely filled arm of the River Weser in Bremen. The 9th century sediments revealed imported ceramic ware and millstones, documenting connections with other Frankish trading places. The excavated reinforcements of the banks originate from the 11th to 12th centuries, as testified by coins, fibulae and other appertaining finds. The site is not far from the place of discovery of a flat-bottomed pram from the early 9th century (s.c. Karl), displayed in the Deutsches Schifffahrtmuseum.

Similar issues are addressed in the last contribution by M. Gläser on "Neues Bauland an und in der Trave – Zur Lübecker Siedlungsgeschichte im 12. und 13. Jahrhundert". The author presents the state of research of low-lying areas of the Lübeck peninsula related to the extensive land reclamation around 1250 whereby the towns' settlement area was increased by about 50%. Results of rescue excavations show that after the erection of the dam, the gap between it and the previous waterfront was filled with a wooden girder construction and compacted soil. Massive brick buildings, erected on reclaimed land, still characterize the distinctive appearance of the city's streets.

As a whole, the proceedings provide a valuable insight into the current state of regional research of the observed phenomena and sites. Again it has been demonstrated that specific sedimentary environments characterized by usually good conditions for preservation of almost every kind of material, as well as remains of specific forms of human behaviour and activities, make rivers an extremely valuable archaeological resource, something which was hard to grasp before the development of both advanced methods of underwater exploration and remote sensing prospection.

The difference in the archaeological value between materials gained from the riverbeds under uncontrolled conditions and direct underwater observation of archaeological features is evident. Reliable contextual data derive almost exclusively from (terrestrial) research on primary or secondary contexts in the palaeo-channels or buried ancient shores, and from prospection or excavation of sites in actual bodies of water, supplementing and enhancing information on individual or collective chance finds during dredging operations, construction works or recreational diving.

Being a relatively young area of (underwater) research, the archaeology of rivers also yielded significant results in the difficult conditions of major and mid-size European watercourses, often making diving strenuous and technically complex. Beside watercrafts and infrastructure objects relating to the rivers as communication and transport routes or traffic obstacles – as explored in the Danube, Lower Rhine, Saône, and Rhône (e. g. Roman bridges at Stepperg, Cujik and Châlon, ships at Arles ...) – and remains of specific forms of settlements and installations (e. g. the Bronze age site at Ouroux-sur-Saône), we must note the particular importance of underwater research in smaller low-energy rivers with prevalent bed-load transport in suspension, resulting in preservation conditions that resemble those in lakes.

Particularly good insights into sites in a riverine environment have been secured by combined terrestrial and underwater interventions in and along the channels that have not significantly changed their course, as demonstrated by the recent research of the presumed Bronze Age battle site on the banks of the Tollense River in Mecklenburg-Vorpommern, or the area of the Viking Age harbour and fishing facilities in the Charente River near Taillebourg (dept. Charente-Maritime). Perhaps lesser known are the recent diving interventions at the wreck of a small Early Imperial cargo ship with a cargo of brick tile in the river Stella near Precenicco in Veneto, the cult site in the River Bacchiglione near Padova, or extensive research on the River Ljubljanica with its tributaries. These illuminate the possible background of the occurrence of archaeological material in riverbeds where there are no recognizable accompanying traces on the nearby banks, including specific forms of burials and places of ritual deposition. Interdisciplinary studies performed at these sites include experiments on downstream transportation of objects during high-water events, as well as on a long-term basis. The potential of underwater research in lowland rivers for locating sites much older than the actual watercourses is revealed by the case of the Early Mesolithic campsite Zalog near Verd at Ljubljana Moor, which was cut by the Stream Ljubija and discovered during preventive survey four meters below the surrounding surface.

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KARIN STRUCKMEYER, Die Knochen- und Geweihgeräte der Feddersen Wierde. Gebrauchsspurenanalysen an Geräten von der Römischen Kaiserzeit bis zum Mittelalter und ethnoarchäologische Vergleiche. Studien zur Landschafts- und Siedlungsgeschichte im südlichen Nordseegebiet Band 2. Feddersen Wierde – Die Ergebnisse der Ausgrabung der vorgeschichtlichen Wurt Feddersen Wierde bei Bremerhaven in den Jahren 1955 bis 1963 Band 7. Verlag Marie Leidorf, Rahden / Westf. 2011. 49,80 €. ISBN 978-3-86757-332-0. 259 Seiten insgesamt, davon 113 Seiten Text mit 94 Abbildungen, 101 Seiten Katalog und 36 Tafeln.

Bei diesem 2011 publizierten Werk handelt es sich um die im gleichen Jahr an der Universität Hamburg vorgelegte Dissertation, die ihrerseits auf der dort 2006 eingereichten Magisterarbeit der