Rivers and Lakes in the Roman Transport Economy

Koenraad Verboven

Modern scholars generally follow the opinion of ancient authors that transport by river and lakes was more efficient, profitable and cheaper than over land. Even Finley agreed that "[w]ater transport…created radical new possibilities".[1] Archaeological data showing the transport routes for ceramics, wine, oil, fish-sauce, and stone cargoes, confirm this view.[2] The epigraphically documented prestige enjoyed by the barge-skipper guilds in Narbonensis, Germania Superior, and southern Lugdunensis further supports the picture.

But the efficiency of river and lake transports is not self-evident. Basins are not naturally connected. Without roads the contribution of riverine trade to overland transport is doomed to remain limited. Waterfalls, narrows, and rapids obstruct navigation. Levels and flows depend on unpredictable rainfall. River banks erode. Sediments change the course of rivers. Rivers and lakes may freeze in winter or run dry in summer. Currents hamper upstream traffic. Administrative divisions pose problems related to different regulations, control procedures, management practices, tolls and fees. Barges are vulnerable to attacks by land from brigands, raiders or soldiers. Without tow-paths, canals, portages, locks, connecting roads, ports and warehouses, rivers offer only a marginal contribution to trade. Not surprisingly, rivers remained complementary to roads in early modern Europe until 'national' policies improved and regulated navigation.[3] Riverine transport routes are as much man-made as roads are.[4]

What does this imply for the supposed efficiency of river and lake transport in the Roman period? The Roman Empire was not politically fragmented as medieval Europe was. Imperial authorities had the know-how, the man-power, and the funds needed to improve and regulate waterways. Canal projects show that authorities were aware of the advantages. They are badly documented, swallowed up in post-Roman times by changes in fluvial landscapes.[5] Yet, they were a common part of Roman water management. Reliefs and archaeology document tow-paths, quays and harbours. The *Classis Germanica* patrolled the lower parts and estuaries of Rhine, Meuse and Scheldt. Guilds of barge skippers, protected by powerful Gallic aristocrats, were influential in Lugdunensis and Germania Superior. Some of their presidents belonged to the civic elites that ruled the Gallic *civitates.* Local, provincial and Imperial authorities invested heavily in creating and maintaining the required infrastructure for riverine trade, alongside (and in connection with) investments in the road system and in maritime harbours. In some cases, as the harbour of Voorburg-Arentsburg, building materials were imported from hundreds of kilometres away.[6]

Institutional diversity was nevertheless pronounced and various authorities were involved.[7] Military camps dominated the area along the Rhine and North Sea. Their logistic needs decisively shaped the transport network of the Gallic provinces. The military provided a stable demand for local and Mediterranean goods (passing largely through

Published in: Martin Bentz – Michael Heinzelmann (Eds.), Sessions 4–5, Single Contributions. Archaeology and Economy in the Ancient World 54 (Heidelberg, Propylaeum 2023) 223–226. DOI: *https://doi.org/10.11588/propylaeum.1005.c13490*

the Rhone and Saone basin) but imposed also fiscal burdens in addition to organising part of its own transportation needs. Local civil authorities enjoyed considerable autonomy over their territory. They were responsible for embankments and port facilities, local regulation and justice. During the Principate, barge skipper and merchant guilds (*collegia*) were important in the Rhône/Saone River basin and the high and Alpine Rhine area but conspicuously not in the north. Although they were not officially endowed with regulatory powers (as some later medieval guilds) their prominence and powerful patrons suggest they played a coordinating role.

Roman economic performance cannot be understood without its land transport system.[8] This, however, raises a fundamental question: was there a transport revolution, supported by favourable institutions, investment in ships, waterways, and port facilities, boosting (and supported by) urbanisation and markets?[9] Archaeological data show that the quantity, quality and distribution of production was matched in the west only in the 16/17th century. Various explanations have been suggested for this high level performance: the role of institutions and the state,[10] market-dynamics,[11] technological innovation and diffusion,[12] or climate change.[13] All of these presumably played some part. Without the increased connectivity made possible by interconnected transport systems in which rivers and lakes played a crucial part, however, development would soon have halted.

Notes

[1] Finley 1999, 128 f.

[2] See already Hopkins 1983.

[3] See for instance Holt 2000; Blair 2007; Campbell 2012; Edwards – Hindle 1991; Edwards – Hindle 1993; Jones 2000; Langdon 1993; Langdon 2000.

[4] Casson 1965; Franconi 2014, 32–71; Marlier 2008; France 2001.

[5] Salomon et al. 2014; de Kort – Raczynski-Henk 2014, 52.

[6] Domínguez-Delmás et al. 2014.

[7] cf. Holt 2000; Blair 2007.

[8] Hitchner 2012.

[9] Greene 1986, 40; cf. Aldcroft – Freeman 1983; Freeman 1980.

[10] Scheidel et al. 2007; Bang 2007.

[11] Temin 2013.

[12] Wilson 2002; Wilson 2009, 23–38.

[13] Sallares 2007; Harper 2017.

References

Aldcroft – Freeman 1983

D. H. Aldcroft – M. Freeman (eds.), Transport in the Industrial Revolution (Manchester 1983).

Bang 2007

P. F. Bang, Trade and Empire. In Search of Organizing Concepts for the Roman Economy, Past and Present 195, 2007, 3–54.

Blair 2007

J. Blair, Waterways and Canal-building in Medieval England (Oxford 2007).

Campbell 2012

J. B. Campbell, Rivers and the Power of Ancient Rome (Chapel Hill 2012).

Casson 1965

L. Casson, Harbour and River Boats of Ancient Rome, JRS 55, 1965, 31–39.

De Kort – Raczynski-Henk 2014

J.-W. de Kort – Y. Raczynski-Henk, The Fossa Corbulonis between the Rhine and Meuse estuaries in the Western Netherlands, Water Hist. 6, 1, 2014, 51–71.

Domínguez-Delmás et al. 2014

M. Domínguez-Delmás – M. Driessen – I. García-González – N. van Helmond – R. Visser – E. Jansma, Long-distance Oak Supply in Mid-2nd Century AD Revealed. The Case of a Roman Harbour (Voorburg-Arentsburg) in the Netherlands, JASc 41, 2014, 642–654.

Edwards – Hindle 1993

J. F. Edwards – B. P. Hindle, Comment. Inland Water Transportation in Medieval England, Journal of Historical Geography 19, 1993, 12–14.

Edwards – Hindle 1991

J. F. Edwards – B. P. Hindle, The Transportation System of Medieval England and Wales, Journal of Historical Geography 17, 2, 1991, 123–134.

Finley 1999

M. I. Finley, The Ancient Economy. Updated with a New Foreword by Ian Morris (Berkeley 1999).

France 2001

J. France, Quadragesima galliarum. L'organisation douanière des provinces alpestres, gauloises et germaniques de l'Empire romain. Ier siècle avant J.-C.–IIIe siècle après J.-C. (Paris 2001).

Franconi 2014

T. Franconi, The Economic Development of the Rhine River Basin in the Roman Period (30 BC–406 AD) (Oxford 2014).

Freeman 1980

M. J. Freeman, Road Transport in the English Industrial Revolution. An Interim Reassessment, Journal of Historical Geography 6, 1, 1980, 17–28.

Greene 1986

K. Greene, The Archaeology of the Roman Economy (Berkeley 1986).

Harper 2017

K. Harper, The Fate of Rome. Climate, Disease, and the End of an Empire (Princeton 2017).

Hitchner 2012
R. B. Hitchner, Roads, Integration, Connectivity, and Economic Performance in the Roman Empire, in: S. E. Alcock – J. P. Bodel – R. J. A. Talbert (eds.), Highways, Byways, and Road Systems in the Pre-modern World (New York 2012) 222–234.

Holt 2000
R. Holt, Medieval England's Water-Related Technologies, in: P. Squatriti (ed.), Working with Water in Medieval Europe. Technology and Resource-use (Leiden 2000) 51–100.

Hopkins 1983
K. Hopkins, Models, Ships and Staples, in: P. Garnsey – C. R. Whittacker (eds.), Trade and Famine in Classical Antiquity, Cambridge Philological Society Suppl. 8 (Cambridge 1983) 84–109.

Jones 2000
E. T. Jones, River Navigation in Medieval England, Journal of Historical Geography 26, 1, 2000, 60–75.

Langdon 1993
J. Langdon, Inland Water Transport in Medieval England, Journal of Historical Geography 19, 1, 1993, 1–11.

Langdon 2000
J. Langdon, Inland Water Transport in Medieval England. The View from the Mills. A Response to Jones, Journal of Historical Geography 26, 1, 2000, 75–82.

Marlier 2008
S. Marlier, Architecture et espace de navigation des navires à dolia, Archaeonautica 15, 2008, 155–175.

Sallares 2007
R. Sallares, Ecology, in: W. Scheidel – I. Morris – R. Saller (eds.), The Cambridge Economic History of the Greco-Roman World (Cambridge 2007) 15–36.

Salomon et al. 2014
F. Salomon – L. Purdue – J.-P. Goiran – J. F. Berger, Introduction to the Special Issue. Roman Canals Studies. Main Research Aims, Water Hist. 6, 1, 2014, 1–9.

Scheidel et al. 2007
W. Scheidel – I. Morris – R. Saller, The Cambridge Economic History of the Greco-Roman World (Cambridge 2007).

Temin 2013
P. Temin, The Roman Market Economy (Princeton 2013).

Wilson 2009
A. Wilson, Approaches to Quantifying Roman Trade, in: A. Bowman – A. Wilson (eds.), Quantifying the Roman Economy. Methods and Problems (Oxford 2009) 213–249.

Wilson 2002
A. Wilson, Machines, Power and the Ancient Economy, JRS 92, 2002, 1–32.