



The city and the river A reconstruction of the strategical position of early 9th century Dorestad, The Netherlands

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Why was the Early-medieval trade-port of Dorestad located at a relatively inland position in the Rhine delta and not at the coast, as one would expect? We combined palaeogeographical, environmental-archaeological, geomorphological/geological and laser-altimetry data to propose an answer to this question. Local Dorestad data had to be combined with a regional paleogeographical reconstruction of active river branches in the 9th-century Rhine delta to come to a satisfactory answer.

The location of Dorestad on a high natural levee along a relatively stable navigable branch of the Rhine in the central Rhine delta was perfect for trade. The high levee gave protection from the annual river floods. Although this branch of the Rhine was fairly stable in the heydays of Dorestad, the meanders near Dorestad slowly migrated. Excavations at Dorestad show that the harbour works of Dorestad were constantly adapted to this migration, thereby following the meander on which they were located. Ships could reach the port from the sea through at least three navigable Rhine branches: the Lek, the Old Rhine and the Vecht rivers. Dorestad was thus easily accessible and yet far enough from the coast to be safe from storm floods – but was it located at its specific location for these reasons alone?

We combined existing geomorphological and geological maps with recent nation-wide laser-altimetry (AHN, General Elevation model of the Netherlands') for a regional palaeogeographical reconstruction of 9th-century active Rhine branches in a GIS. This reconstruction revealed that river connections with the Flemish, French and German hinterland were perfect. Other delta branches ensured safe connections to the Zeeland delta and the open Flemish coast, all the way to Dover Straight to the south and to the open Frisian coast all the way to present Southern Denmark in the North. The dangerously closed coast of Holland without any safe shelter places for storms could thus be avoided by ships coming in both from the South and from the North.

This interdisciplinary approach not only gave insight in the changing river activity, but also in the reasons why Dorestad could rise to its glory, and the possible reason for its demise as important Rhine branches silted up, while new branches developed into navigable waterways. The demise of Dorestad gave room for later river towns such as Tiel, Dordrecht and the cities along the IJssel.