

# Who drinks which water?

## Plurality, Locality and Environmental (In)justice in Dutch Cities, 1500-1850

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For the Netherlands, the history of drinking water is virtually unknown before the advent of piped water, starting around 1850. However, in the early modern period, access to drinking water was highly flexible and adaptable. People procured water from multiple sources like groundwater, rainwater, and surface water.

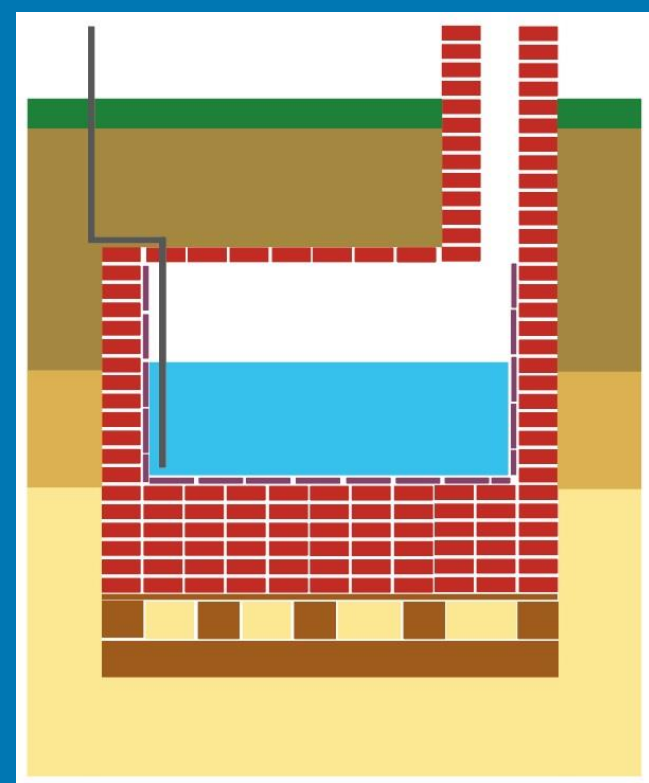
We investigate societal resilience to drought in coping with shortages of drinking water. Urban inhabitants applied sophisticated and complex micro drinking water infrastructures. Such infrastructures differed per region and even per town, depending on the specific characteristics of the local hydrology. The benefits of the drinking water systems were not shared equally.

### Water plurality: Three types of water, with manifold infrastructures

Rainwater was harvested from rooftops and led into cisterns or water cellars. The water could be accessed with buckets through a manhole or be outfitted with a pump.

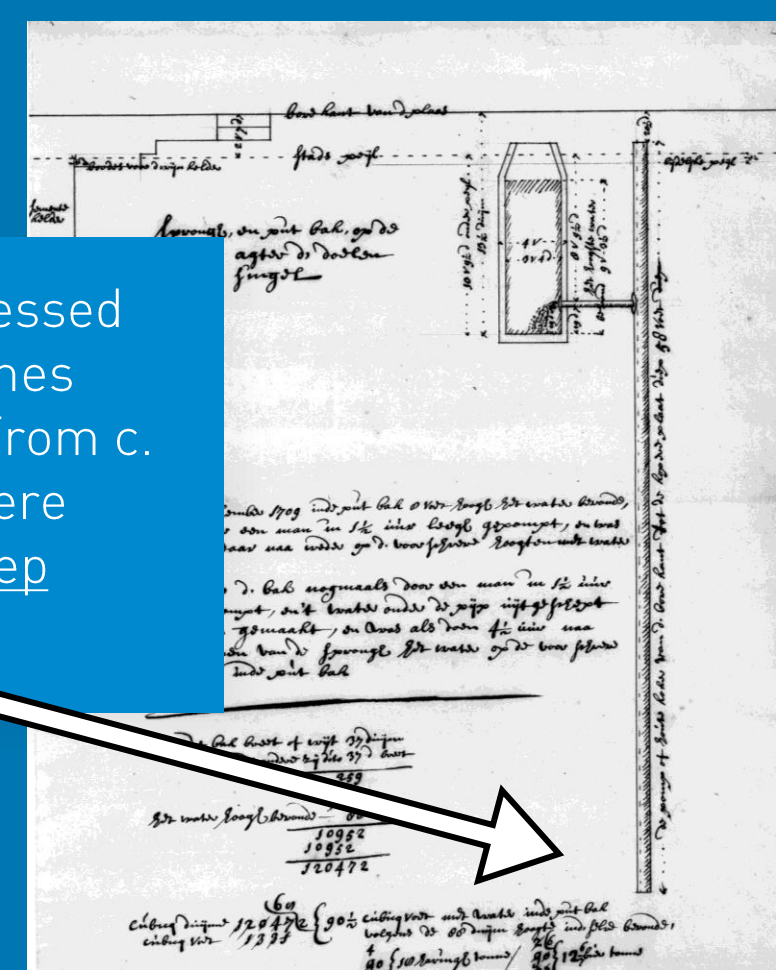


Photo by Stadsherstel Amsterdam, J.R. van der Veer

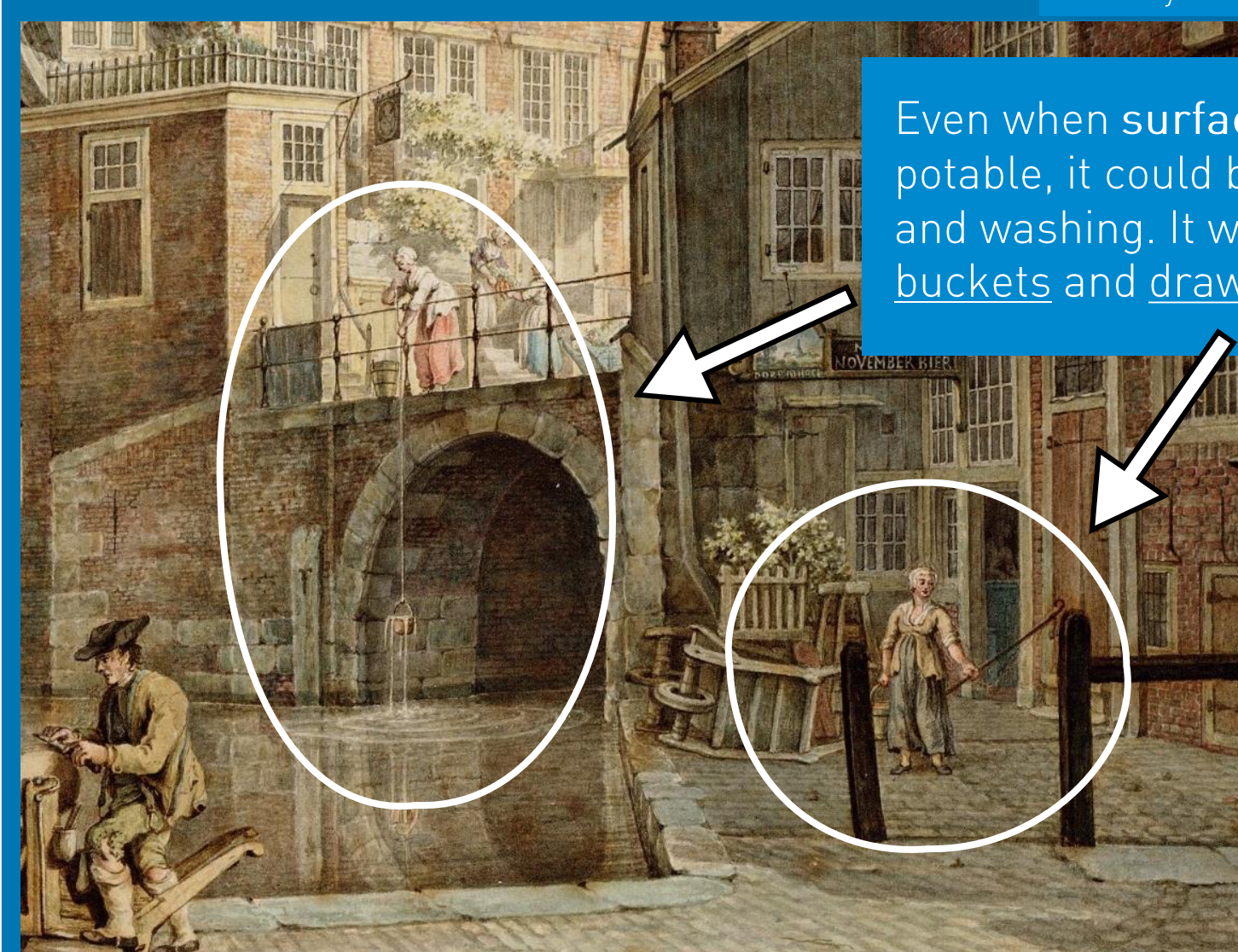


Visualization by Bart Levering

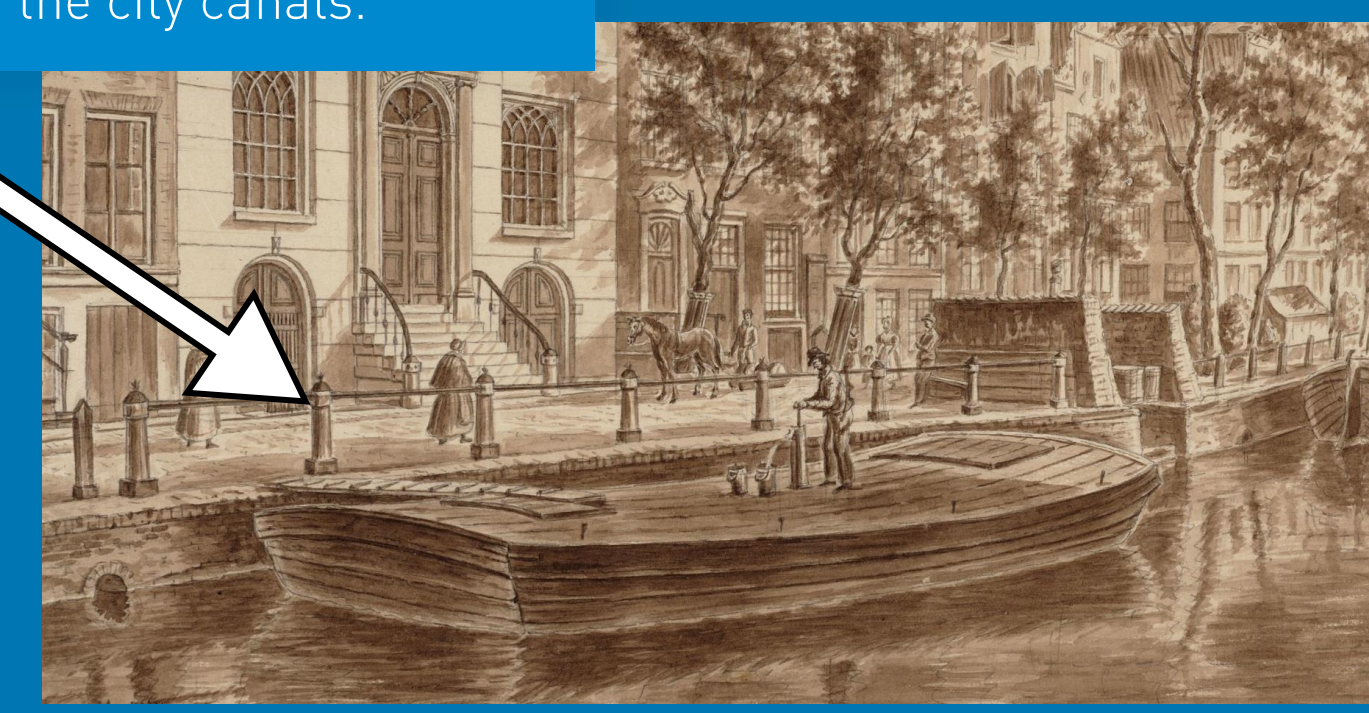
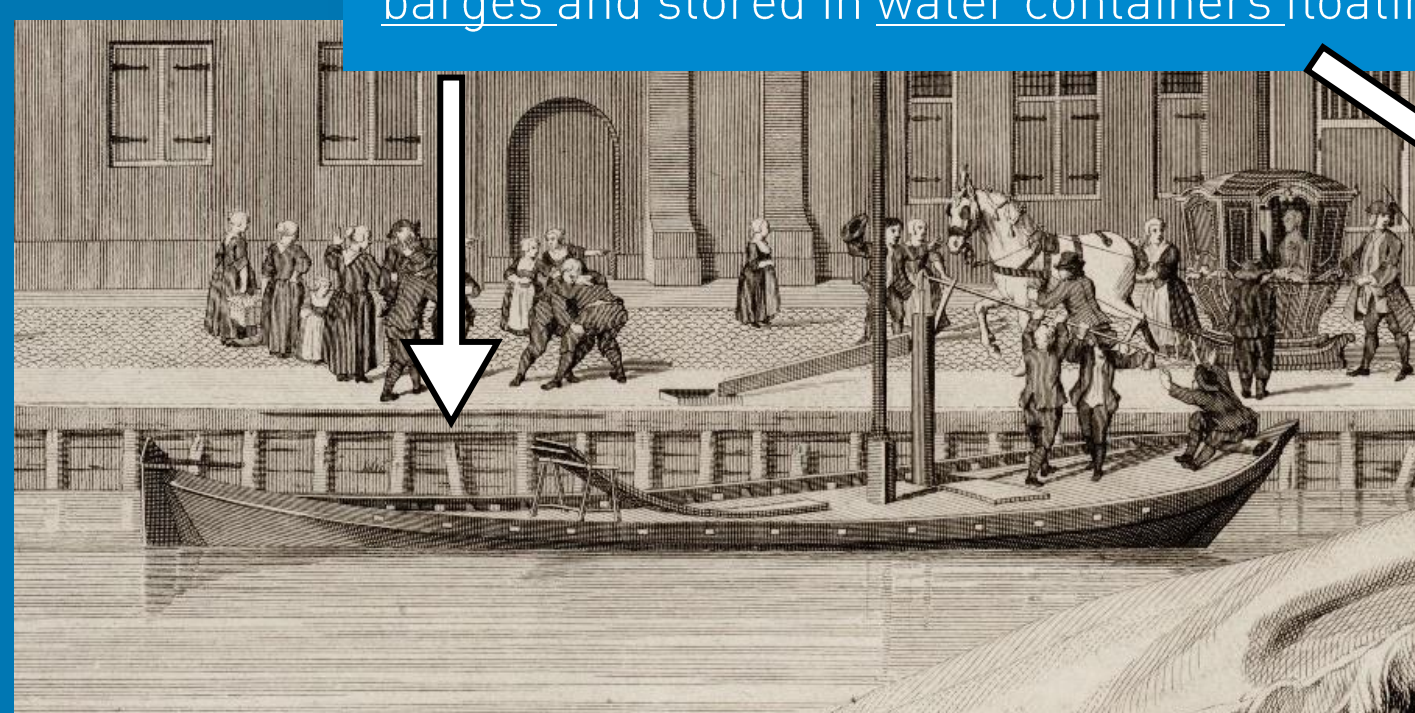
Groundwater was accessed through wells, sometimes outfitted with pumps. From c. 1650 onwards, wells were extended by drilling deep boreholes.



Even when surface water was not potable, it could be used for cleaning and washing. It was accessed through buckets and drawing hooks.

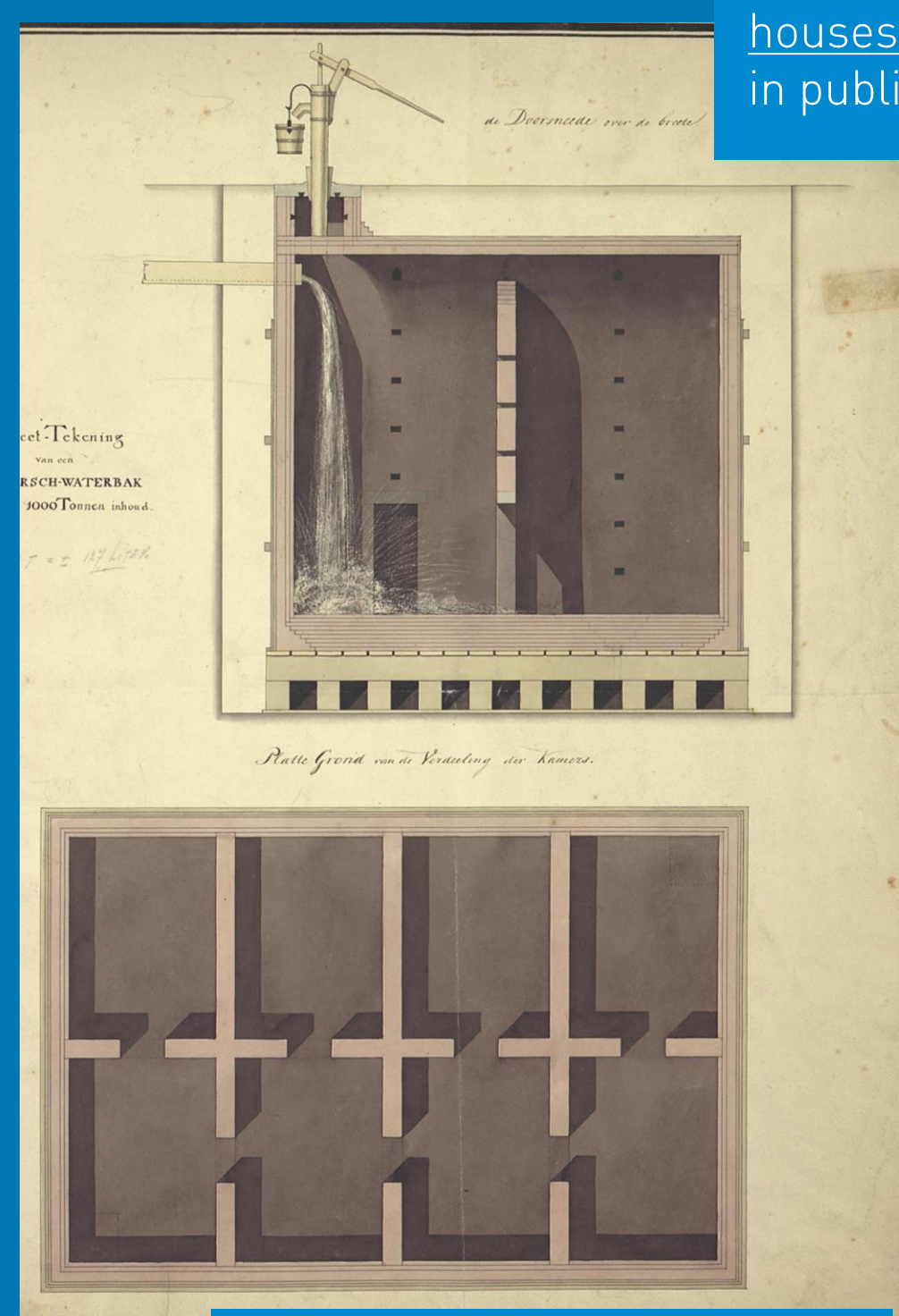


In several cities, surface water was also imported from places outside where the surface water was of better quality. It was transported in barges and stored in water containers floating in the city canals.

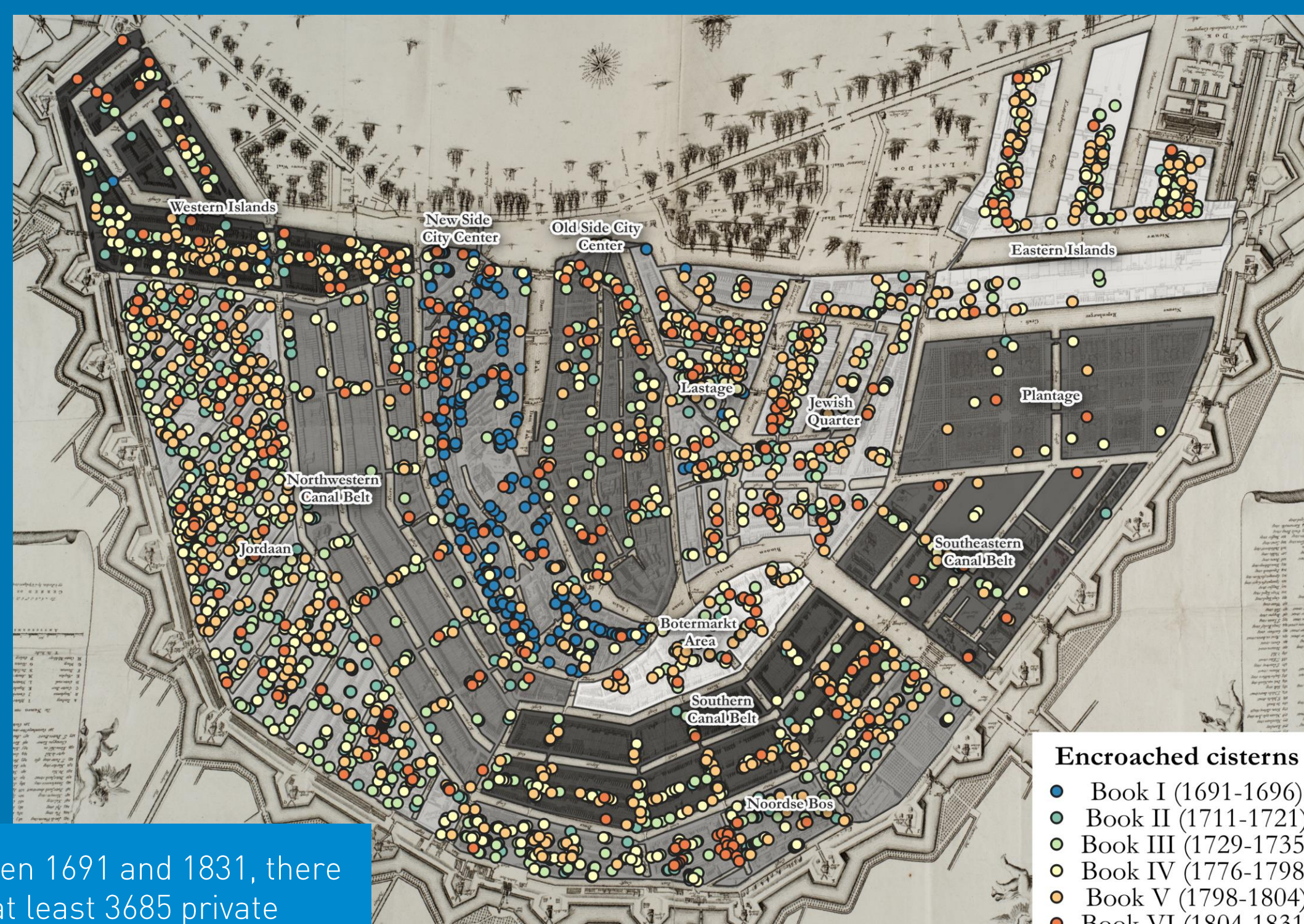
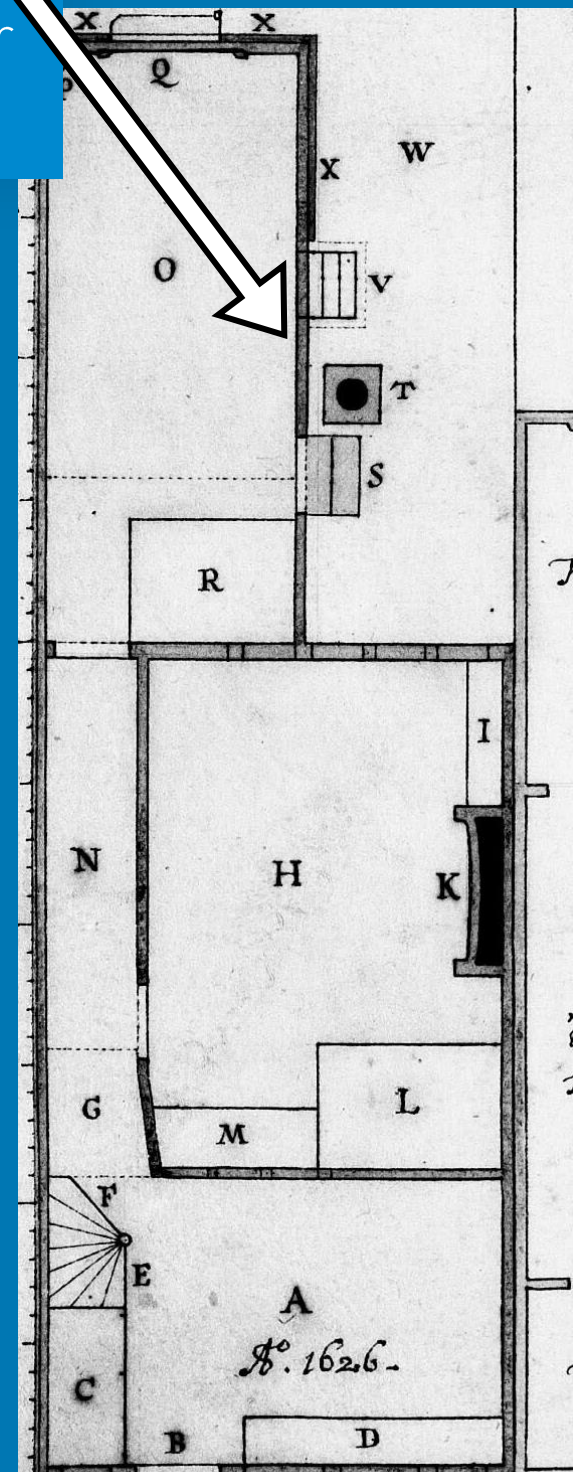


### Locality: Geographic difference at different scales, from street to state

Access to cisterns were placed inside, in front or behind houses, in private or in public ground.

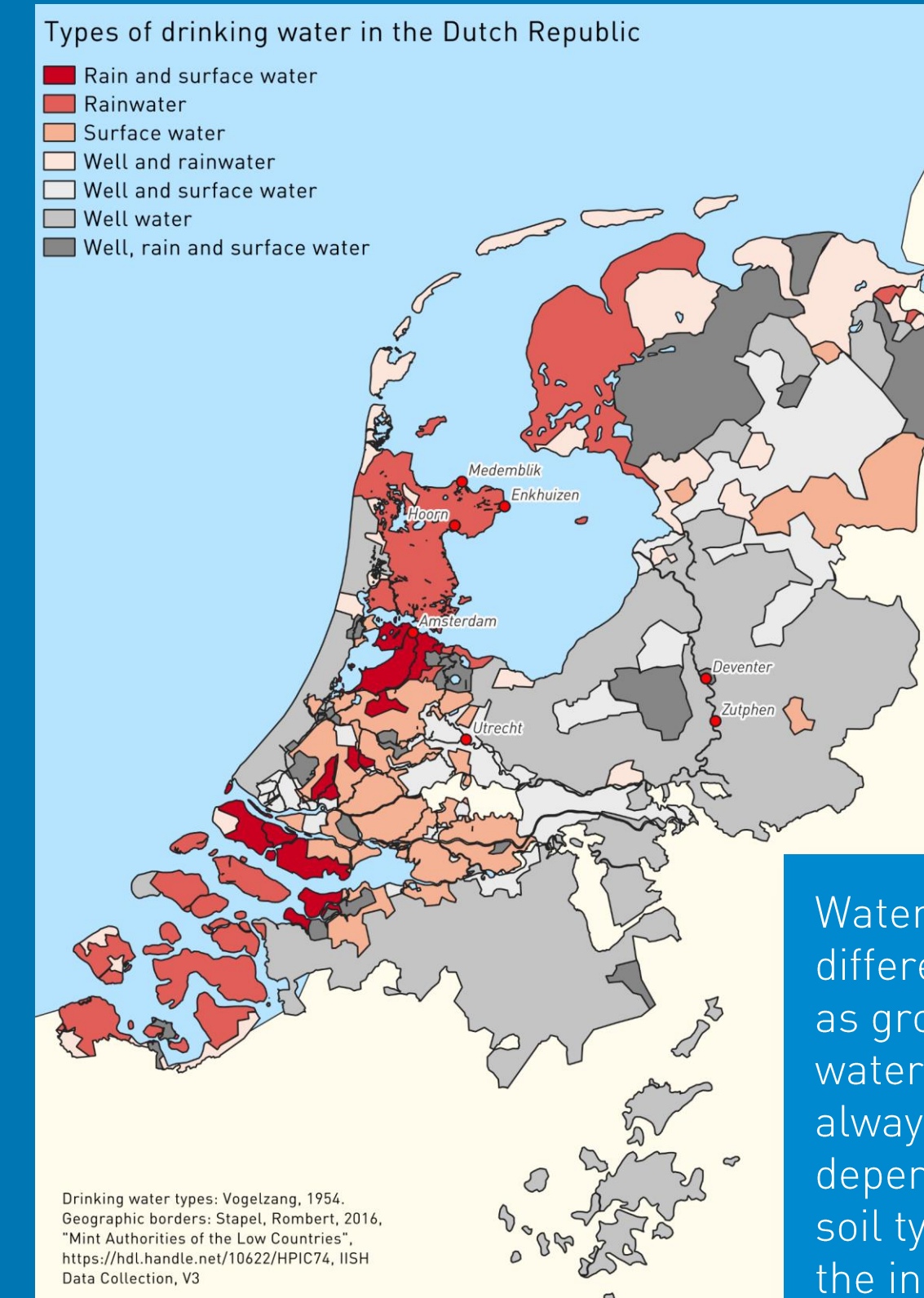


Cisterns varied greatly in size, from smaller ones serving one household to grand public structures that served many.



Between 1691 and 1831, there were at least 3685 private cisterns on public ground in Amsterdam.

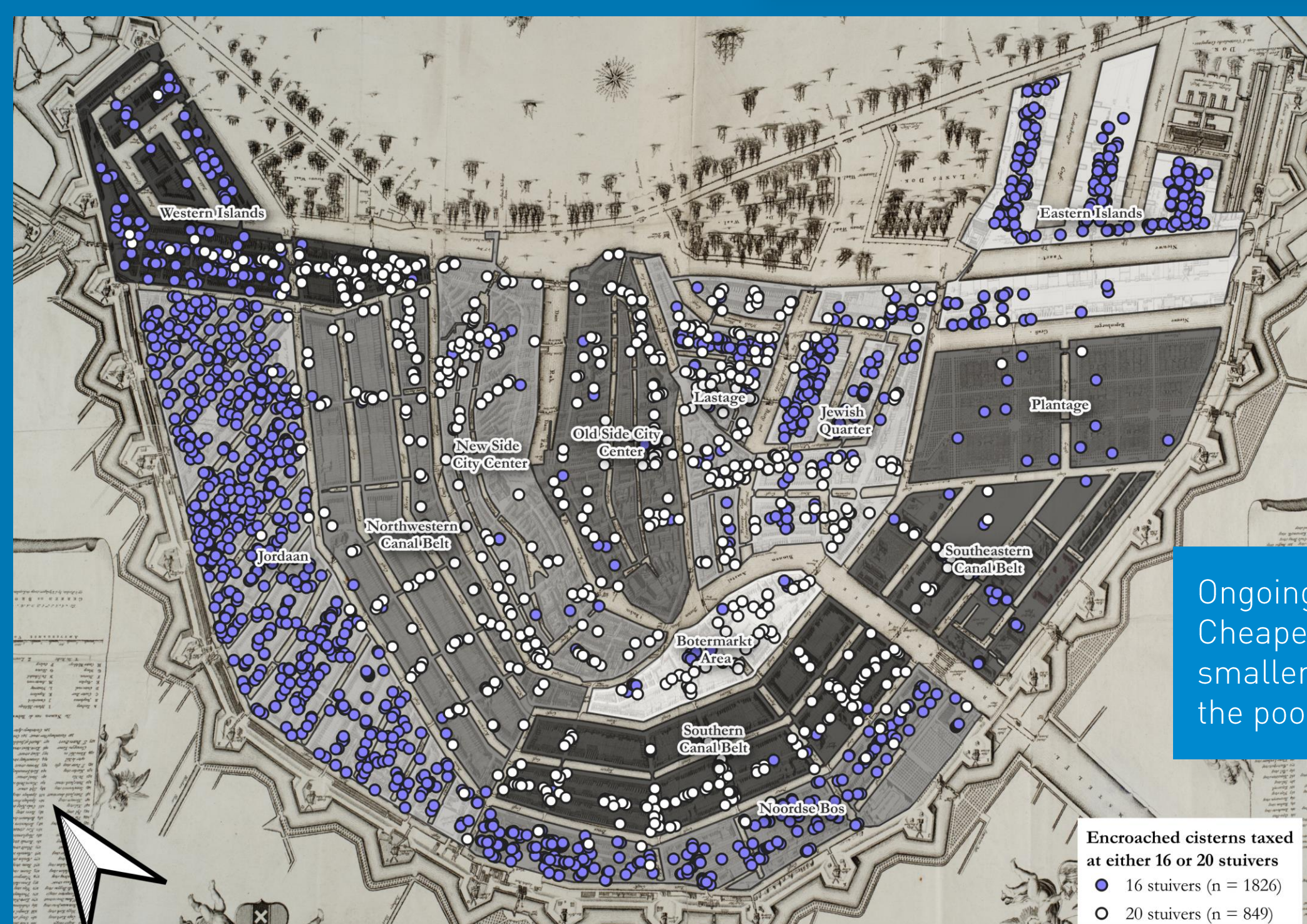
Visualization by Bob Pierik. Source: Amsterdam City Archive, 5039, inv. nr. 716-720; 5177, inv. nr. 2617. De Broen, 1724



Water quality differed locally, as groundwater was not always potable depending on soil types and the intrusion of seawater.

Visualization by Bob Pierik

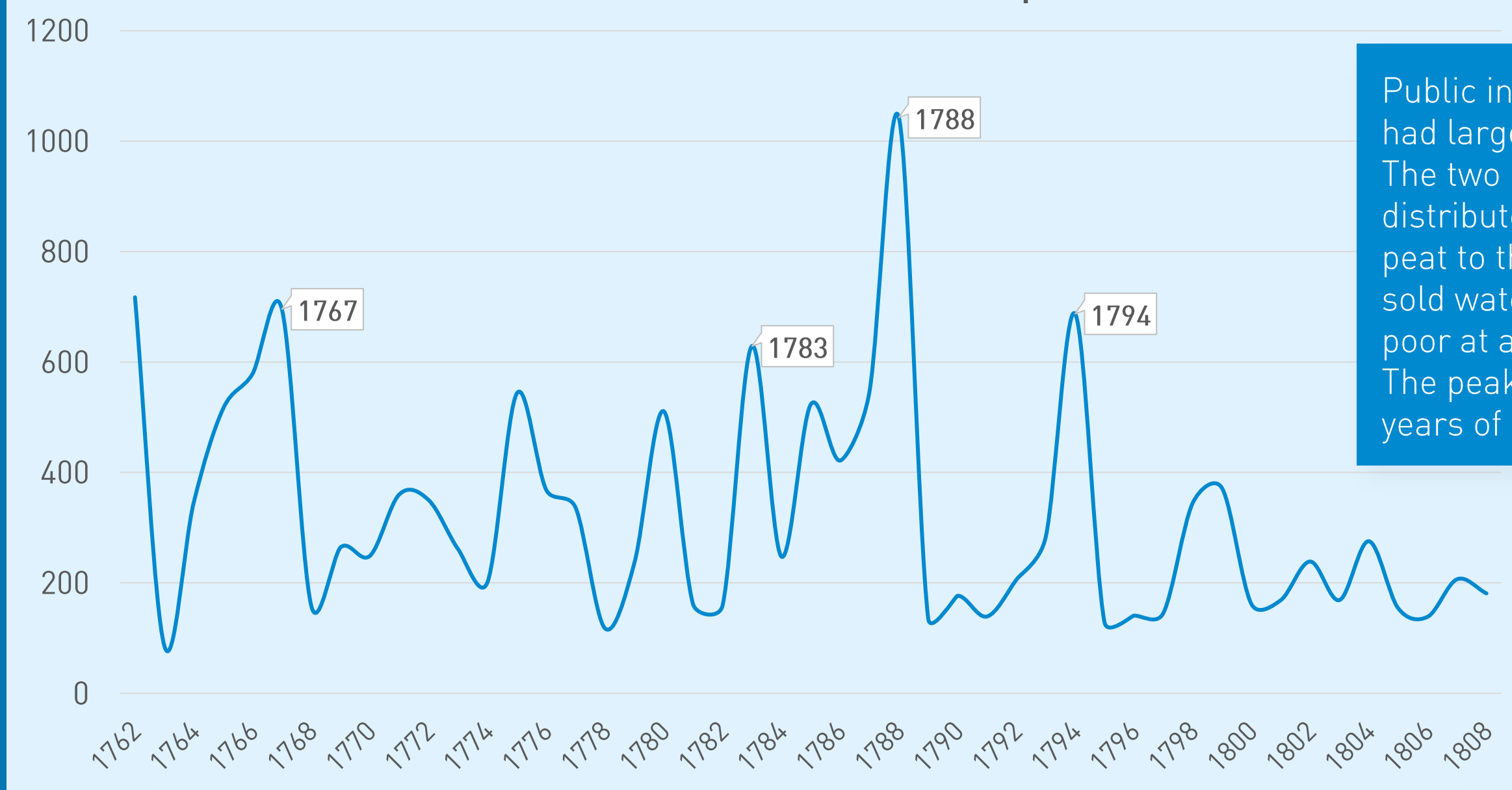
### Environmental (in)justice: The poor have less access to good water



Ongoing research: Cheaper and/or smaller cisterns in the poorer districts?

Visualization by Bob Pierik. Source: Amsterdam City Archive, 5039, inv. nr. 716-720; 5177, inv. nr. 2617. De Broen, 1724

### Annual income in guilders from rainwater sold by two charitable institutions for the poor



Public institutions had large cisterns. The two of them that distributed food and peat to the poor also sold water to the poor at a low price. The peaks represent years of drought.

Data gathered by Filip van Roosbroeck, Source: Amsterdam City Archive, 349, inv. nrs. 245 & 403



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