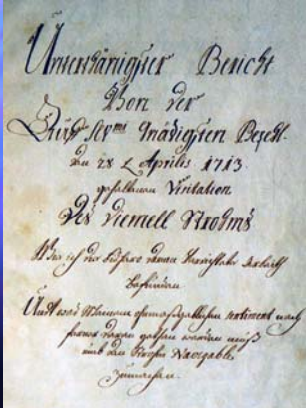


Important facts about Muennich

- His father was responsible for more than 100 km of costal dikes in northern Germany
- Since he was 9 Years old he go out with his father to inspect and repair the dikes
- When he was 13 years old his father said that he could hand over his job to his son without any problems
- Muennich never visit a university, everything he learned from his father, by observation and self study

Important facts about Muennich

- He become a member of the Hessian Army and served in several European wars
- During a period of peace he was send out to inspect the work a local cannal for shipping in northern Hesse
- Later he go to Poland and than to Russia and served there in the Army
- In Russia he build the cannal between the Lagoda lake and St. Petersburg



Unvermündeter Bericht
Von der
Fürstlichen Inädigen Begeht.
den 28 Aprilis 1713.
pflanzlichen Vintation.
Des vormaligen Fürstlichen
Bischof von Lippe dem Königl. Rathe
Herrn
Und Herr's Maximilian Joseph von Hessen, Rathe und
fürstlichen Hofrathes in
und der Fürstl. Regierung.
J. Muennich.

Front-page of Muennichs Report to the Earl after his inspection 1713

beside very detailed recommendations for the places that he had visit he give some general explanations

Universitätsbibliothek Kassel, Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel



Recommendations for River works

- In the cases of diversion of a river in no part was enough water for shipping
- He recommended to cut the smaller side branches close it with a weir of wood and stones and than the water will enlarge the main branch by it self

Universitätsbibliothek Kassel, Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel

Recommendations for River works



- Similar recommendations he give for cutting loops
- But also he said that the benefit for shipping was small and he warned that the water become faster, that you get more erosion and that the river become deeper

Universitätsbibliothek Kassel, Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel

Recommendations for River works



- He also remark that you get a higher danger during floods but also very low water levels during droughts

Universitätsbibliothek Kassel, Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel

Recommendations for River works



- As good alternative he gives ideas how to make the loops smother for a better shipping. With some trees he influence the direction of the main velocity

Recommendations for River works

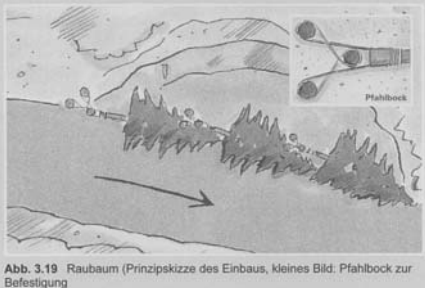


Abb. 3.19 Raubaum (Prinzipskizze des Einbaus, kleines Bild: Pfahlbock zur Befestigung)

- The same idea you could found in modern textbooks for hydraulic engineers

Benefits of ship locks

River with ship locks

River without ship locks

Universitätsbibliothek Kassel, Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel

Benefits of ship locks

- Meunich explain the benefits of ship locks during floods and droughts
- He gives recommendations for the best places for the ship locks an how they could build easily and cheap
- He discus also difficulties with sediments and ice in winter times

Sketches

Ship will be pulled over a weir

Universitätsbibliothek Kassel, Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel

Sketches

Ship use a ship lock

Universitätsbibliothek Kassel, Landesbibliothek und Murhardsche Bibliothek der Stadt Kassel

Summary



- The example of Muennich shows that some engineers in the early 18th Century had a good knowledge of hydraulics and the relation between runoff and sediment transport
- The problem that we have with our rivers today was not the result of a lack of knowledge of hydraulic engineers

Summary



- Problems at the rivers are often the consequences of thinking for short times and of the pressure to build cheap buildings
- Often the society had other priorities and needs and don't like to hear about limitations
- The mistake of Engineers is that they often solve the actual problems of the society without talking enough about consequences and long term impacts

Thank you!



Walhalla bei Regensburg

Walhalla near Regensburg
 build 1842 to honour
 important Germans (mainly
 writers and poets).
 Muennich was honoured
 there for his work as a
 Russian General not as a
 hydraulic engineer