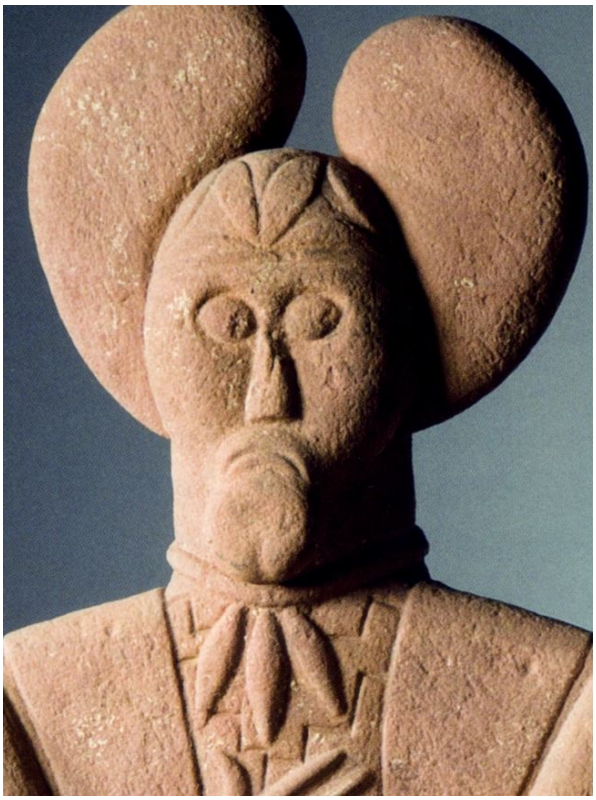
Large Pictures

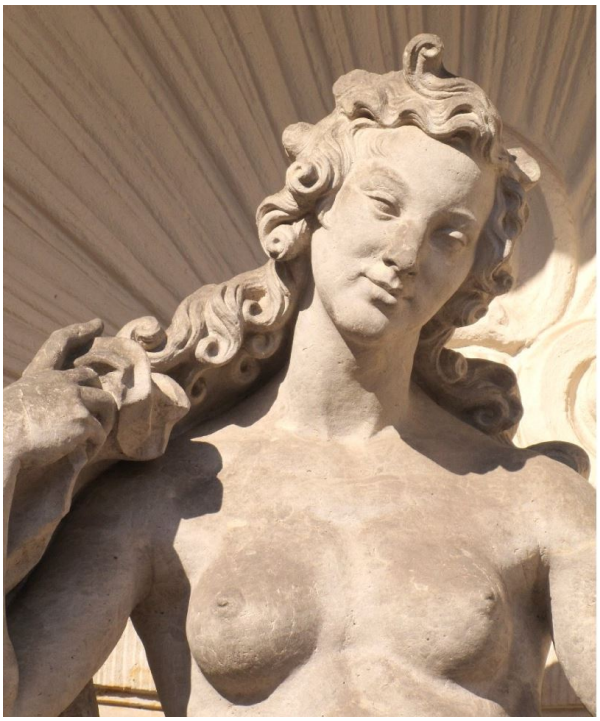
Illustration

The Celtic sculpture dates to about 400 BC. It is from Glauberg, not far from Frankfurt / Main, where it was found in connection with a large tumulus, the grave of a Celtic noble.
It is made from sandstone and represents the certainly best preserved and possible oldest full-sized free-standing sculpture of a human in Northern Europe.
Uta von Naumburg is one of the famous figures in the Naumburger Cathedral of St. Peter and St. Paul, Germany.
It was created by an anonymous medieval sculptor known as the "Naumburg Master".
His works date to the middle of the 13th century and are counted among the most important artworks of the Middle Ages.
The Naumburg Master very likely learned his craft in northern France in the heyday of the High Gothic style. He was active in Noyon, Amiens, and Reims around 1225, and possibly also later in Metz.
The twelve monumental donor portraits in the west choir of the Naumburg Cathedral are considered his masterpieces, and it is from thence that his name derives.



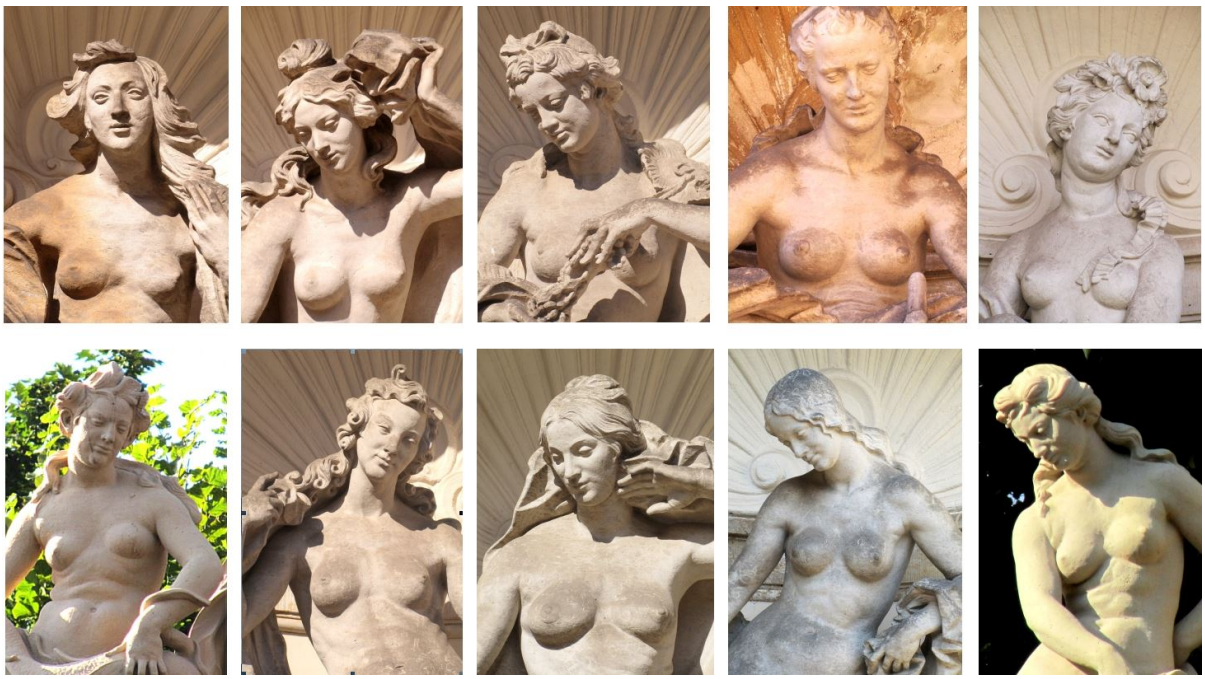
Link to text	Source: Celt: Internet a large; Uta: Photographed in Naumburg.

The lady on the left is one of many one encounters in Dresden, Germany, about everywhere.
It is probably a plaster cast from some original and dates to about 1710.
Since I know that you have a keen interest in art, I give you a few more below.
The Lady on the right can be found in the Copenhagen museum and dates back to Roman times.




Link to text	Source: Photographed in Dresden or Copenhagen, respectively.

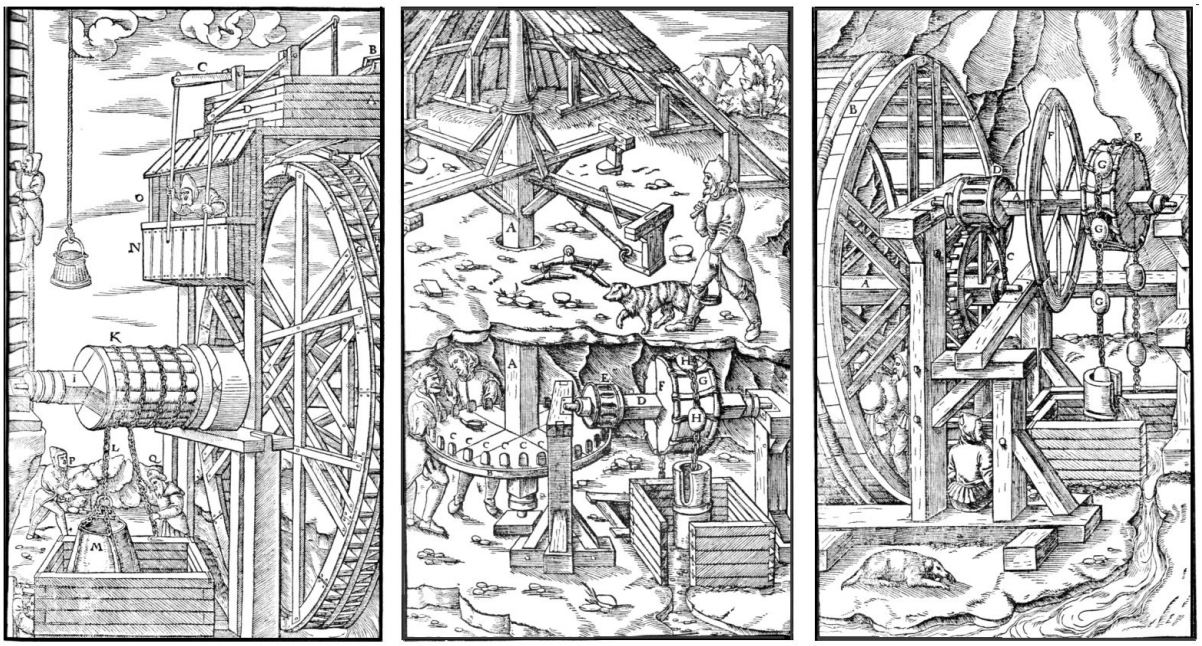
Ladies in Dresden.

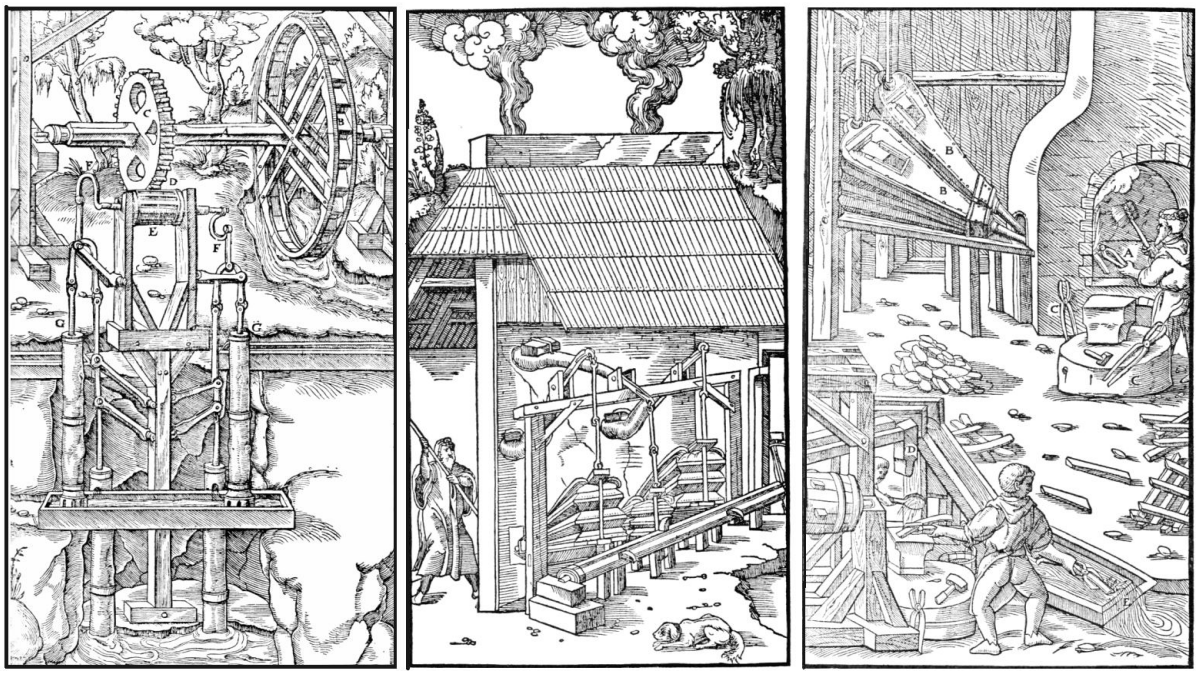


Link to text	Source: Photographed in Dresden.

Here are six pictures showing the use of "power". All those things were still complex (and very dangerous) machines in 1550. What we have is:
Upper tier

- Left: **Water wheel**; reversible to move loads up or down.
- Middle: A "***horse mill***" (German: Göpel) with 8 horse powers, driving a pump. Hollowed out tree trunks serve as pipes, extending about 10 m down.
- Right: A human powered **treadmill** for pumping with a revolving chain.





Lower tier

- Left: **Water wheel** operating pumps akin to the ones above but more complex
- Middle: Three **bellows** with counterweights operated by a kind of crankshaft that must be connected to a water wheel.
- Right: Two "power" bellows and a **power hammer**, obviously powered by a water wheel; note the water drain.

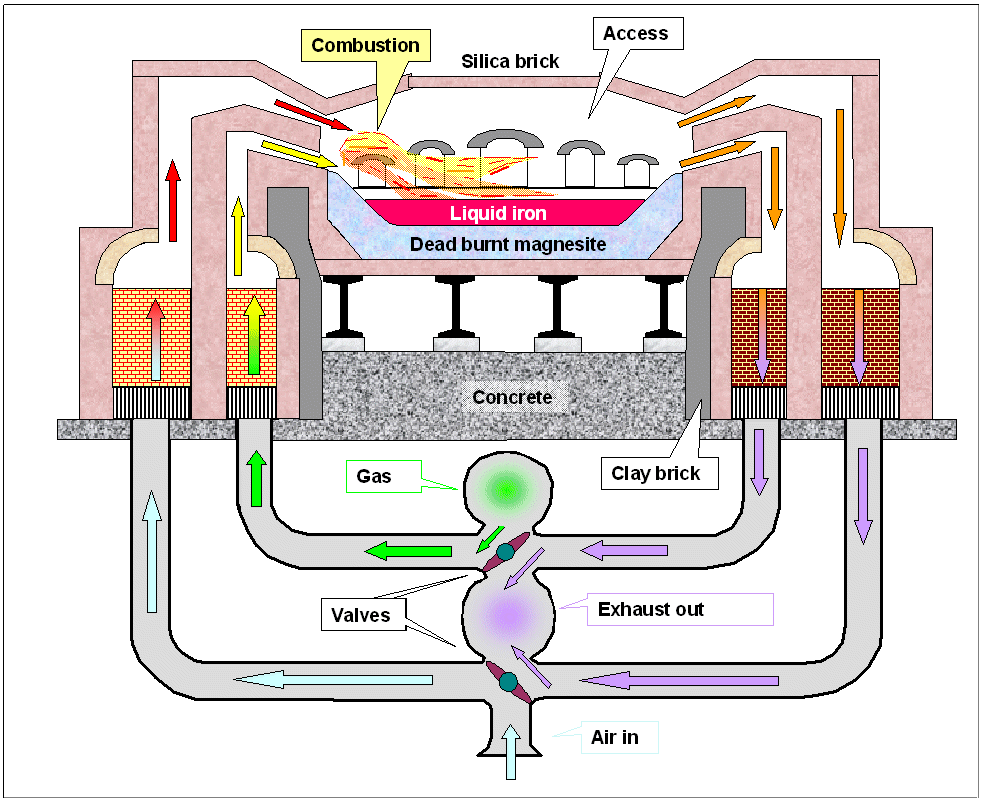
Link to text	Source: "Agricola: "De Re Metallica".

This **Bessemer converter** stands outside the Kelham Island Museum in Sheffield / England.
Sheffield is a big name with respect to iron and steel as I don't need to tell you.

Link to text	Source: Internet page of Sheffield United FC. Thanks for sharing and many victories (as long as you don't play German clubs)!

- Those things were huge! You can see why the Bessemer process allowed some "economy of scale" and thus went a long way in solving the biggest problem of the early iron / steel industry.

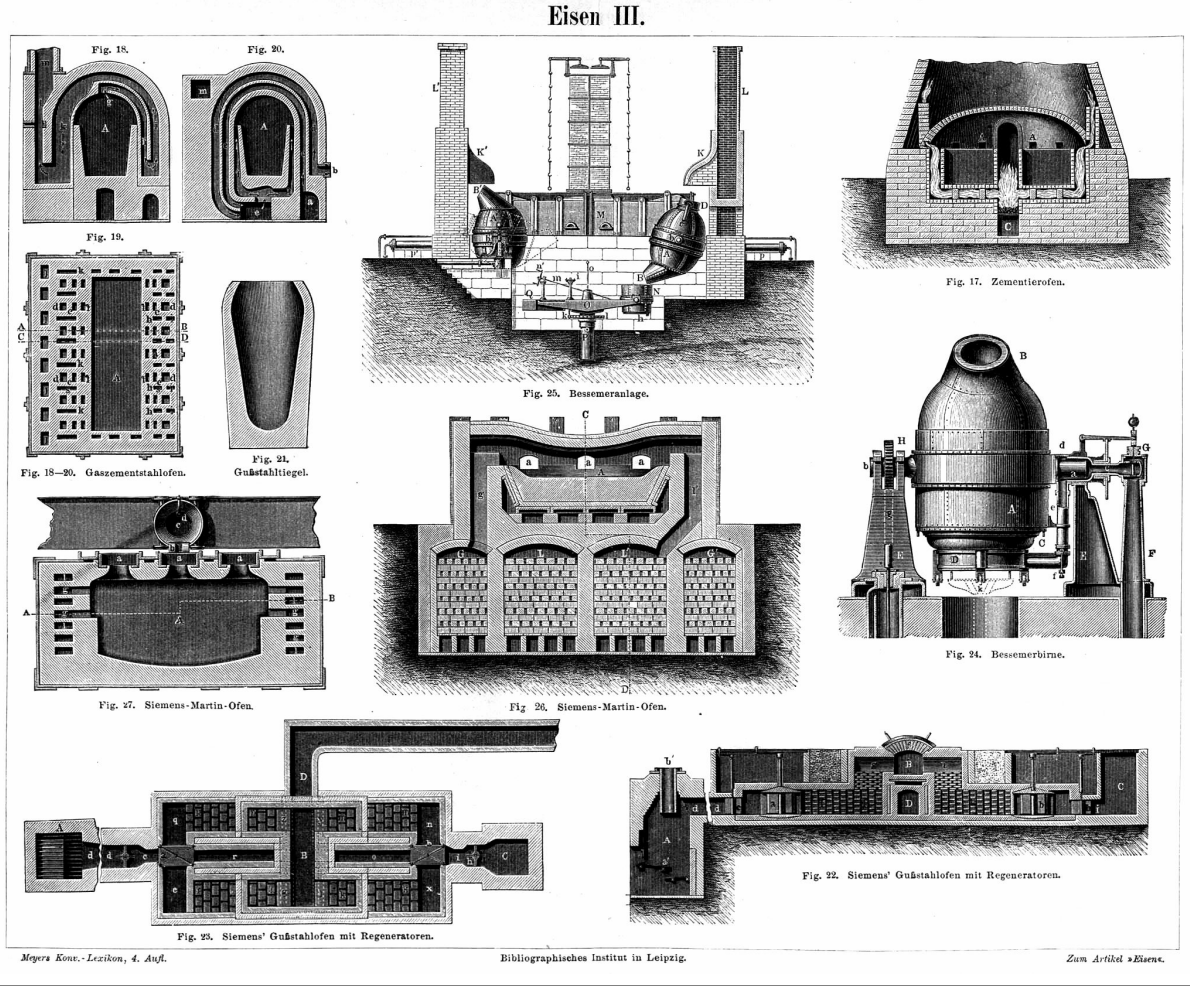
This schematic drawing of a **Siemens-Martin regenerative furnace** I made myself following some old original. I kept some of the original lettering like "dead burnt magnesite" and added some of my own. There have
been more kinds of brick and other construction materials than indicated.



Link to text

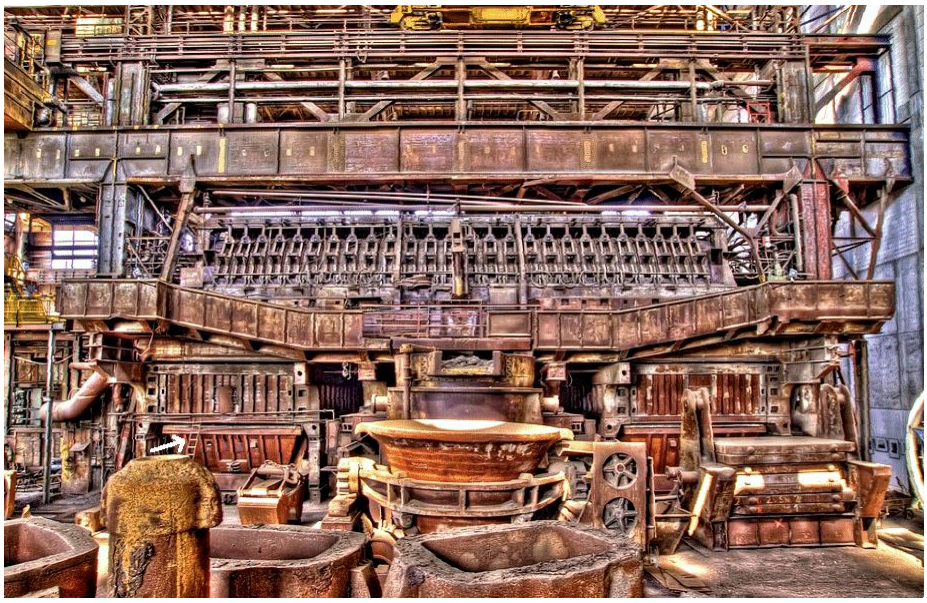
- The working principle is clear. The fuel gas (coal gas) and air are fed to the left stack of hot bricks and heat up during the passage upwards. The hot gases ignite and provide a "super" hot flame. The exhaust, including the stuff coning out of the pig iron, flows out to the left and heats up the brick stack there. After some time, the valves are turned and sides changes - flame from the left, exhaust going out to the right.
  I don't know what kinds of pumps were used for pressurizing the gases.

This was a "poster" coming with "Meyers Konversationslexikon" from 1885-1892. It shows all kind of **steel making equipment** in great detail.



Link to text	Original figure caption: Fig. 17. Zementierofen. Fig. 18-20. Gaszementstahlofen. Fig. 21. Gußstahltiegel. Fig. 22. Siemens' Gußstahlofen mit Regeneratoren. Fig. 23. Siemens' Gußstahlofen mit Regeneratoren. Fig. 24. Bessemerbirne. Fig. 25. Bessemeranlage. Fig. 26. Siemens-Martin-Ofen. Fig. 27. Siemens-Martin-Ofen.

This is the very last **Siemens-Martin furnace**. It was part of a steel mill in Brandenburg an der Havel, Germany; now it is a museum. It produced steel from 1914 - 1993. When it was shut down the era of Siemens-Martin furnaces
was finally over. This thing is big! Look at the ladder (lower left-hand corner; arrow) to get an idea of the scale.



Link to text 1	Link to text 2	Source: From the Internet pages of " Peter-Berlin" Berlin , Deutschland. Thanks, Peter!

This is the group of **knights in full armor** in the Metropolitan Museum, NYC.

Link to text	Source: Photographed in the Metropolitan

This picture is from 1920. It supposedly shows "how a puddler and his helper remove a 150-pound, near molten ball of wrought (?) iron from a puddling furnace at Youngstown Sheet & Tube's Campbell Works in the 1920s".
That is a rather late time for puddling but simple shows that old techniques often survive for quite a while after they had
become obsolete in principle.

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Link to text	Jarret Ruminski's Internet blog.