

Specimen of German and Polish copper deposits in the collection of the BGR

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Abb. 10¹ (v.l.n.r.): Dachrinne und Fallrohr, Motorkühler, Computerchip, 1-Cent-Münze

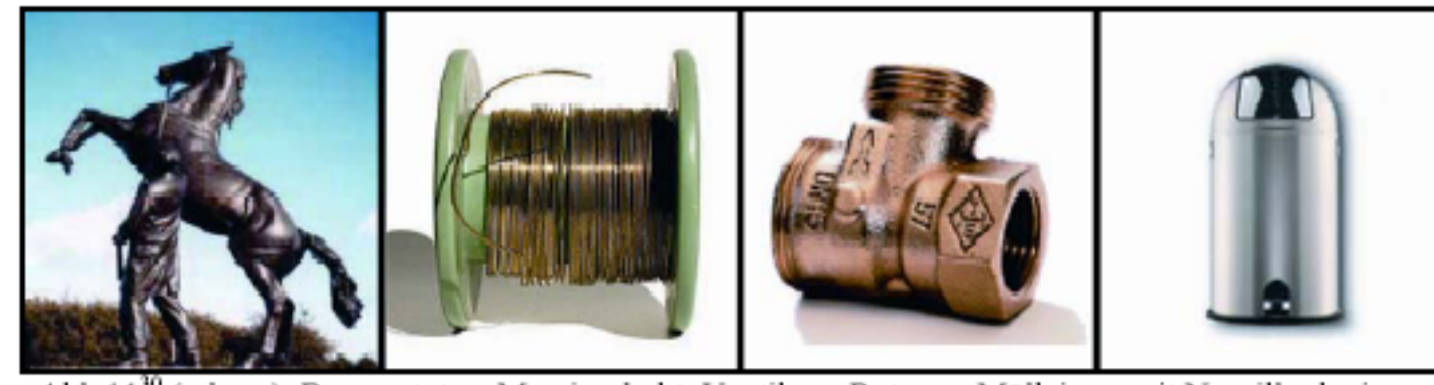


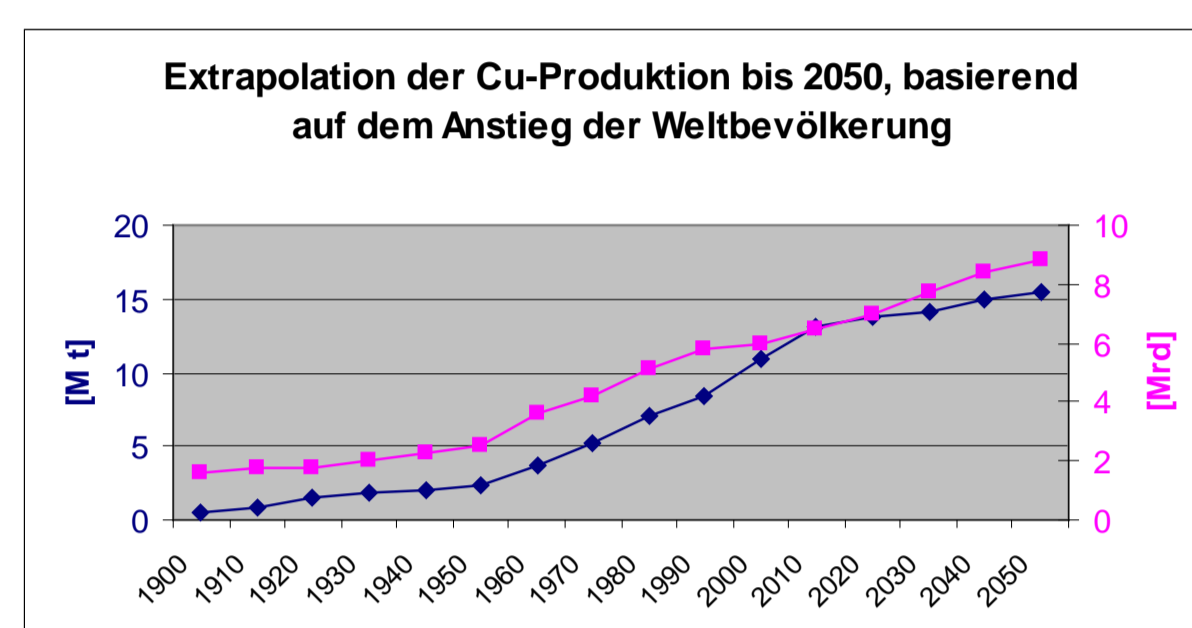
Abb. 11¹ (v.l.n.r.): Bronzestatue, Messingdraht, Ventil aus Rotguss, Mülleimer mit Neusilberlegierung



Abb. 10² (v.l.n.r.): Dachrinne und Fallrohr, Motorkühler, Computerchip, 1-Cent-Münze

The development of the international market and the raise of the prices for many raw materials show that the big deposits do not last for ever. A very common example for raising prices at the global market is copper. Even in the newspapers we can find articles about copper thefts. The world reserves (about 600 Mio. t) last about 30-50 years. First efforts to reopen old closed copper mines or open prospected deposits, which had not mined because of technological problems or because of being inefficient in former times. One example is the new interest for the copper deposit Spremberg. Thus, the old mines and prospected deposits could be of actual or future interest. Since the last copper mine in Mansfeld was closed in the 1990th no copper mining takes place in Germany. About 45 % of the need of copper is satisfied by recycling in Germany. Proved reserves: 35,4 Mio t crude ore
In Poland there is still active copper mining in the Zechstein of the Fore-Sudetic-Block in Lubin-Polkowice. Many other copper mines are closed, too.

Production of copper



Copper mining and trading routes

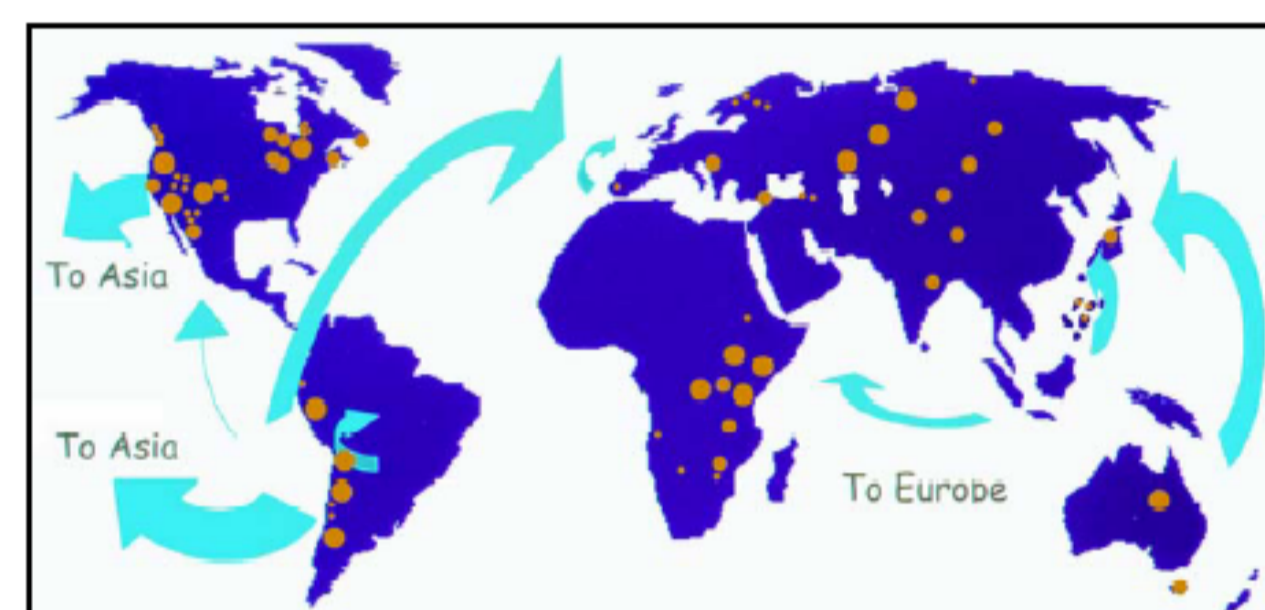
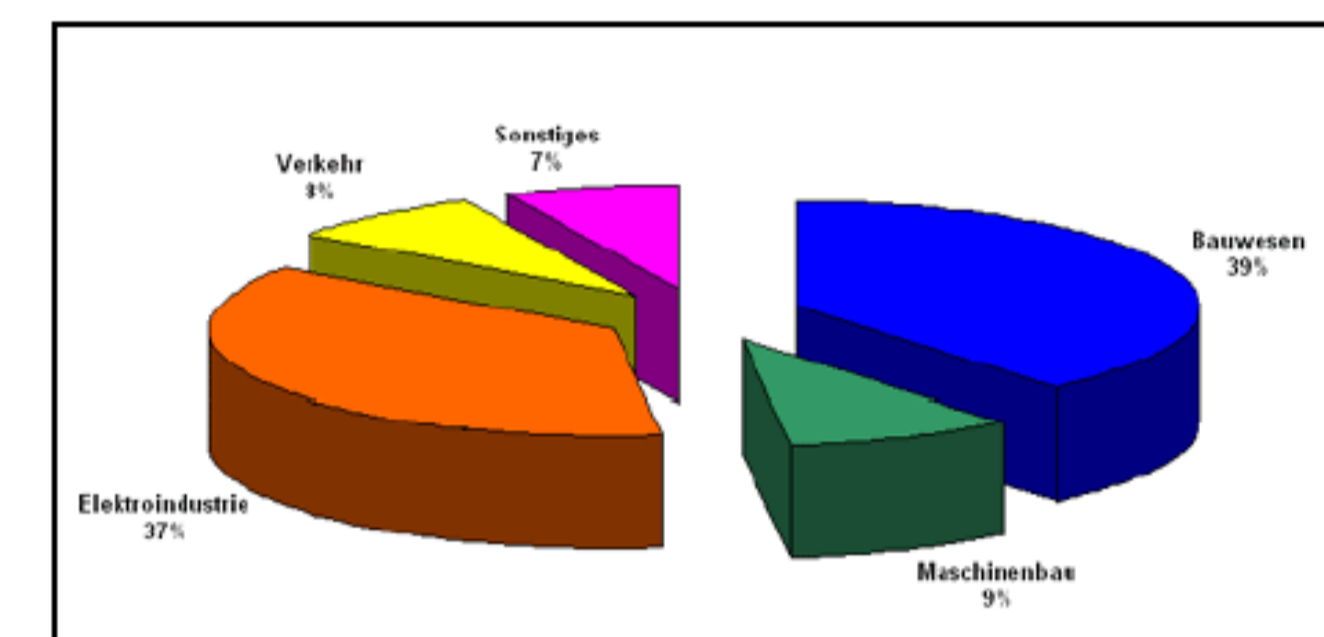


Abb. 4: Kupferabbaugebiete und Handelswege

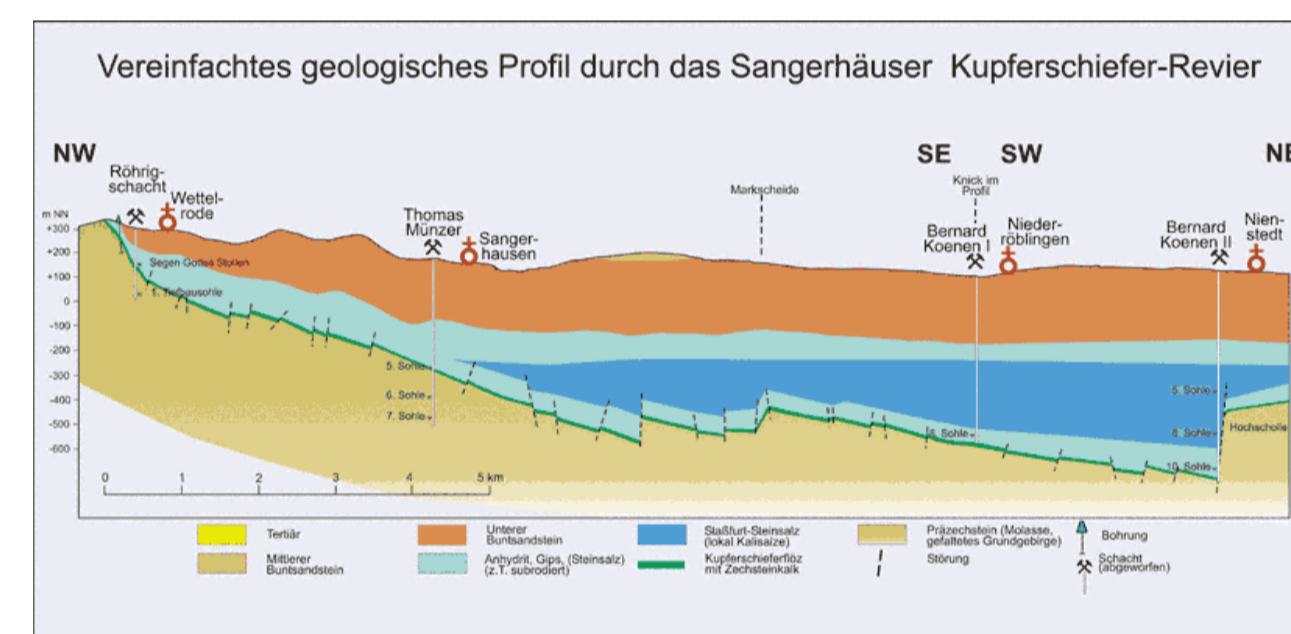
use of copper



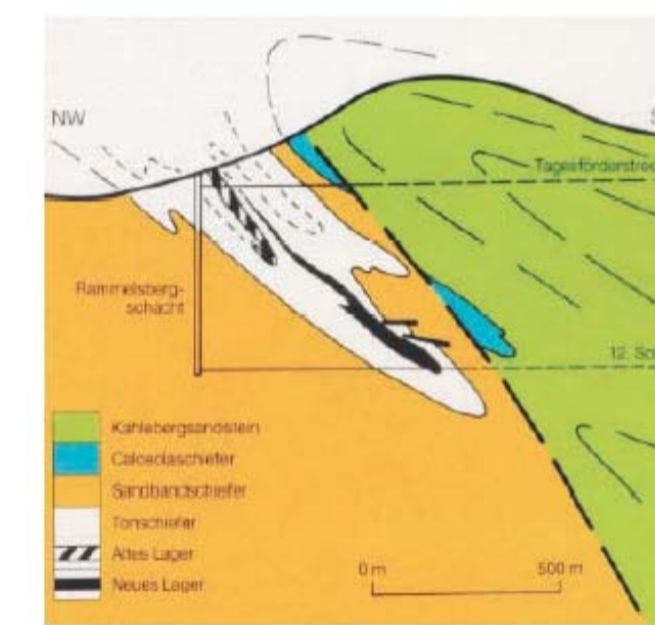
The collection of the BGR documents the very important role that ore mining and even copper mining played in history. The collection of ore deposits contains about 1 000 samples of more than 75 copper deposits in Germany and 12 copper deposits in Silesia / Poland. These are mainly hand specimen but also mineral samples and samplings of cuttings. Even the prospection of the Spremberg copper deposit in the 1950th is documented by samplings of cuttings. Besides there are also specimen of other and even little deposits as there are Antweiler / Eifel, Bad Ems / Lahn, Bad Lauterberg / Harz, Gießtübel / Thuringia, Imsbach / Pfalz, Niedermarsberg / Sauerland in Germany and Kupferberg / Miedziana and Haasel / Leszczyna in Silesia / Poland. In addition there is a big collection with about 30 000 pieces of polished sections, mainly from copper shales in Germany and Silesia / Poland. All these samples can be documented, visited, borrowed and used for special investigations.

GERMANY

Wichtigste Kupferminerale			
Mineral	Dt. Bezeichnung	Formel	Cu-Gehalt
Kupfer gediegen		Cu	99
Chalkosin	Kupferglanz	Cu ₂ S	79
Chalkopyrit	Kupferkies	CuFeS ₂	34
Bornit	Buntkupferkies	Cu ₅ FeS ₄	63
Cuprit	Rotkupferkies	Cu ₂ O	88
Tenorit	Schwarzkupferkies	CuO	80
Malachit	Kupferspat	Cu ₂ (OH) ₂ (CO ₃)	57
Azurit	Kupferlasur	Cu ₃ (OH) ₂ (CO ₃) ₂	55



Mansfeld and Sangerhausen Revier
most important Cu- und Ag-deposit in Germany



Rammelsberg
since 3000 years mining
systematic mining: 968 – 1988:
ca. 30 mio t Pb, Cu, Zn, Ag



Spremberg Revier
Biggest prospected Cu-deposit in Europe
reserve: 1,5 mio t, depth: 600-1000 m,
80 cm seam, cheek mineralized too



Lahn-district
Bad Ems, Friedrichsgegen
200? -1913



Lahn-Dill-district
ore mining since Iron Age
up to 1930th years



Kamsdorf / Thuringia
mining 1500 BC–1958/today
→ Cu, Fe, limestone



Tannenbergsthal / Vogtland
mining 1450–1964
→ Sn, Cu



Imsbach / Pfalz
mining ? BC–1931
→ Cu, Ag, Fe



samples from > 45 deposits were investigated for the copper provenance analysis of the „Himmelscheibe Nebra“

Poland



showcase with samples from the Kupferberg / Miedzianka district in Lower Silesia
mining: 1500? - 1927

samples of the following deposits

- Kauffung / Wojcieszow
- Kupferberg / Miedzianka
- Streckenbach / Swidnik
- Gröditzberg / Grodziec
- Haasel / Leszczyna
- Jannowitz / Janowice Wielkie
- Herrmannsdorf / Mecinka
- Neukirch / Nowy Kosciel
- Rudelstadt / Ciechanowice
- Leipe / Lipa
- Leuthen / Lutynia