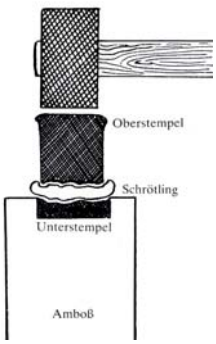
DEUTSCHE BUNDESBANK

Money Museum

Special exhibit

Minting of coins

From the 7th century BC when they were discovered until modern times, coins were still minted in the same way. At the end of a multiple-stage manufacturing process, a blank was produced. This small metal plate, usually round in shape, was generally embossed on both sides. Two stamping dies were used to transfer the front and reverse-side motifs onto the metal plate.



The moveable upper stamping die was either held by hand or in a pair of pliers, and the lower stamping die was firmly held in place using an anvil.

Some of the minting tools used at the time are depicted on this Roman silver coin from the 1st century BC. Depending on the type of metal used and the size of the coin, the metal plate was either heated again before it was struck or minted cold. Working conditions in the mints were tough. Details of the working hours practised in the second half of the 15th century have been handed down to us: Monday to Friday from 5 am till 5 pm and Saturdays from 5 am till 2 pm, adding up to an almost 70-hour working week. Workers had to eat at their workstations. The noise, heat and fumes made working conditions difficult in the often somewhat cramped workshops. It was not until the mid-16th century with the gradual introduction of coin minting machinery that conditions began to improve.

The mass coin production of the 19th century would not have been possible without efficient machinery.
The machinery on display in the exhibition was capable of producing 60 to 70 coins per minute. Today's high-performance machines can produce between 650 and 850 coins in that time.

Gold and silver coins, whose value depended on their weight and the fineness of the precious metal, sometimes had to checked in payment transactions. The weight could be determined quickly and easily using a set of scales. Determining the fineness, on the other hand, was much more complicated. The process of checking a silver coin using template

needles – such as these early 18th-century examples from Spain – can be visualised as follows: A mark is scored onto a special stone using the edge of the silver coin being tested. A needle is then grated onto the stone directly next to the coin mark, which is known to be of similar fineness as the minting regulations stipulate the coins should have. Only by closely examining or by applying acids to the two scored lines - to which they will have either an identical or a different chemical reaction – can an initial assessment be made. By repeating this procedure several times using needles with slightly different alloy compositions, the fineness of the coin can be precisely determined. This procedure was, of course, not required for coins made from base metals, as here it was a question of either weighing the coins or simply having confidence in the currency. All modern currencies in circulation today are now classed as nominal value coins, ie their nominal value is far greater than their material value.