

Historical notes

by George W. Gilbert¹

Few metals occur naturally. Gold and copper are the major exceptions. Prehistoric people likely found these elements as anomalous particles in stream beds. Although copper subsequently proved to be of some practical value for arrowheads, knives, etc., gold, being extremely soft, had only an ornamental value. It was, nevertheless, apparently highly prized, judging from its appearance in ancient graves and the fact that it was mined. Placer mining was well established by 3800 B.C. as shown by drawings on Egyptian monuments of that era. It seems that placer mining, which has been an industry for some six thousand years, shows no signs of dying out.

One of the most famous legends involving gold is Homer's story of Jason and the Argonauts who, at about 1200 B.C. decided to launch an expedition to the southeast shore of the Black Sea (present-day northeast Turkey or southwest Russia) and raid the placer miners there. This enterprise in search of the "Golden Fleece" probably referred to the fact that the miners, having no astroturf or coco-matting, used sheepskins in the bottom of their sluices to collect fine gold. Our current word "to fleece" may have its origin from this Greek adventure in the context of "to strip of money or belongings; to swindle." In any event, the fact that Jason and his merry men undertook such a perilous voyage indicates the intrinsic value of gold at that time. It was undoubtedly used as a medium of exchange (as were cows, donkeys, campfire tripods, weapons, tools, slaves and seashells).

Coins did not appear until 800 B.C., when Croesus, King of Lydia (northwest Turkey) issued bean-shaped lumps of gold with an acceptable royal symbol stamped upon them. These have recently been assayed and found to be about 75% gold and 25% silver, which suggests their placer gold origin. It was not until about 500 B.C. that Pheidon, king of present-day southeast Greece, minted disc-shaped coins, and is thus considered the inventor of modern coinage. (There is some evidence that the Chinese were experimenting with square copper or bronze coins about this time.)

About 350 B.C. in Rome, the mediums of exchange were primarily cows or donkeys. (Our word "pecuniary" is derived from the Latin "pecus," meaning "head of cattle.") The king of the day, Servius Tullius, decided to try the Greek's system of coinage. He had a coin minted from bronze. It weighed about a pound and represented the value of one donkey. It was only marginally handier than dragging the original donkey to the supermarket. The coin was originally called an "ass" and later a "libra" (pound). For the benefit of shoppers who only wanted a pack of cigarettes, the libra was subsequently designed so that it could be broken into segments: halves, thirds, quarters, sixths and twelfths. Each piece had a Latin name but the only one which has survived to this day is the twelfth part — the "uncia" (ounce).

The bronze coins were understandably not too popular. It is unlikely that people "flipped" one-pound coins to see who would pay for lunch. Therefore, a silver coin was minted. It had a value of about 12 pounds of bronze and was called a "denarius." Sometime later, a gold coin was struck, roughly equivalent to 20 denarii. This was



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named the “solidus” or “aureus.” Both of these coins became very popular and, beginning with the expansion of the Roman Empire about 100 B.C., were used as currency throughout most of Europe for some centuries.

In the German–Austrian regions, where most of Europe’s gold and silver were mined at the time, the inhabitants changed the names of the coins: the denarius became the “pfennig,” the solidus the “schilling.” The corruption of “pfennig” to “penny” followed. (Much later, the English system of currency used the abbreviations “l” for pound, “s” for solidus or schilling, and “d” for the original denarius.)

About 780 A.D., Charlemagne, emperor of the so-called “Holy Roman Empire,” instructed his mint of Troyes in France to cut one libra (pound) of silver into 240 pennies (he called them “deniers”), i.e., 20 per ounce (“uncia”). The weight of each became a measure of weight — the “pennyweight.” In addition, a small weight had been around since antiquity: the “grain.” This was defined as “the weight of a grain of wheat.” It was a weight that varied by such factors as the rainfall and the fertility of the ground the wheat was grown in. Charlemagne redefined the grain as 1/24th of a pennyweight. After 1200 years, this system of measurement is still in use today as “Troy” (Troyes) weight. However, the Troy pound has disappeared since it was made illegal by Britain in 1879.

Charlemagne’s major contribution to measurements was in defining the grain, which is the same weight today in all three systems of weights: Troy, avoirdupois and apothecary. The Troy ounce of 480 grains proved to be somewhat heavier than the Roman “uncia” or the German “untzen.” Archeological research has shown that these measured 412.2 grains and 451.2 grains, respectively.

Apparently, the gold solidus and the silver denarius of the Romans were about the same weight, indicating that they considered gold to be 20 times more valuable than silver. Around 1792, the U.S. dollar was defined as 24.75 grains of silver: a ratio of 15 to 1. It follows that an ounce of gold in 1792 was worth \$19.39 and silver \$1.29 U.S.

In 1837, the U.S. dollar was redefined as 25.8 grains of 900 fine gold which made the price per ounce \$20.672 U.S. This price remained in effect until January 31, 1934, when the U.S. dollar was again redefined as 15 5/21 grains of 900 fine gold. This odd weight was necessary to bring the price to \$35.000 U.S. per ounce.

In the late 1960s the dollar was no longer tied to gold and the price has since reflected supply and demand.

If the value of the original libra was actually the price of one donkey, then gold was extremely valuable in Roman times and/or donkeys were extremely cheap. A few calculations will show that an ounce of gold would buy about 1500 donkeys. Finning Tractor, among others, is probably quite relieved that this situation no longer exists.