

The “Golden Plates” of which the Book of Mormon was translated from were described by Joseph Smith as “plates which had the appearance of gold, each plate was six inches wide and eight inches long and not quite so thick as common tin.... The volume was something near six inches in thickness....” (Joseph Smith, *Times and Seasons*, v3:9, March 1, 1842, 707).” Joseph’s description of the plates has puzzled believers and non-believers alike since the weight of gold plates fitting his description would have been too heavy for Joseph to carry. Such a configuration of loose metal plates, about 288 cubic inches, made of refined gold would have weighed between 175 and 225 pounds depending on the gold’s purity. Even if would were to speculate that the plates were very uneven and there was quite a bit of air space in the sack, the lightest calculation one could derive for the plated would be over 100 pounds. The biggest confusion is that the description of the plates and the estimated weight doesn’t seem to match.

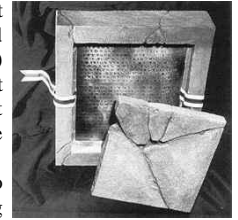


William Smith, a brother of the Prophet, who had handled and hefted the plates in a pillow-case, claimed that the set of plates weighed about 60 lb.
Willard Chase who also handled the plates in a pillow-case also places their weight at about 60 lb.
Martin Harris said that they weighed 40 to 50 lb.

It should be understood that Joseph gave the dimensions that he saw and the witnesses gave the weight according to what they lifted. There is no evidence that the plates were ever weighed or measured. Even so, the witnesses could not have been grossly off. There is one element that might explain the weight issue. Joseph described the plates as having the “appearance of gold.” The ancient inhabitants of the America’s did indeed make engravings upon a metal, which was lighter than gold but had thereof.

Recent discoveries in the America’s show that the inhabitants hammered sheets of copper, covered with a thin layer of silver or gold. This gave the sheets the appearance of precious metal (Scientific America, Hether Lechtman, 1984). Lechtman explains that the most important alloy discovered at these South American sites was a mixture of copper and gold known as “tumbaga”. When copper and gold are melted together they mix, and stay mixed after they cool and solidify. This alloy was known not only in South America, but in Mesoamerica as well. Tumbaga ranged from 97 percent gold to 97 percent copper with traces of up to 18 percent of other metals, impurities, or silver. Once the gold finish was applied to the tumbaga it would appear to be made of solid gold. Tumbaga, “the magic metal”, can be cast, drawn, hammered, gilded, soldered, welded, plated, hardened, annealed, polished, engraved, embossed, and inlaid.” (Putnam, 789, 828-829.) Nevertheless, tumbaga will destroy itself if it is not stored properly. The Book of Mormon plates were laid atop two stones, which lay across the bottom of the stone box so that the plates would not be exposed to water or dirt.

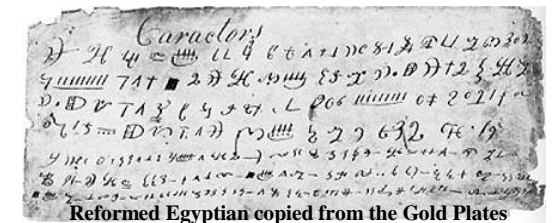
Writing on gold plates was not unique to the America’s. The Persians, Assyrians, and Babylonians all used metal plates for recording significant events and information. The gold plate of Darius (shown here) proclaims his majesty and the vast extent of his Persian empire. It was buried in a neatly made stone box in 516-515 B.C. at Persepolis.



It was important for Nephi to not only bring this long lasting form of writing with him to the New World, but it was important that the metal used be an alloy. Too little gold in the Book of Mormon plates would have made them brittle, and too much gold would have made them too heavy as well as increasing the danger of distortion during engraving. The Book of Mormon plates (which were probably tumbaga) were probably between 8 and 12 carat gold and thus would have weighed between 53 and 86 pounds. Even so, the tumbaga plates would have had the appearance of pure gold.

Research conducted by Robert F. Smith showed that “if the plates were made of the tumbaga alloy, other details fit into place. Take the color of the plates: The plates are consistently described as ‘gold’ and ‘golden.’ When tumbaga (which is red) is treated with any simple acid (citric acid will do), the copper in the alloy is removed from its surface leaving a brilliant .0006 inch twenty-three karat gilt coating. Indeed, this process was used in ancient America. Plus, this surface covering is much easier to engrave. Likewise, pure gold would be too soft to make useful plates. But tumbaga is remarkably tough and resilient....” (Robert Smith, 276.)

Another oddity with Joseph’s plates were the fact that they were written in reformed Egyptian. What was a Jewish man, whose family fathered the American Indians, doing writing Egyptian? Well, the answer might be simpler that it appears. Prior to Lehi leaving Jerusalem, the Jews had been under the rule of Egypt. In fact, since the days of Abraham the Hebrews were subject to the Egyptians more often than not. Egypt was also the major world power for much of their Old Testament existence. It made sense that well to do Hebrews would be fluent in Egyptian. It would have been necessary for trade as well as diplomacy. It would not have been odd for Lehi to know Egyptian. What is odd is that the Nephite record was apparently written in Hebrew using Egyptian characters. It makes sense when one understands the power of Egyptian writing. It is very compact, so with but a few characters entire sentences and paragraphs can be written. The Lord utilized this language to condense the writings of his record.



Reformed Egyptian copied from the Gold Plates

The Golden Plates

