

THE DAWN OF A NEW BRONZE AGE

The period in man's development known as the Bronze Age began in 3000 B.C. as copper implements, instead of stone, began appearing in mankind's toolboxes.

Bronze — a mix of copper and tin — gets top billing in the history books, even though the Copper Age (5500-3000 B.C.) preceded it. Copper was the first metal used in any quantity by man, and it was only during the final stage of the Bronze Age (around 1600 B.C.) that an increase in tin imports spurred the use of bronze in Egypt.

Bronze is harder than pure copper, so the Egyptians used it for weapons, armor, tools and, most famously, sculptures. It is particularly well suited for sculpture because it expands when heated (filling the nooks and crannies of a mold), then contracts as it cools so the sculpture is easy to remove from the mold.

Examples of bronze metalwork found among King Tut's belongings include: sculptures of a dog and snake, a scimitar or sword, a spatula, candlesticks and a trumpet — one of the earliest examples of musical instruments in history.

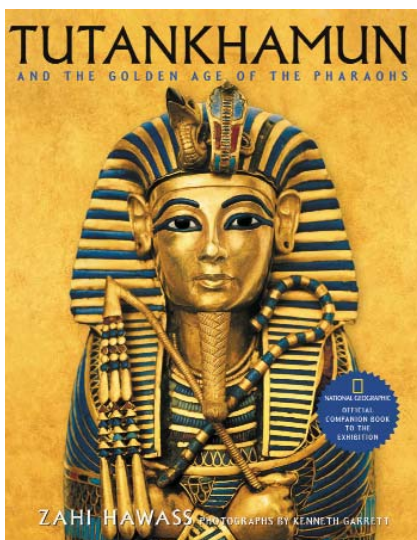
Today, bronze remains one of the world's preeminent metals. Famous artworks like Auguste Rodin's *The Thinker* were cast in bronze using the same techniques developed by the Egyptians. Thousands of years later, sculptors still rely on this process, called the "lost wax" method, to produce works of art.

Today, you might say we're undergoing a new Bronze Age as consumers embrace bronze and copper products for their home's interiors and exteriors. Decorative bronze and copper sculptures and fountains have become a fixture in many yards, as the popularity of outdoor living spaces spurs a need for al fresco décor.

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A GOLDEN AGE THAT NEVER ENDS

The ancient Egyptian boy-king, Tutankhamun, may have ruled for only 10 years some 3,000 years ago, but his name lives on today through the spectacular artifacts discovered in his tomb in 1922 by English archaeologist Howard Carter.



One of the multicolored, gold coffins that King Tut's mummy was placed inside during his burial graces the cover of the official companion book to the traveling exhibit.

For the first time in 25 years, the antiquities found in King Tut's tomb are back on tour in the USA, giving a whole new generation of Americans a chance to learn more about the early Egyptians, a civilization that flourished for 2,000 years and gave us great architectural wonders like the pyramids and the sphinx.

By viewing the exhibit's many treasures, which include elaborately jeweled vessels, a golden dagger and a gold falcon-shaped collar found on the mummy of Tutankhamun, we can see how advanced the Egyptians were at metalworking.

But gold wasn't the only metal used in ancient Egypt. Most everyday items like water vessels, hand mirrors, razors and the

chisels used to smooth the limestone blocks of the great pyramids, were made of copper, which, like gold, can be shaped and bent into many useful forms when it is hot or cold.

Copper was instrumental in another area of Egyptian expertise — agriculture. Copper picks and hoes were used to harvest crops both in this world and the next. Some 168 miniature copper farming implements — buried with King Tut to serve him in the afterlife — were recovered from his tomb.

While it was probably unknown to them at the time, copper's naturally antimicrobial properties may have helped the Egyptians produce bigger and better crops. Research conducted in the early 20th Century by Austrian forester Viktor Schauberg shows that copper ploughs (versus steel) promote healthier soil, reduce incidences of pests and increase crop yields.

Today, copper continues to help farmers across the world. Instead of tools, however, it is copper crystals and powders that are used to prevent fungal diseases in plants.



A golden diadem, inlaid with colored glass and semi-precious stones, got its coloring from minerals like copper crushed into a fine powder. Copper was used to create a blue glaze that was popular during King Tut's reign and is shown here on the head of the cobra.

Photo credit: Andreas F. Voegelin, Antikenmuseum Basel and Sammlung Ludwig

The next time you raise a glass of Burgundy or Bordeaux; you can thank copper for protecting its grapes from mildew.

"Tutankhamun and The Golden Age of the Pharaohs," featuring 50 treasures from King Tut's tomb, along with more than 70 items from other Egyptian kingdoms, will tour the United States until 2007. Four cities will host the exhibit: Los Angeles, Fort Lauderdale, Chicago and Philadelphia. For more information, visit www.kingtut.org. **Cu**

MOTHER NATURE'S MASQUERADE

While copper is known for its rich red-gold hue, it doesn't often appear that way in nature. Instead, it can be found masquerading in shades of blue, green, red and turquoise.

Thousands of years ago, the Egyptians learned that certain minerals contained valuable deposits of copper. These minerals include malachite (green), azurite (blue), cuprite (red) and turquoise (blue-green).

Malachite was especially prized because it could be easily melted down, or smelted, to obtain the copper. Turquoise, meanwhile, was mined for its own sake, as the Egyptians appreciated this natural gemstone's beauty and used it often in their jewelry.

The Egyptians also used ground, powdered copper to color religious, funerary and ornamental objects. The

process, known as faience, involved glazing objects made from silica, a material found in desert sand, and firing them in a kiln. After firing, these pieces developed a shiny blue-green patina.

Small figurines were often made this way and placed in royal tombs as offerings. King Tut's tomb contained jewelry made using faience beads, as well as vessels and figurines in this blue color. Other notable examples of Egyptian faience are the brilliant blue wall tiles in the Step Pyramid and various necklaces and belts found in pyramid tombs.

Blue glass, which is also common in Egyptian jewelry and ornamentation, is made with copper. Examples of blue and green glass can be found as inlays on such precious objects as Tut's golden throne and his solid gold funerary mask, along with much of his jewelry. **Cu**



Photo credit: Andreas F. Voegelin, Antikenmuseum Basel and Sammlung Ludwig

King Tutankhamun's Inlaid Pectoral is just one of the items found in the boy king's tomb that is on display in a new traveling exhibit titled "Tutankhamun and the Golden Age of the Pharaohs." It features semiprecious stones like turquoise, which the ancient Egyptians associated with rebirth. Turquoise belongs to the copper carbonate family of minerals and was mined along with copper in the Sinai Desert during King Tut's reign.

NEW GENERATION OF ARTISANS DISCOVER COPPER

Copper and its alloys have been used throughout the ages for artistic pursuits. Due to the metal's unique physical properties, it can be manipulated into various shapes, designs and structures of all sizes. However, putting all that aside, it also looks good! That's what drew Allan Lockridge to the metal, which he uses to make his unique and beautiful custom-fabricated tables.

Lockridge, a service technician who has installed copper gas tubing for the Alabama Gas Company for almost two decades, says an ornamental copper sprinkler head — fashioned in the shape of a butterfly — which his wife wanted to buy, inspired his artistic copper work. "I told her I'd just make her one," he said.



Allan Lockridge of Attalla, Alabama, was inspired by the ease-of-use and durability of copper to make decorative side tables using the metal. He sells his wares at local craft fairs.

Three years later, after producing hundreds of copper wind chimes, hummingbird feeders and other copper yard items, he began making tables of copper, wood and tiles.

Lockridge resides in Attalla, Alabama, where he still works for the gas company and works on his craft in his spare time. When asked what he likes most about working with copper, Lockridge replies, "Just the versatility of it. It's easy to work with; it's kind of soft, but it's very durable. It looks good, too."

Many people agree. Today, decorative copper finishes are an exciting new trend in home décor and can be found on everything from small appliances to refrigerators, countertops, fireplace surrounds and more.

For more information on copper in home décor go to www.copper.org > Copper in Your Home. **Cu**

The Dawn Of A New Bronze Age, continued

Outdoor products made from copper and bronze not only look good, they'll last virtually forever. Unlike iron and steel, copper never rusts; instead, it weathers to form an attractive patina that varies from blue-green to nut-brown depending on the climate where you live.

Distressed or "antique" copper is also a popular decorative option for home interiors and is showing up on faucets, sinks and architectural hardware. Many of these pieces are pretreated to give the metal a weathered, not bright or shiny look.

However, if it's a shine you're after, many manufacturers offer a range of copper items such as countertops, appliance fronts and decorative backslashes in glistening copper. You can even have the copper coated so it never loses its original coloring. However, if you want to take advantage of copper's naturally antimicrobial properties, you should leave it uncoated and let nature do its magic.

For more information on copper and bronze possibilities for home décor visit www.copper.org. **Cu**

RESOURCES:

"Tutankhamun and the Golden Age of the Pharaohs," Official Web Site www.kingtut.org

U.S. Geological Survey Minerals Information <http://minerals.usgs.gov/minerals/pubs/commodity/gemstones/sp14-95/turquoise.html>

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The Virtual Egyptian Museum

<http://virtual-egyptian-museum.org>