

“Silver and Gold” and the Main Metals that were Mentioned in the Hebrew Bible

Laura Tashman

Szegedi Tudományegyetem Bölcsészettudományi Kar

Using metals to produce objects to be used was not introduced to the land of Israel before the Chalcolithic period. This resulted in an enormous revolution in the culture, along with the technological method of processing these metals, this development helped with evolving the techniques of extracting it, exporting or importing smelting, and forming it into usable objects. Metals were used in everyday objects, as well as in making idols -This was a forbidden practice the Jews-, and buildings. The malleable metals that have been processed in the land of Israel were gold, silver, iron, copper, bronze, tin, and lead (Ezek 27,12)

כָּל-דָּבָר אֲשֶׁר-יָבֹא בָאֵשׁ תַּעֲבִירוּ בָאֵשׁ וְטָהָר אֵד בְּמַי גִּזְהוּ יִתְחַטָּטוּ וְכֹל אֲשֶׁר לֹא-יָבֹא בָאֵשׁ תַּעֲבִירוּ בְּמַי: (Num 31,23)

any article that can withstand fire—these you shall pass through fire and they shall be pure, except that they must be purified with water of lustration; and anything that cannot withstand fire you must pass through water. (Num 31,23)

The above verses, along with several others not quoted here that the use of metals was an important interest and concern for ancient communities in the ancient Near East and remains so to this day. Metals are the best indicators of a civilization's wealth to this day, the poverty or wealth of an area or political unit is also indicated by the amount of gold it possesses. The possession of metals was even more important in ancient times, since metals were the material used for currency that was used in everyday life. Coinage did not appear until the beginning of the Exile. In the past, metals were cast into different shapes such as rings and bars and used based on their weight in the exchange process. Minerals and metals mentioned in the Hebrew Bible 1700 times, in different contexts. The biblical account that Abram became very wealthy in livestock and silver and gold, for example, uses the term “pieces of silver” (Gen 13,2).

Six main metals are mentioned in the Bible: gold, silver, lead, tin, copper, and, iron. The most valuable were gold and silver which had special value in almost every country, due to their limited existence. They are mentioned 400 times in the Bible,¹ such as

| ¹ MARSHALL 2020: 2.

*the streets of the city in the Final Kingdom will be made of gold (Rev 21,21).
David bought the threshing floor of Araunah, the Jebusite, for fifty shekels of silver. Later, that site was the site of Solomon's temple (2Sam 24:18–25).*

Gold, silver, and copper geologically can occur in metallic form, which we call “native metals” but are considered rare compared to other metals. In general, they are found in mineral forms known as “ores”, meaning that the metal is not found alone but bound with another element, such as oxygen, carbon, or sulfur. In order to obtain the metal alone to use it for the purposes needed it has to go through a smelting process which needed the charcoal fire to separate metals from the other elements in its core.

Copper was the only metal that was extracted in the land of Israel, for the rest of the metals was imported from other regions, to be smelted and used in the land of Israel later on. Ezekiel mentions that metals were brought from the territory of present-day Turkey by the Phoenicians (Ezek 27,12), presumably transported by the Phoenicians in the form of bars and selling it on to Arab merchants (2Chr 9,14).

Metals had many uses, whether singly or combined with other metals depending on their use, which varied from making simple tools to coinage and even used in cultic and religious practices.

The first reference in the Bible to the use of metals is found in Gen 4,22 references to metals in the Bible are often combined by comments on their origin, processability, and uses.

The Bible is one of the most important sources to describe the process of smelting and extracting the metals. The texts also give an account on the purification methods and detailed descriptions on the building of the furnace and its working mechanism, and the materials that were used in the heating and reheating process which was needed to melt the metals and make it easy to shape into different objects (Job 28, 1–7). Another important information we can find in the Bible is the description of the main locations for each metal, and the places where it was imported or extracted from (Deut 4,20; Isa 48,10; Dan 3,19–20).

The tools used were mainly:

- Hammer
- Nails
- clay vessel covered with animal skin

Gold

Presumably, God's favor is more valuable than gold. (Prov 22,1).

Gold is one of the most important and most frequently mentioned metals in the Bible, even with the fact that there were almost no golden objects found in the excavations from the period between 1200 and 587 BCE.² However, there is no doubt that goldsmithing was practiced.

| ² ALTMAN 1979: 79.

The importance and evaluability of gold did not change throughout time, it kept its value and usefulness through time, and it was and remains the indication of richness, wealth, and prominence.³

Terminology in the Bible:

- *Zahab* or *dehab* (*dahab*): the name is originally from the Aramaic language, and it came from the color of gold which is yellow, the word *dehab* is still used in the everyday Arabic language for gold.⁴
- *Ketem*: the name means something concealed or hidden.
- *Ophir*, *hartus*, *betser* (*Ophir*, *h'artās*, *'betsər*), and these names may indicate the source or the quality.
- *Segor* (*'səḏḏər*): the name came from the metal compactness or its enclosing.
- *Paz* (*paz*): Negative or fine gold, also to indicate its pureness.
- *Betzer* (*'betzər*): this is the name of the ore in the ground of silver or gold when it's dug out of the mine.
- *Kethem* (*Kethem*): this name is to describe a metal when it is separated.
- Haruts (Haruts): a poetic name for gold.

Source of gold: they are Havilah (Gen 2,11–12), Ophir (1Kgds 9,28, 10,11, 1Chr 29,4, 2Chr 8,18, Job 22,24), Parvaim (2Chr 3,6), Sheba (1Kgms 10,10, 2Chr 9,9, Ps 72,15), Tarshish (2Chr 9,21, Isa 60,9) and Uphaz (Jer 10,9), many resources motioned the gold was found in the mountain of Edom, south of the Dead Sea. The unit was used for weighting the gold in the Talent.

The usage of gold:

Gold was an important factor and a valuable item used in the construction of the lavish buildings. It was also one of the main materials that were used in the construction of the tabernacle and the Temple. It was also used in the ark overlaid along with using in the manufacturing of utensils, and it was also used in building the structure of it, Gold's symbolic association with royalty made it a natural choice for the house of the King of kings and the instruments used in worshiping him.

Silver

“David bought the threshing floor of Araunah, the Jebusite, for a silver coin. That site later was the site of Solomon's temple” (2Sam 24). Silver was one of the most important and hard-to-find metals in biblical times, it was used from the time of Abraham (Gen 13,1–2). It was hard to find, even harder than gold. Probably for this reason silver is mentioned before gold in the list of what the Israelites took from the Egyptians (Exod 3,22, 11,2). Silver was shaped into many shapes such as bars or coins, and served as a medium of exchange, especially among common people, as a means to buy and sell goods far more frequently than gold. The first mention of

³ The main sources of extracting it and then transporting it were Egypt, the Arabian Peninsula, and India.

⁴ HEMINGRAY 2004: 348.

silver is in (Gen 13,2).⁵ Silver was one of the metals that had a wide variety of uses, such as commercial payments, exchanging items, and shaping into jewelry, and using the biblical sources and accessories. Silver jewelry is mentioned as a gift given to Rebekah by Abraham's servant before the girl's marriage to Isaac (Gen 24,53). Silver was also used to make dishes, bowls, candlesticks, and even for musical instruments, as mentioned in several biblical places (Num 7,13, 1Chron 28,14, Isa 30,22). Silver was one of the rare metals to be found in Israel. For a long time, it was a highly sought-after metal, until the arrival of the Greeks, who established the well-known great Laurion silver-lead mines in the 4th century BCE. The silver mined in these mines was used to mint silver coins called Greek drachmas and staters.⁶ One of the famous examples of the use of silver is the Ketef Hinnom scrolls, also called the Ketef Hinnom amulets which represent the earliest example of a quotation from a biblical text, dated to 600 BCE.⁷ Images for idolatrous worship were made of silver or overlaid with it, but its main use was in the exchange of goods as a medium of exchange. Throughout the Old Testament, we find the word "silver" used for money, similar to the French word "argent." Silver was brought to Solomon from Arabia, (2Chr 9,14) and from Tarshish, (2Chr 9,21) The Arabian silver supplied the markets of Tyre.

Source: Silver mines were worked at Laurion (near Athens) in Greece, Anatolia, and Spain, as well as the area of Wadi Hammamat along the Red Sea coast.⁸

Copper

"For the Lord your God is bringing you into a good land, a land of brooks of water, of fountains and springs, flowing forth in valleys and hills; a land of wheat and barley, of vines and fig trees and pomegranates, a land of olive oil and honey; a land where you will eat food without scarcity, in which you will not lack anything; a land whose stones are iron, and out of whose hills you can dig copper" (Deut 8,7–9). Copper is one of the metals that were extracted and found in the land of Israel in the 3rd and 4th millennia BCE. Gen 4,22 is the first mention of copper in the Bible, and it was mentioned later in Deut 8.7–9, in the recall of the events of entering the land of Israel. As Moses told the Israelites who were promised to enter the Promised Land: "Out of the mountains of the Land you will mine copper". There was a period when copper was abundant and considered an inexpensive metal, and in the time of King Solomon it was used in massive amounts in the construction of the temple, and what is more, it occurred in such large quantities that it could not be estimated (2Chron 4,18; 1Kgs 7,47).

⁵ MARSHALL 2020: 2.

⁶ On Greek coinage and its influence in the East (also Yehud and Samaria), see GRABBE 2004, 64–68.

⁷ BARKAY 2004: 41. The two amulets were found in one of the burial caves in the Hinnom Valley, Ketef Hinnom, translated as "shoulder of Hinnom." The site has been dated to the 7th–6th centuries BCE). The silver plaques contain the text of the Priestly Benediction (Num 6,24–26), finding it proved that these types of texts were well known and used not just from that time but from before the usage of the silver scrolls. As Barkay wrote, "The Ketef Hinnom inscriptions provide a terminus ante quem for the appearance of the Priestly Benediction, refuting the scholars who claim that consolidation of the Benediction took place only in the post-Exilic period." If we accept the dating of Barkay, the late 7th to early 6th centuries BCE, the text was written earlier than the Dead Sea Scrolls by over 400 years. LEMAN 2014: 1–4.

⁸ GINZBURG 1989: 44.

The uses of copper varied but was rarely used as the sole metal. As a rule, it was used in the alloys form, to make chains, pillars, vases, mirrors, cooking utensils, bracelets, spearheads, various implements, sacred vessels, and coins (Exod 26,11; 1Sam 17,5–6, 38 et passim). In biblical times, a way of forming another metal from copper was invented in when copper was mixed with tin to create what we know today as bronze. During the period of King Solomon’s rule when he was building the first Temple, it was mentioned that there was a large water basin, named “kiyyōr” “the bronze sea” (1Kgs 7,23–26; 2Chron 4,2–5).⁹After forming the copper into bronze, the usage of the new metal was more varied, like vessels and mirrors. The Bible mentions that the Israelite women donated their bronze mirrors to make bronze objects: “and he made a laver of bronze and its base of bronze, from the mirrors of the ministering women who were at the door of the tent of the meeting” (Exod 38,8).

Source: The Bible records that David looted large quantities of bronze and other metals from the neighbouring king Hadadezer (1 Sam 8,10, cf. 1 Chron 18,8). As mentioned earlier, copper was found in the land of Israel (Deut 8,9), and in Timna, near Eilat in the Valley of Arava, Wadi Nahus, which is located at the foot of the Edom mountains. Archaeological excavations discovered copper mines at Wadi Feinan.

Types of copper mentioned in the Bible:

- Burnished copper (1Kgs 7,45)
- Qalal copper (Ezek 1,7).
- Polished copper (2Chron 4,16).
- Yellowed copper (Ezra 8,27).

Terminology: The Hebrew word *nehošet* used in the biblical text may designate the element copper as well as two of its alloys, bronze, and brass.

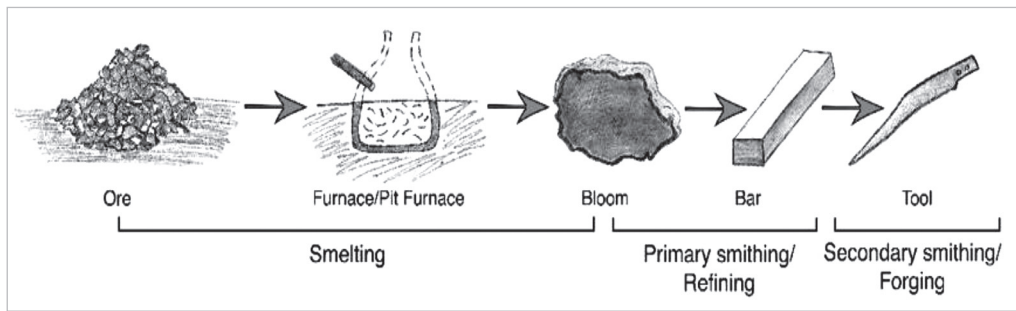
Iron

According to biblical tradition “In building the temple, only blocks dressed at the quarry were used, and no hammer, chisel or any other iron tool was heard at the temple site while it was being built.” (1 Kgs 6:7 [NKJV]).

Iron was known from in the ancient middle East from the 3rd millennium BCE. It was first known in Anatolia, and by the 2nd millennium BCE it had become known in other areas as well.¹⁰ It was known as an industrial metal to be used, but at the same time, it was one of the hardest to work with, due to the requirement of a very high temperature to be smelted and change it into a spongy mass to shape it later on and to form it required special furnaces as well as a massive amount of charcoal to reach a temperature of minimum 1200 C°. Archaeological evidence of excavations continued in Tell Hammeh in Jordan, as well as in Tell Beth Shemesh in Palestine witness of local smithing activities.

⁹ GINZBURG 1989: 46.

¹⁰ YAHALOM-MACK 2015: 285.



A schematic representation of the iron production processes: smelting, refining, and forging.¹¹ Deutero-Isaiah describes the immense effort required to produce usable iron by this method:

“The blacksmith (*hāraš barzel*) takes a tool and works with it in the coals; he shapes an idol with hammers, he forges it with the might of his arm. He gets hungry and loses his strength; he drinks no water and grows faint.” (Isa 44,12)

The uses of iron:

The number of the use of iron items increased between the 12th and 10th centuries BCE. The use of iron was rare in the bronze age, and only for prestigious and ceremonial purposes. During the Iron Age, there was an increase in the use of iron for utilitarian purposes. It was only in the 10th century BC that the use of iron became more popular, and dominated the use of other metals.

- Iron Nails and Brackets.
- Tools of various kinds, vessels, pans, basins, hooks, nets, and rings for altars, laver, and stand.
- Utilities.

Metal processing that appeared in the Late Bronze III.¹²

- Altar, temple doors, gates, locks, pillars, sockets, hooks, pins, tenons.
- Talents and coins, weights.
- Working tools like axes, spades, and ploughs.
- Weaponry: spikes, spears, swords, axes, iron-bound, chariots.
- Accessories: nails, bars, locks, wall hooks.

Sources: Iron is mentioned in Deuteronomy along with copper as a metal found in the tribal territory of Asher in the north, and in northern Galilee. Another source of copper was the southern Levant, Wadi e-Sabra in the Arava valley, some 7 km south of Petra, Ajlun district of northern Jordan.¹³

¹¹ YAHALOM-MACK 2015: 249.

¹² GOTTLIEB 2018: 436.

¹³ YAHALOM-MACK 2015: 285.

Tin

“Son of man, the house of Israel has become dross to Me; all of them are bronze and tin and iron and lead in the furnace; they are the dross of silver” (Ezek 22,18). “And I will turn my hand upon thee, and purely purge away thy dross, and take away all thy tin” (Isa 1,25) Tin can be found in its pure form as a white metal. It was not used alone but usually mixed with copper, when the when the mixture is being transformed into a yellow substance, known as bronze. Tin mixed with silver is mentioned as “dross” termed in the above citation of Isaiah as *radak*.

The uses of Tin: Tin in the smelting process was put in the furnace along with the other metals. When it is melted it is used to sink along with the other metals, but after that, it was separated from them to be used. It was not used in the manufacturing of tools, but usually in light uses such as jewelry.¹⁴ Tin was a metal that is known to the metal-workers in Israel as an alloy, mainly used for plummets, and it was not hard to find (Zech 4:10).

Sources: The sources of tin were mainly three basic areas, Spain, Portugal, Cornwall, and the adjacent parts of Devonshire, as well as the islands of Junk, Ceylon, and Banca, in the Straits of Malacca. It was rarely found in the land of Israel, and lastly the markets of Tyre.

Where is it mentioned in the Bible?

- “Gold, silver, bronze, iron, tin, lead and anything else that can withstand fire must be put through the fire, and then it will be clean. But it must also be purified with the water of cleansing. And whatever cannot withstand fire must be put through that water” (Num 31,22–23).
- “Son of man, the people of Israel have become dross to me; all of them are the copper, tin, iron, and lead left inside a furnace. They are but the dross of silver” (Ezek 22,18).
- “As silver, copper, iron, lead, and tin are gathered into a furnace to be melted with a fiery blast, so will I gather you in my anger and my wrath and put you inside the city and melt you” (Ezek 22,20).
- “Tarshish did business with you because of your great wealth of goods; they exchanged silver, iron, tin, and lead for your merchandise” (Ezek 27,12).
- “Son of man, will you judge her? Will you judge this city of bloodshed? Then confront her with all her detestable practices 3 and say: ‘This is what the Sovereign Lord says: Your city that brings on herself doom by shedding blood in her midst and defiles herself by making idols’ (Ezek 22,18–20).
- “Tarshish did business with you because of your great wealth of goods; they exchanged silver, iron, tin and lead for your merchandise” (Ezek 27,12).

| ¹⁴ GINZBURG 1989: 49.

Lead

Lead was one of the metals that are rarely found in its pure form. It was not found in Israel but was brought from Syria and Asia Minor. The main use for lead was to make writing instruments, weights, and throwing instruments out of it. Job speaks of pen and writing as well as the weights for nets to be used in fishing and to form writing tablets as well (Job 19,23–24). In the Second Temple period it was also used for weights and sling stones (Job 19,23–24).

Lead is one of the metals that was used on its own, without being mixed with other metals. The extraction of it is an easy process, due to its presence as a single metal in its ores. Lead was not in the holy land it was exported from Egypt and the Sinaitic Peninsula, also from Northern Syria and Asia Minor, usually it is available in numerous amounts with silver, zinc, and copper (Ezek 27,12). Its use and extraction started from 6400 BCE in Anatolia.¹⁵

One of its properties is its low melting point, which made it easier to shape, which made the Romans to use it to manufacture water pipes, and pins to secure them, instead of iron. In Israel the most important use of it was in the plumb lines.¹⁶ One of the most impressive discoveries about lead is from the Eastern Roman Empire, an amulet with a curse written on it. It was an important discovery due to the message on the scroll that was deciphered by the epigraphers, after several decades. The curse was to place a hex on an opposing chariot racer. The most important feature of the amulet is that it was written in Aramaic and the use of the words indicates that the writer has a significant knowledge about the Jewish society and beliefs in the fifth century CE.¹⁷

Sources: Lead usually was found together with silver. It may have been obtained from the mines of Gebel Rusas near the Red Sea. The ancient sources of lead were Asia Minor and Syria, and it was included among the metals brought by the Phoenicians from Tarshish (Ezek 27,12).

Conclusion

The purpose of the metal used was determined by the method of smelting, whether it was used alone or mixed with other metals. Metals were used for practical, ornamental, and cultic purposes. The exploration of “silver and gold” and the primary metals mentioned in the Hebrew Bible has unfolded a rich tapestry of historical, cultural, and religious significance. This comprehensive investigation has delved into the multifaceted roles of silver and gold, examining their economic, symbolic, and ritualistic dimensions in the ancient societies that revered them. As we conclude this study, it is evident that the nuanced analysis of these metals contributes significantly to our understanding of the socio-economic and religious landscapes of the biblical world.

One of the central findings of this research is the pervasive presence of silver and gold in various aspects of daily life. These metals were not merely commodities for wealth; they were

¹⁵ WAGNER, 2002.

¹⁶ BOLDYREV 2018: 23.

¹⁷ BARKAY 2004: 41.

integral to trade, craftsmanship, and the material culture of ancient civilizations. The Hebrew Bible serves as a crucial repository of information, revealing the prominence of silver and gold in transactions, gifts, and the adornment of sacred spaces. By examining biblical passages, we gain insights into the economic structures and the valued resources that underpinned ancient societies.

Moreover, the symbolic and ritualistic dimensions of silver and gold emerge as key themes in our analysis. The Hebrew Bible illuminates how these metals transcended their material worth to become symbols of purity, prosperity, and divine favor. The meticulous study of religious texts unveils the intricate relationship between silver, gold, and the sacred. From the construction of the Ark of the Covenant to the embellishment of the Temple, these metals were pivotal in expressing religious devotion and establishing a connection between the earthly and the divine.

The intersections between practicality and symbolism underscore the complexity of the roles played by silver and gold in the biblical narrative. The duality of these metals as both tangible assets and symbols of transcendence adds layers to our understanding of the cultural mindset of ancient communities. It prompts us to consider how these materials were perceived, valued, and integrated into the daily practices and spiritual beliefs of the people of that time.

As we reflect on the results of this research, it is crucial to acknowledge the limitations and areas for future exploration. While this study has provided an overview of the roles of silver and gold in the Hebrew Bible, there is still much to uncover. Future research could delve deeper into the archaeological evidence, exploring the material remains of ancient sites to enhance our understanding of the production, distribution, and consumption of these metals.

Furthermore, a comparative analysis with other ancient cultures could offer valuable insights into the cultural universality or uniqueness of the roles played by silver and gold. By examining how these metals were perceived and utilized in neighboring civilizations, scholars can develop a more holistic understanding of their significance in the broader ancient Near Eastern context.

In conclusion, the study of “silver and gold” in the Hebrew Bible has opened a door to a fascinating realm of historical inquiry. By deciphering the intricate layers of meaning attributed to these metals, we gain not only a glimpse into the material culture of the biblical world but also a profound understanding of the spiritual and cultural values that shaped ancient societies. As the exploration of these themes continues, it is our hope that future research will unveil even more facets of the enduring legacy of silver and gold in human history. The value of the metal was also determined by its use, e.g., precious metals were used to show the lavish way of life, and were used in mansions and temples also to coat some areas in the temples like the doors or the altar, and the most used metal for this purpose was gold. Despite the primitive tools and available resources of people in the biblical times, could find impressive ways to extract, export, and import the metals in their single form as well as mixed with other metals. They also could find a way to produce an enormous heat with the furnaces that they built using only charcoal to produce enough heat to melt those metals and separate them from each other when needed, as needed.

Bibliography

ALTMAN, Janina

1979 *Gold in Ancient Palestine. Methods of fabrication in successive cultures*. Haifa: Department of Chemistry — Technion-Israel Institute of Technology.

BARKAY, Gabriel, et al.

2004 The Amulets from Ketef Hinnom: A New Edition and Evaluation. *Bulletin of the American Schools of Oriental Research*, 41–71.

BOLDYREV, Mikhail et al.

2018 Lead: Properties, History, and Applications. *Wiki Journal of Science*, 1–23.

GINZBURG, Dov

1989 Exploitation and Uses of Metals in Ancient Israel According to Biblical Sources and Commentaries. *Earth Sciences History* 8/1, 43–50.

GOTTLIEB, Yulia

2018 Judah of Iron vs. Israel of Copper: The Metalworking Development in the Land of Israel and Its Historical Implications. In BEN-YOSEF, Erez (ed.), *Mining for Ancient Copper: Essays in Memory of Beno Rothenberg*. University Park, PA: Eisenbrauns; Tel Aviv: Emery and Claire Yass Publications in Archaeology of the Institute of Archaeology, 435–454.

GRABBE, Lester L.

2004 *A History of the Jews and Judaism in the Second Temple Period*, Volume 1, *Yehud: A History of the Persian Province of Judah*. London: T&T Clark.

HEMINGRAY, Peter

2004 Metals in the Bible. *The Testimony*, August 2004, 474–477.

MARSHALL, Derek

2020 *The Chemistry of God: The Creation Function and Periodicity of Elements*. Santa Ana, CA: Trilogy Christian Publishing, 2022.

WAGNER, Clarence H.

2002 Metalworking in the Bible: Turning Spears into pruning Hooks. *International Review of Biblical Studies* 30/4, 262–265.

YAHALOM-MACK, Naama — ADI, Eliyahu-Behar

2015 The Transition from Bronze to Iron in Canaan: Chronology, Technology, and Context. *Radiocarbon* 57/2, 285–305.