
The Iron Age

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Beginning of Ironworking

A. Egypt

Modern archeology has brought to light iron objects in the form of tools, implements, weapons, and jewelry from as far back as predynastic and early dynastic Egypt. Jewelry in the form of iron beads from the predynastic period came from Gerzah. Iron tools and an iron plate were found embedded in the masonry of the pyramid of Cheops and the pyramid temple of Mendure (Mycerinos), both of the 4th Dynasty (ca 2500 B.C.). A lump of iron from Abydos dated to the 6th Dynasty (ca 2200 B.C.) differs from the meteoric iron used by primitive man. The low nickel content has led A. Lucas to conclude that it is made of nonmeteoric iron and R. Forbes suggests that it may have been manufactured as a by-product of the process of refining gold. Other iron objects come from the 11th (ca 2000 B.C.) and the 18th dynasties (ca 1500 B.C.). The meteoric origin of early iron in Egypt is directly implied by its Egyptian name, "metal of heaven," but iron was originally also produced as a by-product of gold. Literary evidence for the early use of iron comes from various Egyptian texts and the Amarna Letters (14th cent. B.C.).

B. Mesopotamia

In Mesopotamia chance survivals of iron objects have been found primarily from the ruins of Ur, Tell Chagar Bazar, Tell Asmar, and Mari from the first half of the 3rd millennium B.C. An iron dagger of Ur from the 3rd millennium B.C. is made of meteoric iron. The Sumerian ideogram for iron and the later derivative cuneiform signs point again to the celestial (meteoric) origin of iron. However, an iron dagger blade from Tell Asmar in Iraq

(ca 2800 B.C.) is shown to be of man-smelted iron (Maryon, p. 173). Thus there is evidence that iron in small quantities was produced from terrestrial ores. There is also a considerable amount of literary evidence for iron in early times in documents many of which are from the time of Hammurabi (18th cent. B.C.).

Dagger with iron blade, gold and glass handle, rock-crystal knob, and gold sheath, from the tomb of Tutankhamen (Egyptian Museum, Cairo; picture Lehnert and Landrock)

C. Anatolia

The earliest evidence is an iron sword from Alaca Hüyük, near Ankara, from ca 2400–2100 B.C. The reason for the scarcity of iron objects, even from the time of the Hittites (ca 1400–1200 B.C.), may be explained by the oxidation of iron in wet climates. It is quite certain that the art of iron smelting was discovered by the Hittites of Anatolia at ca 1400 B.C. Thus iron was in the ancient Near East both a newcomer and a metal known of old. There is literary evidence from the time of the Hittite king Hattusilis III (1289–1265 B.C.) which indicates that the Hittite territory was the source of iron for Assyria in the 13th cent. B.C. (Gurney, p. 83). It seems that the Hittites maintained a monopoly on iron until their final destruction ca 1200 B.C. Then Hittite ironsmiths settled here and there in the ancient Near East, taking with them their trade secrets.

D. Syria-Palestine

An iron inset in a gold ring from Byblos comes from as early as ca 1825 B.C. At Ugarit an iron battle-axe was discovered from the 15th–14th cent. B.C., but in the 14th cent. B.C. iron in Ugarit was apparently more expensive than silver (Syria, 30 [1953], 194). It is generally believed that the Philistines introduced iron into Syria-Palestine, but if the Philistines came from Crete rather than from the north (Anatolia), this hypothesis is difficult to maintain (see Winnett).

The OT literary evidence contributes significantly to a more complete understanding of the availability and use of iron in Syria-Palestine. On one occasion Israelite soldiers under the leadership of Moses returned from combat against the combined Midianite forces and brought with them rich spoils among which was iron (Nu. 31:22). The iron and other metal objects captured at the destruction of Jericho were dedicated to Yahweh (Josh. 6:24). On another occasion the Israelites were allowed to divide among themselves the iron and other spoils taken from their Canaanite enemies (Josh. 22:8). The possession of "iron chariots" (see IRONSMITH) by the Canaanites proved to be a major obstacle in Joshua's conquest of Bethshean, the Valley of Jezreel, and the coastal plain (Josh. 17:16, 18; Jgs. 1:19). During the time of the judges Israel was sorely oppressed by the "iron chariots" of the Canaanite king Jabin of Hazor (Jgs. 4:2f.). The early references to iron from the time of the Conquest clearly indicate that the Canaanites were in possession of iron before the invasion of the sea-peoples (Philistines) ca 1200 B.C. Later passages show indisputably, however, that the Philistines were able to establish and enjoy a local monopoly on the production and sale of iron which gave them an unusual advantage that they knew how to exploit (1 S. 17). The Philistines prevented Israel from the manufacture of iron weapons and tools in order to protect their own monopoly on iron and made Israel dependent on Philistine ironsmiths for all services (1 S. 13:19–22). Iron was still not plentiful in Israel at that time.

The first material evidence for iron in Palestine in well-authenticated associations consists of an iron dagger, an iron knife, and iron jewelry from Late Bronze tombs (late 12th or early 11th cent. B.C.) of Tell el-Fâr'ah (Sharuh). Also from twelfth- and eleventh-century-B.C. tombs (nos 58, 84, 85) at Gezer came various iron implements. At Megiddo the Canaanite city of stratum VI yielded an iron dagger and an iron knife from about

1150 B.C. At Bethshemesh iron objects in the form of weapons, jewelry, ornaments, and tools date from the late 11th cent. B.C. (stratum III). The excavations at Gerar yielded a number of iron objects (dagger, lance-head, knife) from the 11th cent. B.C. An iron plough-tip was found at Saul's Gibeah (11th cent. B.C.). Iron was introduced at Tell el-Ḥesī and at Lachish before the 10th cent. B.C.

An authentic ancient iron mine on the soil of Palestine is the one at Mugharet el-Wardeh not far from Tulûl edh-Dhahab, the ancient Penuel. The reference to the bed of iron of Og, king of Bashan (Deuteronomy 3:11), points to the working of this mine, or some other in that part of Transjordan, as early as the time of Moses, or earlier. Tell Deir 'allā (Succoth?) has revealed an advanced metallurgical industry for smelting and casting of iron and copper both prior to and after the time of Solomon (cf. 1 K. 7:45; 2 Ch. 4:17). The presence of iron slag at the mining and smelting camps along the Wādī el-'Arabah is evidence that iron ore was mined and smelted there during the Iron Age. In Cisjordan an iron foundry was excavated at Tell el-Qasīleh. Iron ores were also found near Mt. Carmel, Mt. Hermon, southwest Midian, and the Lebanon Mountains.

This extrabiblical evidence coincides with the biblical records which indicate that a change took place with the establishment of the Hebrew monarchy. Iron became plentiful in Israel during the reign of David. The Chronicler reports that David laid up "great stores of iron" (1 Ch. 22:3) which were later employed for the construction of the temple (1 Ch. 29:7). There is evidence that in the Davidic period the iron-tipped plow was employed on a large scale (Wright, p. 95), which led to increased productivity of the soil and permitted the Israelite population to increase significantly. In David's day almost every farmer was able to own iron axes, mattocks, plowpoints, pruning hooks, and sickles (2 S. 12:31 = 1 Ch. 20:3). The recovery

of the iron axe-head from the Jordan by Elisha (2 K. 6:5) adds evidence for the use of iron implements in the 9th cent. B.C. The expression “iron from the north” in Jer. 15:12 may suggest that the Hebrews got their iron from the Phoenicians in the north, who probably brought it from Anatolia (Ezk. 27:12, 19).

Iron hoe (left) and plowshare, 10th cent. B.C., found at Tell Jemmeh, 10 km (6 mi) S of Gaza (Israel Department of Antiquities and Museums)

II. Iron in the Pentateuch

Scholars have often taken exception to the mention of iron in certain parts of the Pentateuch (cf. Gen. 4:22; Deuteronomy 3:11; 8:9). The finds of iron objects in the ancient Near East from prehistoric and historic times provide conclusive archeological evidence that iron was known and used long before the time of Moses, and that statements in the Pentateuch about the early use of iron are in harmony with known facts.

A. Tubal-cain

According to ancient Hebrew tradition Tubal-cain is associated with the beginning of ironworking in that he produced various implements of bronze and iron (Gen. 4:22). This is no anachronism. The author of this passage traces in summary fashion the origin of bronze-working and ironworking to the ancestor of all metallurgical experts. The “hammering” (lṭš) of iron does not imply the complex art of mining, smelting, casting, and forging of iron as developed later. Archeology has shown that early iron was hammered.

B. Og’s Iron Bed

In Deuteronomy 3:11 Og king of Bashan is said to have had a “bedstead of iron” (NEB “sarcophagus of basalt”). The iron for this “bedstead” (‘ereś) may have come from the rich iron ores and smelting area of Mugharet el-Wardeh. The entire bed may not have been of solid iron. It probably had iron fittings or trimmings like the “beds of ivory” (Am. 6:4)

which were inlaid with ivory, or the bronze bed from Tell el-Fâr’ah which was a bed with bronze fittings. Sometimes the word “iron” in this passage has been translated as “basalt,” and correspondingly the word for “bed” as “sarcophagus.” These suggestions lack contemporary literary support, as does the suggestion that the bed refers to a dolmen (see DOLMENS).

C. Palestine’s Iron Ore

Palestine is described as a land “whose stones are iron-ore and from whose hills you will dig copper” (Deuteronomy 8:9, NEB). The discussion above (I.A) has shown that Palestine is a country of iron ore. The fact that both iron and copper were mined and smelted within the confines of Solomon’s realm was a literal fulfillment of this passage.

III. Iron as a Symbol

In many instances iron is a colorful biblical symbol. The strength of iron is contrasted with that of straw in Job 41:27 (MT 19). The strength of life is like bolts of iron and bronze (Deuteronomy 33:25). The stump and roots of a tree are as strong as iron and bronze fetters (Daniel 4:15, 23). The iron sky and the bronze earth are symbols for drought and infertility (Lev. 26:19; Deuteronomy 28:23). Bronze and iron as compared with gold and silver refer to Israel’s corruption (Jer. 6:28; cf. Ezk. 22:18). The smelting of iron in the furnace is a symbol of testing, cleansing, and suffering (Deuteronomy 4:20; 1 K. 8:51; Jer. 11:4; Ezk. 22:18). The “pillar of iron” (Jer. 1:18) is a symbol of strength; the “iron sinew” is a symbol of stubbornness (Isa. 48:4); the “iron rods” are a figure of speech for strength (Job 40:18); the “rod of iron” of rulership is symbolic of harshness (Ps. 2:9; Rev. 2:27; 12:5; 19:15). The sharpening process of iron with iron symbolizes the sharpening of one man’s wits with that of another so that his capacity of perception becomes as keen as a razor blade (Prov. 27:17).

The comparative valuation of metals plays an important role in the symbolism of the four

world empires of Daniel 2: gold = Babylon, silver = Medo-Persia, bronze = Greece, and iron = Rome. Iron is the least valued metal in this scale (cf. Hesiod's five ages in *Works and Days* 106–201). Though inferior in value as compared with the other metals, iron is superior in strength. The powerful iron teeth of the fourth beast in Daniel 7:7, which symbolize the same power that is portrayed by the iron legs of Daniel 2:40, speak of the superior strength and intense power of destruction of this beast as it devours and subdues other nations. From these examples it is apparent that iron is a symbol of unsubdued power, unusual force, and firm persistence while it is at the same time inferior in value to gold, silver, and bronze on the symbolic scale.

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