

When I first read the Book of Mormon I was intrigued that Nephi had a steel bow. It did seem like an anachronism. (My own interest in bows and arrows began when my uncle very carefully made one of wood for me when I was a boy. So this got my attention). Later I learned that this bow of Nephi caused concern for many people. Many claimed that steel wasn't known in 600 B.C.

These critics must not have read the Old Testament, at least not very carefully, as it reveals something about steel. In Samuel it reads, "He teacheth my hand to war; so that a bow of steel is broken by mine arms." (2 Samuel 22:35). It seems ironic that when steel is mentioned in 1 Nephi it's stated, "And it came to pass that as I, Nephi, went forth to slay food, behold, I did break my bow, which was made of fine steel...." (1 Nephi 16:18). Since Samuel the prophet of the Old Testament lived at the time of David, this would have been approximately 1000 B.C. His mention of steel predates Nephi by roughly 400 years.

Perhaps a more serious objection to steel being in the New World before Columbus is that mentioned in the Jaredite record within the Book of Mormon. The recorded statement is, "Wherefore, he [Shule] came to the hill Ephraim, and did molten out of the hill, and made swords out of steel ..." (Ether 7:9). It is not known exactly when Shule lived, but he was the great-grandson of Jared. As a very rough approximation, this would have been about 2100 B.C. Did the Jaredites invent steel after coming to the New World, or did they bring a knowledge of this metal with them from the Old? I don't know. But I do know, along with most people, that steel is a combination of iron and carbon.

Whether steel is low or high grade depends on a number of factors, including the quality of materials used, technique, and

process involved. Nephi said that his bow was made of fine steel. No mention is made of the quality of the steel of Shule's swords (Ether 7:9). Now, when was the first steel produced, and by whom? There is much conflicting information about this.

One serious problem is that iron and steel rust, so ancient evidences of these metals are rare. It seems probable, though, that since iron has been known in the form of iron-nickel meteorites from ancient times that man worked with it. A Mesopotamian knife blade of iron, dated to the 28th Century B.C. was reported in a work by Hugh Nibley (1988, p. 214). He also stated that iron beads from Egypt had been dated to about 3500 B.C. (1988, p. 215). A low grade of steel could be produced from molten iron mixed with the coals of a fire. This might have been done, if only accidentally, by ancient peoples independently in various parts of the world. Metallurgist R. J. Forbes commented, "It is doubtful whether the ancients knew any direct method of producing steel, but they produced it accidentally when they treated suitable ores." (1950, p. 409). For me there is no problem in believing that the Jaredites and Nephites both used steel. Common sense alone allows for this. However, to date no archaeological evidence has yet been found showing the manufacture of steel among the Jaredites or Nephites. Such evidence, though, might yet be discovered.

Glass is another of the items that Book of Mormon critics have used to discount the Book, stating that glass was not present in the Americas before the time of Columbus. Actually, glass is not mentioned as being in the New World by either the Jaredites or Nephites. Its mention only comes in the repeating of a chapter of Isaiah in 2 Nephi. "The glasses, and the fine linen, and the hoods, and the vails." (Isaiah 3:23; 2 Nephi 13:23).

The only other place in the Book of Mormon where I could find a mention of glass is in the Book of Ether. Here it's stated that the brother of Jared, "... did molten out of a rock sixteen small stones; and they were white and clear, even as transparent glass ..." (3:1). A possible inference of glass is also recorded in Ether. Here the statement is, "What will ye that I [the Lord] should do that ye may have light in your vessels? For behold, ye cannot have windows, for they will be dashed to pieces ..." (2:23).

Now, back to the critics. They have used the existence of glass in the New World as an argument against the validity of the Book of Mormon, claiming it wasn't present in the Americas during this time. If so, then they have not read the Book carefully. As noted above, the glass (actually glasses) mentioned in the Nephite record is just a quote from Isaiah. The glass referred to in the Jaredite record was one made while these people were still somewhere in the Old World - not yet in the Americas. Some critics have said that there was no record of glass even in the Old World at the time of the Jaredites.

Therefore this, too, would cast doubts on the Book of Mormon being a true account. However, this is also a false assumption. Glass beads and other glass objects are known from ancient Egyptian and Mesopotamian archeological sites. Obtained dates for these go back over 3000 years B.C. (Diamond, 1953, p. 10; Macfarlane and Martin, 2002, p. 10). This significantly pre-dates the Jaredite record.

Glass has actually been around in different forms before man was on earth. Volcanic glass is one type. It is not transparent, though, such as the kind listed in Ether (3:1). Another type of glass is produced when lightning strikes sand or a sandy soil. This kind of glass is known as a fulgurite. Thin pieces of fulgurite can be

transparent depending upon the composition of the sand struck. However, this kind of glass is very irregular in shape, and difficult to work.

Another type of natural “glass” is isinglass. At one time it was commonly used for windows, especially in horse-drawn carriages of various types. This material is a mica called muscovite, which is usually “white and clear” as mentioned in the scripture above. If isinglass were the material considered by the brother of Jared for barge windows, these windows would have been “dashed in pieces” (Ether 2:23), if strong waves struck them. However, it just isn’t known whether the Jaredites were able to produce glass or not. But since there is no record of them actually producing or having (glass) in the New World, there can be no valid criticism regarding this issue.