

~ARK (178)

.. Design and Size

.. Ample Carrying Capacity

Noah's ark was the provision by which forefathers of all mankind survived the global Deluge of **2370-2369 B.C.E.** Detailed instructions were given to Noah by Yehowah as to its size, shape, design for light and ventilation, and materials to be used for its construction.

- Make for yourself an **ark** out of wood of a resinous tree. You will make compartments in the **ark**, and you must cover it inside and outside with tar. (**Genesis 6:14**)
- And this is how you will make it. Three hundred cubits the length of the **ark**, fifty cubits its width, and thirty cubits its height. (**Genesis 6:15**)
- You will make a tsohar roof, or, window for the **ark**, and you will complete it to the extent of a cubit upward, and the entrance of the ark you will put in its side; You will make it with a lower story, a second story and a third story. (**Genesis 6:16**)

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- The ark, Hebrew *te-vah'*, Greek *ki-bo-tos'*, was a rectangular chest-like vessel presumably having square corners and a flat bottom. It needed no rounded bottom or sharp bow to cut rapidly through the water, it required no steering. Its only functions were to be watertight and to stay afloat.

- A vessel so shaped is very stable, cannot be easily capsized, and contains about one third more storage space than ships of conventional design. There was a door provided in the side of the ark for loading and unloading the cargo.

- In size the ark was 300 cubits long, 50 cubits wide, and 30 cubits high. Conservatively calculating the cubit as 44.5 centimeters (17.5 inches) although some think the ancient cubit was nearer 56 or 61 centimeters), the ark measured 133.5 meters by 22.3 meters by 13.4 meters (437 feet 6 inches × 72 feet 11 inches × 43 feet 9 inches), less than half the length of the ocean liner *Queen Elizabeth 2*.

- This proportion of length to width (6 to 1) is used by modern naval architects. This gave the ark approximately 40,000 cubic meters (1,400,000 cubic feet) in gross volume. It is estimated that such a vessel would have a displacement nearly equal to that of the mighty 269-meters (883 feet) *Titanic* of this 20th Century. No cargo vessel of ancient times even slightly resembled the ark in its colossal size.
- Internally strengthened by adding two floors, the three decks thus provided gave a total of about 8,900 square meters (96,000 square feet) of space.
- You will make a *tso'har*, roof or, window for the ark, Noah was told.
- You will make a tsohar roof, or, window for the ark, and you will complete it to the extent of a cubit upward, and the entrance of the ark you will put in its side. You will make it with a lower story, a second story and a third story. (Genesis 6:16)
- Just what this was or how it was constructed is not altogether clear. Some scholars think *tso'har* is related to light and so they translate it window (KJ, Mo), light (AS, JP), a place for light (Ro). Others, however, associate *tso'har* with a later Arabic root meaning, back of the hand, back of a beast, deck of a ship, that is, the part away from the ground or water, and for this reason translate it roof. (AT, RS, JB) This *tso'har*, Noah was told, was to be completed to the extent of a cubit upward.
- You will make a tsohar roof, or, window for the ark, and you will complete it to the extent of a cubit upward, and the entrance of the ark you will put in its side, you will make it with a lower story, a second story and a third story. (Genesis 6:16)
- It could be, therefore, that the *tso'har* provided for adequate light and ventilation, not just a single cubit-square peephole, but an opening a cubit in height near the roof and extending around the four sides to give an opening of nearly 140 square meters (1,500 square feet). On the other hand, while still allowing an ample opening for ventilation under the roof or elsewhere, the roof could have had slightly angled sides.
- Regarding this possibility James F. Armstrong wrote in *Vetus Testamentum* (Leiden, 1960, p. 333); **Unto a cubit upward you shall finish it is difficult to understand when *sohar* is translated either light, window**

or even flat roof. If, however, a gable-type roof be postulated, the **one cubit upward** can refer to the elevation of the crease of the roof above the level of the tops of the walls.

- In modern architectural terms, the **one cubit** would be the height of the kingposts between which the ridgepiece is laid. According to the argument that has been presented, the roof of Noah's ark was conceived as having a four per-cent pitch, 1 cubit elevation / 25 cubits from wall to ridge, quite adequate to permit the water of the rains to flow off.

- Of what this huge ark was to be built was made plain by Yehowah; Make for yourself an ark out of wood of a resinous tree, literally, trees of gopher.

- Make for yourself an ark out of wood of a resinous tree. You will make compartments in the ark, and you must cover it inside and outside with tar. (**Genesis 6:14**)

- This resinous wood here prescribed is thought by some to be cypress or a similar tree. In that part of the world what today is called cypress was in abundant supply. It was particularly favored for shipbuilding by the Phoenicians and by Alexander the Great, as it is even down to the present time. It is especially resistant to water and decay. Doors and posts made of cypress are reported to have lasted 1,100 years. In addition, Noah was told not merely to caulk the seams but **to cover the ark inside and outside with tar**.

See Also BITUMEN.

•• Ample Carrying Capacity

- The passenger list of the ark was quite impressive. Besides Noah, his wife, his three sons, and their wives, living creatures of every sort of flesh, two of each, were to be taken aboard. Male and female they will be. Of the flying creatures according to their kinds and of the domestic animals according to their kinds, of all moving animals of the ground according to their kinds, two of each will go in there to you to preserve them alive.

- Of the clean beasts and fowls, seven of each kind were to be taken. A great quantity and variety of food for all these creatures, to last for more than a year, also had to be stowed away.

- **And I do establish my covenant with you, and you must go into the ark, you and your sons and your wife and your sons' wives with you. (Genesis 6:18)**
- **And of every living creature of every sort of flesh, two of each, you will bring into the ark to preserve them alive with you. Male and female they will be. (Genesis 6:19)**
- **Of the flying creatures according to their kinds and of the domestic animals according to their kinds, of all moving animals of the ground according to their kinds, two of each will go in there to you to preserve them alive. (Genesis 6:20)**
- **And as for you, take for yourself every sort of food that is eaten, and you must gather it to yourself, and it must serve as food for you and for them. (Genesis 6:21)**
- **Of every clean beast you must take to yourself by sevens, the sire and its mate, and of every beast that is not clean just two, the sire and its mate. (Genesis 7:2)**
- **Also of the flying creatures of the heavens by sevens, male and female, to preserve offspring alive on the surface of the entire earth. (Genesis 7:3)**
- **The **kinds** of animals selected had reference to the clear-cut and unalterable boundaries or limits set by the Creator, within which boundaries creatures are capable of breeding according to their kinds. It has been estimated by some that the hundreds of thousands of species of animals today could be reduced to a comparatively few family **kinds**, the horse kind and the cow kind, to mention but two.**
- **The breeding boundaries according to **kind** established by Yehowah were not and could not be crossed. With this in mind some investigators have said that, had there been as few as 43 **kinds** of mammals, 74 **kinds** of birds, and 10 **kinds** of reptiles in the ark, they could have produced the variety of species known today. Others have been more liberal in estimating that 72 **kinds** of quadrupeds and less than 200 bird **kinds** were all that were required.**
- **That the great variety of animal life known today could have come from inbreeding within so few **kinds** following the Flood is proved by the endless variety of **humankind**, short, tall, fat, thin, with**

countless variations in the color of hair, eyes, and skin, all of whom sprang from the one family of Noah.

- **These estimates may seem too restrictive to some, especially since such sources as *The Encyclopedia Americana* indicate that there are upwards of 1,300,000 species of animals. (1977, Vol. 1, pp. 859-873) However, over 60 percent of these are insects. Breaking these figures down further, of the 24,000 amphibians, reptiles, birds, and mammals, 10,000 are birds, 9,000 are reptiles and amphibians, many of which could have survived outside the ark, and only 5,000 are mammals, including whales and porpoises, which would have also remained outside the ark.**
- **Other researchers estimate that there are only about 290 species of land mammals larger than sheep and about 1,360 smaller than rats. [*The Deluge Story in Stone*, by B. C. Nelson, 1949, p. 156, *The Flood in the Light of the Bible, Geology, and Archaeology*, by A. M. Rehwinkel, 1957, p. 69]**
- **So, even if estimates are based on these expanded figures, the ark could easily have accommodated a pair of all these animals. Five months after the Deluge began, the ark came to rest on the mountains of Ararat, likely atop the uppermost peak (nearly 5,165 meters, 16,950 feet), but on suitable terrain where everyone aboard lived comfortably for some months more. Finally, after a year and ten days from the time the Deluge began, the door again was opened and all aboard disembarked.**
- **In the six hundredth year of Noah's life, in the second month, on the seventeenth day of the month, on this day all the springs of the vast watery deep were broken open and the floodgates of the heavens were opened. ([Genesis 7:11](#))**
- **And in the seventh month, on the seventeenth day of the month, the ark came to rest on the mountains of Ararat. ([Genesis 8:4](#))**
- **And in the second month, on the twenty-seventh day of the month, the earth had dried off. ([Genesis 8:14](#))**
- **Claims that remains of the ark have been found are as yet unconfirmed.**