



## The Atlatl

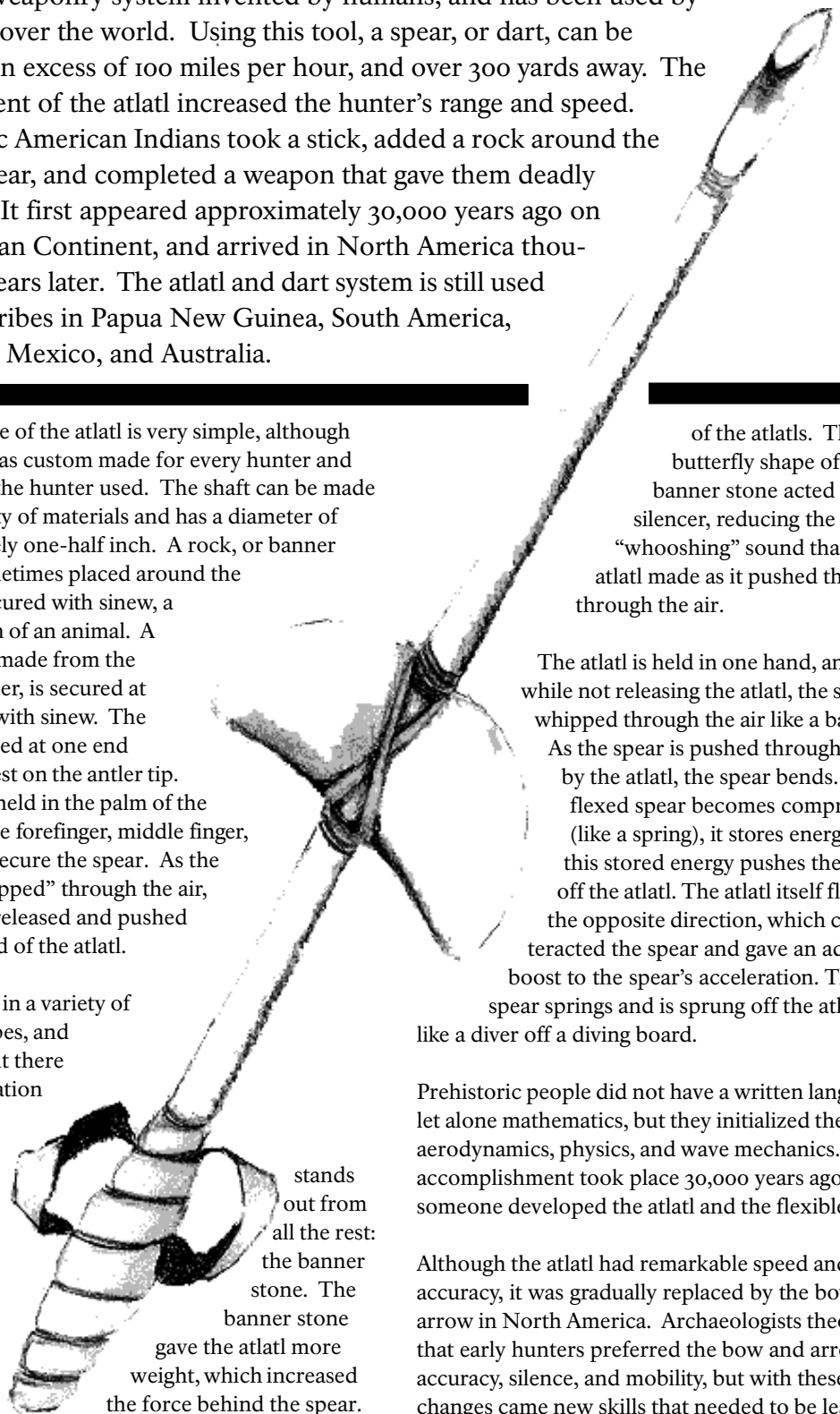


The atlatl (AT-lat-ul or AT-ul-LA-tul), or “spear thrower,” was the first complex weaponry system invented by humans, and has been used by people all over the world. Using this tool, a spear, or dart, can be launched in excess of 100 miles per hour, and over 300 yards away. The development of the atlatl increased the hunter’s range and speed. Prehistoric American Indians took a stick, added a rock around the shaft, a spear, and completed a weapon that gave them deadly accuracy. It first appeared approximately 30,000 years ago on the Eurasian Continent, and arrived in North America thousands of years later. The atlatl and dart system is still used today by tribes in Papua New Guinea, South America, northwest Mexico, and Australia.

The structure of the atlatl is very simple, although each atlatl was custom made for every hunter and every spear the hunter used. The shaft can be made from a variety of materials and has a diameter of approximately one-half inch. A rock, or banner stone, is sometimes placed around the shaft and secured with sinew, a dried tendon of an animal. A hook, often made from the tip of an antler, is secured at the top end with sinew. The dart is notched at one end which will rest on the antler tip. The atlatl is held in the palm of the hand, and the forefinger, middle finger, and thumb secure the spear. As the atlatl is “whipped” through the air, the spear is released and pushed off of the end of the atlatl.

Atlatls come in a variety of lengths, shapes, and materials, but there is one innovation that truly

Illustration by  
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of the atlatls. The butterfly shape of the banner stone acted as a silencer, reducing the “whooshing” sound that the atlatl made as it pushed the spear through the air.

The atlatl is held in one hand, and, while not releasing the atlatl, the spear is whipped through the air like a baseball. As the spear is pushed through the air by the atlatl, the spear bends. The flexed spear becomes compressed (like a spring), it stores energy, and this stored energy pushes the spear off the atlatl. The atlatl itself flexes in the opposite direction, which counteracted the spear and gave an added boost to the spear’s acceleration. The spear springs and is sprung off the atlatl just like a diver off a diving board.

Prehistoric people did not have a written language, let alone mathematics, but they initialized the use of aerodynamics, physics, and wave mechanics. This accomplishment took place 30,000 years ago when someone developed the atlatl and the flexible spear.

Although the atlatl had remarkable speed and accuracy, it was gradually replaced by the bow and arrow in North America. Archaeologists theorize that early hunters preferred the bow and arrow for accuracy, silence, and mobility, but with these new changes came new skills that needed to be learned. The time, energy, and skills needed to make a bow were more involved than to create an atlatl. Throughout time the bow and arrow system became widely accepted and atlatl use in North America ended.

It also acted as a timing mechanism. The hunter could place the stone higher or lower along the shaft and could coordinate the transfer of energy between the atlatl and the spear, thus optimizing its speed and distance. Over time, butterfly-shaped rocks were fixed around the shaft