

## NORTH AMERICAN BOWS, ARROWS, AND QUIVERS.

By OTIS TUFTON MASON.

"If the canopy of Heaven were a bow, and the earth were the cord thereof; and if calamities were the arrows, and mankind the marks for those arrows; and if Almighty God, the tremendous and the glorious, were the unerring archer, to whom could the sons of Adam flee for protection? The sons of Adam must flee unto the Lord."—*Timur's Institutes*, p. xlviii.

In no series of museum specimens is the natural history of human invention better exemplified than in the apparatus of war and the chase. The history of warfare especially involves the right understanding of two words—offense and defense. The perfecting of defensive apparatus has been stimulated by the perfecting of weapons of offense, and on the contrary the ingenuity of the human mind has been taxed to make the offensive implement of war more powerful than the defensive.\* Protection of the body is secured by what is generally termed armor. The protection of the family, the tribe, the army corps, is achieved by fortification of some kind.

In the modern art of war this conflict of defense against offense reaches its climax in the built-up steel rifle-cannon and the nickel and steel Harveyized armor plating. One of the modern guns will send its shot quite through a plate 20 inches thick. Now the primitive form of this terrible projectile was the arrow, and of the steel plate the ancestor was the trifling hide and stick armor of savagery.

Offensive implements in all ages and stages of culture are for three purposes—to bruise, to slash, and to pierce the body of the victim.

Bruising weapons are found everywhere, but were highly developed in the Polynesian area, because there abundance of hard wood exists and little stone with conchoidal fracture for chipping.

Among the African savages, because they possess iron which may be worked from the ore, edge or slashing weapons have been especially elaborated.

Among the American aborigines, where obsidian, jasper in all its varieties, chert, quartz, and other siliceous stones abound, piercing weapons seem to have been the favorite class.

\* These two subjects as developed by the American aborigines will be treated subsequently. Shields and armor will be described by Mr. Walter Hough.