

CHAPTER  
**13**

## Section 3

SCIENCE & TECHNOLOGY *Medieval Technology in Hand Weapons*

*Though much of military technology during the Middle Ages was designed for laying siege to castles, there were significant developments in weapons for individual soldiers.*

The hand crossbow originally was invented in China in the 13th century B.C. The Greeks significantly enlarged the weapon and renamed it the siege ballista. After the breakup of the Roman Empire, the story of the hand crossbow becomes vague. However, historians know that it was independently introduced in Europe around the tenth century A.D.

The crossbow was composed of a bow that was made of horn or wood. It was mounted on a stock, the long supporting rod that held the bow. A catch and trigger were also built on the stock. Pulling a string connected to the trigger allowed the crossbow to be fired.

Initially, the crossbow was a light weapon with a trigger that could be locked by hand. As its power increased, the soldier had to rest it on the ground to gain the leverage needed to reset the catch. The end of the stock was then equipped with a metal stirrup for a soldier's foot. When the bow was made of steel, the trigger became impossible for a single person to lock.



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**In 1346, the Battle of Crécy was fought between the English and the French. A soldier in the lower lefthand corner resets the catch on his crossbow.**

Crossbows fired many types of missiles. Most of these weapons shot bolts that were about 15 inches long and made of wood or iron. Some had a vane, or feathers, for stability. At times, the crossbow was modified to shoot round stones or lead pellets. One variation had a barrel on it through which iron bolts were shot.

The size of the crossbow was different in each country. The English version was small and had a bow only two feet wide and a stock about 18 inches long. On the other hand, the French model was almost three feet wide and weighed 15 pounds. Soldiers could aim this weapon accurately at 150 yards and still seriously injure an enemy soldier or horse at up to 300 yards.

Crossbows could inflict terrible wounds. In fact, in 1139 Pope Innocent II decided that the crossbow was too deadly and outlawed its use for a time. Though warriors could strike fear in the hearts of their enemies by using this weapon, its slow rate of fire (one crossbow shot to three longbow shots) also made it deadly to the shooters.

This weapon was able to be used by essentially untrained troops. In contrast, archers using the longbow required many years of practice to build up strength and accuracy. The cavalry also adopted the crossbow, and sailors used it effectively from the crow's nest to prevent the enemy from boarding their ships.

With the steel bow, this armament became the most powerful weapon in Europe. However, its effectiveness lasted only until the middle of the 15th century when guns started coming into wide use.

## Questions

1. **Clarifying** Name two types of missiles that crossbows fired.
2. **Comparing and Contrasting** Compare the weaknesses of the crossbow to those of the longbow.
3. **Drawing Conclusions** Why did Pope Innocent II ban the use of the crossbow?