

TECHNOLOGY HAS CHANGED EVERYTHING

Or
Covering Human
Mayhem from
Spears to Nuclear
Weapons

By Thomas C. Gibbons



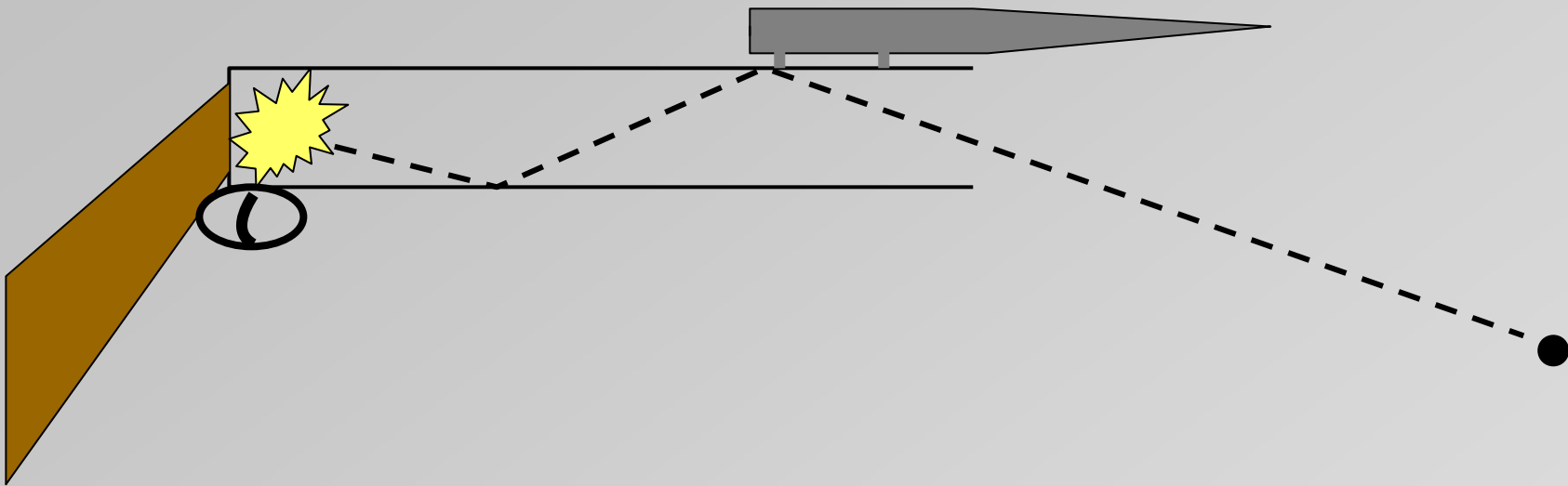
TECHNOLOGY HAS CHANGED EVERYTHING

Or
Covering Human
Mayhem from
Spears to Nuclear
Weapons

CHAPTER 3

US CIVIL WAR: TECH SUPPORT





**Smoothbore muskets were not accurate, but they could be deadly at close range if many were fired together in a volley.
But there is a way to make the shots far more accurate.**

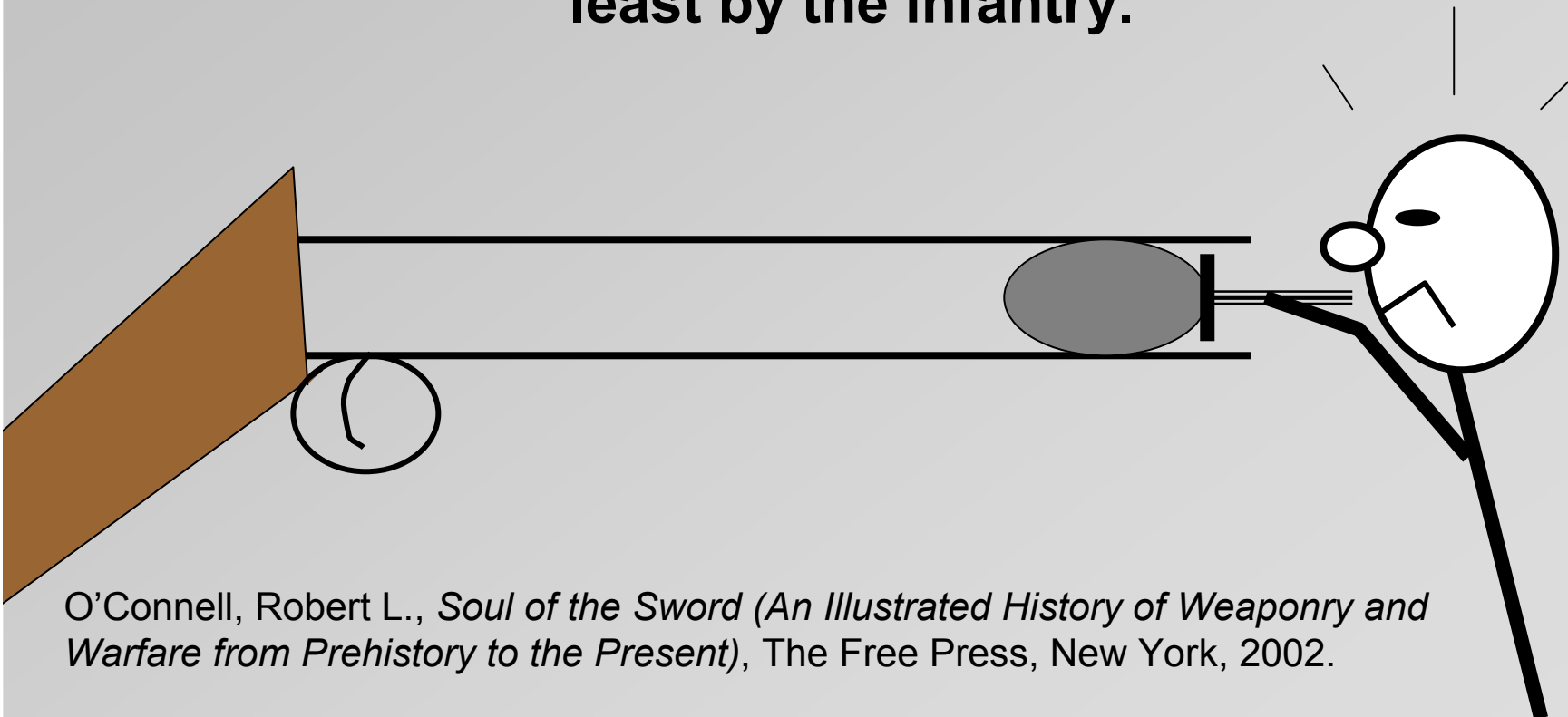
O'Connell, Robert L., *Soul of the Sword (An Illustrated History of Weaponry and Warfare from Prehistory to the Present)*, The Free Press, New York, 2002.

**Rifled cannon from the civil war at the
Antitam (Sharpsburg) battle site. (My Picture)**



A rifle, with spiraling grooves inside the barrel, can spin the bullet and make it more stable in flight. Thus the accuracy can be much greater for either a hand-held rifle or a cannon.

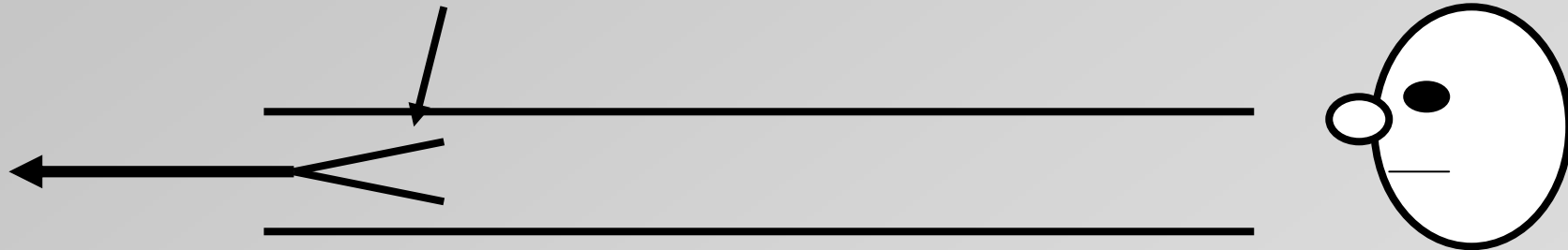
Since the rifle bullet had to fit snugly into the barrel, these were slow and difficult to load. The bullet had to be pounded in. During that time, the enemy on a battlefield could get off more smooth bore musket shots, than the rifleman, so the rifles were not used much until nearly the time of the US Civil War, at least by the infantry.



O'Connell, Robert L., *Soul of the Sword (An Illustrated History of Weaponry and Warfare from Prehistory to the Present)*, The Free Press, New York, 2002.

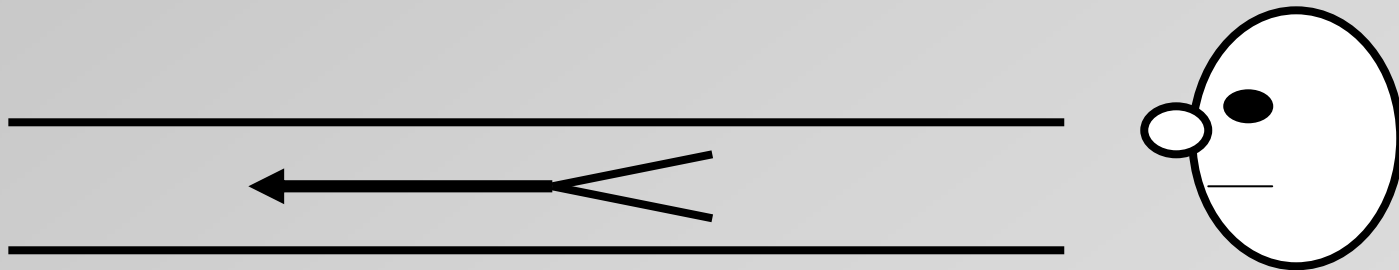
A rifle based on a blowgun dart (noticed in southern India by a British Captain named Norton about 1832) was produced in time for the US civil war.

**SPACE FOR EASY
MUZZLE LOADING**



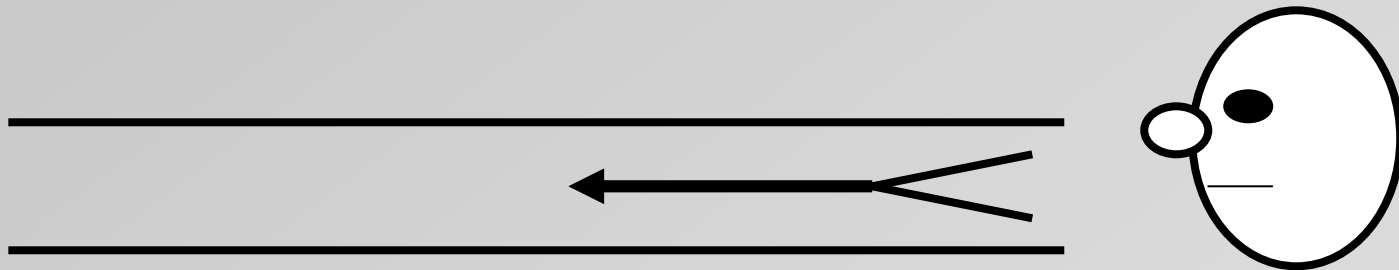
Soul of the Sword

A rifle based on a blowgun dart (noticed in southern India by a British Captain named Norton about 1832) was produced in time for the US civil war.



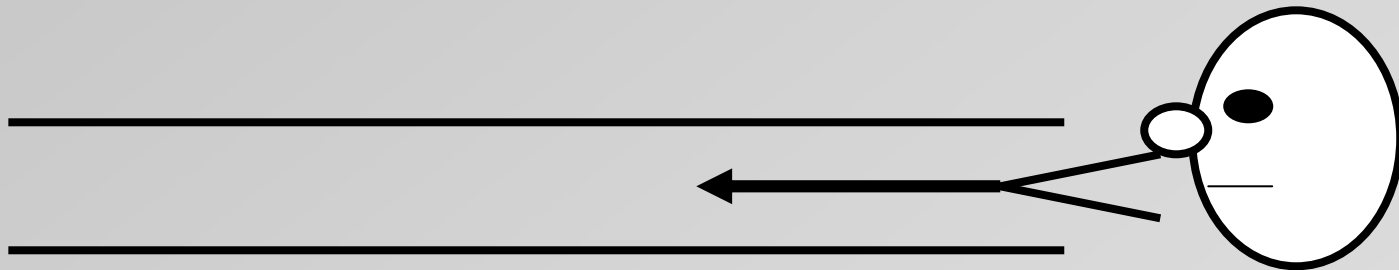
Soul of the Sword

A rifle based on a blowgun dart (noticed in southern India by a British Captain named Norton about 1832) was produced in time for the US civil war.



Soul of the Sword

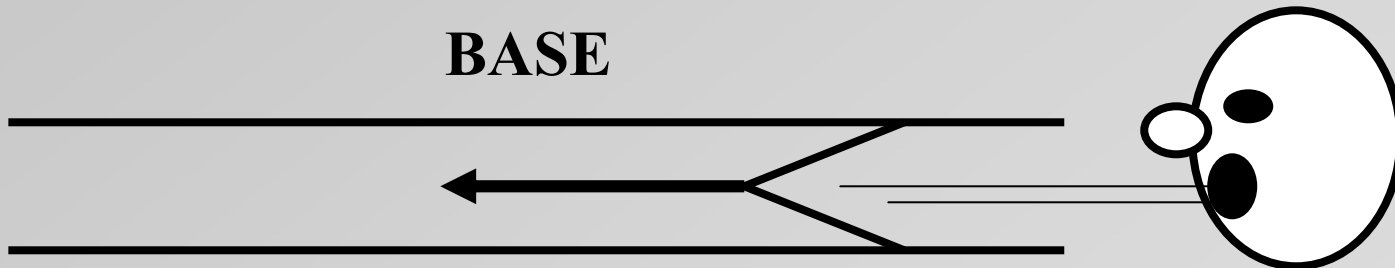
A rifle based on a blowgun dart (noticed in southern India by a British Captain named Norton about 1832) was produced in time for the US civil war.



Soul of the Sword

A rifle based on a blowgun dart (noticed in southern India by a British Captain named Norton about 1832) was produced in time for the US civil war.

**TIGHT SEAL DUE TO AIR
PRESSURE EXPANDING THE
BASE**



Phoooooooooo!!

Soul of the Sword



**COULD FLARE
OUT FOR A
TIGHT SEAL
BECAUSE OF
THE FORCE OF
THE BURNING
POWDER**

**A style of bullet usually credited to Claude Etienne
Minie', a French army officer, in 1849.**

**However, it was also developed by James Henry
Burton at the Harpers Ferry armory.**

My Picture of bullets that I bought at a Civil War battlefield



**COULD FLARE
OUT FOR A
TIGHT SEAL
BECAUSE OF
THE FORCE OF
THE BURNING
POWDER**

Civil War soldiers called them “Minnie Balls”, and they made a charge across an open field obsolete long before the civil war commanders realized it was obsolete.

My Picture of bullets that I bought at a Civil War battlefield

**That played the major, but not the only, role
in a very dramatic increase in casualties
during the US civil war.**

**When an army attacked by charging across
an open field, the defensive line could start
shooting them – accurately – at up to a
thousand yards away as opposed to the 50
to 100 yards for the older, smooth-bore
musket.**

That is an extra 900 yards or so within which the charging soldiers were sitting ducks. Their opponents were still firing volleys so, not to be too gruesome, but they were often just chopped to pieces. Gettysburg is the best known, but far from the only, example.

**Check some of these casualty figures:
(Next Slide)**

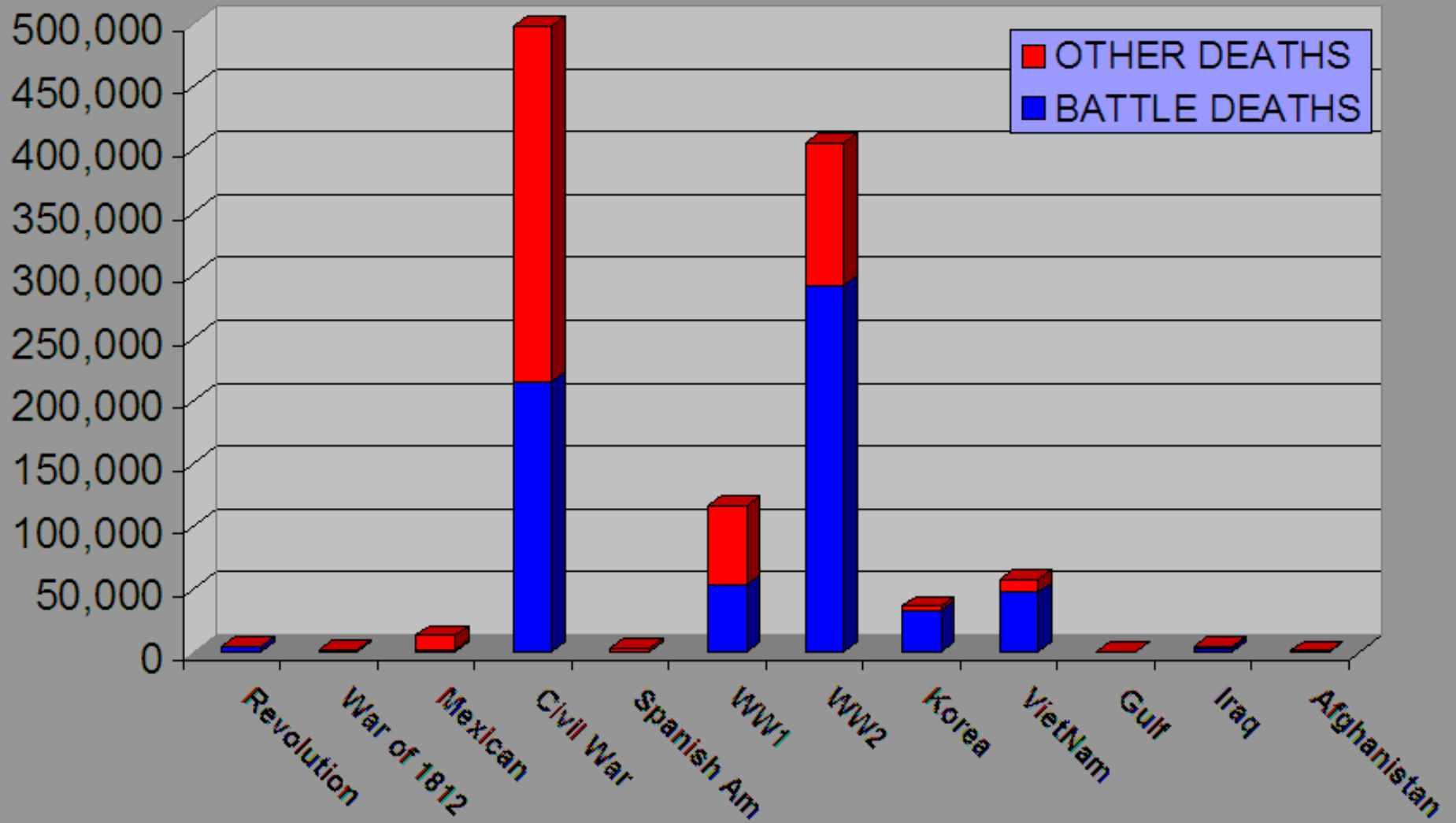
A site with more discussion of rifles and other civil war weapons and their effects.

<http://www.encyclopedia.com/doc/1G1-118956477.html>

Also try this one.

<http://www.civilwarhome.com/civilwarweapons.htm>

Battle Deaths (Blue) and Total Deaths (entire column) in US Wars



SOURCES NEXT SLIDE

<i>WAR</i>	<i>BATTLE DEATHS</i>	<i>TOTAL DEATHS</i>
Revolution	4,435	Unknown
War of 1812	2,260	Unknown
Mexican	1,733	13,283
Civil War BOTH SIDES	214,938	498,332
Spanish Am	385	2,446
WW1 US DEATHS ONLY	53,402	116,516
WW2 US DEATHS ONLY	291,557	405,399
Korea	33,741	36,574
VietNam	47,424	58,209
Gulf	147	382
Iraq Through 9/8/2010	3,492	4,418
Afghanistan Through 9/9/2010	967	1270

US NAVY DEPARTMENT LIBRARY (Except Iraq + Afghanistan)

<http://www.history.navy.mil/library/online/american%20war%20casualty.htm>

IRAQ SOURCE: <http://abcnews.go.com/Politics/wireStory?id=11587629>

AFGHANISTAN SOURCE: <http://abcnews.go.com/Politics/wireStory?id=11597002>

AFGHANISTAN DATA INCLUDES SURROUNDING TERRITORY

**The total for all the wars listed here, except for the
Civil War, is --**

645,192

(Using battle deaths for the first two wars and total deaths otherwise.)

**That is not much more than the total given for the Civil
War, and some sources do give at least that many for
the Civil War.**

**There were reasons for this besides rifles (next few
slides and next chapter), but rifles and the inability to
adjust to them were major reasons for it.**

Actually, much better breech-loading rifles were available at the time. They had been developed by the 1850's by famous names such as Horace Smith and Daniel Wesson and by Benjamin Henry working for Oliver Winchester. In 1858, a Scientific American article said that Henry's gun could shoot 30 shots in less than a minute (quoted in *Soul of the Sword*).

They were not adopted early in the Civil War and only for cavalry later in the war. Why?

Well, listen to the following quote.....

“One thing we sometimes overlook is that although the Civil War was fought a long time ago and was fought with weapons which today look extremely archaic, it was, nevertheless, the first of the modern wars.”

“Unfortunately, the head of the Navy’s Ordnance Department throughout most of the war was an old fossil who thought that the muzzle-loading smooth-bore musket was good enough for everybody and didn’t see why there should be any improvement.”



← An “old fossil”

Catton, Bruce, *Reflections on the Civil War*, Berkley Books, New York, 1982.

(Note, however, that they might not have been able to produce enough ammunition to arm everyone with the breechloaders)

<http://www.civilwarhome.com/weapons.htm>

Under the circumstances, forget about repeating rifles. The single-shot muzzle-loaders that they did use were deadly enough. They should have started digging in World War I style, and they did start that eventually, but it took a long time.

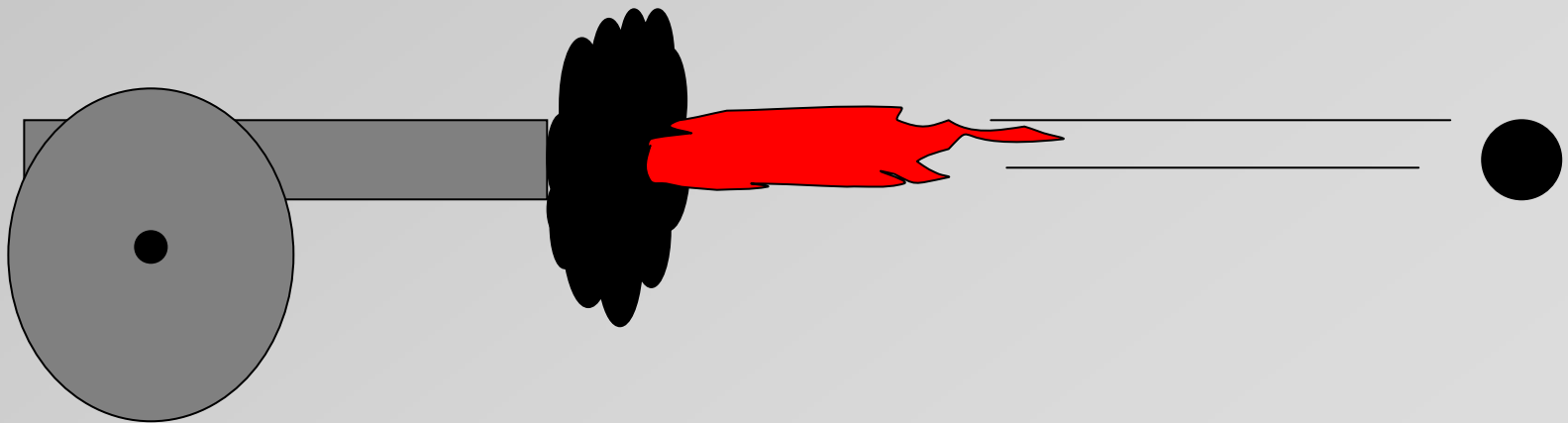


Defensive positions dug on the Petersburg battlefield (my picture), one of the last Civil War battles.

<http://www.nps.gov/pete/index.htm>

There were also other new weapons at the time of the Civil War, which provided other reasons for the deadly nature of that war.

If the infantry is charging you, you can't hit very many of them with a single cannon ball, but...



“...for close range work, the artillery fired canister. Canister was a tin can, about the size of a large-sized can of tomato juice, filled with bullets the size of golf balls or smaller. The charge of powder was put in the guns, and this can of bullets was put in on top of it. The artillery piece was fired, and it had the effect of a sawed-off shotgun. The range of a canister was extremely short, less than 200 yards, but at close range it was simply murderous. Whole ranks would be blown apart by a battery firing canister at a 50-yard range.”



Another quote from:

Catton, Bruce, *Reflections on the Civil War*, Berkley Books, New York, 1982.

For more on Civil War Artillery (there were many types), as well as other Civil War weapons, check the following sites:

Civil War Artillery Sites

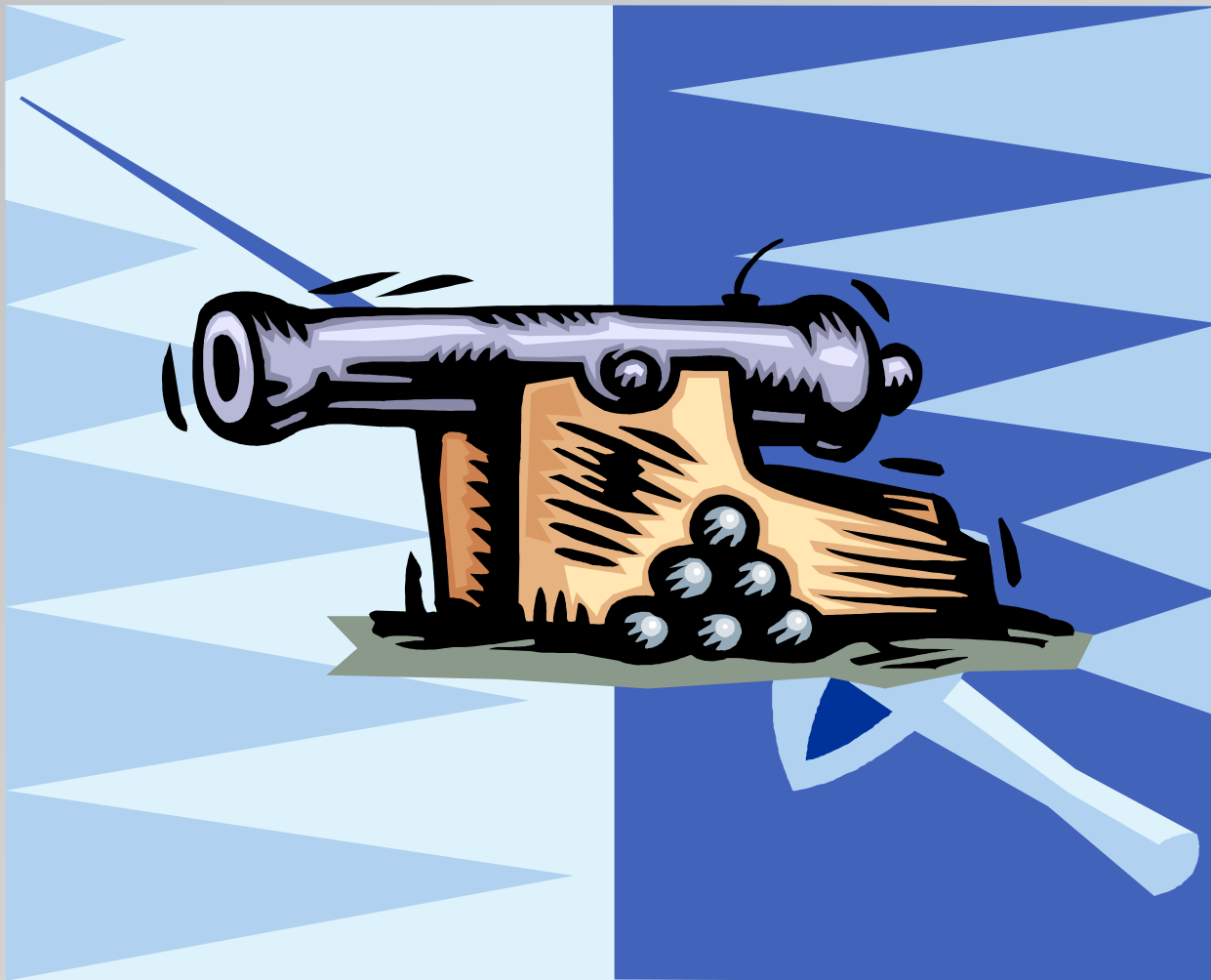
<http://www.cwartillery.org/artammo.html>

<http://www.civilwarartillery.com/basicfacts.htm>

Weapons of the American Civil War – Artillery

<http://www.civilwarhome.com/weapons.htm>

Following along with the theme that there is nothing like war or expected war to make the weapons researchers jump up and produce, the next chapter will show some more of their results.



TECHNOLOGY HAS CHANGED EVERYTHING

Or
Covering Human
Mayhem from
Spears to Nuclear
Weapons

Please continue
and return to the
War Home Page.
Then go on to
Chapter 4.

