

Thinking about Military History in an Age of Drones, Hackers, and IEDs

Paul J. Springer, PhD
Air Command and Staff College
Maxwell AFB, AL



Official disclaimer: The views presented in these slides do not reflect the views or official policy of the United States Government, the Department of Defense, the United States Air Force, Air University, Air Command and Staff College, or my departmental Colleagues. They only marginally reflect my opinion on matters, unless you really like them.

They may not be recorded or rebroadcast without the expressed written consent of the National Football League.

Violators will receive a sternly-worded e-mail. Or at least a sharp glare from across the room.

Thesis: Robots and cyber war constitute a Revolution in Military Affairs (RMA) that is currently occurring and will permanently alter warfare. The United States, which leads in the creation and adoption of these forms of technology, has the unique opportunity to shape the RMA and prevent some of its negative consequences.

-RMAs permanently alter the nature of warfare. Early adopters of RMA changes obtain a decisive advantage over opponents who do not adapt.

-RMAs do not occur instantaneously or in a vacuum, they are the sum of changes in technology, doctrine, and strategy.

-Robotic and Cyber systems are changing very quickly, but are the product of decades of innovation and experimentation.

-Robots will not only change how wars are fought, they will also change the decision-making cycle for whether to go to war.

-Cyber war will blur the civil-military divide.

-These technologies create a host of legal and ethical issues. Ignoring these concepts will not make them go away.

Revolution in Military Affairs:

When a technological, doctrinal, or strategic innovation fundamentally alters warfare so as to render previous conventions of warfare obsolete.

The result of an RMA is a period of asymmetry, followed by widespread adoption of the change and frequent reshuffling of power dynamics. Being first is not always a lasting advantage in an RMA.



Nicolai Ogarkov

Typical Siege Durations

High Middle
Ages



Calais

1346-47

12 months

Cherbourg

1418

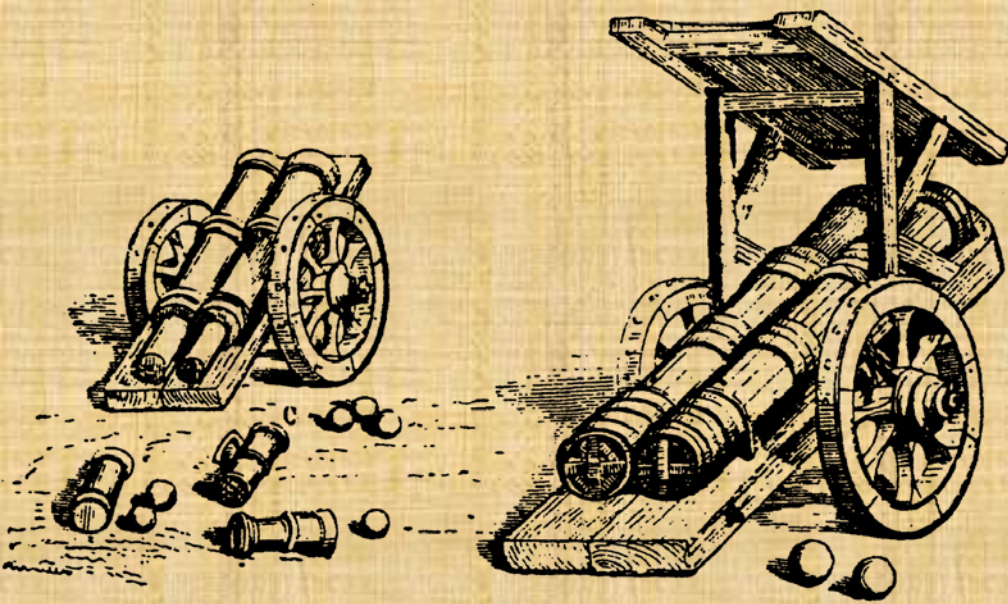
7 months

Rouen

1418-19

6 months





Artillery Development

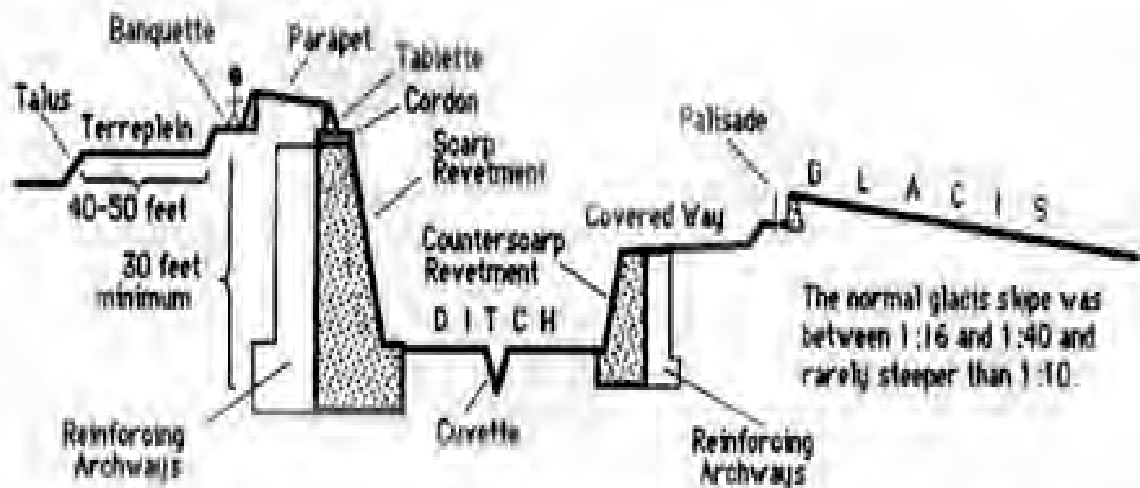


Typical Siege Durations

High Middle Ages	Calais	1346-47	12 months
	Cherbourg	1418	7 months
	Rouen	1418-19	6 months

Gunpowder Revolution

Late Middle Ages	Harfleur	1449	17 days
	Bayeux	1450	16 days
	Blaye	1451	5 days



Trace Italienne



Neuf-Breisach about one mile from the Rhine and the border with Germany. Built by Vauban between 1697 and 1700 to counter German fortress at Breisach on the Rhine.

Typical Siege Durations

High Middle Ages	Calais	1346-47	12 months
	Cherbourg	1418	7 months
	Rouen	1418-19	6 months

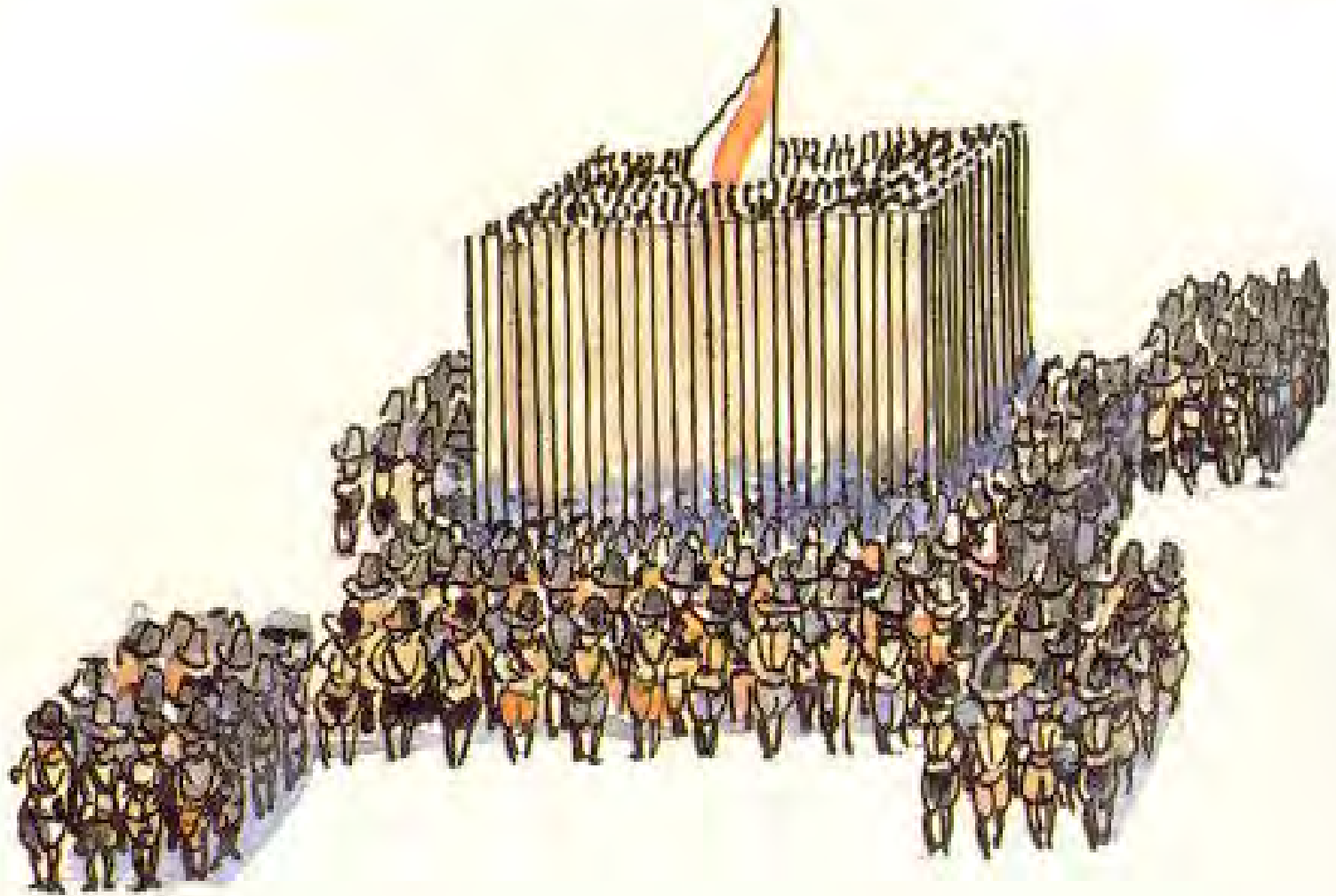
Gunpowder Revolution

Late Middle Ages	Harfleur	1449	17 days
	Bayeux	1450	16 days
	Blaye	1451	5 days

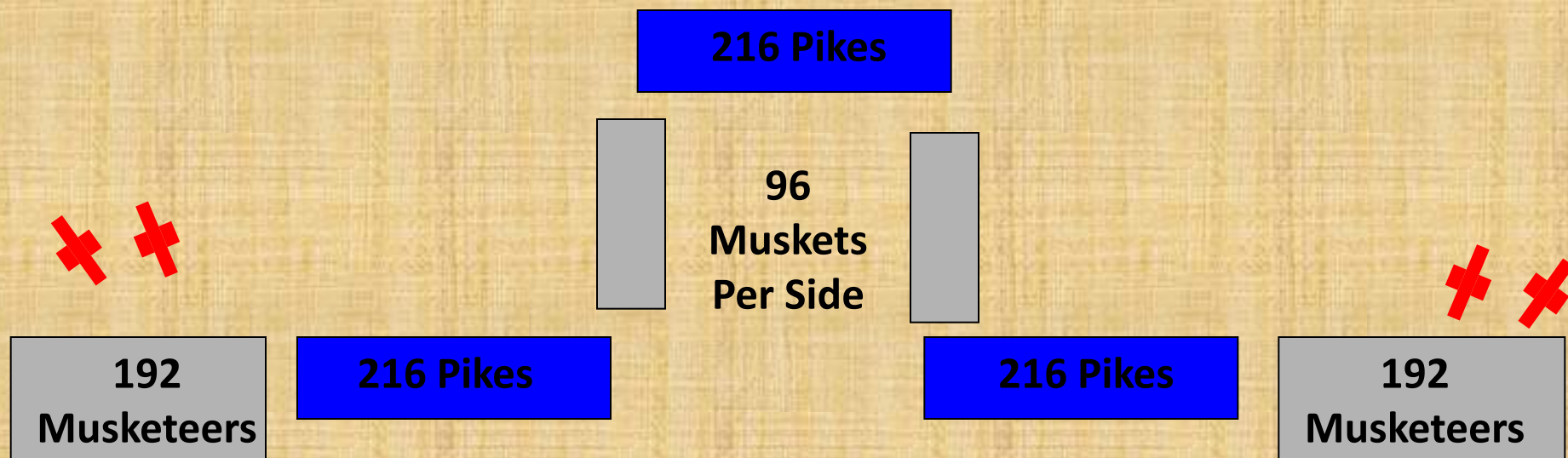
Fortress Revolution

Early Modern Period	Haarlem	1572-73	7 months
	Leyden	1573-74	12 months
	Breda	1624	9 months

Spanish Tercio

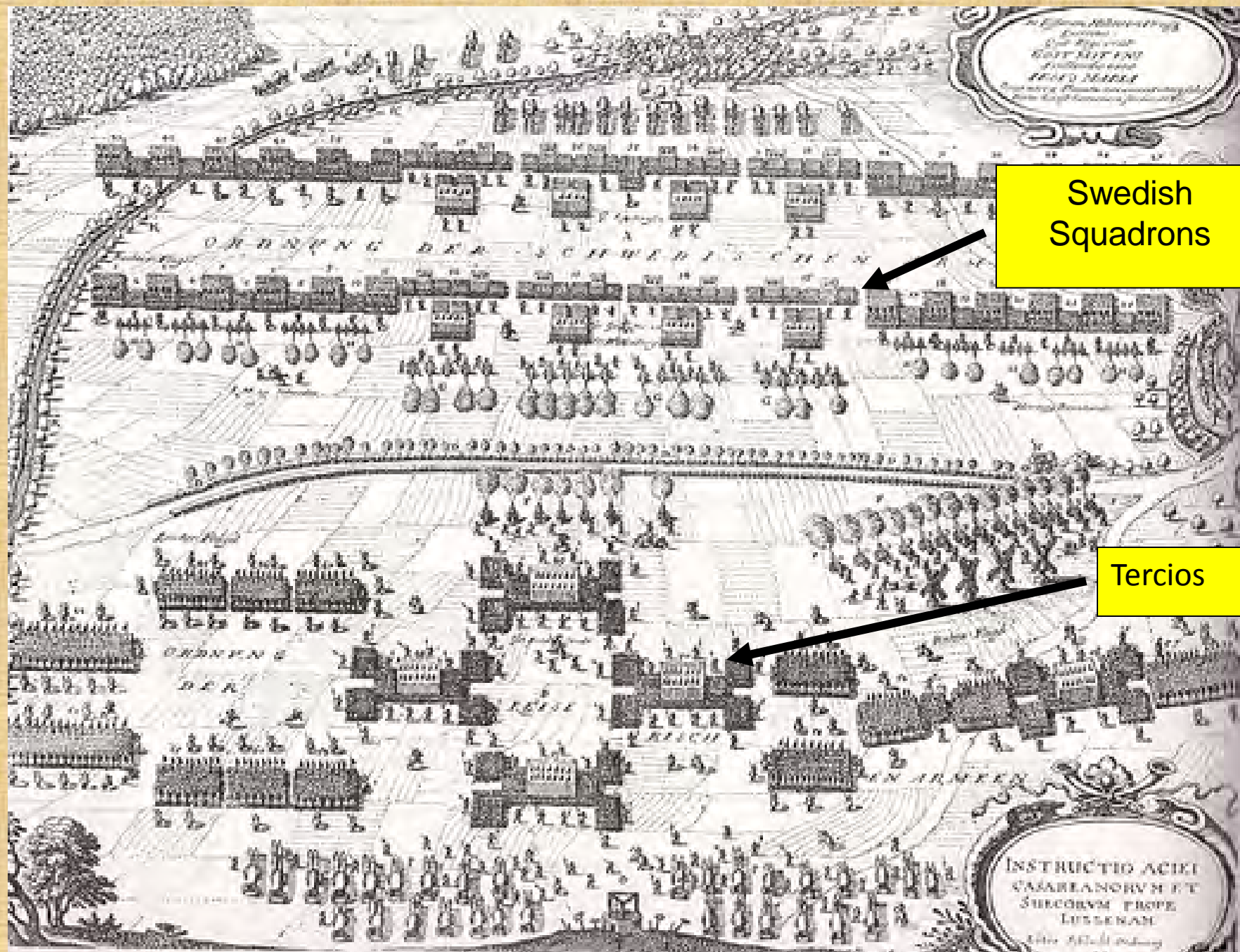


Swedish Tactical Formations under Gustavus Adolphus



The Brigade

Each block is 6 ranks deep



Swedish
Squadrons

Tercios

Fast forward a few centuries





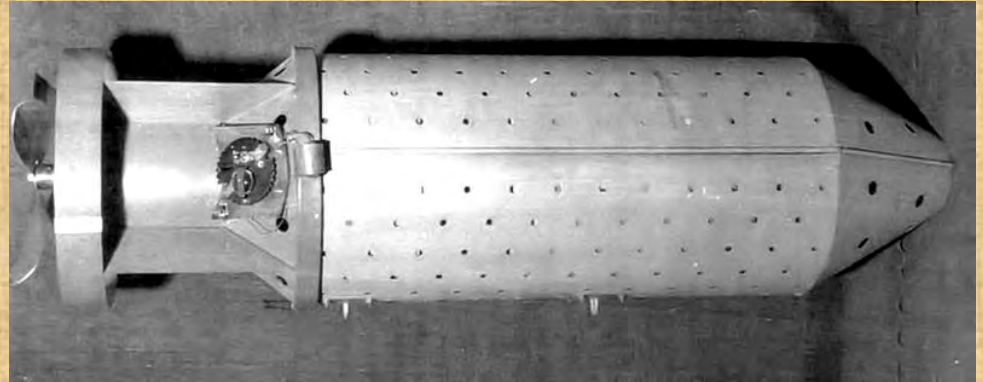
Grotius, Vattel, Montesquieu

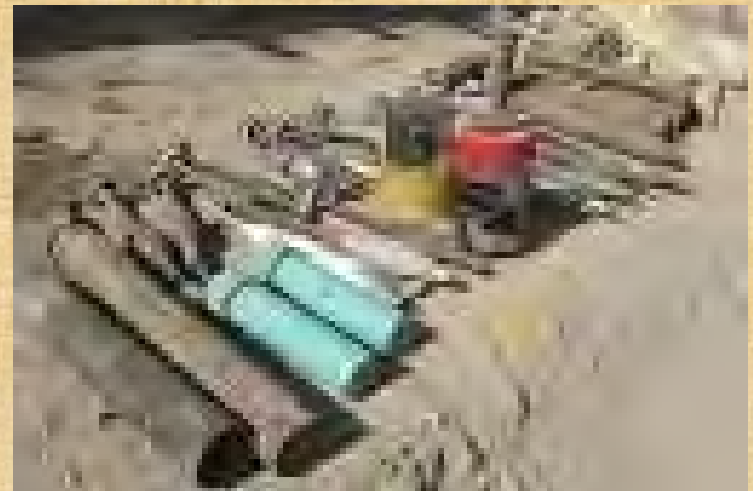
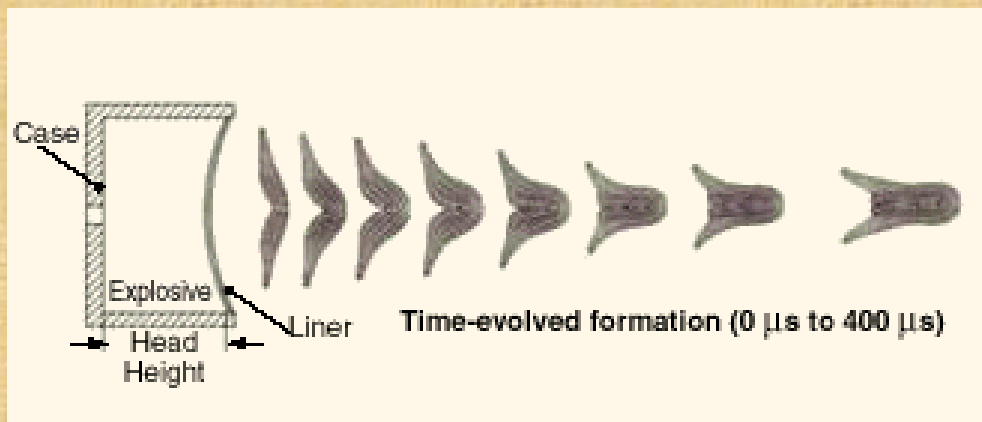


ASYMMETRICAL WARFARE

A Brief History of IEDs

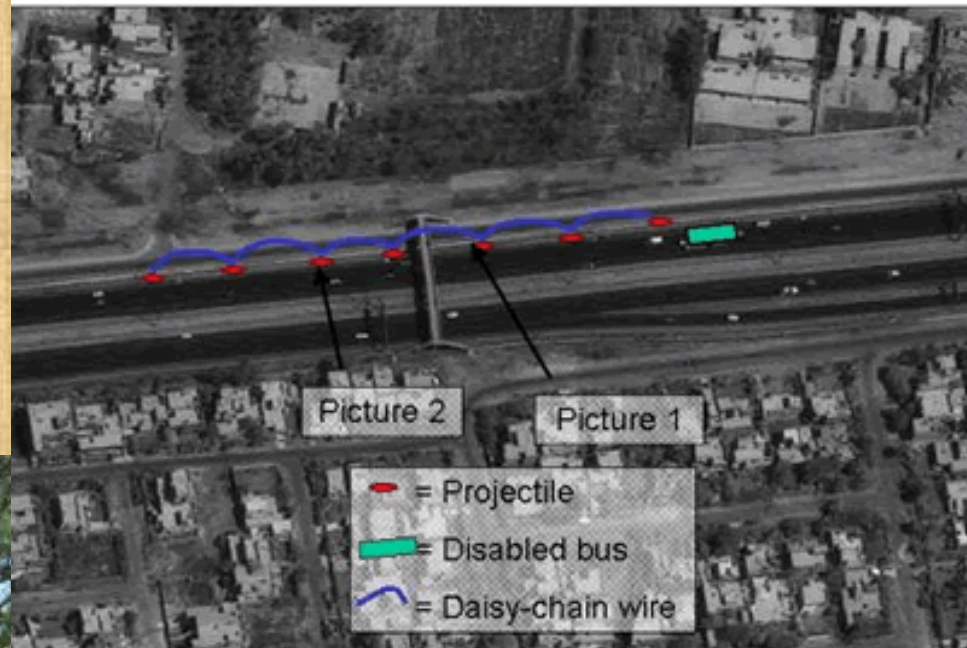
IED: "Improvised Explosive Device," a bomb composed of any available materials, designed to inflict maximum casualties, typically the weapon of a weaker belligerent used against an invading or occupying force.







Bomb Site Layout



Artificial Intelligence?



So, you don't like nuclear reactors?

Operation Orchard, 2007

Target: Syrian Reactor, Deir ez-Zor



Operation Opera, 1981

Target: Iraqi Reactor, Osirak

