

# Killing a theory

by *Petter Wulff*

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TITEL:

War and the Engineers.

*The Primacy of Politics over Technology*

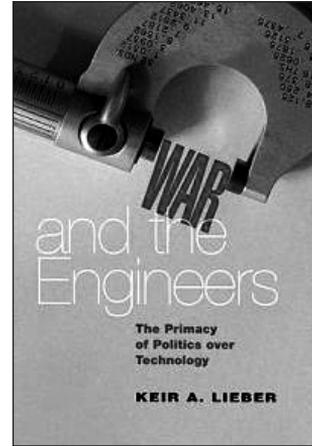
FÖRFATTARE:

Keir A. Lieber

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Cornell University Press, 2005

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ONE OF THE more established theories in political science is about weapons technology. It is actually the dominant explanation of the relationship between technological change and international relations. The theory claims that the occurrence and duration of wars is determined by the balance between offensive and defensive weapons involved. If this is true, it can promote peace in two ways: states can more easily signal their peaceful intentions when offensive and defensive weapons are distinguishable. Beside that, states can more quickly recognize possible aggressive intentions of other states when their offensive potential can be seen.

Lieber's book sets out to kill that theory. An early remark that there is "no meaningful way to distinguish between offensive and defensive weapons" indicates that the theory has already passed away. But it has been resuscitated and the author finds two traits, where scholars are reasonably in agreement about what constitutes offensiveness and defensiveness, respectively. On the one hand there is "Mobility", which tends to favour offensive capability, on the other there is "Firepower", which tends to favour defence.

A new technology carrying either of these traits can cause a shift in a prior military balance. Let us see how the two research hypotheses regarding this are formulated by the author (p 18):

1. "offensive shifts in the balance make quick and decisive military victories for the attacker more likely"
2. "perceptions of offensive shifts in the balance make leaders more willing to initiate conflict"

A shift in military technology – offensive or defensive – obviously takes place when a technology is new. To emphasize their importance, Lieber talks of the shifts in his chosen technologies as "revolutions", and the theory should therefore be tested in wars occurring in a "revolutionary era".

How have revolutionary technologies stood up to the claimed role of inducing/quickenig or deterring/slowing down wars? The author sets out to answer this question by selecting railroads and tanks as mobility-enhancing technologies. He also picks out two firepower-enhancing technologies – one is a combination of breech-loaded and rifled firearms (and smokeless powder), the other is nuclear weapons. He

also investigates political perceptions of these technologies; and goes to the records of the last two centuries to find an answer as to how wars started and ended. The approach is admirably systematic.

A problem is that two of the four technologies selected by Lieber appeared more or less simultaneously. Railroads were introduced and developed around the middle of the 19<sup>th</sup> century just like breech-loaded and rifled small arms and artillery. They thus more or less revolutionized the same wars. With one of them tending to make for short wars and the other tending to make wars long (according to the contested theory), what conclusions can we draw? Not many, as I can see. Wars with both railroads and new firearms therefore appear to be poor cases for testing the offence-defence theory.

Another problem lies in the choice of tank technology. Tanks are described as

mobility-enhancing, and Lieber refers to a number of political science authorities to back the claim that tanks are offensive weapons. The judgements he relies on all seem based on the German exploits in World War II. But tanks also represent firepower, and may therefore be seen to contribute not only to offence but also to defence, which the French tried to show (in vain), and the Soviet Union (more successfully) against Germany’s assaults. Because it has this dual potential, I find tank technology a less than perfect choice for testing the offence-defence theory.

If we disregard the dubious cases and concentrate on wars discussed by Lieber with, hopefully, only one revolutionary technology – either offensive or defensive – what we get is a quite reduced number of test cases, as can be seen in the following table.

Technology trait	Technology	Test cases	Outcome (quick/slow victory)	Explanation (pro-/counter theory)
Mobility	Railroads	Austria-Prussia, 1850 France-Austria, 1859	Prussia capitulated without war Quick victory	Pro- Pro-
Firepower	Breech-loaded & rifled firearms, smoke-less powder	Crimean war Boer War	Slow Slow	Pro- Pro-

The actual outcomes in all these four cases happen to be in accordance with what is predicted by offence-defence theory. If we interpret “offensive shift” as a shift occurring for all belligerents of a certain era, Austria and Prussia would conform to the offence-defence theory, when in 1850 they

mobilized by railroad and hostilities did not even break out before the confrontation was over. The France versus Austria case (1859) conforms to the theory if it is treated as a railroad war (which is what Lieber does), but there were traces of the firearm revolution as well, as France used

muzzle-loaded rifled artillery. This makes the war a somewhat problematic test case.

In the cases where new firearms are discussed, we should talk about a *defensive*, rather than an offensive, shift. There seems to have been some new firearms in the Crimean War (Russian defence at Sevastopol, British-French defence at Inkerman) and victory came only after protracted fighting. By the time of the Boer War the firearms revolution had taken a new turn with smokeless repeating rifles, machine guns, and rapid-fire artillery; and the fighting lasted for three years. In other words, both wars were drawn-out as predicted by offence-defence theory.

Regarding the second hypothesis, Lieber finds that political decision-makers have generally perceived their military technologies, offensive or defensive, character correctly. Using that result, offence-defence theory would predict that wars would be fought more frequently when there is an “offensive shift”. The limited number of predominantly offensive and defensive wars, respectively, makes it difficult to say anything about the truth of that proposition.

Lieber has built a proud tower of arguments, and if they fail to mortally wound the offence-defence theory, he has at least shown a road to take in order to eventually accomplish that feat. He looks for illuminating details in the historical records, and protests against the description of technology as a largely autonomous force causing war and peace. From the title it would be expected that the role of engineers would be included in the analysis, but they are nowhere to be seen inside the book. That they can be far more than obedient producers of technology specified by others, and therefore merit attention, has been shown in a number of studies on the history of technology. However, this is obviously another story.

The Reviewer is a doctoral student in the History of Technology at the Royal Institute of Technology, Stockholm.