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**Fig. 1– Vauban: builder of fortresses.**



# THE MARQUIS DE VAUBAN AND MILITARY FORTIFICATIONS

by

Lee H. Hanson, Jr.

The Marquis de Sebastien Le Prestre Vauban died in 1707. During his lifetime he was the chief military engineer for Louis XIV and was responsible for building or strengthening over 300 fortified positions. He wrote a manuscript on siegecraft which was not published until several years after his death, but became the manual for subsequent European offensive and defensive tactics. Indeed, his influence was still strong as late as the American Civil War.

Vauban's actual contributions to siege tactics are debatable. What he did mainly was to pull together and codify various 17th century practices into a single plan of attack and defense. He is credited with never having lost a fortress on defense or failing to take one on offense. This, naturally, gave his writings a considerable weight of authority.

We do not propose to go into the specifics of Vauban's tactics, but there are certain principles involved which will perhaps shed light on events during the American Revolution. Vauban believed that the best defense was a good offense; no fortress was impregnable, with the possible exception of those built in the middle of swamps where access was difficult for the attacking force. Because a fort must fall sooner or later using the tactics he advocated, it was the role of the defenders to delay the inevitable as long as possible so that a relief expedition could lift the siege. The defenders were to throw a succession of obstacles in the path of the attackers as the siege progressed from an encirclement of the fortress to the final assault.

The first obstacle was the design of the fort itself. There were four basic shapes: bastion, star, round, and lunette. Often, features of one type would be grafted onto another in the large fortifications. These forts were basically shaped to lessen the effects of artillery fire by presenting oblique angles to incoming shells. At the same time, it was possible for the defenders to cover each part of the fort from one or more other parts. Surrounding the fort was a ramp of earth called the glacis which offered no cover for attacking infantry, and, more importantly, shielded all but the upper portion of the fort walls from artillery fire. Behind this was a deep ditch filled with water or lined with pickets to impede infantry. Instead of building a fort with 20 foot high walls, it was better to build one with 10 foot walls and surround it with a ditch 10 feet deep.

In the early stages of a siege the attackers would cut off all avenues of approach to a fort and set up outposts to warn of relief expeditions. They then began a series of zig-zag trenches up to the walls of the fort connected with laterals

which were to permit movement between trenches and keep the defenders in the dark about where the final assault would take place until it was too late to prevent it. This system of several parallel trenches was apparently Vauban's own contribution to military strategy. It took longer and was more costly than concentrating all effort on a single trench but the chances for success were greatly increased. When these trenches got close to the fort the defenders were supposed to sally forth, preferably at night, and attack the work parties, driving them off and destroying their trenches by burning the revetting, or shoring, or setting explosives. This was only a delaying tactic and eventually the attackers would reach the ditch. Here they would be protected from artillery fire because the defenders would be unable to depress their cannon sufficiently. The attackers would then bring up their own artillery to destroy a section of the wall at point-blank range or cross the ditch under a protective cover against small arms and incendiaries to tunnel under the wall and plant a large powder charge to blow a breach in the wall. The defenders would be digging their own tunnels to intercept the attackers and prevent the exploding of the mine.

Once the breach was made, the attackers would pour as many men through the hole as possible and try to overrun as much of the fort as they could before the defenders could regroup. In larger fortresses, the defenders would throw up secondary earthworks behind the breach and the attackers would have to repeat the breaching operation. Hopefully, by this time a relief expedition would have been successful in driving off the attacking army. With all the trenches, mines, and countermines dug during a siege "reducing" a fort was an apt term for a successful attack.

This has been only the briefest exposition of 18th century military strategy, but may help explain why many of the officers on both sides of the Revolution seemed so slow and methodical in their movements. They were merely following Vauban's step-by-step precepts. At the same time, one explanation for why leaders like Benedict Arnold were not advanced despite their success may be that in the eyes of their superiors they broke too many of the established rules.

(Reference: S. L. de Vauban, *Manual of Siegecraft and Fortifications*, translated by George A. Rothrock, University of Michigan Press, Ann Arbor, 1958.)

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