HISTORICAL FOUNDATIONS OF THE EMERGENCE OF THE ARTILLERY BATTERY

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doi:https://doi.org/10.5281/zenodo.22823039

Abstract. This article examines the historical foundations of the emergence and development of the artillery battery as an important organizational and tactical element of artillery forces. The formation of the battery was closely connected with the development of artillery weapons, changes in battlefield tactics, and the growing need to concentrate firepower and coordinate several guns under unified command. Initially, the term "battery" referred to a temporary concentration of artillery pieces positioned together for joint fire. During the eighteenth and nineteenth centuries, however, it gradually acquired the meaning of a permanent organizational and tactical unit. The article analyzes the development of artillery during the sixteenth and seventeenth centuries, the improvement of artillery weapons, the emergence of organized artillery batteries, and their institutional consolidation in the nineteenth century.

Keywords: artillery, artillery battery, military history, artillery weapons, firepower, military reforms, field artillery, artillery tactics, military organization, Peter the Great.

Introduction. Artillery is one of the military domains that has exerted the greatest influence on the development of weaponry and combat tactics in the military history of humankind. As a result of the use of gunpowder for military purposes, large-caliber artillery pieces began to take shape alongside firearms. Early cannons were used mainly to breach fortress walls, destroy fortified structures, and weaken the enemy's defensive capabilities. Owing to their large size, weight, and low mobility, early artillery could not be used effectively as a highly maneuverable weapon on the open battlefield. Later, as a result of advances in metallurgy, weapon-making, and ballistics, artillery pieces were improved: their weight decreased, and their mobility and firing effectiveness increased. By the seventeenth century, the role of artillery on the battlefield had grown considerably [5].

The formation of the artillery battery cannot be adequately understood merely as a simple change in military organization. This process was linked to the growing need to manage artillery's combat capabilities as an integrated system. The joint firing of several guns made it possible to generate a powerful concentrated strike against a specific sector of the enemy, weaken the defensive line, and support the movements of infantry or cavalry forces. As a result, artillery gradually evolved from a mere collection of individual weapons into a military system based on specific organizational, technical, and tactical rules.

Methodology. In studying the history of the formation of the artillery battery, the historical-comparative, chronological, systemic, and retrospective methods of analysis were employed. Through these methods, the process was consistently analyzed — from the earliest forms of artillery pieces, through their group employment and the organizational development of artillery units, up to the formation of the battery as a permanent military unit.

Results. The results of the study show that the emergence of the artillery battery was a lengthy historical process, whose initial foundations were linked to the growing prevalence of artillery pieces on the battlefield. Although early artillery pieces were used individually, as combat experience accumulated it became evident that the joint firing of several guns was more effective than the firing of a single gun alone. In particular, during the siege of fortresses and towns, the practice developed of concentrating several cannons in a given position in order to deliver a concentrated strike against the

enemy's defensive structures. In this way, the initial functional model of the artillery battery took shape. Historical sources note that the concept of "battery" originally denoted the joint action of several guns positioned together at a single location.

The seventeenth century was an important stage in the development of the artillery battery. During this period, the manufacture of artillery pieces improved in a number of European states, certain types began to be standardized, and the mobility of artillery on the battlefield increased. During the Thirty Years' War, the development of lighter and more mobile field guns transformed artillery from a static weapon positioned far from the infantry into an active means that could be employed during the course of combat operations [1; 2; 3]. At the same time, the formation of artillery science in the sixteenth and seventeenth centuries advanced the scientific foundations of ballistics, weapon design, and firing methods. The works of military theorists such as Tartaglia and Ufano, together with the emergence of scientific and practical treatises on artillery in the seventeenth century, contributed to the transformation of artillery from an empirical craft into a relatively systematic field of military knowledge [4].

By the eighteenth century, the organizational forms of artillery had improved further. During this period, the need increased to regulate the types and calibers of artillery pieces, organize them into specific units, plan firing tasks, and strengthen artillery's cooperation with other branches of the armed forces. Whereas artillery companies had already been established in the French experience by the end of the seventeenth century, during the eighteenth century the concept of the "battery" gradually acquired a distinct organizational meaning. Later, during the period of the Gribeauval reforms, the meaning of the artillery battery as a clearly defined organizational unit — consisting of guns, personnel, and horse-drawn transport — was further consolidated. This accelerated the transition of the battery from the notion of a temporary grouping of guns to that of a permanent military unit [3].

The results indicate that not only the technical improvement of the weapons themselves but also the development of combat command played a decisive role in the formation of the artillery battery. By uniting several guns under a single command, it became possible to concentrate firepower on a specific target, coordinate ammunition expenditure, manage the positioning of the guns, and organize cooperation with other branches of the armed forces. For this reason, the historical formation of the battery can be assessed not simply as the emergence of a basic organizational unit of artillery, but as the emergence of a new system for controlling artillery fire.

Discussion. Analysis of the historical development of the artillery battery shows that its formation resulted from three interrelated processes: the development of weapons technology, changes in combat tactics, and the improvement of the military command system. Because early artillery pieces were large and heavy, their principal function was to target fortresses and other fortified objects. Later, the relative lightening of the guns and the increase in their mobility broadened the possibilities for their use on the open battlefield. As a result, artillery became a means of directly supporting the combat activity of infantry and cavalry forces [6].

The formation of the battery also had a significant impact on the development of military tactics. The joint firing of several guns made it possible to deliver a powerful strike against densely positioned enemy units or specific points along the defensive line. In this way, the principle of employing artillery fire in a centralized rather than a "scattered" manner grew stronger. In the history of Russian artillery, the creation of new weapon systems and the improvement of firing methods during the eighteenth century were among the important manifestations of this process. For example, the introduction in 1757 of a new type of ordnance known as the "unicorn" (edinorog) expanded the technical and tactical capabilities of Russian artillery.

The historical development of the battery also transformed the role of the military specialist. The increase in the number of artillery pieces and their employment as a unified system required specialists

with specific knowledge of fire calculation, target designation, gun emplacement, ammunition distribution, and the execution of combat orders. In this way, artillery service gradually became a military occupation requiring specialized professional training. The development of artillery science in the seventeenth and eighteenth centuries was directly connected with precisely this need.

Assessed from the standpoint of the subsequent development of the modern military system, the principal historical significance of the artillery battery's formation lies in the fact that it created the possibility of uniting the means of fire into a single command and organizational system. By the nineteenth century, the battery had become firmly established in numerous armies as a permanent tactical-administrative unit. In later periods, batteries became specialized in various directions, such as field, horse, mountain, siege, fortress, and coastal artillery. In this respect, the historical development of the battery is an important indicator of artillery's evolution from a mere technical weapon into an independent and complex military system.

Conclusion. The emergence of the artillery battery was the result of centuries-long military-historical development, and its formation is explained by the improvement of artillery weapons, the accumulation of combat experience, and the intensifying need to unite the means of fire under a single command. Whereas the battery initially denoted a temporary grouping of artillery pieces assembled at one position to perform a specific combat task, during the eighteenth and nineteenth centuries it developed into a permanent organizational and tactical unit. For this reason, studying the history of the artillery battery is important not only for understanding the history of military technology, but also for understanding the developmental patterns of military command and tactics.

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