

# ALI-AGHA SHIKHLINSKI. PROFILE OF AN OPERATIONAL THINKER AND PRACTITIONER

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*The paper outlines the profile of a a great operational thinker and practitioner, the three star general of artillery Ali-Agha Shikhlinski's. His military carrier, his inventions, operational thinking, and his targeteering approach to warfare are studied. His two key methods of artillery firing, which were great inventions for his time, are also explained.*

**Key words:** *Ali-Agha Shikhlinski, artillery, shell, cannon, war, commander, thinker, practitioner.*

## 1. INTRODUCTION

The history of military provides many examples of good operational thinkers and practitioners; yet few could be considered brilliant. Throughout operations in history, operational commanders were good practitioners but not particularly known as good operational thinkers. The commanders who performed poorly at the operational level were often those who never achieved in thinking beyond the immediate physical combat. Some commanders usually focus on technological

aspects of warfare and neglect the rest what are required. And, some commanders or military leadership prefer and emphasize the value of personal observation and lessons learnt but neglect the needs for studying military history, politics, economics, and cultures of other countries. A targeting approach to warfare is the best indicator that a commander's focus is too narrow and will almost likely result in poor performance at the operational level against a strong and skilful enemy [16,XI-19].

## **2. HISTORICAL BACKGROUND**

The territory of Azerbaijan was divided into two parts as a consequence of Turkmenchay treaty signed between Russia and Iran in 1828. The North Azerbaijan was annexed to Russia, and Azerbaijan lost its independence for 90 years. As a consequence, the chapter of military art was ended up in Azerbaijan after the annexation to Tsar Russia. There were some reasons. Two were major factors for the end of the military art. On the one hand religion and on the other hand un-reliance on Azerbaijanis made Russia careful with military potential of the people of Azerbaijan. The Tsar Russia was assuming that if arms had been given to Azerbaijanis, they would try to reclaim their independence. This is why Azerbaijanis were recruited to military under the commandant of Russian officers only in case of clashes or engagements used to happen in the southern Caucasus. Very few numbers of Azerbaijanis used to be admitted to military schools.

Regardless of all obstacles and barriers, there were Azerbaijani military figures who were honored and awarded with high ranks. Ali-Agha Shikhlinski was one of those brilliant operational thinkers and

practitioners honored and awarded with St. Georgy Cross of Russia, "Cross of legionary" of France, etc.

## **3. A BRILLIANT THINKER AND PRACTITIONER**

The three star general Ali-Agha Shikhlinski (1865-1943) was one of the best talented artillery commanders of the Russian Tsar army. He was considered "God of Artillery". He is known for his combined artillery fire method in Port-Arthur engagements between Russia and Japan, artillery shelling over own troops, and "Shikhlinski triangle".

Ali-Agha Shikhlinski's experience in wars developed a mental sophistication that enabled him to think ahead, anticipating artillery shelling and developing counter artillery shelling. He was a non-traditional commander of his time. An outstanding figure of the Russian artillery, author of "history of the Russian artillery", professor Yevgeni Barsukov considers Ali-Agha Shikhlinski as an artillery man who stood on the top of artillery pyramid of the Russian artillery men [4].

As the World War I started, the artillery defense of the capital city of Russia, Petrograd was assigned to Ali-Agha Shikhlinski, although there

were experienced cadres in artillery among Russians. The decision was not accidental. He was already known as the God of the Russian artillery at that time.

In World War I, he designed and developed tactics for artillery firing over own troops, and published his thoughts and scientific outcomes in his article “fire over own troops”. That was a topical issue for the very period. Because, usual deployment of artillery behind own troops could not appropriately strike on enemies causing obstacles for own troops due to miscalculation of ranges. Besides, it was very hard to define fire accuracy with bare eyes on desert, mountainous and hilly landscapes. Ali-Agha Shikhlinski due to his brilliance as an artillery operational thinker designed and developed possibility of maximum efficiency of fire over own troops[10].

Defining the position of artillery was broadly studied in Shikhlinski’s researches. Those days, the command and control of artillery fire system was a crucial issue as there were not any devices and technologies. A. Shikhlinski studied artillery fire in the combined and grouped shape and put up his arguments and thoughts about decision making for deployment of artillery means.

Finally, in World War I, he theoretically and practically proved his “triangle” which was a breakthrough in his time.

#### **4. ALI-AGHA SHIKHLINSKI’S “TRIANGLE”**

The idea of his triangle is targeting, defining the grids of a spot in order to have accurate and precise artillery fire. For example, an observer used to have hard time to define the precise grids and coordinates of a target in a field for a battery commander. It was becoming very difficult to direct shelling onto a target due to mis fixing the grids of a target. Gadgets like the compass were not applied in those days yet. The range to a target and its grids used to be defined according to map scale or visually. Consequently, it used to have a negative impact on accuracy of an artillery fire. The purpose of working out the triangle is that an observer to be able to define exact grids of a target while passing the grids to a battery commander, and eventually to succeed in an accurate fire control.

There were not any methods or a way of the calculation across the world by that time.

When Ali-Agha Shikhlinski started to think of it, first of all he drew the positions of an observer, a

battery commander and a target. He connected the point of an observer to a battery commander with a straight line and the target to the position

of the observer and the battery commander. And, so he worked out his triangle.

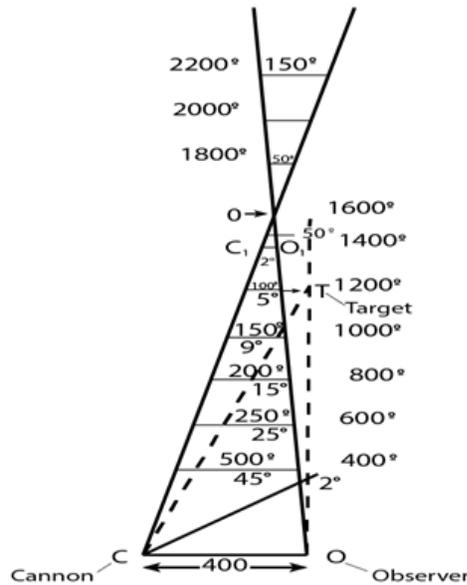


Fig. no. 1. Ali-Agha Shikhliniski's "Triangle"

Defining the range between a battery commander and a target based on a map, A. Shikhliniski noted down the figures on the triangle, and then divided them into parts in parallel to the line connecting positions of an observer with a battery commander. According to this deviation and formula, he could precisely find out the range, and position of the target as well as the measures of deviation of fire from a target. In case of shift

of a target, by applying fire triangle it became easy to find out the grids and point a fire onto the target [11].

Besides, the Russian artillery, Shikhliniski's triangle used to be applied by Austrian and French artilleries as well. He wrote in his memoirs: "the triangle was not only widely used by our artillery but also by the French artillery as well. I came to know the triangle was being applied in the Austrian army late 1920." [12].

In 1913, commandant of French army HQs, general Joffr visited to an “artillery officer” school in Russia with a delegation of 17 officers. *“They requested us to demonstrate fire of new cannons including howitzers. Besides, they also asked for explaining fire control. All fires which were executed for the visitors were commanded by Shikhlinski. Admiring of the results, the French delegation awarded Shikhlinski with “Honorary Legionary Cross of France” [13].*

## 5. DESTRUCTION OF INVISIBLE TARGETS

One of the great inventions of the three star general was on destruction of invisible targets.

According to Shikhlinski, observation was the key element for artillery fire. He was claiming the professionalism of an observer not related to his or her eyesight, it is a matter of healthiness of neuro and ability of making reasonable results out of less observation. This skill could be gained throughout a long experience. He was offering the observers not to watch the fires of his or her own batteries but also the fires of others as well, and eventually an observer could develop his or her skill.

Targets defined on mountainous landscape are usually located behind hill and summits. And of course, it was making difficult to observe the outcomes of artillery fires. The observation positions used to be advised to be located on the highest points and founding a set of observations positions. He was arguing that when an observation post is located on a higher altitude than the position of a battery, the results of the observation might lead to some mistakes. The assumption about the mistakes was mentioned in artillery guidance books of those days.

Shikhlinski was differing the explosion of shells according to a straight line between a cannon and a target. He used to name an explosion below this line as foot explosion, an explosion over the line (less than 6 metres) as low explosion and the explosion above the line as flat explosion.

An observer might figure out an explosion happened at low level as at high altitude. For example, an explosion that took place at P point might be seen as an explosion happened at P1(low level) point (Figure 2). An explosion that took place at high point might be seen as an explosion happened at low level (Figure 2).

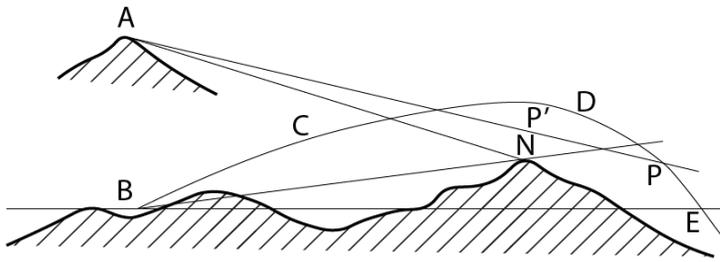


Fig. no. 2. Destruction of invisible targets

An explosion happening before reaching a target might be detected as an explosion at low level (Figure 3). The reason is that while observing an observer can see NP part of the landscape, and eventually he assumes an explosion happened on the very (target) point.

To escape these mistakes and misassumptions, Shikhliniski was proposing the following to be taken into consideration by artillery fire observers:

a) **explosion smog** - when an explosion takes place at low level the smog of the explosion is pressed by air, eventually the explosion smog

shapes in triangle. In this case, the explosion could be assumed taken place at low level. But if an explosion occurs at high level, the smog is not shaped in triangle by air pressure, and the smog spread horizontally;

b) when an explosion happens at low level the shrapnells fall on ground and blows dust into air, and the smog of the explosion is mixing with the very dust. But, when an explosion happens at high level, the shrapnells fall down far from each other and each of them blows dust into air.

These happen when there is no wind.

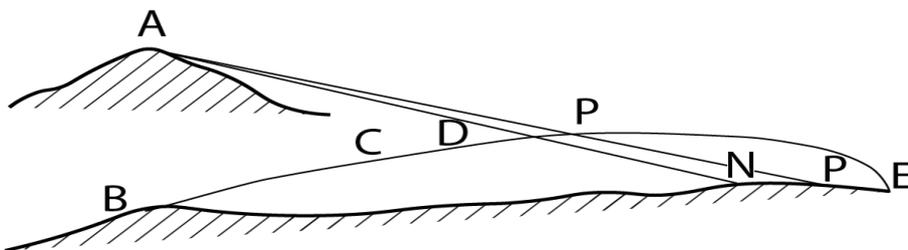


Fig. no. 3. Explosion at low level

When wind blows the smog of an explosion occurring at low altitude, wind spreads it in parallel with direction of the wind. But when the explosion takes place at high altitude, it results in the spread of the smog at high altitude.

According to A. Shikhlinski, if an observer is an experienced person, based on the above mentioned criteria he can guide cannons to precise pointing. But, he proposed not to absolutely rely on these criteria. This is why he also had some additional proposals:

1. Fire should be done in combination with shrapnels of grenades. That is to say, if the points of explosions are not observed clearly, then fire is to be done with grenade ammunitions.

2. The gun layer of cannon is to be adjusted at the first firings and then strikes by fire are to be implemented.

3. Shikhlinski was offering gun laying in a mountainous relief to be executed in accordance with the calculation of percentage of explosions.

## 6. CONCLUSIONS

Ali-Agha Shikhlinski made significant contributions to the operational art. In fact, he laid the foundations for the Russian theory and experience of artillery firing.

The works and inventions of the three star general are unknown in the West, but he is still very famous among the artillery men across the CIS countries.

Colonel-general Ali-Agha Shikhlinski was a commander who showed a remarkable ability to think and act operationally at some points in his career.

Besides, being a tactical and operational theoretician and practitioner in the nineteenth century, Shikhlinski was a figure explaining the philosophy of warfare. He noted down his opinions and thoughts in his article "Future warfare".

He was emphasizing that actors are to well evaluate the morale factor in a military campaign. According to him, besides methods, skills, weaponry, etc. the following are to be taken into consideration: the reason of a war, purpose and desired end state.

He was trying to explain in fact the instruments of grand strategy - the strategic objectives, desired end state, human resources, political support, and support by the people.

He was also emphasizing the importance and needs of propagation for relying on the strength and power of one's own army.

His military legacy could be a great opportunity for future artillery commanders to possess a rare combination of high military education and combat experience.

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